

**HISTORY AND ARCHEOLOGY OF THE NORTH ATLANTIC REGION:  
A CONTEXT FOR CULTURAL RESOURCE MANAGEMENT**

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# PALEOENVIRONMENTS AND ENVIRONMENTS OF THE NORTH ATLANTIC REGION

John R. Cross

## Introduction

Archaeologists have long recognized the importance of understanding past physical environments (e.g., landscapes, climate, plant and animal communities) for understanding human adaptation in prehistory and history. The reconstruction of past environments establishes a background and a context for examining the cultural heritage of the North Atlantic Region and for understanding the processes and events that have shaped that heritage. The brief discussion that follows provides an outline of the changing character of environments in the Northeast over the past 11,000 years, the span of human history in the region. This overview will not attempt to provide a single, detailed, and comprehensive synthesis of paleoenvironmental research results. Instead, it will present a broad picture of paleoenvironmental change and a discussion of the kinds of evidence that may be used to enhance our understanding of the environmental context for the archaeological record in the North Atlantic Region.

The North Atlantic Region covers a large, environmentally diverse area, from the eastern Great Lakes to the Atlantic Ocean, and from the interior mountains of northeastern New York and northern New England to the sandy coastal plains of Cape Cod, Long Island, and New Jersey. There is also considerable time depth (at least 11,000 years) to the human presence within the region. Within these boundaries of time and space, the archaeological record of the North Atlantic reflects a wide range of environmental circumstances that were confronted by the region's peoples throughout its long prehistory and history. Through archaeological research, it is possible to examine the varied responses or adaptations of individuals, groups, and populations to those circumstances and the varied ways in which they altered their environments. Time and space provide dimensions along which archaeologists may study cultural processes in the past by looking at similarities and differences in the

archaeological record at a number of spatial and/or temporal intervals.

## Physiographic Provinces

The North Atlantic Region may be divided into a number of physiographic zones on the basis of underlying bedrock structure, topographic relief, landforms, and surficial geology. Fenneman (1938) designated seven physiographic provinces for the region: (from west to east) the Great Lakes Lowland, the Appalachian Plateau, the Adirondack Highland, the Hudson-Champlain Lowland (part of the Ridge and Valley Province), the Piedmont, the New England Upland, and the Coastal Plain. Within each physiographic province were smaller geomorphological units, designated as "sections" by Fenneman. The Fenneman system has been used by archaeologists (e.g., Dincauze 1974; Funk 1983) and other researchers over the past 50 years to establish a common frame of reference for discussing topographic variation on a broad scale. The classification has been amended a number of times, for example by Lull (1968) and Denny (1982), in response to the need for greater detail in examining topographic features relevant to forestry and geology, respectively. Figure 1 shows Lull's (1968) adaptation of Fenneman's original classification.

The boundaries between physiographic zones do not always co-occur with the boundaries that may be drawn to distinguish soil zones, vegetation zones, animal habitats and ranges, or river drainage systems. The physiographic provinces are, in contrast to vegetation zones or animal ranges, comparatively fixed over the 11,000-year course of human history in the Northeast. However, physiographic provinces are not necessarily "natural" geographic units that circumscribe units of culture or adaptation in the past, nor are they appropriately scaled for addressing many research questions in archaeology. One of the problems that pervades the study of northeastern paleoenvironments is the issue of scale. Often there is a mismatch between the spatial and temporal scales at which researchers monitor paleoenvironmental change and the spatial and temporal scales at which people experienced their world and lived their lives. Humans respond to weather and to short-term, localized conditions, not

Figure 1. Physiographic Provinces of the North Atlantic Region (from Lull 1968:13)

to long-term climate and averaged conditions that may characterize thousands of square miles or hundreds of years (Cross 1988). Archaeologists who work within the region need to select both a framework and a scale for environmental description that are appropriate for the research questions that are being asked. They also must be aware of the limitations of "borrowed" environmental data that were generated to address the research concerns of other disciplines (Dincauze 1981; Will 1982).

### **Pleistocene Glaciation**

With the sole exception of a small portion of southwestern New York, the entire North Atlantic Region was covered by glacial ice at the height of the most recent (Pleistocene) glaciation about 21,000 years ago (Davis 1983:Figure 11.1). From an ice dome centered over Hudson Bay, the Laurentide ice sheet covered much of the Northeast under ice that in places was a mile or more in thickness. The ice sheet did not begin to recede until about 17,000 years ago (Hughes et al. 1985). The "retreat" of glacial ice occurred when the rate at which the ice melted exceeded the rate at which the ice was accumulating. The movement of glacial ice did not occur uniformly along a single front, but as several ice lobes, each with its own rate and direction of flow (Krall 1977; Larsen 1982; Oldale 1992; Shafer and Hartshorn 1965). The interaction of three lobes of ice in southeastern Massachusetts—the South Channel lobe, the Cape Cod Bay lobe, and the Buzzards Bay lobe—are largely responsible for the configuration of Cape Cod, Martha's Vineyard, and Nantucket (Oldale 1992:42; Stone 1982:158).

By 13,500 years ago, the ice front had retreated to the present-day coastline of Maine and to the Champlain Valley in Vermont and New York (Oldale 1992:Figure 18). Between 13,000 and 12,000 B.P. (radiocarbon years Before Present), an embayment extended upstream in the St. Lawrence River channel, effectively dividing the ice sheet in two and cutting off the ice to the south from its source (LaSalle and Chapdelaine 1985). The resulting stagnation of the southern part of the ice sheet resulted in its rapid melting, and by 12,000 B.P. glacial ice was confined to the northern portions of Maine (Oldale 1992:Figure 18).

The Laurentide ice sheet had a significant impact on the surficial geology of the North Atlantic Region. The abrasive power of a moving mass of glacial ice was enhanced by the bedload of rock material carried within the ice or pushed along beneath the ice or at its margins. Freeze-thaw mechanisms plucked large pieces from bedrock outcrops, adding a continuous supply of abrasive material. Much of the material deposited in end moraines or under the glacial ice is poorly sorted till (occasionally called "boulder clay," which describes the range of particle sizes it contains). Rock particles carried within or on top of glacial ice are likely to have undergone at least some sorting and stratification by meltwater as they were deposited. Some of these deposits reflect the sorting of materials by size at the margins of the ice (e.g., in kames or kame terraces) or in meltwater channels within the ice (e.g., eskers). The most uniform sorting of glacially-transported material occurred as sediments were deposited by meltwater streams that gradually slowed as they moved away from the ice margin (e.g., outwash plains). As Price (1973) has pointed out, the category boundary between unstratified (till) and stratified (sorted) glacial deposits is not always clear, since the degree of sorting is a continuous variable, not a binary opposition.

While much of the topography in the Northeast is bedrock-controlled, the gradational and depositional processes associated with the glacial ice are very much in evidence in the present landscape, from the cirques and glacially-scoured valleys in the White Mountains of New Hampshire and western Maine, to the drumlin fields of Boston Harbor and New York State, to the outwash deposits and moraines of the Coastal Plain. The southernmost extent of the Laurentide ice sheet is marked by terminal moraines on Martha's Vineyard, Nantucket, and at Ronkonkoma on Long Island (Shafer and Hartshorn 1965:119). There is another prominent line of moraines 8-50 km behind these terminal moraines (including the Charlestown moraine of Rhode Island and southeastern Massachusetts, the Buzzards Bay moraine, the Sandwich moraine on Cape Cod, and the Harbor Hill moraine on Long Island [Shafer and Hartshorn 1965:Figure 2]). These moraines were produced by the actions of separate ice lobes that were in different stages of stagnation

or, in the case of the Sandwich moraine, experiencing a localized readvance of ice.

### **Pro-Glacial Lakes**

Broad pro-glacial lakes formed between the moraine deposits and the retreating margins of the Laurentide ice sheet, providing a dramatic example of how different early Holocene landscapes were from modern ones. Large lakes occupied portions of the Connecticut River Valley (Ashley 1972; Curran and Dincauze 1977; Hartshorn 1969; Larson and Hartshorn 1982; Shafer and Hartshorn 1965), the Hudson River Valley (Connally 1972, 1982), Cape Cod Bay (Larson 1982; Oldale 1982, 1992), the Nashua River Valley in Massachusetts (Crosby 1899; Jahns 1953; Koteff 1966, 1982; Stone 1980), the Taunton River drainage (Larson 1982), the Sudbury and Concord River valleys (Goldthwait 1905; Koteff 1964), the Lake Champlain Valley (LaSalle and Chapdelaine 1990; Mott et al. 1981; Snow 1980), and the present-day Lake Ontario Basin (LaSalle and Chapdelaine 1990). The lakes were formed by the impoundment of meltwater and runoff by moraine and other unconsolidated deposits. The lakes drained when the blockages gave way or when rising lake levels overtopped a point in the basin, creating a spillway that was rapidly enlarged and downcut by moving water. Many of the pro-glacial lakes in the Northeast went through a series of stages during which the size and configuration of the lake changed through time in response to blockage and drainage events and to variations in the influx of meltwater.

Curran and Dincauze (1977) have argued that the relict shorelines and deltaic deposits of pro-glacial lakes may have been occupied by the Paleo-Indian hunter-gatherers who first settled the region. Their suggestion is supported by the distribution of Paleo-Indian sites along glacial-lake strandlines in the middle Connecticut River Valley (Hasenstab 1987a; Ulrich 1979) and in the Lake Champlain Basin (Loring 1980). The spatial distribution of Early Holocene archaeological sites in the North Atlantic Region is inextricably linked to the nature and distribution of lakes and ponds (e.g., Nicholas 1990), many of which no longer exist. The convergence of palynological, hydrological, and archaeological research has

re-energized the study of the region's prehistory by challenging broadly-held assumptions about regional paleoenvironments with carefully documented results from specific sites (e.g., Brakenridge et al. 1988; Newby et al. 1994; Thorson and McBride 1988).

### **Sea-Level Changes**

The relative position of the boundary between land and sea has been among the most variable elements of the North Atlantic Region's environmental history. During the Pleistocene glacial maximum, the volume of water tied up in glacial ice in the northern hemisphere was enough to lower sea levels globally by as much as 75 meters (Bloom 1983:43). As the ice sheets melted, water was returned to the oceans, raising sea levels worldwide. For the glaciated coastline of the North Atlantic Region, the relationship between the position of land and sea is complex, and involves (1) worldwide (eustatic) changes in the water volume in ocean basins, (2) localized (isostatic) adjustments of the earth's crust in response to the loading (and subsequent unloading) of the weight of glacial ice, (3) downwarping of the crust in response to the added weight of water from higher sea levels, and (4) the variable timing of these events along the region's coasts.

In a summary discussion such as this, there is always a danger of oversimplifying a very complex geological picture. Fine-grained studies that combine archaeology and coastal geomorphology (e.g., Kellogg 1989; Sanger 1988; Young et al. 1992) demonstrate convincingly the importance of interdisciplinary research conducted at comparable spatial and temporal scales. The reconstruction of shoreline positions during periods of lower sea levels is much more than an exercise in tracing the contour lines for a given water depth on a bathymetric map, as these studies have shown. The nature of marine transgression (i.e., the rate, the associated wave-energy level) is dependent on local factors such as the configuration and structure of the shoreline (Shipp et al. 1987). For these reasons, one cannot assume a uniform sea-level history for large segments of the North Atlantic coastal zone (Bloom 1983; Gordon 1983). The development and application of complex geophysical and

climatological models has enabled researchers to understand the unique sea-level history experienced by each section of coastline during the Holocene (Bloom 1983:43). This growing understanding has replaced the search for a single world-wide sea-level curve. While broad, summary statements may be appropriate for framing research questions, they cannot substitute for site-specific interdisciplinary research. What follows is a coarse-grained overview of sea levels in the Northeast for the past 10,000 years.

At the height of the latest Quaternary glaciation ca. 21,000-17,000 B.P., sea levels were from 75-100 meters lower than at present and large areas of the Atlantic continental shelf were exposed (Edwards and Merrill 1977; Roberts 1979; Stright 1990). During the lowstand of sea levels, the shoreline of Southern New England would have been located approximately 75 miles south of Nantucket and Martha's Vineyard. This section of the continental shelf would have been free of glacial ice and would have supported diverse and abundant populations of plants and animals. Georges Bank at the entrance to the Gulf of Maine would have been dry land until about 4,500 years ago (Appolonio 1979; Grant 1970; Sanger 1975, 1988), and the Gulf of Maine would have been a nearly tideless body of water known as the DeGeer Sea. The most recent reconstructions of the southern New England shoreline combine bathymetric data with sea-level curves, and indicate that at approximately 8000 B.P. rising sea levels isolated Nantucket and Martha's Vineyard from the mainland (Uchupi et al. 1994). With the inundation of Nantucket Sound, Vineyard Sound, and Cape Cod Bay, and the presence of deep ocean waters in the South Channel to the east, the people living on Cape Cod at any point during the past 8,000 years would have had access to a range of marine environments (Dunford and Cross 1994).

Scallop draggers and fishing vessels have recovered Pleistocene fossils (e.g., mammoth and mastodon remains) and prehistoric artifacts from the continental shelf (Crock et al. 1993; Edwards and Merrill 1977; Roberts 1979; Sanger 1988; Spiess et al. 1983; Whitmore et al. 1967). For data on much of the Paleo-Indian, Early Archaic, and Middle Archaic Periods, archaeologists are limited effectively to those portions of the North Atlantic Region that sit above the intertidal zone. Although

the exposed continental shelf was undoubtedly part of the inhabited landscape for human groups in the early and middle Holocene, there is little expectation that intact archaeological sites can be identified for much of the shelf owing to the reworking of sediments by the rising ocean (Belknap and Kraft 1981; Bloom 1983; Gordon 1983; Oldale 1992). However, it is possible that in a few locations the right combination of circumstances (e.g., low-energy inundation, archaeological deposits buried deeply prior to marine transgression) have preserved very early archaeological sites (Emery and Edwards 1965; Hoyt et al. 1990; Kraft et al. 1983; Stright 1990).

In addition to the eustatic rise of sea levels, some areas formerly under glacial ice experienced a marine transgression (e.g., the Gulf of Maine north of Boston), as rising seas maintained contact with the retreating ice front well inland of the present coastline (Belknap et al. 1987; Bloom 1967, 1983; Schnitker 1974). The presence of a thick deposit of glaciomarine rock-flour mud known as the Presumpscot Formation indicates the extent of the marine transgression in southern and central Maine between 12,500 and 11,500 B.P. (Belknap et al. 1987:182; Bloom 1963; Thompson 1982). The land, which had been isostatically depressed by the weight of the ice, began to rebound by 11,000 B.P. Between 8000 and 10,000 B.P., the isostatic adjustment of the land in southern Maine reached a maximum point, effectively raising the land 60-70 meters above present sea levels (Belknap et al. 1987:202).

South of the Gulf of Maine, there is little evidence for a marine transgression. Instead, the sea-level record suggests that inundation has been a continuous process, although there has been a pronounced slowing of the rate of inundation since about 3000 B.P. For the Connecticut shoreline, the rate of submergence decreased from 1.2 m/1,000 years for the period between 7000 and 3000 B.P. to a rate of 0.85 m/1,000 years during the last 3,000 years (Bloom and Stuiver 1963). Studies on Long Island (Rampino 1979) and along the Mid-Atlantic coast (Belknap and Kraft 1977) show the same overall pattern, although the precise rates of inundation differ from the rate suggested by the Connecticut data. Bloom (1983:45) has pointed out that in many of the shallow embayments of the

Northeast coast the rate of sedimentation exceeded the rate of inundation by about 3000 B.P., resulting in the development of tidal flats. These tidal flats were quickly colonized by salt-marsh grasses such as *Spartina*, which formed the coastal peat deposits that have figured prominently in the ecological and chronological reconstruction of the region's Holocene sea-level record (Bloom and Stuiver 1963; Johnson 1942, 1949; Kaye and Barghoorn 1964; Keene 1971; Redfield 1965).

Because of the comparative stability of the last 3,000 years, shellfish and other coastal and estuarine resources would have become more productive and predictable from a human standpoint (Oldale 1992). Changes in water temperature, salinity, and circulation patterns accompanied sea-level rise, and these are reflected in the stratigraphic changes in the relative abundance of different shellfish species in shell middens at archaeological sites within the region (e.g., Braun 1974; Ritchie 1969; Shaw 1988).

Sea levels in the historic period have shown a continued slow rise, most evident in the erosion of waterfront property and structures, and in the archaeological evidence for the vertical "growth" of the stone-faced earthen wharves at the Salem Maritime National Historic Site in Massachusetts. Over the past 200 years, the wharf owners found it necessary to raise the elevation of the wharf surface to keep it above the tidal range of a higher sea level. The pattern of slow increases in sea levels during the historic period is well documented in the tidal measurements recorded for communities located along the Atlantic seaboard (Bloom and Stuiver 1963; Gordon 1983; Grant 1970).

Other apparent changes in relative sea level during the historic period have had major impacts on maritime navigation and commerce. Such changes include the erosion of shorelines in New Jersey and the filling in of Nantucket and Salem Harbors. These events reflect either continuing processes of sedimentation or the sedimentological consequences of dredging channels or interrupting the longshore movement of sediment by building jetties and sea-walls. These human-induced modifications of the natural environment, in turn, brought about changes in plant and animal distributions, wetland and river hydrology, and ecological relationships. The environmental consequences of human activity in the past

constitute an important research focus for archaeology in the North Atlantic Region, since archaeological sites may preserve long- and short-term records of human impacts on local ecosystems.

### **Soils and Sediments**

The distribution and characteristics of soils in the North Atlantic Region have played an important role in its prehistoric and historic patterns of land use. The term "soil" is defined differently by farmers, agricultural scientists, engineers, and geologists. For agricultural purposes, soils are "natural bodies on the earth's surface... supporting or capable of supporting plants out-of-doors" (USDA 1975). For engineers, "soil" refers to surface deposits of unconsolidated materials that may be excavated without requiring the use of explosives (Hunt 1972:341). From a geological perspective, a soil is "a natural entity, a type of weathering phenomenon occurring at the immediate surface of the earth in sediment or rock..." (Holliday 1990:525). The rate and nature of the weathering process is a function of climate, organisms (both flora and fauna), the landscape setting or relief, the parent material on which the soil is being formed, and time (Jenny 1980).

The commercial importance of soils in the historic period underlies the United States Department of Agriculture Soil Classification System (USDA 1975); the system emphasizes those soil properties which are most relevant to the concerns of homeowners, developers, engineers, farmers, and those seeking deposits of clay, sand, or gravel for commercial use. A given soil type may support a characteristic suite of plants that require a narrow range of soil moisture and pH. A soil may also be more or less suited to different forms of agriculture (e.g., planting or pasture) or other land use. Taken together, the origin or source of the soil, its age, texture, permeability, chemistry, and associated micro- and macro-organisms form the basis of the USDA classification system.

The ways in which archaeologists use the term "soil" include elements of the agricultural and geological definitions (e.g., Dincauze 1981), although it is important to distinguish soils from sediments in archaeological contexts. A soil is

formed through weathering processes that alter the chemistry, texture, and mineralogy of surface sediments within identifiable soil horizons. By contrast, a sediment is defined as "... any particulate matter on the surface of the earth that has been deposited by some process under normal surface conditions" (Stein 1985:6). This definition of sediment is broad enough to include deposits accumulated through human activity (such as refuse disposal). Subsequent weathering of archaeological deposits may result in the formation of soil horizons within sediments, as zones of leaching or mineral accumulation develop. In this way, it is possible to discuss and interpret both sediments and soils for an archaeological context.

The soils within the North Atlantic Region are predominantly light-colored acid forest soils (Podzol soils), and range from the Brown Forest Soils of western New England (developed on lime-rich parent material), to the Podzol Soils of northern Maine (formed on non-lime parent material), to the coarse outwash sands of the Coastal Plain (Hunt 1972:185; Lull 1968:14-16). The primary parent materials for the soils in the Northeast are glacial tills, water-sorted sands and gravels, and fine-grained lake bottom sediments. These, in turn, have been derived from a variety of bedrock types, including granite, schist, gneiss, shale, slate, sandstone, phyllite, and limestone (Lull 1968:14).

On a regional level, archaeologists have used general soil characteristics to explain the distribution of prehistoric sites (Dincauze and Myers 1981; cf. Hasenstab 1983) or to predict where particular kinds of archaeological sites may be found by archaeological surveys (e.g., Moorehead 1922; Thorbahn 1980). At a smaller scale, however, the complexities of soil formation processes are often underestimated by archaeologists who attempt to map archaeological site distributions directly onto present-day soil conditions. There have often been changes in local hydrology and vegetation (especially during the past few hundred years) that have altered both the rate and the nature of soil formation. For this reason, modern soil conditions cannot be "read" as direct analogues of past conditions. At a fundamental level, there is also an issue of scale; broad-scale soil units do not differentiate soils with enough precision to capture the small-scale variation that may have been important to human groups in the past (e.g., level areas characterized by good drainage for habitation sites, small deposits of clay for making ceramics, or earthy hematite for use as pigment). As a result, there is a coarse-grained predictive quality to such efforts, even when archaeologists use the county soil maps (at 1:20,000 or 1:25,000 scales) created by the Soil Conservation Service of the United States Department of Agriculture.

Figure 2. Soils of the North Atlantic Region (from Hunt 1972:Figure 8.8)

On a site-specific level, soils and sediments are potential sources of information on the depositional and post-depositional contexts for archaeological sites, features, and artifacts. Archaeological excavations create opportunities for soil scientists to observe profiles and take samples for addressing geological questions that extend beyond the objectives of the archaeological research. Often archaeologists can give geologists estimates for the age of a sediment or soil horizon (drawing on

artifact typology or radiocarbon dating of associated materials) that may clarify the rate of soil accumulation or formation in ways that would not be accessible from a purely geological examination. Archaeologists working in the North Atlantic Region are encouraged to pursue interdisciplinary cooperative arrangements that derive the most information from the necessarily destructive act of archaeological excavation (see Brakenridge et al. 1988; Johnson 1942, 1949 as model efforts).

**Box 1: General Definitions of Soil Horizons (from Holliday 1990:527)**

<b>Master Horizons</b>	
<p><b>O</b> Surface horizon dominated by organic material and very dark</p> <p><b>A</b> Mineral horizon that forms at the surface or below an O horizon, characterized by the accumulation of organic matter mixed with mineral matter; typically darker than underlying horizons</p> <p><b>E</b> Mineral horizon typically below an A or O and characterized by a loss of clay, iron, and/or aluminum and a concentration of more resistant materials; usually lighter in color than underlying horizons due to the loss of minerals</p>	<p><b>B</b> Mineral horizon usually underlying an O, A, or E horizon, with little evidence of original rock or sediment structure; typically redder than overlying or underlying horizons; characterized by an accumulation of one or more of the following: carbonates, gypsum, clay, iron, or aluminum; leaching of carbonates; development of blocky structure</p> <p><b>C</b> Any mineral horizon except R, lacking the characteristics of the O, E, A, or B; represents essentially unaltered or slightly altered parent material</p> <p><b>R</b> Hard bedrock</p>
<b>Selected Subordinate Horizons</b>	
<p><b>b</b> buried mineral horizon</p> <p><b>g</b> strong gleying; iron has been reduced; colors are typically olive, yellow, or neutral and often mottled</p> <p><b>h</b> B horizon with an accumulation of organic matter; usually associated with an E horizon</p> <p><b>s</b> B horizon with accumulation of iron and/or aluminum; usually associated with an E horizon</p> <p><b>n</b> accumulation of exchangeable sodium</p>	<p><b>k</b> B horizon (sometimes C horizon) with a zone of visible accumulation of calcium carbonate</p> <p><b>t</b> B horizon with accumulation of clay</p> <p><b>w</b> B horizon with color and/or structural development, but no accumulation of other material (weakly developed B)</p> <p><b>y</b> B or C horizon with accumulation of gypsum</p> <p><b>z</b> B or C horizon with accumulation of salts more soluble than gypsum</p>

From the perspective of soils and sediments, archaeological sites are especially complex, since human occupation and activities modify soil micro-environments chemically (e.g., through the addition of phosphates [Eidt 1977]) and introduce organic and inorganic materials, such as bones, shells, and clays, that may alter the trajectory of soil formation at the site. An archaeological site thus becomes a unique sediment/soil micro-regime, distinct from the soils that surround it. At the same time, an archaeological site, once created, is subject to the same kinds of processes of soil formation, bioturbation, cryoturbation, and weathering as any non-cultural sediment (Lyford 1963; Strauss 1981; Wood 1978). Failure to distinguish between anthropogenic sediments and the horizons that are created during soil development may compromise the quality of excavation data, especially in cases where stratigraphic relationships are critical to interpretation. The problem of equivocal interpretation can be minimized through the active participation of soil scientists in archaeological projects and by the application of rigorous standards for excavation, collection, and documentation *in the field* (Harris 1979, 1989; Shaw 1994).

Soil chemistry and microstructure may be used to identify and interpret activity areas and the depositional and post-depositional processes that have contributed to the formation of an archaeological site (e.g., Adovasio et al. 1978; Courty et al. 1989; Volmar 1995), yet few such studies have been undertaken in the Northeast, for several reasons. First, the systematic collection and analysis of soil samples from an archaeological site must be built into the project's research design; archaeologists need to make clear the research questions for which soils data might provide an answer. In addition, the well-controlled collection and analysis of soil samples is expensive in terms of time, effort, and money, as Stein's excavations of Northwest coast shell middens demonstrate (Stein 1992). It is important to take enough samples from the appropriate archaeological contexts to yield unambiguous results. The complex nature of soil formation processes and the incomplete state of knowledge about small-scale variations in soil chemistry at archaeological sites pose further problems. Archaeologists may want to engage the services of a soils scientist or pedologist for the

interpretation of soils within a site or a project area. While trained archaeologists may be able to identify and describe soils systematically, soil classification is only one among many research tools available in soil geomorphology and archaeological pedology (Eidt 1985; Holliday 1990:536-537).

### **Drainage Systems**

The river systems of the North Atlantic Region have played an important role in its human history as resources (for fish and other wildlife, rich floodplain soils for agriculture, and for water power) and as networks along which people, material, and information moved (Cook 1984; Hasenstab 1987b; Moore and Root 1979). For these reasons, rivers and tributary streams figure prominently in the landscape as geographic reference points, historically meaningful locations, and travel corridors that channel interaction (Ingold 1993).

In general, prehistoric archaeologists working in the Northeast have viewed drainage systems as (1) "natural" units of social integration beyond the site level and (2) spatial units with which to examine interaction, material culture variation, and social distance (e.g., Bourque et al. 1984; Cox 1991; Dincauze 1973; Funk 1976; McBride 1984). Drainage divides are often seen as ecological or territorial boundaries to the spread of cultural traits or groups. This view is drawn from the observation that native peoples of the Northeast relied on the linearity of river systems to define social and political boundaries during the Contact Period. Snow has adopted the drainage basin as his central organizing concept for the study of prehistory, and uses river drainages to define (in a spatial sense) the technological and stylistic characteristics of artifact assemblages, the extent of horticulture, and patterns of adaptation, ethnicity, and territoriality (Snow 1978, 1980).

Although there are often similarities within artifact assemblages at different sites within a given river drainage system, all too often archaeologists have assumed *a priori* the existence of cultural boundaries at drainage boundaries, and have interpreted the archaeological record accordingly. Bunker (1989) has argued that ceramic styles may be used to differentiate groups within the Merrimack River drainage, with the fall line serving as a

boundary. In general, however, the relationship between geomorphological or geographic boundaries and social boundaries must be confirmed by empirical tests using archaeological data. One of the challenges facing archaeologists in the North Atlantic Region over the next decade will be to evaluate models of social interaction and integration at a number of scales, including (but not restricted to) drainage systems. The National Archeological Survey Initiative (NASI) provides an opportunity for researchers to address inter-regional, regional, and local questions for the human past of the North Atlantic Region.

### **Surface Freshwater**

Rivers, streams, and freshwater bodies such as lakes, ponds, swamps, and bogs have played a vital role in the human history of the Northeast as sources of water and as resource-rich ecological zones (Nicholas 1991). The spatial distributions of wetlands, rivers, and streams provided the reference points for traversing the landscapes of the past, a fact that is supported strongly by the persistence of Native American place names for many of the present-day freshwater features in the Northeast (Huden 1962).

The character and distribution of wetlands in the region has varied considerably over the past 11,000 years (Hasenstab 1984, 1990; Nicholas 1988, 1990; Webb et al. 1993). During the Holocene, the wetlands of the Northeast resembled a changing mosaic. Large late-glacial lakes drained, kettle-hole ponds, bogs, and swamps passed through stages of infilling and eutrophication, and beaver-dam impoundments created new freshwater bodies. In addition, rising sea levels re-shaped the region's coastlines, estuaries, and marshes, and impacted the water table of the Cape Cod aquifer (Oldale 1992).

Regional records of water-level fluctuations in the Northeast have been combined with pollen data and an index of effective soil moisture to show long-term trends in the relative wetness or dryness of the region at 3,000-year intervals for the past 12,000 years (Webb et al. 1993). The data indicate that warmer and drier conditions prevailed in the early-middle Holocene, beginning at about 8,000-9,000 years ago and lasting until about 6000 B.P. Recent geomorphological and sedimentological

studies in Vermont (Brackenridge et al. 1988) and Connecticut (Thorson and McBride 1988) support the picture of a regional warming trend during this interval. These studies are clearly of interest to archaeologists, although researchers must resist the temptation to apply broad-scale paleoenvironmental reconstructions indiscriminately to all early and middle Holocene sites. Since we know so little about the nature of paleoenvironmental variation on the shorter term or the smaller spatial scale, it is important for archaeologists to involve palynologists in the selection of sampling locations for pollen cores (Gaudreau 1988; Sanger et al. 1977). The configuration of the basin being sampled and the nature of the wetland itself will determine whether the sediment contains a regional sample of pollen (i.e., collects runoff from a broad area) or reflects local conditions (Jacobson and Bradshaw 1981). It is to these more limited scales of environmental variation that the archaeological record is most sensitive.

Wetlands are areas of high biotic productivity and therefore constitute zones of high resource diversity. From its beginnings as a discipline, professional archaeology has recognized the correlation between wetland habitats and human settlement and subsistence in prehistory and history (e.g., Moorehead's [1922] archaeological survey of Maine). The predictive value of wetlands for locating archaeological sites has been strengthened through the empirical results obtained by cultural resource management surveys over the past twenty years and by the application of Geographic Information Systems (GIS) methods to the regional archaeological data base (e.g., Hasenstab 1983, 1989).

Euroamerican settlement and land-use patterns have been conditioned by a similar set of concerns for drinkable water, abundant and predictable food supplies, and transportation/communication. In the historic period, the economic and industrial development of the region was closely linked with the distribution and nature of freshwater sources. Small mills were built along many of the smaller streams and tributaries of the region's rivers and often became the focal points for settlement. In addition, production centers and population centers such as Lowell (Massachusetts), Biddeford and Saco (Maine), and Dover (New Hampshire) sprang up in

the mid-nineteenth century at places where water power could be harnessed readily and where the transportation of raw materials and finished products could be accomplished quickly and comparatively inexpensively. Ice-harvesting from freshwater ponds and lakes became important in supporting the expansion of markets in perishable foods. Freshwater sources also supported year-round and seasonal fisheries. Over the past century, the lakes, ponds, and rivers of the Northeast have been focal points for recreational and tourist activity, often resulting in changes in the rate of sedimentation, the chemistry of the water column, and the introduction and or stocking of fish species to meet the demands of sport fisheries.

### **Vegetation and Climate**

The past thirty years have seen a significant increase in both the number of pollen cores that have been taken in the North Atlantic Region and in the sophistication with which palynologists and archaeologists have interpreted the data derived from those cores (see, for example, Bernabo and Webb 1977; Bradstreet and Davis 1975; Davis 1965, 1983; Delcourt and Delcourt 1987; Gaudreau and Webb 1985; Newby and Webb 1994; Webb et al. 1993; Winkler 1982). The general pattern of postglacial vegetative succession was identified by the early work of Deevey (1939, 1943, 1951) as a series of four stratigraphic zones, each dominated by one type of pollen. From the earliest pollen zone to the most recent zone in southern New England, the dominant pollen types are (1) herb, (2) spruce, (3) pine, and (4) oak, corresponding to tundra, spruce parkland, pine forest, and temperate deciduous forest, respectively (Gaudreau and Webb 1985:247). For northern Maine, the most recent pollen zone was dominated by hemlock, birch, and beech, rather than by oak.

The efforts of a generation of palynological researchers have greatly increased the degree of resolution with which the local and regional scales of climatic and vegetational changes may be distinguished from one another. What has replaced the old, broad-brush characterization of sequential stages of plant communities is an awareness that the vegetational history of the Northeast is extremely complex and variable. Following the retreat of

glacial ice, plant species moved into the region according to their individual tolerances for temperature and precipitation conditions and their inherent seed dispersal rates; plant species did not move into the region as entire communities (Davis 1983; Gaudreau and Webb 1985; Webb 1987). What have been described in the literature as forest communities are, in fact, combinations of tree species that have had little time to adapt to one another in an evolutionary sense (Davis 1983:173).

The distribution of plant species at the end of the Pleistocene affected the pattern of postglacial dispersal for different taxa. For example, chestnut (*Castanea dentata*) expanded slowly outward from a limited Late Pleistocene geographic range on the western side of the southern Appalachian Mountains. Oak species (*Quercus*) spread more rapidly over a broad area. The differences between chestnut and oak dispersal patterns during the Holocene appear to have been related to climate (especially to temperature and precipitation) and, possibly, to the distribution of favorable soil conditions as well (Davis 1991; Pennington 1986; Prentice et al. 1991). Seed dispersal, especially for the comparatively heavy seeds of fagaceous species (e.g., chestnut, beech, and oak), was not limited to wind and gravity. Johnson and Webb (1989) have demonstrated that birds such as the blue jay (*Cyanocitta cristata*) effectively distribute viable seeds of fagaceous trees up to several kilometers from the parent trees. This could have effectively shortened any time lag that might have existed between the establishment of suitable conditions for a species to thrive and the *de facto* "arrival" of seeds.

Davis (1983:166), Overpeck et al. (1992), and others have pointed out that these early- and mid-Holocene plant associations and forests would not have precise analogues in the modern forests of eastern North America (e.g., Braun 1950). At any point during the Holocene, the geographic distribution and relative abundance of plant species in an area were part of an ongoing, dynamic interplay of temperature, precipitation, soils, the character of vegetation in adjacent areas, and the history of vegetation locally. For this reason, the plant species that were associated with early- and mid-Holocene forests in the Northeast were the product of historically-specific circumstances that

## Box 2: Proxy Data in Paleoenvironmental Research

Archaeologists and other paleoenvironmental researchers cannot measure or observe past weather and climate conditions directly, but they can see the effects of weather and climate on plants, animals, sediments, and soils (Bradley 1985). Taken together, these classes of information constitute **proxy data** for weather and climate—they can be used to monitor past weather conditions or the climatic regime with varying degrees of sensitivity. The variable intensity of temperature, precipitation, and storm activity over an annual cycle or through time may be recorded in incremental growth in the hard tissues of plants or animals (e.g., tree rings [Stahle and Wolfman 1985], shellfish growth lines [Bernstein 1991; Claassen 1990], fish otoliths, scales, or vertebrae [Casteel 1971; Pannella 1980], and mammal teeth [Bourque et al 1978; Grue and Jensen 1979; Lieberman 1994]). Widely-spaced growth increments generally indicate the presence of favorable conditions for growth; conversely, narrow spacing may indicate a brief interval of growth or sub-optimal conditions for growth.

Fluctuations in climate or weather may also be reflected in the presence or absence of certain species from the paleobotanical or faunal record and in the spatial distributions of plant and animal species. For example, the Little Ice Age (a period of cooler climate from 1550-1880 A.D.) may be seen in northern Europe in the reduced yields of vineyards, poor grain harvests, the freezing of canals in the Netherlands, and in the advances of alpine glaciers (Bradley 1985; Denton and Porter 1970; Grove 1988; Lamb 1979). It is important to keep in mind, however, that these are **indirect** measures of the **effects** of climate—they are one step removed from direct meteorological observations.

Indirect (proxy) measures vary in their sensitivity to climatic stimuli, and paleoenvironmental researchers must therefore select and interpret climatic indicators with care. For example, certain species of mammals such as the black bear or the white-tailed deer may be buffered from adverse weather or short-term climatic events by their relatively large body size. For many species of plants, the paleobotanical record of macrofossils and microfossils (including pollen) may exhibit no response or a delayed response to short-term environmental phenomena (e.g., the expansion into a new area by a tree species). Other species may exhibit dramatic changes in abundance that are not directly or exclusively attributable to weather or climate, but instead may reflect cycles of succession or fluctuations in populations of other species (e.g., predators, prey, insect pests).

have not been duplicated elsewhere. For the most part, the modern forests of the Northeast represent secondary or tertiary growth; in their composition they reflect several hundred years of extensive land clearance and, to a lesser degree, the introduction of non-native species (Cronon 1986).

Recent studies in palynology have also challenged the commonly held assumption that forest communities advanced northward along a single front. Gaudreau (1988) has pointed out the patchiness of the vegetational mosaic that would have characterized the forests of the Northeast for much of the region's human past. For the late glacial period, a number of palynologists and archaeologists (e.g., Davis and Jacobsen 1985; Nicholas 1990) have argued that there was greater biotic diversity

and productivity in late-glacial plant communities than archaeologists had traditionally assumed (cf. Fitting 1968; Ritchie 1965). As Gaudreau (1988) has noted, the perception of low environmental diversity is a form of sampling bias; because there are few pollen sampling sites for the late-glacial period, the existing data have been extrapolated to cover the entire region. This, in turn, has underestimated the attractiveness of late-glacial vegetation for populations of humans and other animals and has created the illusion of "sameness" across the region.

The plant pollen and macrofossil data point to a period of warmer and drier conditions in the early and middle Holocene, reinforcing the interpretations based on water-level, sedimentological, and geomorphological data mentioned above (Davis

1983; P. Newby, personal communication 1994; Simon 1991; Webb et al. 1993). Davis noted a range expansion of pine and hemlock into the alpine zone of the New Hampshire and New York uplands (Davis 1983:176), which she interpreted as a period of higher temperatures and lower precipitation than the present. A return to cooler and moister conditions at about 6000 B.P. brought about a reduction in the altitudinal range for both species.

What many of the most recent paleo-environmental studies address is the distinction between annual values for temperature or precipitation (expressed as 10-year or 100-year averages), on the one hand, and inter-annual variation in temperature or precipitation within 10-year or 100-year periods, on the other. The arguments for changes in surface water levels and in the ranges of plant species require archaeologists to re-evaluate the nature of seasonality, which can no longer be regarded as an unvarying annual cycle of weather, temperature, and precipitation throughout the Holocene. Recent data on the earth's climate history indicate that in the early Holocene there was a more pronounced seasonality in solar radiation than exists today (COHMAP 1988). Both long-term trends and short-term fluctuations in climate are of concern to archaeologists who seek both broad themes of human adaptation and responses by particular peoples to their immediate circumstances in the same archaeological record.

The pollen zones that inform the large-scale view of post-Pleistocene changes in the Northeast were envisioned by researchers working in the pre-radiocarbon-dating era as climatic and chronological markers (Gaudreau and Webb 1985), although, on the basis of recent data, the large-scale trends appear to be time-transgressive rather than synchronous. At the regional scale, latitude seems to be the controlling factor for the mapped vegetation distributions, whereas at smaller scales, patterning is regulated by elevation and topography (Gaudreau 1988; Gaudreau and Webb 1985). Two of the best chronological markers within the Northeast pollen data are the decline in eastern hemlock (*Tsuga canadensis*) pollen and macrofossils (occurring at approximately 4650 years B.P.) and a dramatic increase in pollen from ragweed (*Ambrosia spp.*) and other herbaceous plants that indicates widespread land-clearing during the historic period

(Gaudreau and Webb 1985:254). The hemlock decline shows up in pollen cores throughout the region at approximately the same time, a pattern that is consistent with the presence of a pathogen (e.g., a fungus) rather than a change in climate.

The increase in pollen from herbaceous species has been linked repeatedly with human alteration of the landscape in prehistory (Patterson and Sassaman 1988) and history (Cronon 1986; Gaudreau and Webb 1985; Kelso 1994). Macrofossil evidence in the form of charcoal in stratigraphic contexts supports the position that fire was used in both the prehistoric and historic periods to encourage browse for herbivores and as a way to alter the composition of forests and other plant communities within the region (Johnson 1994). In the historic period, land was cleared to create agricultural lands suitable for pasture or crops, to open up space for the built environment (e.g., roads, houses and associated outbuildings, mills, town commons), or as a consequence of harvesting timber. Cronon (1986) has provided a useful summary of the ecological transformation of the "wilderness" to meet the agrarian needs of Euroamerican colonists.

#### **Animal Populations**

The changing vegetation of the Northeast during the Holocene has received a great deal more attention from researchers than the Holocene record for animal populations. The primary reason for this imbalance may be found in the conditions under which floral or faunal remains may be preserved in the paleontological and archaeological records. There are many potential pollen-coring locations in the Northeast, and their distribution is comparatively uniform across the region. By contrast, animal bones are seldom preserved in the predominantly acidic soils of the North Atlantic Region. The limestone-derived soils in portions of New York State and the artificially calcium-enriched sediments in shell midden sites are exceptions to the general rule (Ceci 1984). Calcined bone fragments (i.e., fragments in which the organic fraction has been removed by burning) will often be recovered from archaeological contexts (Knight 1985; Spiess 1992; Spiess et al. 1985), although it may be difficult to identify the fragments at the species level. Bones recovered from waterlogged contexts or which have

been in contact with copper salts (a weathering by-product of copper artifacts) may also be preserved (e.g., Heckenberger et al. 1990; Willoughby 1935), although these situations are rarely encountered. In general, then, the number of sampling locations for Holocene fauna is restricted geographically and by localized soil conditions.

Archaeological sites are one of the best sources for Holocene faunal remains, and archaeological collections have been used to demonstrate distribution ranges for species (Loomis and Young 1912; Spiess 1992), especially for extinct species such as the Great Auk (*Alca impennis*) or sea mink (*Mustela macrodon*). Faunal remains from archaeological sites represent selective samples of the faunal communities in the vicinity of the site at the time of its occupation. Species such as white-tailed deer, because of their importance as a source of food and hides, are over-represented in archaeological sites, while species with little food value, such as chipmunks, are underrepresented. For this reason, archaeological sites do not monitor faunal communities with the same fidelity that bogs and ponds sample pollen from the surrounding area. In addition, the larger animals that are overrepresented in archaeological sites are not sensitive paleoclimatic indicators because they are buffered by their size from environmental stresses. Smaller animals (e.g., land snails [Barber 1988]), may serve as sensitive paleoclimatic indicators but are less often encountered at archaeological sites.

Holocene changes in animal populations are tied, in a general sense, to changes in Holocene vegetation. This large-scale correlation between faunal and plant communities underlies the Biotic Provinces classification system (Dice 1948). As originally conceived, biotic provinces joined together data on animal ranges and plant distributions. The system was expanded to include the marine environment, which was subdivided on the basis of ocean temperature, circulation patterns, and associated fauna. Several archaeologists have used the biotic provinces outlined by Dice to explain spatial patterns in the distribution of artifact styles (e.g., the distribution of Early and Middle Archaic stone tools in Ontario [Wright 1979]; low numbers of Early Archaic artifacts in the Northeast [Funk 1976:232; Ritchie 1979]). The biotic province concept has been criticized because (1) it creates the

illusion of discretely bounded, internally uniform biotic associations, (2) plants have recolonized the Northeast during the Holocene according to their own temperature tolerances, precipitation requirements, and rates of seed dispersal; they have not moved as entire communities, and (3) the biotic provinces assume a stability of ecological relationships through time that is not justified, given the variable and mosaic character of the Holocene vegetation record.

The most dramatic shift in faunal communities in the Northeast would have been the extinction of many species (including mastodons and other megafauna) at the end of the Pleistocene. It has been assumed that caribou occupied the tundra-like landscapes that followed the retreat of glacial ice (Gramly 1982), and caribou bone fragments have been found at the Whipple site (Spiess et al. 1985) and at Duchess Quarry Cave in New York (Funk 1983). As spruce-fir, mixed pine-deciduous, and hardwood forests came to dominate different portions of the region (or succeeded each other in some places), the ranges for caribou, moose, and white-tailed deer shifted further to the north, corresponding with the large-scale trajectories for climate and vegetation during the Holocene.

### Summary

As beneficiaries of more than a decade of paleoenvironmental research, archaeologists have come to recognize that present plant and animal associations reflect particular historical circumstances rather than immutable, time-transgressive communities. The fact that vestiges of the biotic province typology remain in reconstructions of the region's prehistory illustrates the cumulative nature of the archaeological literature. What is known of the region's human past must be re-examined continually in light of new paleoenvironmental information and new research methods. The quality and accuracy of archaeological interpretations of the past are linked directly to the quality and appropriateness of the data and models on which the interpretations are based. The research potential of studies that investigate the dynamic relationships among human, plant, and animal populations within the North Atlantic Region is very high, and the cultural resources of the National Park

Service properties in the region could play a significant role in addressing these research questions.

## **THE PALEO-INDIAN PERIOD (CA. 11,500-9000 B.P.)**

**John R. Cross**

### **Introduction**

Archaeological sites dating to the Paleo-Indian period (ca. 11,500-9000 B.P.) constitute the earliest widely-accepted evidence for human occupation of the North Atlantic Region. With the label of "earliest," Paleo-Indian sites have received a great deal of attention from archaeologists and, unfortunately, from artifact collectors. Because of their comparative scarcity and the high prices paid for Paleo-Indian artifacts on the antiquities market, Paleo-Indian sites are potentially vulnerable to destruction by looting. From an anthropological viewpoint, Paleo-Indian sites are the best sources of information about the peoples who first settled the North Atlantic Region. Each site preserves a material record (however faint) of human action in the distributions and associations of artifacts and features, organic remains and residues, and soil chemistry. Artifacts removed from their archaeological context without careful documentation have largely been stripped of their research potential. The overall rarity of Paleo-Indian sites and the interest that they generate has led archaeologists to a greater reliance on minimally documented find spots and existing collections for their interpretations than is true for any other time period (e.g., Anderson 1991a; Brennan 1982).

The shortage of controlled excavations at Paleo-Indian sites highlights gaps in our understanding of the time period and establishes a set of research priorities. Many of the federal and state agencies charged with cultural resource management have recognized this problem in formal policy statements or informally through the interpretation of existing regulations. In most cases that are subject to the cultural resource management review process specified by Section 106 of the National Historic Preservation Act of 1966, Paleo-Indian archaeological contexts are often more intensively and extensively examined during survey, site examination, and data recovery than are sites that date to more recent time periods. The increased attention to carefully documented excavations at

Paleo-Indian sites will result in a stronger empirical basis for interpretation than we currently have for the period.

The existing literature on the Paleo-Indian period in the Northeast reflects a diversity of theoretical and interpretive frameworks that have been brought to bear on the available archaeological data. Few interpretations or insights are self-evident from the Paleo-Indian data; weather/climate, plant and animal communities, and other features of the immediate post-glacial landscape were different from those of later (and better-known) periods. It is likely that the temporal "distance" that separates Paleo-Indians from Contact Period Native Americans is matched by cultural "distance" as well; the opposite ends of the time line of regional prehistory might be expected to exhibit the greatest differences from one another. In addition, the Paleo-Indian archaeological record is almost exclusively known from stone tools and debitage; little else has been preserved. As a consequence, archaeologists faced with poor preservation, small samples, and minimal contextual data have been forced to make a number of assumptions in order to arrive at interpretations of the Paleo-Indian period at the site or regional level.

Archaeological research on Paleo-Indians illustrates the importance of understanding broader, regional contexts for prehistory that cross-cut or extend beyond the administrative boundaries that define states, regional jurisdictions for federal agencies, or international borders. In the case of Paleo-Indians, widespread similarities in material culture and evidence for long distance movements (whether of groups, individuals, or items of material culture) raise a host of questions that archaeologists cannot address with data that are restricted to a single state, administrative region, or park boundary. Much of what archaeologists would like to know about Paleo-Indians is regional or even continental in scope, rather than site-specific (see Anderson [1990, 1991a], Kelly [1992], Mason [1962], and Meltzer [1988]). For example, researchers are particularly interested in how data on intra-site patterning, assemblage composition, raw material selection, and site location compare with data from other Paleo-Indian sites, in both eastern and western North America. Archaeologists would also like to know more about how and where eastern North America was first settled, the routes by which

subsequent exploration and settlement of the region occurred, and the nature of Paleo-Indian social organization in the face of low population densities and resource uncertainty (Anderson 1991b; Shott 1990).

### **The Nature of the Archaeological Record**

The archaeological record is an end product of (1) human behavior that leaves physical remains, (2) post-depositional processes that selectively destroy some of those physical remains or alter the context in which they are found, and (3) the archaeological methods that are used to sample and document the physical remains and their context. The relationship between the archaeological record and human behavior is the subject of a large body of literature that illustrates the subtlety and complexity of the issues involved (e.g., Binford 1979, 1980; Clark 1991; Gould 1978; Hodder 1982; Kent 1986; Schiffer 1972).

From the moment an archaeological site is created by human activity there is an ongoing, selective loss of material and contextual information through weathering, erosion, and disturbance of archaeological sediments. Organic materials such as wood, bark, hide, and textiles decay quickly and are rarely preserved in archaeological sites, except under extraordinary circumstances (e.g., waterlogged deposits [Johnson 1942, 1949; Purdy 1988] or contact with copper salts [Heckenberger et al. 1990; Willoughby 1935]). Bone is often preserved in limestone-derived soils or in the artificially high-pH soil regimes of shell middens. Yet even in cases where delicate bones have been preserved, archaeologists cannot assume that the assemblage of preserved bone is identical to the assemblage of bone originally deposited at the site. Field studies of the weathering, transport, and loss of bone material on recent sites illustrate the cumulative impacts of scavenging by carnivores and rodents, trampling, erosion, and wet/dry or freeze/thaw cycling on bone assemblages (e.g., Behrensmeyer and Hill 1978; Gifford-Gonzalez 198x). The field of archaeological taphonomy addresses the relationships between (1) the material record of human behavior at the time it was originally generated and (2) what remains after the passage of decades, centuries, or millennia. The archaeological record for Paleo-Indians in the

Northeast consists almost entirely of stone tools and debitage. Although calcined bone fragments have been identified at the Whipple (New Hampshire) and Bull Brook (Massachusetts) sites (Spiess et al. 1985), sample sizes are extremely small.

From a taphonomic perspective, Paleo-Indian sites have suffered the greatest losses of contextual information through the cumulative effects of weathering, soil disturbance, erosion, and redeposition simply because of the age of the sites. In most instances, the observable stratigraphy at Northeast Paleo-Indian sites consists of natural weathering profiles in which visible cultural stratigraphy has been effectively erased. The absence of clear cultural stratigraphy within Paleo-Indian components creates many difficulties for archaeologists by introducing ambiguity into the possible associations that may exist among artifacts, features, and samples of datable material. It is hard, for example, for archaeologists to distinguish between long-term (and spatially overlapping) re-use of a site by small Paleo-Indian groups and a single occupation of the site by a large group. That such widely divergent interpretations could be offered for the same excavation data highlights the equivocal nature of an archaeological record that has experienced more than 10,000 years of post-depositional processes.

In very few instances can the spatial relationships recorded for artifacts be "read" directly as a map of human activity at an archaeological site. Only rarely do archaeologists encounter contexts where the burial of a site has been so rapid and catastrophic that it preserves a moment in time (e.g., the burial of the settlement of Cerén in El Salvador under volcanic ash [Sheets 1979], a mudslide at the Ozette site in coastal Washington [Daugherty 1980; Kirk and Daugherty 1978], or the collapse of an Inuit dwelling on its occupants in Barrow, Alaska [Dekin 1987]). For the most part, Northeast archaeologists must face the comparatively indistinct physical record left by artifact loss or discard, site abandonment, and site re-use.

Archaeologists have found it useful to distinguish between primary contexts (i.e., those in which the spatial distribution of archaeological materials matches the spatial distribution of activities) and secondary contexts (i.e., those in which the spatial distribution of archaeological

materials does not correspond to the location where an activity occurred). Examples of secondary contexts include refuse dumps of food waste and lithic debitage that have been redeposited away from residential areas (Clark 1991) and sediments that have been swept up, used to fill a pit, or incorporated in the construction of a floor, platform, or mound.

Contexts characterized by erosion and redeposition also may concentrate artifacts spatially, although the patterns and clusters are non-cultural. Sites in sandy soils may experience deflation by wind or water, in which the soil matrix is removed, leaving zones or "floors" that contain spuriously high artifact densities. Artifacts from sites exposed at the surface on lake shores or along river banks may be carried or pushed by blocks of shore ice during "ice-out" in the spring (e.g., Will 1995). Archaeologists must exercise extreme caution in assigning a primary context to any horizontal clustering of artifacts without first considering the alternative cultural and non-cultural processes that might generate a similar result.

Alluvial (flood) deposits in the Northeast provide one of the few contexts in which sediment deposition from flooding episodes may create clear stratigraphic separation between occupations (e.g., Dincauze 1976; Petersen 1991; Petersen and Putnam 1992; Sanger et al. 1992). Because of the time, expense, and logistical difficulties involved in the discovery, testing, and excavation of deeply buried sites, they constitute a small (but important) part of the known prehistoric site sample in the North Atlantic Region.

#### **Earliest Evidence for Human Occupation in the North Atlantic Region**

Few debates in archaeology have generated more controversy than the subject of the peopling of the New World (e.g., Adovasio et al. 1978; Bryan 1978; Dillehay 1989; Dincauze 1984; Haynes 1980). Areas of contention include the timing of initial migrations across the Bering Land Bridge, the migration routes that may have been followed to get south of the main ice sheets, the nature of the associated artifacts, the possible role of humans in contributing to the extinction of Pleistocene fauna, and the rate at which human populations expanded geographically and numerically to inhabit the

hemisphere (Anderson 1990; Dincauze 1984, 1993b; Meltzer 1988). There is a general consensus among archaeologists that hunter-gatherer groups using Clovis-like fluted points inhabited much of North America by 11,500 B.P. Much of the ongoing discussion and debate revolves around the question of whether or not there are any earlier (that is, "pre-Clovis") sites in the region.

Nineteenth-century claims for an American "Paleolithic", comparable in age to the Old World Paleolithic, were based on a series of large, chipped-stone tools found in gravel deposits in Trenton, New Jersey. The superficial resemblance of these tools to Paleolithic handaxes from Europe prompted much speculation on their age (e.g., Abbott 1876). Ultimately, the stone tools were shown to be early-stage preforms of comparatively recent age (Holmes 1890, 1919; Meltzer 1980). Over the past century, there have been few arguments presented in the archaeological literature for sites in the North Atlantic Region that are more than 20,000 years old. The evidence presented in support of claims that artifacts at the Timlin site in New York pre-date the last glaciation (Raemisch and Vernon 1977; Timlin and Raemisch 1971) has not been convincing for most archaeologists (Cole and Godfrey 1977; Funk 1983).

The most likely candidate for a pre-Clovis site in the Northeast lies outside the boundaries of the North Atlantic Region at the Meadowcroft Rockshelter in western Pennsylvania (Adovasio et al. 1978, 1981). In the lower levels of the rockshelter, archaeologists found a biface (of a form termed "Miller Lanceolate" which has been suggested as a precursor of fluted points) and several flake tools (including unifacially-worked Mungai knives) in strata dated to 14,000 B.P. An extensive program of excavation, radiocarbon dating, and sediment analysis has addressed many (but not all) of the concerns raised by skeptics (e.g., Dincauze 1984; Haynes 1980). As of this writing (1995), the archaeological profession remains divided over the interpretation of Meadowcroft Rockshelter as a pre-Clovis site.

A second site that could be cited in the context of a pre-Clovis discussion is Dutchess Quarry Cave Number 8 in eastern New York (Funk et al. 1969; Funk and Steadman 1994; Kopper et al. 1980; Steadman et al. 1994). A phalanx from a caribou

(*Rangifer tarandus*) was recovered from the lower levels of the cave in possible association with a Cumberland-style fluted point. The bone had been broken, perhaps by humans (Guilday 1969). The radiocarbon date of 12,530±370 B.P. (I-4137) on bone collagen is nearly 2,000 years older than other dated Cumberland contexts (Dincauze 1984; Steadman and Funk 1987). In fact, the Dutchess Quarry Cave date is more than 1,000 years older than the earliest date for Clovis artifacts, thus making it by definition a "pre-Clovis" association. However, the association between the dated caribou bones and the fluted point is ambiguous and suggests that the sample of bone collagen simply does not date the target event (i.e., the use of the fluted point) (Levine 1990; Steadman and Funk 1987).

### **Temporal and Geographic Framework for Paleo-Indian**

The number of securely dated Paleo-Indian sites is quite low, if one only considers sites for which radiocarbon dates are available (see Curran 1987:Table 1.1; Levine 1990:Table 1). The existing dates for fluted points in the Northeast fall within the 10,000-11,000 B.P. time range (Haynes et al. 1984; Levine 1990). Although the fluted points found in the east resemble western Clovis points in their size and shape, the dates for eastern fluted points more closely match those for the more recent Folsom points in the west (Haynes et al. 1984:185). Since the publication of Mason's synthesis of eastern Paleo-Indian traditions in 1962, there has been a growing recognition of regional variation in fluted point technology and typology. Many archaeologists prefer to distinguish an Eastern Fluted Point Tradition from a Clovis Tradition that is continent-wide in its distribution, but varies regionally in its temporal span (e.g., Curran 1987; MacDonald 1968; Meltzer 1988).

Within the Eastern Fluted Point Tradition, MacDonald (1968:141) has suggested three temporal divisions on the basis of fluted point technology and morphology. The four criteria used by MacDonald are (1) the presence or absence of a ground "nipple" (a striking platform that has been isolated and prepared for detaching a flake that creates a shallow channel [or flute] that extends from the base of the point toward the tip), (2) the length of the flute, (3)

the extent of grinding along the margins of the biface, and (4) the depth of the basal concavity created by platform preparation for fluting the biface. Using these criteria, MacDonald has identified an Early tradition that most closely resembles western Clovis on technological grounds (represented at the Shoop and Shawnee-Minisink sites in Pennsylvania and at the Thunderbird and Williamson sites in Virginia). A Middle tradition is characterized by fluted points with deep basal concavities; representative sites include Bull Brook in Massachusetts (Byers 1954; Grimes and Grimes 1984; Grimes et al. 1984; Jordan 1960), Debert in Nova Scotia (MacDonald 1968), and Vail in Maine (Gramly 1982). The Late period within the Eastern Fluted Point Tradition is identified by a variety of fluted and non-fluted point styles (e.g., "pumpkin seed" or Crowfield points, Cumberland points, and basally-thinned Holcome-type points). Variations on MacDonald's sequence of fluted point traditions may be found in Anderson (1991a), Gramly and Funk (1990), and Shott (1990).

As Curran (1987:17) has pointed out, this typological framework interprets variation in fluted point morphology, technology, and function exclusively in chronological terms. Geographic and cultural factors cannot be dismissed as sources of the variation observed within the Eastern Fluted Point Tradition, however. At the present time, there are not the supporting radiocarbon dates or archaeological data from stratified fluted point sites to favor a strictly chronological interpretation for the observed differences in eastern fluted points. Alternative explanations emphasize the degree of variation in artifact form that may exist across a broad geographic area as an outcome of the flexibility inherent to stone tool production, use, and modification in a hunting and gathering society (Callahan 1979; Frison 1968). While there may be temporal trends within the Eastern Fluted Point Tradition, it is likely that archaeologists will need to understand time, place, and circumstance within a cultural framework in order to demystify the Paleo-Indian presence in the North Atlantic Region.

The geographic distribution of Paleo-Indian sites in the Northeast reflects the biases imposed by the erosion or deep burial of landforms and surfaces dating to between 10,000 and 12,000 years B.P. and the variable intensity of systematic archaeological

*Figure 3. Paleo-Indian Sites in the Northeast.*

research across the region (Mulholland 1984). The majority of Paleo-Indian habitation sites in the Northeast have been found on the relict shorelines of pro-glacial lakes (Curran and Dincauze 1977; Loring 1980; Storck 1991), on river terraces (Curran 1987), or in other sandy, well-drained soils (Carty and Spiess 1992; Gramly 1982, 1988; Gramly and Funk 1990; Grimes et al. 1984; Hasenstab 1987a; MacDonald 1968; Moeller 1980; Spiess and Wilson 1987).

Gramly and Funk (1990) have identified five basic Paleo-Indian site types: (1) lithic quarry/workshop sites (e.g., Bonnicksen 1984; Funk 1976; Ritchie and Funk 1973); (2) habitation sites (e.g., Curran 1987; Gramly 1982; Grimes et al. 1984); (3) kill/butchery sites (e.g., Gramly 1982); (4) burial sites and caches (e.g., Deller and Ellis 1986; Gramly 1988); and (5) isolated find spots which may represent loss or discard of artifacts away from the clusters of cultural material that define other kinds of sites (e.g., Brennan 1983). These categories of sites do not necessarily define the full range of Paleo-Indian activities that may be represented in the archaeological record, nor do they establish a universally-applicable framework for addressing all research questions. As with any classification system in archaeology, the site typology is a research tool. As such, its applicability and utility in a given research context is open to critical evaluation and debate.

Towards the end of the Paleo-Indian period in the Northeast, a number of distinctive, non-fluted biface styles appear in the archaeological record, including long lanceolate forms that resemble parallel-flaked Eden points of the Plano tradition in the west (Benmouyal 1976; Bourque et al. 1983; Doyle et al. 1985; Fowler 1972; Kraft 1977; Ritchie and Funk 1973), small, unfluted lanceolate points (Kraft 1973; Ritchie 1953), and triangular points with deep basal concavities (Cavallo 1981; Keenlyside 1985; McGhee and Tuck 1975). While artifacts attributed to the Late Paleo-Indian period have been identified throughout the Northeast, the number of controlled excavations for sites dating to this time period is exceedingly small (MacDonald 1983:106).

At the time that Paleo-Indians entered the Northeast (ca. 11,500 B.P.), large areas of the Atlantic Continental Shelf were above sea level.

This broad coastal plain would have been a likely route by which Paleo-Indian groups reached the Debert site in Nova Scotia (Bonnicksen et al. 1985; Borns 1965; MacDonald 1968, 1983). The continental shelf has yielded fossil remains from Pleistocene fauna (Emery and Edwards 1977; Kraft 1973; Roberts 1979) and occasional Paleo-Indian and Archaic Period artifacts. While it may be overly optimistic to expect that intact Paleo-Indian sites may yet be identified on the continental shelf, these finds serve as a reminder of the permanent gaps in our geographic picture of the Paleo-Indian, Early Archaic, and, to a lesser extent, the Middle and Late Archaic Periods in the Northeast.

### Settlement

The nature of the archaeological record for the Paleo-Indian period imposes constraints on the kinds of statements about Paleo-Indian societies that can be supported directly by archaeological data. From a methodological standpoint, it is often very difficult to distinguish between competing hypotheses that may generate similar patterns in the archaeological record. For example, is an extensive spatial distribution of Paleo-Indian artifacts produced by (1) the repeated, non-overlapping use of the site through time, (2) occupation of the site by a large group of people, (3) occupation of the site for a long period of time, or (4) some combination of the above? While these are problems that apply to prehistoric archaeology in general, they are particularly pronounced in the case of Paleo-Indian sites. Archaeologists interested in reconstructing Paleo-Indian social organization must also confront the stratigraphic ambiguities of weathered (and often deflated) soils, preservation conditions that generally limit recovery to stone tools, debitage, and occasional calcined bone fragments, the cumulative effects of ten or more millennia of bioturbation (e.g., burrowing animals, insect and earthworm activity, tree throws), and a decreased degree of resolution for radiocarbon dates in the 10,000-12,000 B.P. range.

The initial settlement of North American by Paleo-Indians has provided a series of challenges and paradoxes to archaeologists (Kelly and Todd 1988), even if one does not accept evidence for pre-Clovis populations. If one assumes that Clovis

assemblages represent the physical traces of the earliest people to inhabit the New World, then the geographic spread of Paleo-Indians to the southern tip of South America and to the Maritime Provinces of Canada was accomplished in a matter of several hundred years. This conclusion has created a picture of Paleo-Indians as mobile bands of hunter-gatherers whose movements covered vast distances and who ultimately populated the continent, albeit at low population densities (Beardsley et al. 1953; Ritchie 1957; Mason 1962). The community pattern classification proposed by Beardsley et al. included a "Free-Wandering" pattern that was defined to accommodate the Paleo-Indian archaeological record; no known ethnographic cases matched this type of community pattern. In recent years, several Northeast archaeologists have chosen to use the "Restricted Wandering" community pattern (Beardsley et al. 1953) to describe the movements of Paleo-Indian groups (Funk 1983; Kelly 1992; cf. Ritchie 1983). This shift in terminology acknowledges the necessity for hunting and gathering groups to acquire sufficient environmental and locational information to negotiate the physical and social landscape with as little risk as possible (Wormington 1983).

From a paradigmatic viewpoint, it is possible to calculate the population growth rates and the average annual travel distances that would have been required for early Paleo-Indians to accomplish this kind of expansion (e.g., Feidel 1992). From a practical point of view, however, the expectations of the model appear unrealistic. Demographic studies of recent hunter-gatherers suggest that high mobility inhibits rather than increases population growth. This should certainly be the case for Paleo-Indian groups faced with unfamiliar weather patterns, topography, and a seasonally-variable resource structure. A recurrent theme in the ethnographic literature is the extent to which hunter-gatherers possess a detailed knowledge of the natural and cultural landscape (e.g., Ingold 1993). Moving to a new area would involve costs and risks for hunter-gatherers, since it would require some time to develop a working familiarity with the social, spatial, and temporal dimensions of a new landscape. The advantages of moving to a new area may have been offset somewhat by the increased risks posed by (1) resource uncertainty, (2) isolation

from other groups that collectively comprised a social "safety net" and mating network (Wobst 1974), and (3) unfamiliar terrain, which would have made logistical movements more uncertain (e.g., returning to a camp or planning a rendezvous at a particular time and place). For Paleo-Indians to have settled North America as rapidly as the archaeological record suggests, they would have had to overcome these obstacles.

Anderson (1990, 1991a) has suggested a model for the Paleo-Indian expansion into eastern North America that addresses some of these concerns. According to the model, the initial Paleo-Indian "colonization" of North America would have followed the major river systems that drained the area from the Rocky Mountains to the Appalachians. These rivers systems converge in the central Mississippi Valley, from which groups may have expanded into the eastern woodlands along the Ohio, Cumberland, and Tennessee Rivers. Anderson noted that the greatest concentration of early Paleo-Indian sites in the eastern United States occurs in these three river valleys (1991a:5). Instead of an incremental expansion of Paleo-Indian groups across a broad area, Anderson suggests a deliberate strategy of colonization from staging areas – locations where comparatively large groups could develop a familiarity with the resources of ecologically-rich zones and where the demographic and subsistence viability of the group could be protected. The existence of staging areas would lower the risks of subsequent expansion efforts by providing a "fall-back" position.

From a regional perspective, Anderson has identified what may have been localized "staging areas" in the vicinity of the Williamson site (Virginia), the Shoop site (Pennsylvania) and the Plenge site (New Jersey). Anderson proposes that from these and other such sites, the area encompassed by the North Atlantic Region may have been settled. Dincauze (1993a, 1993b) has applied the colonization model to Paleo-Indian sites in New England and the Maritime Provinces. The implications of the colonization model are far-reaching, since they challenge the notion that Paleo-Indian geographic expansion was a cumulative effect generated by the free-wandering behavior of small, autonomous bands of hunter-gatherers.

### **Subsistence: Specialists or Generalists?**

The comparatively indistinct picture of Paleo-Indian life beyond stone tool production, use, and discard has encouraged a reliance on ethnographic analogy to interpret the Paleo-Indian archaeological record in broader anthropological terms. There has been considerable latitude in the ways that Northeast archaeologists have interpreted data from the same group of sites. Thus, some researchers see Paleo-Indians as specialists in their hunting behavior, focusing on herds of caribou after the extinction of Pleistocene megafauna (e.g., Gramly 1982). Others view Paleo-Indians as generalists who pursued broadly-based subsistence strategies (Dent 1985; Dincauze 1981; Dincauze and Curran 1983).

In western North America, Paleo-Indian artifacts occasionally have been found in direct association with the remains of extinct Pleistocene fauna such as mammoth, mastodon, horse, camelops, and giant bison (Frison 1968; Frison and Todd 1986; Stanford 1983). There has been no compelling evidence in the Northeast to suggest that Paleo-Indians engaged in hunting Pleistocene megafauna, despite the number of paleontological contexts in the region that have been investigated as potential Paleo-Indian kill/butchery sites (e.g., Jackson 1987; Meltzer 1988; Moeller 1984). The received view that Paleo-Indians in eastern North America were specialists in the hunting of big game (i.e., Pleistocene megafauna) has not yet been supported by any archaeological data (see discussions in Dincauze 1981; Griffin 1964; Meltzer 1988). The debate over Paleo-Indian subsistence patterns has shifted to whether Paleo-Indians specialized in the hunting of caribou (Gramly 1982, 1988; Spiess and Wilson 1987) or were engaged in generalized foraging from a broad spectrum of resources (Dent 1985; Dincauze and Curran 1983). At this point in time, the sample of identifiable faunal remains from Paleo-Indian sites is far too small to evaluate these competing models. As proxy measures for specialist hunting or generalist hunting and gathering, archaeologists have used site location (e.g., places where game movements could be monitored or intercepted), lithic tool types, assemblage diversity, and territorial ranges as inferred from the "exotic" lithic materials in the assemblage (indirectly supporting a model of

long-distance movements by groups following caribou herds).

Spiess and Wilson (1987:79) apply a logistical mobility model to the Paleo-Indian archaeological record, drawing on a growing literature within archaeology that links assemblage composition and diversity with typologies of hunter-gatherer subsistence behavior (Binford 1976, 1979, 1980, 1982; Cleland 1976; Kelly 1992; Shott 1990). One of the critical distinctions made in these models is between foraging (hunting or collecting resources according to their abundance in the vicinity of a habitation site) and logistically-organized behavior (linking group movements and the activities of task-specific groups to the spatial and temporal distribution of targeted resources). Spiess and Wilson suggest that Paleo-Indians may have been logistically organized and that task-specific groups may have cached food, tools, and lithic raw materials at different points on the landscape for later use by the rest of group (Spiess and Wilson 1987; Gramly 1988a).

Settlement and subsistence models have enjoyed a broad appeal among archaeologists as a way to inject an element of vitality and action to an incomplete and static archaeological record. One of the drawbacks of these models is that they collapse variation into a single dimension (e.g., logistical vs. foraging behavior, focal vs. diffuse adaptation). Seasonal variation in activity, a division of labor along gender, age, or status lines, and the potential conflicts between collective and individual interests are thus reduced to a single label.

A brief review of the Paleo-Indian literature points out the extent to which archaeological data lose their neutrality when they are exposed to the polarity of competing interpretive frameworks. The complex web of reasoning and assumptions that supports archaeological interpretations of Paleo-Indian societies is potentially fragile, since it is assembled from the bits and pieces of data recorded at a number of sites. The archaeological record is a product of individual and collective activity under a historically-specific set of circumstances. In grouping together the existing sample of sites to generate a single picture of Paleo-Indian subsistence, settlement, demography, or technology, archaeologists may sacrifice a sense of the flexibility and diversity of Paleo-Indian society.

## Ethnographic Analogy

One of the challenges of Paleo-Indian research in the Northeast is to develop models that bridge the gap between a static, selectively-preserved archaeological record of the distant past and the behavior of living peoples. Archaeologists often rely on ethnographic analogies to inform their interpretations of archaeological data (Binford 1978, 1980; Spiess and Wilson 1987). As Isaac (1990), Wobst (1978), and others have pointed out, however, the use of ethnographic analogy is not without problems. The ethnographic record reflects particular historical circumstances; it is neither timeless nor is it comprehensive as a source for an inventory of cultural practices. In applying analogies, archaeologists often compare ethnographic and archaeological traits directly, without considering the broader historical and cultural contexts within which the traits existed.

Several models of hunter-gatherer societies have been applied to Paleo-Indians to explain their subsistence patterns, residential mobility, assemblage composition, spatial distribution of activity areas within a site, and long-distance travel and interaction. In order to understand the archaeological evidence for Paleo-Indian activity, archaeologists have drawn on ethnographic accounts of Plains bison hunters, Arctic and sub-Arctic hunter-gatherers (e.g., the Naskapi, the Cree, the Nunamiut), Australian aborigines, the Hadza of East Africa, and the San of southern Africa.

It is a literature that has, on occasion, been uncritical in distinguishing between informed speculation and rigorous demonstration, as Moeller (1980) has pointed out. For example, did Paleo-Indians travel long distances using Inuit-type dog sleds, as an artist's reconstruction of the Adkins Site in western Maine shows (Gramly 1988a:frontispiece, 37)? No direct evidence for the presence of domesticated dogs in North America predates 6000 B.P. (Olsen 1985), although it is certainly possible that dogs accompanied Paleo-Indian groups. The need for sledges is inferred by (1) the assumption of high mobility over a large geographic area and (2) the weight of hides that would have been required to cover a hypothesized temporary structure whose dimensions are given by the distributions of stone tools and

debitage. Since travel by dog sled would be accomplished most easily in the cold-weather months, Gramly and Funk (1990:6) have suggested that many of the long-distance movements of Paleo-Indians would have taken place in winter. It is difficult to evaluate this chain of reasoning from the archaeological evidence alone. The reconstructions of Paleo-Indian sites and adaptations that are presented in the archaeological literature are often separated from empirical data by several layers of inference. Archaeological interpretation may be seen as a blend of (1) data obtained through excavation and analysis, (2) methodological assumptions about the nature of the archaeological record and how it might be sampled and interpreted, (3) ethnographic analogy, and (4) assumptions about hunter-gatherer society and the paleoenvironments that characterized the early Holocene.

The building of specific scenarios from somewhat equivocal archaeological data is not a problem per se, since speculation may be useful in framing testable hypotheses. A far greater problem in Paleo-Indian studies is the tendency for assumptions and assertions to become entrenched in the regional literature as demonstrated facts. The Crowfield Paleo-Indian site in southwestern Ontario provides a case in point (Deller and Ellis 1984). A large number of heat-fractured Paleo-Indian artifacts were recovered from the site, many of them from a pit feature. In their discussion, Deller and Ellis move rapidly from the realm of possibility to the realm of likelihood to the realm of certainty that the heat-fractured artifacts are grave goods from a cremation burial (Deller and Ellis 1984:50), despite the absence of identifiable human bone fragments at the site. As the authors have pointed out, if Crowfield were to turn out to be a Paleo-Indian cremation burial, it would be among the earliest mortuary contexts reported for the New World and would be the first evidence for cremation burial associated with a fluted point tradition (Deller and Ellis 1984:50). Although the Crowfield feature may well be a cremation burial, the transition in argument from suggestion to assertion leaves little room for evaluating alternative interpretations. As an unchallenged assertion, the Crowfield interpretation has been incorporated into the Paleo-Indian literature as a definitive case of Paleo-Indian cremation burial (e.g., Gramly and Funk 1990).

Perhaps no area in Paleo-Indian research illustrates the fragility of arguments built on incompletely demonstrated assertions more strikingly than lithic analysis, particularly in the identification of raw material (see Box 3 below).

### Assemblages and Lithic Resource Use

Paleo-Indian components are most readily identified by the presence of fluted points, although these are by no means the only artifacts that may be considered diagnostic of the time period. There are a wide variety of artifact types that have been identified at Paleo-Indian sites in the Northeast, including graters, spokeshaves, limaces, *pièces esquilleés*, burins, scrapers, and polyhedral cores. A number of these terms are borrowed from Upper Paleolithic types, thus linking Paleo-Indians conceptually to Old World roots while at the same time establishing a terminological barrier between Paleo-Indian and Early Archaic technologies.

The distinctiveness of Paleo-Indian lithic technology, assemblages, and patterns of raw

material selection have played a major role in the development of Paleo-Indian research in North America (e.g., Lothrop and Ellis 1989; Mason 1962; Meltzer 1984, 1988; Isaac and Tankersley 1990). A number of researchers in North America (e.g., Gardner 1977; Goodyear 1989, 1993; Wilmsen 1970; Wormington 1957) have commented on the preferential use of cryptocrystalline silicates by Paleo-Indians, a pattern that appears to be continent-wide in its distribution. In many instances, artifacts made from a particular raw material are found several hundred kilometers from the bedrock source(s) of the material. There has been considerable debate over whether this represents (1) interpersonal exchange between trading partners, (2) exchange between groups, perhaps along lines of kinship (Grimes et al. 1984), (3) long-distance seasonal movements of the entire group to quarries (Gardner 1977:258-259; Lothrop 1987), (4) trips to source areas by task groups, or (5) the utilization of secondary sources of raw material, such as stream cobbles or stones in glacial deposits that may have been moved some distance from a bedrock source (Meltzer 1984).

### Box 3: Identification of Lithic Sources

Many of our models of mobile bands of Paleo-Indians traversing broad geographic areas and participating in extensive mating and exchange networks are based on the presence of **non-local materials** in lithic assemblages. Despite the fact that lithic source identification and interpretation are a major component of Paleo-Indian research, comparatively few claims for long-distance travel or exchange are supported by rigorous protocols for characterizing artifacts or sources (Boisvert 1992; Calogero 1992; Dincauze 1976; Luedtke 1993; Ritchie and Hermes 1993).

The most common method of raw material identification is **visual inspection**, although this is the least reliable, especially for patinated or heat-altered materials. Alternatives or supplements to visual inspection include **neutron activation** (Lavin and Prothero 1981, 1992; Luedtke 1980, 1992), **x-ray fluorescence** (Ritchie and Hermes 1993), and the analysis of **petrographic thin sections** (Calogero 1990; Calogero and Philpotts 1993).

The lithic raw materials that would have been available to Paleo-Indians include many **secondary sources** that include pebbles and cobbles that may be found in till or outwash deposits, along river banks, or along shorelines (Lavin and Prothero 1992; Luedtke 1984; Meltzer 1984). Glacial ice and streams and rivers may have moved material considerable distances from bedrock sources, a fact that qualifies many of the claims that the presence of exotic (i.e., non-local) raw materials in an assemblage indicates trade, especially for areas of the glaciated Northeast. Other sources of raw material include small bedrock deposits whose localized distribution falls below the threshold of many geological maps (e.g., Emerson 1895; Lavin and Prothero 1992;) and bedrock sources now inundated on the continental shelf, including Georges Bank and the broad plain extending south beyond Martha's Vineyard and Nantucket.

The geographic extent of lithic "supply and consumption" zones has been used to define the interaction of Paleo-Indian groups (e.g., Spiess and Wilson 1984). For example, Gramly (1988b) has suggested that there are three New York Paleo-Indian regions: the westernmost is characterized by assemblages made primarily from Flint Ridge and other Ohio cherts, central New York assemblages are predominantly of Onondaga chert, and eastern New York artifacts are made primarily from Hudson Valley cherts. Social boundedness has also been inferred from the spatial distribution of morphological and technological traits on fluted points. For example, fluted points from the Debert, Vail, and Whipple sites share deep basal concavities. In overviews of regional prehistory, these sites are often discussed as if they were part of a single unit of culture or time (e.g., Gramly 1984; Spiess and Wilson 1984).

#### **Summary: Gaps in Understanding Paleo-Indians**

As Frison (1983) has suggested for High Plains Paleo-Indians, "...the unknown far exceeds the known," a situation that applies equally well to the northeastern Paleo-Indian cultures. Inevitably, there will be gaps in our understanding of the Paleo-Indian period that arise from the nature of the archaeological record itself. The limited preservation of material culture and faunal and floral remains, the absence of human skeletal material, and the loss of sites due to land development, erosion, or inundation by rising sea levels are constant reminders of missing information. The lack of fine-grained chronological resolution for Paleo-Indian radiocarbon dates will also remain a source of ambiguity in interpretation for the foreseeable future. As Haynes (1984) has argued, for the time being at least, archaeologists will have to settle for precision measured in terms of centuries rather than decades. Other areas of Paleo-Indian research are constrained more by the conceptual frameworks of archaeologists than they are by the nature of the archaeological record.

Researchers must constantly re-evaluate the Paleo-Indian literature to determine the strength of the empirical evidence that supports the interpretations that have been offered for the initial settlement of the region. The issue of whether or not

the Eastern Fluted Point Tradition represents the earliest human presence in the Northeast remains unresolved, although, to date, the Meadowcroft Rockshelter in western Pennsylvania remains the sole example of a possible "pre-Clovis" site. Within the Eastern Fluted Point Tradition, Anderson (1990) and Dincauze (1993a, 1993b) have presented models for the spread of Paleo-Indian groups into eastern North America. These models re-examine archaeological data in ways that recognize the roles of human action, experimentation, and particular circumstances in shaping Paleo-Indian assemblages, site structure, and site distributions.

One of the most obvious gaps in our knowledge is a sense of Paleo-Indian social organization that reaches beyond individual and collective hunting behavior. The picture of Northeast Paleo-Indians presented in the published literature is one in which discussions of gender are notably few (see Chilton 1994; Gero and Conkey 1991; Dent 1991; Sassaman 1992), as are discussions of age and kinship. Thus, Paleo-Indian models have been confined to a perspective that is exclusively adult, male, and non-communal. While speculation has been offered in some realms that highlight or dramatize the dangers and rigors of survival (e.g., killing fields, meat caches, long-distance migrations), it has not been matched by comparable attention to model-building in the realms of social organization, inter- and intra-group dynamics, demography, and ideology.

Gender, kinship, age, and status are important for defining roles, power relations, and access to resources in any society. Resources may include (1) the skills, time, and effort of others, (2) information, broadly construed to include ceremonial/ritual knowledge as well as data on the social and natural environment, and (3) material items, including food. From this ethnographically-informed perspective, archaeologists may be able to develop models that are better suited to anthropological explanation than models in which all decision-making is dictated solely by the distribution of potential food sources.

What is securely known about Paleo-Indian subsistence patterns is drawn from bits of calcined bone recovered from a number of sites in the region (e.g., the Udora Site in Ontario [Storck and Spiess 1994] and the Whipple Site in New Hampshire [Spiess et al. 1995]). Samples are small, often

representing the bones of a single animal, and therefore cannot be used to demonstrate the relative importance of certain species to the Paleo-Indian diet (Storck and Spiess 1994). The evidence that has been called upon to support models of Paleo-Indians as hunting specialists or foraging generalists is largely circumstantial, although the consensus among archaeologists has begun to shift towards the generalist model in recent years. Interannual and intra-annual (i.e., seasonal) variation in weather and in the timing, availability, quality, and quantity of food resources would have had a significant impact on Paleo-Indian groups, and reflect the operation of paleoenvironments at the scale of human experience. For the most part, archaeologists have interpreted the Paleo-Indian archaeological record in the Northeast as a patterned response to averaged environmental conditions. A single, aggregate picture of Paleo-Indian adaptation in the Northeast will undoubtedly yield over the next few years to reconstructions that highlight variation and variability within Paleo-Indian traditions.

## **THE EARLY AND MIDDLE ARCHAIC PERIODS (CA. 9000-6000 B.P.)**

**John R. Cross**

### **Development of the Archaic Concept**

The term "Archaic" has been an integral part of the literature on Northeast prehistory for over fifty years, although its meaning is by no means straightforward (Cross 1990:84-85). Different conceptions of the "Archaic" include (1) a period of time from 9000 to 2500 B.P., subdivided into Early, Middle, and Late Periods (Snow 1980:159-186); (2) an evolutionary stage of hunting-gathering-fishing in the post-Pleistocene temperate-forest environments of the Northeast (Funk 1978, 1983; Ritchie 1969a:31; Willey and Phillips 1958:107); and (3) a combination of archaeological traits that defined the "Archaic Pattern" within the framework of the Midwestern Taxonomic Method, a pre-radiocarbon era system of specifying the degree of similarity or difference between and among archaeological components without reference to their chronological relationships (Brose 1973; McKern 1939; Ritchie 1944:319-320; 1955:3).

William Ritchie was the first researcher to apply the term "Archaic" to the Northeast archaeological record in his use of "Archaic Algonkian" to identify the cultural traditions at the Lamoka Lake site in New York, whose occupants that did not engage in horticulture or make ceramics (Fitzhugh 1972; Funk 1988; Jefferies 1988; Ritchie 1932, 1971a; Willey and Phillips 1958). In his discussion of the "Archaic Pattern," Ritchie also included several other cultural traditions in New York (Ritchie 1944:319-320; see also McKern 1939). Subsequently, researchers in areas of North America outside the Northeast extended the use of "Archaic" to regional and local cultural traditions that predated ceramics and horticulture (see discussions in Dragoo [1959] and Starna [1979]). As a result, archaeologists were faced with an array of "Archaic" cultures that exhibited a great deal of temporal, geographical, and cultural diversity. Since the adoption of horticulture and the introduction of ceramics were thought to represent significant technological and cultural achievements, the term "Archaic" took on meaning above and beyond a simple list of traits. "Archaic"

became a broad characterization for the chronological and developmental interval that separated Paleo-Indian traditions from societies that made ceramics and practiced horticulture (Meighan 1956; Starna 1979).

In recognition of the shift in research goals from describing similarities and differences in traits to understanding cultural sequences in evolutionary terms, Willey and Phillips (1958) proposed an "Archaic Stage" of cultural development that could be applied on a broad geographic scale. The stage concept formalized what had become the predominant usage of the term "Archaic" among archaeologists (Meighan 1956). Vestiges of the Midwestern Taxonomic Method and the evolutionary stage concept remain in the artifact types and cultural units used by researchers in the North Atlantic Region, despite challenges to the arbitrary (and often misleading) categorization of regional prehistory that may result (Bendremer 1993; Filios 1989, 1990; Leonard 1993; Sears 1948; Shaw 1989; Stoltman 1978). One of the greatest challenges facing archaeologists in the North Atlantic Region today is the critical examination and re-examination of the regional archaeological record, terminology, and literature from a consistent theoretical position.

### **Early and Middle Archaic**

The Early Archaic Period (ca. 9500-8000 B.P.) is generally considered to be a period of transition from the technological and subsistence strategies used by Paleo-Indians at the end of the Pleistocene to strategies that were adapted to what were the essentially modern plant and animal communities of the Holocene (Braun and Braun 1994; Dincauze 1990; Funk 1983; Griffin 1967:178; 1978; Snow 1980:157). The nature of the transition between the Paleo-Indian and Early Archaic Period is poorly known, in part because so few Early Archaic sites have been examined systematically in the Northeast. The Middle Archaic Period (ca. 8000 B.P. to 5500 B.P.) has been characterized as a period of population increase and the establishment of strongly seasonal patterns in settlement and subsistence (Braun and Braun 1994; Dincauze and Mulholland 1977). Archaeologists working in the region often discuss the Early and Middle Archaic

Periods together rather than singly (e.g., Dincauze and Mulholland 1977; Funk 1991b; McBride 1984; Starbuck and Bolian 1980), a concession to the scant archaeological information available, particularly for the Early Archaic Period.

Three major research topics have shaped archaeological inquiry into the Early and Middle Archaic Periods. The first of these addresses the degree to which there is continuity in population, adaptation, social organization, or artifact traditions across the boundaries that archaeologists have used to distinguish the Early Archaic Period from the Paleo-Indian and Middle Archaic Periods. The second research question focuses on the apparent scarcity of Early and (to a lesser extent) Middle Archaic sites in the Northeast. The third research topic is the relationship between the peoples and artifact traditions of northeastern and southeastern North America during the Early and Middle Archaic Periods. Each of these topics will be discussed at some length below.

#### **Continuity and Change**

Despite the fact that archaeologists have made substantial gains over the last twenty years in identifying diagnostic Early Archaic artifacts and locating features and strata that can be dated to the eighth and ninth millennia B.P., the Early Archaic remains poorly understood. With few exceptions, sites at which Early Archaic artifacts have been recovered in the Northeast are "context-poor"--there are few artifacts, few features, few associated faunal remains, and little discernible stratigraphy. Researchers have been able to document the presence of an Early Archaic component, either through a radiocarbon date or a diagnostic artifact, but have had little else to offer about Early Archaic societies.

It comes as no surprise, then, that archaeologists have adopted a wide range of positions on the subject of the Paleo-Indian/Early Archaic transition. Snow (1980:157-159) has argued for a "clear discontinuity" between Paleo-Indian and Early Archaic populations and adaptations. He presents a model of catastrophism to explain the sudden collapse of Paleo-Indian lifeways in the face of ecological changes that overtaxed the focal subsistence adaptations of Northeast Paleo-Indians

(see Cleland [1976] for a discussion of "focal" and "diffuse" adaptations). The Early Archaic Period, according to Snow's model, represents either a "re-colonization" of the region by the remnant Paleo-Indian population (equipped with new tools and strategies for survival) or by the movement of groups into the region from the Southeast.

Other researchers view substantial continuity between Paleo-Indian and Early Archaic populations and technological traditions (Cavallo 1981; Dumont 1981). Custer (1984) and Gardner (1977) discuss Paleo-Indian and Early Archaic traditions as a single unit in the Mid-Atlantic region, drawing on the technological similarities evident in the Paleo-Indian fluted point-Dalton-Hardaway sequence of bifaces. Within the Northeast Region, however, the Late Paleo-Indian and earliest Early Archaic lithic assemblages contain few examples of Dalton and Hardaway-Dalton points (Funk 1978, 1991a).

The temporal equivalents of Dalton points in the Northeast are long, parallel-flaked lanceolate points (Benmouyal 1978; Doyle et al. 1985; Spiess et al. 1983a; Wright 1979:34-35) and several varieties of unfluted triangular points with deeply incurvate bases (e.g., Cavallo 1981; Doyle et al. 1985; Keenlyside 1985; McGhee and Tuck 1975). The lanceolate points are often referred to as "Eden" or "Plano" points, and are widely seen as part of a Late Paleo-Indian tradition of the Great Lakes-St. Lawrence River Valley (Doyle et al. 1985; Wright 1979). Similar parallel-flaked, lanceolate bifaces have also been identified at sites in southeastern Massachusetts, on Cape Cod and Martha's Vineyard (Davin 1989; Frederick Dunford, personal communication 1994; Fowler 1972).

The smaller triangular points have been reported from sites on Prince Edward Island (Keenlyside 1985), in Labrador (McGhee and Tuck 1975), in Maine (Doyle et al 1985), and in northern New Jersey (Cavallo 1981). A number of archaeologists have made the case that these triangular points with incurvate bases are derived from the comparatively short fluted and unfluted points found at Paleo-Indian sites such as Reagan in Vermont (Ritchie 1953) and Plenge in New Jersey (Kraft 1973).

The present sample of radiocarbon dates for the lanceolate and triangular points overlaps considerably with the 10,000-8000 B.P. time frame

for the Early Archaic (Doyle et al. 1985; Keenlyside 1985). Therefore, it has not been clearly established whether there is a sequential relationship or contemporaneity between the cultural traditions that produced Late Paleo-Indian lanceolate or triangular points and those that made and used the stemmed and notched points traditionally identified with the Early Archaic Period. Either scenario is rich in research potential for examining the nature of cultural continuity and change on site-specific, local, regional, and inter-regional scales.

#### **Early and Middle Archaic Sites and the Hiatus Model: The Record of Absence or the Absence of a Record?**

Research on the Early and Middle Archaic Periods has been driven for the past 30 years by the fact that the archaeological record for the period from 9000 to 5500 B.P. has remained poorly known. In the 1960s, William Ritchie (1965) and James Fitting (1968) independently arrived at the conclusion that portions of the northeastern forests during the Early and Middle Archaic Periods were characterized by comparatively low productivity in terms of the resources most important for human groups. What became known as the "Ritchie-Fitting Hypothesis" explained the paucity of Early and Middle Archaic sites as a reflection of a real phenomenon, namely low population densities. Nearly all Early and Middle Archaic research in the 25-30 years that have elapsed since the Ritchie-Fitting Hypothesis first was enunciated has been directed towards resolving the issue of whether or not there was a hiatus of several thousand years in the Northeast prehistoric record (Dincauze and Mulholland 1977; Funk 1977a, 1991b; Funk and Wellman 1984; Nicholas 1988, 1990; Robinson et al. 1992; Sanger 1979b; Snow 1977, 1980; Starbuck and Bolian 1980; Tuck 1974; Wright 1978).

A number of archaeologists have framed the apparent scarcity of Early and Middle Archaic sites in the Northeast as an explicit research question and have examined the archaeological evidence both for and against competing hypotheses (e.g., Funk and Wellman 1984; Sanger 1979b). Hypotheses that have been advanced to account for the comparatively small sample of Early and Middle Archaic sites include:

(1) Data on Early and Middle Archaic site distributions are incomplete. Site destruction (e.g., by sea-level rise, riverine erosion, or recent construction activities) and deep burial (e.g., by alluvial sediments), have left a prehistoric record that cannot be sampled adequately by existing archaeological survey strategies (Funk and Wellman 1984; Nicholas 1990; Robinson and Petersen 1993:65; Sanger 1979b);

(2) Models of settlement and land use based on the recent past cannot be applied directly to the study of more ancient periods. Following the Early and Middle Archaic Periods, significant environmental changes occurred (e.g., in local weather patterns, the distribution and character of wetlands, the nature of coasts and estuaries, and the composition and seasonal structure of biotic communities). Therefore, models based on the last 4,000-3,000 years cannot be used as analogues for the period from 9000-5500 B.P. (Nicholas 1988, 1990);

(3) Early and Middle Archaic sites are often not recognized because they contain few artifacts that fit within existing typologies. These typologies are heavily weighted towards chipped stone projectile points (Byers 1959; Funk and Wellman 1984; Robinson 1992; Robinson and Petersen 1992, 1993; Sanger 1979b);

(4) Early and Middle Archaic sites are absolutely rare because population numbers were low, resulting in a record of fewer and smaller sites than are associated with other time periods (Funk 1979, 1991a, 1991b; Funk and Wellman 1984; Ritchie 1965, 1971a; Snow 1977, 1980).

Unless and until a program of survey and excavation is initiated in the Northeast that addresses the issues of locating and sampling Early and Middle Archaic sites from a rigorous theoretical and methodological position (Wobst 1983), none of these hypotheses can be dismissed with any confidence. The conventional standards developed within cultural resource management for stratifying a project area, selecting a sampling interval and unit size, determining site boundaries, and arriving at a percentage of the site area to be excavated do not guarantee the collection of sufficient information to

evaluate the hypotheses listed above. The substantive issues raised by the competing hypotheses require that sampling strategies, field methods, and analytical procedures be tailored to a specific set of research questions and to the nature of the archaeological record for the Early and Middle Archaic periods. There is no "all-purpose" prehistoric archaeological survey that will sample all temporal, spatial, functional, and cultural contexts simultaneously or with equal emphasis.

For example, Northeast archaeologists often use the distribution of potential freshwater sources to identify nearby areas that are likely to contain prehistoric archaeological sites (e.g., Moore and Root 1979; Spiess 1989). These areas are subjected to more intensive subsurface testing than are other portions of a project area, yet the resulting site sample may only represent a small and skewed fraction of the archaeological record for behavior, land-use strategies, or seasonal activities in prehistory. While the proximity of surface freshwater may have been an important criterion for selecting a site for habitation during certain seasons, it may have had no bearing on site selection in areas covered by snow during the winter months.

In addition, habitation sites comprise a narrow segment of a broad spectrum of activities that potentially are represented in the archaeological record (Binford 1976, 1980). Activities that might be underrepresented at habitation loci include (1) the primary acquisition of food through collecting/gathering, hunting, and fishing, (2) the acquisition and processing of non-food resources, such as bark, wood, and other vegetable fibers, materials with medicinal properties, pigments, shells, lithic materials, mastic, and clay, and (3) ceremonial observances of various kinds (e.g., symbolic gift-giving to establish social ties, the celebration of life course transitions such as birth, initiation to adult status, marriage, and death, and interaction with the spirit world [Jett 1994; Simmons 1986]). The archaeological investigation of research questions directed at these topics will require bridging arguments that link sampling strategies and excavation methods to explicit theoretical frameworks.

Instead of being a two-dimensional problem (i.e., identifying prehistoric cultural resources on a map), the search for Early and Middle Archaic sites

in the Northeast is complicated by additional factors. Sites that have survived the cumulative impacts of erosion and development are often deeply buried and are in areas presently covered by dense vegetation; these conditions impose logistical constraints of sample adequacy, time, money, and safety on survey and excavation projects (e.g., McManamon 1994; Petersen 1991; Will 1995; Wobst 1983). The attrition of some Early and Middle Archaic sites and the deep burial of others have afforded researchers a limited view of these periods of Northeast prehistory.

By contrast, the comparative abundance of Early and Middle Archaic sites in the Southeast is due in large part to a tradition that dates back to the days of W.P.A. and Reservoir Salvage archaeology of excavating large, deep units in floodplain deposits (Broyles 1966; Chapman 1973, 1975, 1985; Coe 1964; Lewis and Lewis 1961; Webb and DeJarnette 1942). Few excavations in the Northeast have been undertaken on a comparable scale to the floodplain excavations in the Southeast, although in those cases in which archaeologists have sought out landforms and buried ground surfaces dating to the Early and Middle Archaic periods, they have enjoyed a measure of success in locating early sites (e.g., Funk 1991b; Kraft 1975; Nicholas 1990; Petersen 1991; Robinson et al. 1992; Sanger et al. 1992; Thomas 1992).

For the most part, the interpretation of the Early Archaic archaeological record has been expressed in broad paleoenvironmental terms; reconstructions of Early Archaic cultural life are derived from the constraints and opportunities presented by contemporary plant and animal distributions and climate (e.g., Dincauze 1990; Dumont 1981; Funk 1983; Snow 1980). Although the ecological foundations of the Ritchie-Fitting Hypothesis have been challenged on paleoenvironmental grounds (e.g., Calkin and Miller 1977; Dincauze and Mulholland 1977; Nicholas 1988, 1990; Robinson 1992) and by a growing body of archaeological data (Ellis et al. 1991:25; Johnson 1993; Levine 1989; Wright 1978), several archaeologists have been reluctant to dismiss it entirely as an explanation (e.g., Funk 1991b; Funk and Wellman 1984; Haviland and Power 1981; Ritchie 1979; Snow 1980). Instead of viewing the forests of the Northeast as an absolute ecological barrier to human

habitation, these researchers see the presence of low numbers of hunter-gatherer groups in the Northeast during the Early Archaic. Snow (1980:157) has used catastrophe theory to argue for a decline in human populations during the Early Archaic Period, referring to "...a clear archaeological discontinuity..." between Paleo-Indian and Early Archaic Periods. Other researchers view the mosaic forests and wetland habitats of the Northeast as capable of supporting a larger regional population of Early Archaic peoples than could have been supported during the Paleo-Indian Period (e.g., Dincauze and Mulholland 1977; Nicholas 1990; Yesner et al. 1983).

The fact that diametrically-opposed positions are being argued for the same Early Archaic data suggests that there is no clear consensus among Northeast archaeologists over the theoretical or methodological approaches that could resolve the debate. The issue is not simply a lack of Early Archaic data (which has created a measure of uncertainty), but is, rather, the absolute certainty with which both sides view the same body of archaeological data. The low absolute and relative frequency of diagnostic Early Archaic chipped stone artifacts in the Northeast has been interpreted as evidence for low population numbers and at least partial support for the Ritchie-Fitting hypothesis (e.g., Funk 1979, 1991a; Snow 1980; Spiess et al. 1983:239). Alternatively, the presence of even low numbers of Early Archaic artifacts and sites in the region has been used to reject the Ritchie-Fitting hypothesis as overly restrictive (Dincauze and Mulholland 1977; Johnson 1993; Levine 1989; Trubowitz 1979).

While the debate continues over the relative size of the regional Early Archaic population, there is greater agreement among archaeologists over the Middle Archaic period. In light of recent evidence for a substantial Middle Archaic archaeological record in the Northeast (e.g., Cassedy 1983, 1984; Cross and Doucette 1994; Eisenberg 1991; Funk 1991b; Robinson et al. 1992; Starbuck 1977; Starbuck and Bolian 1980), the Middle Archaic can no longer be characterized as a period of extremely low population density, as the Ritchie-Fitting model suggested.

## Early Archaic Connections with the Southeast

The Early Archaic in the Northeast has been identified largely through projectile point sequences developed in the Southeast, where a number of deeply stratified, multicomponent, riverine sites have been excavated that contain components dating between 10,500 and 7750 B.P. (Broyles 1966, 1971; Chapman 1976, 1980, 1985; Claggett and Cable 1982; Coe 1964). Archaeologists working in the Southeast see a technological and morphological transition from regional late Paleo-Indian to Early Archaic traditions in the Quad-Dalton-Hardaway-Palmer-Kirk-Bifurcate sequence of projectile point types (Anderson 1991b; Chapman 1985; Goodyear 1982; Sassaman et al. 1990; Smith 1986). The Southeast sequence has also been applied to the Early Archaic of the Mid-Atlantic states, with little modification (Custer 1990; Egloff and McAvoy 1990; Stewart 1991).

The transition is less clear in the Northeast, since few sites have yielded "diagnostic" Early Archaic materials in stratified contexts or in clear association with radiocarbon dated material. The combination of suitable material for radiocarbon dating, stratigraphic integrity, and unambiguous associations between dated material and diagnostic artifacts has proven elusive at most Early Archaic sites. Often, archaeologists have been forced to rely on the coarse chronological resolution afforded by depth measurements in the absence of clearly defined stratification (e.g., Dumont and Dumont 1979; Lavin and Russell 1985).

At a number of sites within the region, archaeologists have obtained Early Archaic radiocarbon dates from well-defined stratigraphic contexts, but have recovered few associated artifacts that might be considered "diagnostic" of the Early Archaic Period (e.g., Petersen 1991). Other sites have produced radiocarbon dates from the ninth-tenth millennia B.P. from excavation levels that contained diagnostic Early Archaic artifacts, (e.g., Ward's Point, Richmond Hill, and Old Place on Staten Island, New York [Ritchie and Funk 1971:44-59]), although the associations among diagnostic Early Archaic artifacts, radiocarbon-dated samples, and excavation levels at the sites do not clearly resolve the chronological position of artifact types *within* the Early Archaic time frame.

## BOX 4: RADIOCARBON DATES AND NORTHEAST PREHISTORY

Few methodological developments have had as great an impact on Northeast archaeology as the introduction of radiocarbon (C-14) dating techniques. Since the early 1950's, archaeologists have come to rely on radiocarbon dating as an independent means of evaluating age that can be applied to single-component sites, features, or artifacts made from organic materials (Johnson 1951). Radiocarbon dating revolutionized ideas about the region's prehistory. What had been interpreted in the pre-radiocarbon era as a prehistory of 3,000-4,000 years duration (Moorehead 1922; Parker 1922; Ritchie 1936; Willoughby 1935) became an 11,000-year record of human presence in the Northeast. The coarse resolution afforded by the "Pre-Algonkian," "Old Algonkian," and "Algonkian" designations proposed by Willoughby (1935) or the Algonquian-Eskimo-like-Moundbuilder-Iroquois sequence suggested by Parker (1922) was replaced by a chronological framework anchored with radiocarbon dates.

Despite these contributions, C-14 dating presents problems and challenges to researchers. The requirements for collecting and documenting samples of material for radiocarbon dating have been discussed elsewhere (e.g., Kra 1985; Stuckenrath 1977; Taylor 1985, 1987), as have the issues of sample contamination, pretreatment, and calibration (e.g., Stuiver and Becker 1993; Taylor 1987). Interested readers should consult these sources for more information on these topics.

Perhaps the most important admonition for archaeologists to keep in mind is the need to be cautious about the relationship of C-14 dates to artifacts (Kra 1985) and resist the temptation to overstate the degree of association. Dates for "levels" are much less reliable than are dates for features with associated artifacts, especially when excavation techniques rely on arbitrary levels or on broad-scale natural soil horizons instead of units of cultural deposition (Harris 1979, 1989; Shaw 1994). Artifacts found in spatial proximity or at comparable depths to dated samples of organic materials do not constitute reliable associations, although many of the radiocarbon dates cited in the literature for the Northeast stand on precisely this sort of shaky foundation (e.g., Hoffman 1985, 1991; Kuhn 1985). Researchers must evaluate the strength of artifact and feature associations for the dates that they cite (e.g., Curran 1987; Filios 1989) to avoid giving new life to old misinterpretations.

Archaeologists have frequently misunderstood the statistical nature of C-14 age determinations and have assumed that the given date represents the absolute age of the sample. Contrary to what archaeologists often assume, the date as given by the radiocarbon laboratory does not represent the most likely age of the sample within a 1- or 2-standard deviation range; in other words, the published date does not describe the midpoint of a normal-curve probability distribution. Instead, there is a 60% chance that the actual date falls within one standard deviation of the stated date. There is a 95% chance that the actual date falls within a 2-standard-deviation range.

It follows from these arguments that C-14 dating cannot not be used to generate fine-scale chronologies, since there would be a considerable overlap in the age determinations at the 1- or 2-sigma level for two events that were close to each other in time. Although radiocarbon dating generates results that imply precision, it is a coarse-grained precision—radiocarbon techniques cannot establish the absolute contemporaneity of two events, nor can they establish a sequential order for dated events that overlap at the 1- or 2-sigma levels.

Northeast archaeology abounds with anecdotes about archaeologists rejecting "bad" dates, unquestioningly accepting all dates as valid, "adjusting" artifactual and stratigraphic associations (post-hoc) to accommodate C-14 dates, and identifying phantom rodent burrows, tree throws, or recent intrusive pits (again, post-hoc) to account for unexpected radiocarbon dates (Stuckenrath 1977). As a result, the quality of C-14 dates and their interpretation is uneven within the North Atlantic Region. There remains no substitute for meticulous field excavation and recording, the presentation of complete and accurate contextual information, and an appreciation of the method's inherent uncertainty.

In general, Early Archaic assemblages of the Northeast contain few bifaces that would be classified as Hardaway-Dalton, Palmer Corner-Notched, Kirk Corner-Notched, or Big Sandy points (Funk and Wellman 1984:81; Levine 1989; Mulholland 1984; Wright 1978). The largest assemblage of Early Archaic Kirk Corner-Notched points from the Northeast is derived from surface collections at the Nettling site in southwestern Ontario (Ellis et al. 1991). Other Early Archaic artifacts have been reported from dated contexts at the Staten Island sites, which were excavated by avocational archaeologists and reported by Ritchie and Funk (1971), from sites in the Upper Delaware River Valley (Dumont and Dumont 1979; Kraft 1975), and from sites in the Upper Susquehanna River drainage (Funk 1977, 1991b).

The first dates obtained for Kirk-related components at sites in the Northeast were more recent than Kirk components in the Southeast by 1,500 years or more (e.g., the Harry's Farm [Kraft 1975] and Rockelein [Dumont and Dumont 1979] sites in New Jersey; the Sheep Rock site in Pennsylvania [Michels and Smith 1967]). Initially, the dates were viewed as a challenge to claims that the Southeast and Northeast shared contemporaneous projectile point styles (Snow 1980:162-163). Tuck (1974) has argued that the use of "Kirk" to designate both corner-notched points and stemmed points may have contributed to confusion, since Kirk Corner-Notched points are as much as 1,500 years older than Kirk Stemmed points. As Funk (1981:92) has also pointed out, legitimate questions may be raised about the identification of certain points as Kirks and about site stratigraphy at these sites, particularly in light of radiocarbon dates from other sites that suggest comparable ages for similar Northeast and Southeast artifact types during the Early Archaic.

#### **The Bifurcate Tradition of the Early Archaic**

Bifurcate-base points, dated in the Southeast to the end of the Early Archaic and beginnings of the Middle Archaic Period (8850 B.P.-7750 B.P. [Anderson 1991b; Chapman 1976]), have been found at a number of sites in the Northeast, though seldom in unambiguous stratigraphic contexts or in clear association with radiocarbon-dated materials

(e.g., Johnson 1993; Kopec 1985; Lavin and Russell 1985; Snow 1977; Taylor 1976; Wyatt 1977). Snow (1980:166) has argued that Northeast bifurcate-base points are of more recent age than Southeast bifurcates, and has suggested that there was a considerable time lag associated with the diffusion of Early Archaic styles into the Northeast. However, most archaeologists feel that Northeast and Southeast bifurcate-base points are of comparable age (Funk 1979; Johnson 1993; Kuhn 1986; Spiess et al. 1983; Thomas 1992:189).

One of the few dated contexts for bifurcate-base points is the Dill Farm Locus 1 Site in East Haddam, Connecticut (8560±270 B.P. [Pfeiffer 1986:31]). Bifurcate-base points have been found at several sites that have yielded radiocarbon dates in excess of 8000 B.P. for pit features, such as the Double P Site in Bridgewater, Massachusetts (8555±200 [Simon 1991]) and the Heath Brook Site in Tewksbury, Massachusetts (8460±60, 8360±80 [Glover and Doucette 1992]). At a more general degree of association, bifurcates have been found in levels dating between 7000 and 9000 B.P. at several sites in New York and New England (e.g., Dincauze 1976; Funk 1979; Kuhn 1985; Snow 1977). The dates are not uniquely associated with bifurcate-base points, however, since the dated stratigraphic levels often contained a variety of projectile point types from the Early and Middle Archaic Periods.

The distribution of bifurcate-base points is uneven across the North Atlantic Region. They are frequently reported from sites in eastern Massachusetts and Rhode Island (Dincauze and Mulholland 1977; Mulholland 1984; Johnson 1993; Taylor 1976; Turnbaugh 1980), northwestern Connecticut (Nicholas 1988:272-273), and the Champlain Lowlands (Thomas 1992). However, bifurcate-base points are only rarely reported for other areas within the region, such as upstate New York and northern, central, and eastern Maine (Robinson 1992; Spiess et al. 1983).

The named bifurcate types in the Southeast sequence include St. Albans, MacCorkle, LeCroy, and Kanawha (Broyles 1966). Not all of the bifurcates identified in the Northeast fit easily into the types defined for the Southeast, although Northeast researchers have been reluctant to suggest an alternative classification (e.g., Ritchie 1971b). Kuhn (1986), in his examination of bifurcate-base

points from the Northeast, was unable to identify clusters of variables that could isolate bifurcate point types that were unique to the region. Systematic attempts to document and interpret bifurcate-base points in technological, functional, or stylistic terms have been constrained by small sample size and a scarcity of radiocarbon-dated contexts (Johnson 1993; Kuhn 1986). The inclusion

of potential sources of variation in artifact form in the analyses (such as the properties of a given raw material or the artifact's relative position along a use-life trajectory) threatens to reduce sample sizes even further. However, the creation of smaller samples using behaviorally meaningful criteria is still a preferable option to interpreting all variation in bifurcate-base points along only two dimensions—time and space.

## BOX 5: POINTS AND PEOPLE

Archaeologists in the Northeast and elsewhere have used typologies of projectile points as a foundation for ordering, describing, and explaining the ancient past. Much of this application of typology is based on the Coe Axiom, which assumes that different projectile point types represent different cultures. However, there are many flawed or questionable assumptions underlying the Coe Axiom and the application of point typologies to the archaeological record. Some of these are listed below.

Unique processes of change Points are assumed to behave differently from other classes of material culture such as ceramics, where seriation allows the gradual replacement of one type by another.

Functional equivalence must be assumed for the types of bifaces/projectile points that constitute the foundation for much of the reconstruction of prehistory. Such equivalence has never been demonstrated and, in fact, seems unlikely.

Ambiguous associations Prehistoric chronologies have been built from data collected from sites without clear stratigraphy or good associations (Kuhn 1985; Hoffman 1985; Lavin and Russell 1985). Ambiguities in associations have been used to support revisionist prehistory that allows great deal of latitude in interpretation without retaining standards by which knowledge claims may be evaluated against one another (Snow 1980 and others).

Time lag It is assumed that southeastern point types took 100 or more years to reach the Northeast, yet the similarities in artifacts across large areas of space appear to be synchronous, at least in radiocarbon terms. What processes sustain communication and interaction over broad areas and how might these be compared with processes that would maintain an "outmoded" artifact style for many generations in areas distant from a center of innovation?

Ethnicity and stone tools There is an assumption that similarity across space and through time indicates the extent of social boundedness and persistent ethnic identity. Ethnographic studies show a much more complex picture (e.g., Hodder 1982; Larick 1985, 1987; Watanabe 1975; Weissner 1981; Wobst 1977) that suggests many ways in which variation in material culture may arise (e.g., gift-giving, conscious signalling of status or position [gender, marital status, age-grade, clan/kin/family affiliation], variable skill levels, and the position of an artifact on a continuum between expedient and curated).

Normative tendencies Researchers must be very specific in identifying the empirical basis for claiming similarities or differences within and between assemblages; from a theoretical standpoint, there is no reason to assume that variation in a class of material culture will conform to a normal distribution or that central tendency measures (mean, mode, standard deviation) provide a universal framework for understanding the archaeological record.

## The Identification of Early Archaic Artifacts

The recognition of artifacts as diagnostic of the Early Archaic Period continues to challenge researchers in the North Atlantic Region. Although projectile points similar in form to those identified in Early Archaic contexts in the Southeast are found in the Northeast, they are comparatively rare (for example, compare the numbers of specimens in assemblages described by Broyles [1966, 1971], Chapman [1985], and Coe [1964] with those described by Bolian [1980], Funk [1977, 1991], Ritchie and Funk [1971], Spiess et al. [1983], and Turnbaugh [1980]).

The recognition problem is compounded by the fact that a number of Early and Middle Archaic projectile point types are similar in their morphology to more recent types in the Northeast. A paired list of potentially misidentified point styles would include Early Archaic Hardaway-Dalton points with Late Archaic Brewerton Eared Triangle points (Funk 1991a:50; Johnson and Mahlstedt 1984:61), Early Archaic Swanton Corner-Notched points with Late Archaic Brewerton Corner-Notched points (Dincauze 1993d), Early Archaic Palmer Corner-Notched and Kirk Corner-Notched points with Late Archaic Corner-Notched points of the Laurentian Tradition (Funk 1991a:50; cf. Brennan 1979), Middle Archaic Stanly/Neville points with Late Archaic Snook Kill/Atlantic points (Johnson and Mahlstedt 1984:23; Mulholland 1984), Middle Archaic Morrow Mountain II/Stark points with Early Woodland contracting-stem points (Jones 1989; Johnson and Mahlstedt 1984:23-24), and Middle Archaic Merrimack points with Late Archaic Small-Stemmed points (Spiess et al. 1983). In practice, any archaeologist who attempts to sort artifacts into categories confronts first-hand the difficulties of applying type definitions to groups of variable objects that have been shaped, used, re-worked, and/or discarded (Adams and Adams 1991; Brown 1979; Dunford and Cross 1994; Dunnell 1971; Starna 1979).

The cumulative nature of the regional archaeological data base often forces a re-examination of artifact typology. Excavations at the Johns Bridge site in northwestern Vermont (Thomas and Robinson 1983) resulted in the identification of a new Early Archaic biface

type—the Swanton Corner-Notched point. The stratigraphic and radiocarbon data support the position that the corner-notched points date to 8000-7500 B.P. (Thomas 1992). Similar corner-notched points have been identified at 13 other sites within the Lake Champlain Basin (Thomas 1992), on the divide between the Hudson River drainage and the Champlain Basin (Snow 1977), and on the upper St. Lawrence River (J.V. Wright, personal communication 1987 [cited in Thomas 1992:193]). Spiess et al. (1983:228) report that points similar to Swanton Corner-Notched points have been found at several locations in western Maine. Future research within and in the areas adjacent to the Champlain Basin will enable archaeologists to explore the nature of what appears to be a geographically-bounded Early Archaic tradition.

## The Gulf of Maine Tradition

The idea that the Early Archaic archaeological record in the Northeast does not replicate precisely the typological, technological, or chronological sequence identified for the Southeast or Midwest is nothing new (Byers 1959). On the basis of his excavations at the deeply stratified Ellsworth Falls sites in Maine, Douglas Byers concluded that the earliest tradition at the sites—the Kelley phase—was characterized by large scrapers, cores, roughly flaked knives, hammerstones and a lack of stone projectile points. In Byers's view, the Kelley phase represented an "Unspecialized Lithic" developmental stage in regional prehistory. Byers's argument was not widely accepted, and for thirty years it remained a footnote in discussions of Northeast archaeology.

In recent years, however, researchers in northern New England have also begun to question the applicability of artifact types and models developed elsewhere for explaining the local prehistoric record for the early Holocene (e.g., Bunker 1992; Robinson 1993; Sanger et al. 1992; Thomas 1992). Robinson's research on collections and excavation records from a series of sites in northeastern Massachusetts, New Hampshire, and Maine have led to the following definition of the Gulf of Maine Tradition (Robinson 1992:96):

"The lithic tradition is characterized by three broad patterns: 1) a flaked stone industry dominated by core, uniface and flake technology; 2) a relatively minor role for bifaces and flaked stone projectile points; and 3) the early development of a diverse assemblage of ground stone tools, including ground stone rods, full-channeled gouges, celts and adzes, among other forms. It is the combination of these broad lithic patterns as a polythetic set that is considered to be diagnostic of the tradition. No single artifact type is considered to be diagnostic of, or exclusive to, the tradition."

Robinson focuses on the period between 9000 and 7000 B.P. in northern New England, thereby including elements of both the Early and Middle Archaic Periods as they have been defined traditionally. The broad definition of the Gulf of Maine Tradition accommodates a growing archaeological record for the Early Holocene in northern New England that does not replicate the patterns observed for southern New England or for areas further to the south along the Atlantic seaboard. One of the key issues remaining is whether the archaeological manifestations subsumed by the tradition are united by something other than this divergence. The initial suggestion of a Gulf of Maine Tradition has been well-received by a number of archaeologists (e.g., Dincauze 1993d). Its relative utility as an interpretive framework will be evaluated over the next few decades of research on Northeast prehistory.

The debate over the early Holocene archaeological record has focused greater attention on artifacts other than projectile points, a trend that no doubt will continue over the next several years. The imperishable lithic assemblage for the Early Archaic also may include large, roughly chipped sandstone bifaces (Funk and Wellman 1984), tubular atlatl weights (Ellis et al. 1991), flake cores, and a variety of formal and ad hoc unifacial tools (Petersen 1991). In many cases, it is difficult to identify Early Archaic artifacts other than projectile points in collections or in assemblages from minimally-stratified multicomponent sites. To date, we have no examples of perishable Early Archaic material culture—items made from hide, hair, plant

fiber, bark, wood, bone, antler, or shell. Perhaps the next few years will see the excavation of waterlogged sediments in Early Holocene archaeological contexts or the identification of negative basketry and textile impressions in Early Archaic clay-lined hearths at Northeast sites, similar to the ones reported by Chapman and Adovasio (1977) for the Icehouse Bottom Site in Tennessee.

#### **Summary: The Early Archaic Period**

In summary, the Early Archaic is a period about which archaeologists have many questions but few answers. The archaeological record for the Early Archaic in the Northeast is sparse; often archaeologists have been able to do little beyond documenting an Early Archaic presence at a site through a small sample of diagnostic artifacts or an old radiocarbon date. The Early Archaic of the North Atlantic Region is not a cleanly bounded unit of prehistory in a spatial, temporal, or social sense. There is evidence in the form and technology of Early Archaic stone tools from the North Atlantic Region for connections with the Great Lakes-St. Lawrence River Valley, with the Midwest, and with the Southeast. A case may also be made for continuity through time for several of the Late Paleo-Indian and Early Archaic traditions within the region.

It is also likely that the observed variation in Early Archaic lithic assemblages across space and through time is matched by variation within and between Early Archaic societies, although we currently lack direct evidence for inter-group and intra-group social dynamics. In order to gain insights into Early Archaic society, Northeast archaeologists will need to re-examine the theoretical underpinnings of existing interpretations for the Early Archaic, formulate research questions, develop the methods for addressing them, and seek out archaeological contexts that can best resolve the research questions.

#### **The Early Archaic - Middle Archaic Transition**

For nearly twenty years following the introduction of radiocarbon dating, northeastern archaeologists had no dated components for the broad temporal interval that separated Paleo-Indian sites from the Late Archaic occupations at the

Lamoka Lake Site in central New York (Ritchie 1979). The Archaic Period was viewed largely in terms of Early and Late Stages (e.g., Fowler 1963, 1968). The initial descriptions of Early Archaic assemblages in the literature included artifact types that have subsequently been identified as belonging to Early, Middle, and Late Archaic traditions. The recognition of a separate Middle Archaic Period in the Northeast is a comparatively recent phenomenon, dating to the late 1960s and early 1970s, as archaeologists began to identify projectile points similar in form and technology to those described by Coe (1964) and Broyles (1966, 1971) for the Middle Archaic of the Carolina Piedmont and West Virginia, respectively. In both the Northeast and the Southeast, archaeologists have used the shift from corner- or side-notched bifaces to stemmed bifaces as a stylistic marker for the boundary between Early and Middle Archaic traditions (Justice 1987; Tuck 1974).

Excavations at the Staten Island sites mentioned above generated both radiocarbon dates and artifact types that were comparable to Early and Middle Archaic material from the Southeast (Ritchie 1979; Ritchie and Funk 1971). At the time, the Staten Island data were seen as supporting the position that Early and Middle Archaic occupation of the Northeast was confined largely to the areas south of the Hudson River (see Fitting 1968; Ritchie 1965, 1979).

#### **The Neville, Stark, and Merrimack Complexes**

Perhaps the single study that has had the greatest impact on the course of Middle Archaic research in the region is Dincauze's analysis and interpretation of data from the Neville Site in Manchester, New Hampshire (1971, 1976). The Neville Site report laid the groundwork for later discussions of the Middle Archaic in the Northeast in four areas: (1) type and population descriptions for three diagnostic Middle Archaic projectile points types—Neville, Stark, and Merrimack; (2) radiocarbon dates for general excavation levels at the site; (3) a discussion of the non-projectile-point component of the Middle Archaic assemblage; and (4) the suggestion that the Middle Archaic inhabitants at the Neville site relied on anadromous fish as an important food resource.

Using the Neville Site excavation records and artifacts, Dincauze identified a sequence of Middle Archaic projectile point styles that was supported by the available stratigraphic information and bracketed between radiocarbon dates ( $7740 \pm 280$  and  $5910 \pm 180$  B.P. [Dincauze 1976:124]). Dincauze proposed three Middle Archaic complexes—"Neville", "Stark", and "Merrimack"—according to the predominant projectile point type for each of the strata at the site. From the excavation data it was not possible to resolve issues of contemporaneity or succession for the three complexes, although Dincauze interprets the coarse stratigraphic associations as supporting a sequential model. The early "Neville complex" included Neville and Neville Variant points, perforators, biface preforms, unhafted flake knives, beaked or steep-bitted flake scrapers, quartz-crystal scrapers, and hammerstones. The "Stark complex" was characterized by the prominence of Stark points in the assemblage and lesser numbers of Neville, Neville Variant, and Merrimack points, perforators, biface preforms, spokeshaves, "nosed" scrapers, winged atlatl weights, and fully-grooved axes. The "Merrimack complex" assemblage included Merrimack points, lesser numbers of Stark points, winged atlatl weights, polyhedral cores, steep-edged scrapers, "nosed" scrapers, carinated scrapers, and end scrapers.

The identification and description of Middle Archaic projectile point types for the Northeast stimulated a burst of activity, as archaeologists re-examined collections for previously undetected evidence for Middle Archaic sites in the region (e.g., McManamon 1980; Yesner et al. 1983). In the published literature for southern New England before 1970, many Middle Archaic points had been identified either as "Early Archaic" artifacts (e.g., Cote 1958; Fowler 1968) or in ahistorical terms that described their outline geometry (e.g., "hastate" points [Ritchie 1965:144, 149], "Corner-removed #5," "Corner-removed #8" [Fowler 1963; Robbins 1980]).

In addition to collections research, archaeologists also undertook new excavations at a number of sites with Middle Archaic components in the region, such as Weirs Beach (Bolian 1980), NH31-20-5 (Cassedy 1984; Starbuck 1982), Eddy (Bunker 1992), and Wadleigh Falls (Mayman and Bolian 1992) in

central and southern New Hampshire. Sites with Middle Archaic components in central and southern Maine include Hirundo (Sanger et al. 1977), Cobbosseecontee Dam South (Bourque 1992), Blackman Stream (Sanger et al. 1992), Gilman Falls (Sanger et al. 1993), and a series of sites near the outlet of Sebago Lake (Yesner et al 1983). In southern New England, Middle Archaic components have been reported from the Shawsheen River drainage (Bullen 1949), WMECO (Thomas 1980), the Taunton River drainage (Bradley 1994), Cedar Swamp/Westborough (Hoffman 1991), and

Annasnappet Pond (Cross and Doucette 1994) in Massachusetts, and at the Lewis-Walpole (Starbuck 1980), Burwell-Karako (Lavin and Russell 1985), and Dill Farm (Pfeiffer 1986) sites in Connecticut. In New York State, Middle Archaic stemmed bifaces have been recovered from the Russ, Sylvan Lake Rockshelter, North Bowdoin Rockshelter, Muddy Brook Rockshelter (Funk 1977, 1991b; Funk and Wellman 1984), and Mohonk Rockshelter sites in New York State (Eisenberg 1991). Figures 4-6 show the location of these and other Middle and Early Archaic sites.

*Figure 4. Early-Middle Archaic Sites in Southern New England.*

*Figure 5. Early-Middle Archaic Sites in Northern New England.*

*Figure 6. Early-Middle Archaic Sites in the New York Region.*

As a result of these excavations, the archaeological record for the Middle Archaic Period is more substantial than the record for the Early Archaic, regardless of whether the number of sites, the number of artifacts recovered, or the size of the area excavated is used as a comparative measure. Despite an intensification of survey efforts, other portions of the region continue to show little evidence for the Neville-Stark-Merrimack series of stemmed projectile points. Middle Archaic stemmed points are infrequently reported for much of Vermont (Thomas 1991:6-1), central and western New York (Funk 1991b), and northern, eastern, and much of central Maine (David Sanger, personal communication 1994; Robinson 1992; Spiess et al. 1983). Dincauze's initial observation (1976:140-141) that these diagnostic forms generally were not associated with the Great Lakes region, the St. Lawrence River Valley, and adjacent areas still appears to hold.

#### **The Gulf of Maine and Proto-Laurentian Traditions**

A second round of collections analysis has addressed the possibility that Middle Archaic assemblages in the region do not always include Neville, Stark, or Merrimack bifaces (Robinson 1992; Robinson and Petersen 1992). Drawing on evidence from a series of mortuary features dated from approximately 8000-6000 B.P. at sites in the Merrimack drainage of New Hampshire and Massachusetts and in the Penobscot drainage of central Maine, Robinson has outlined the Gulf of Maine Tradition (Robinson 1992). Ground stone tools, particularly full-channelled gouges, adzes, and stone rods are important components of the tradition. The chipped stone assemblage is characterized by a low frequency of bifaces in relation to cores, unifaces, and flake tools. Excavation data from the Sharrow site (Petersen 1991; Petersen and Putnam 1992) and from Gilman Falls (Sanger et al 1993) provide partial support for the position that Middle Archaic assemblages in northeastern New England differ from assemblages associated with Neville and Stark points. The debitage reflects the observed pattern in the chipped stone tools—it is largely the by-product of a non-biface-directed lithic technology. At Gilman Falls, Sanger and his colleagues report on a lithic

workshop at which narrow phyllite preforms were first flaked and then ground to make elongate cylindrical rods similar to the ones reported by Robinson (1992) for Middle Archaic mortuary contexts (Sanger et al. 1993).

For much of Vermont and New York State, the Middle Archaic Period record consists of assemblages linked to what Funk (1988) has called "Proto-Laurentian." This Proto-Laurentian phase dates to the end of the Middle Archaic Period (ca. 6000 B.P.) and is characterized by large side-notched Otter Creek points.

The impacts of these developments on the future of prehistoric archaeology in the region cannot be anticipated fully at this time, although it is likely that Middle Archaic research will enter a period of healthy debate and re-examination. Implicit in the recent research on the Middle Archaic are several challenges: (1) to the position that large portions of the region were uninhabited during the Middle Archaic Period, (2) to the criteria used to identify Middle Archaic sites and assess regional population densities using "projectile-point-centric" measures, and (3) to reconstructions of the Middle Archaic that do not move beyond narrowly-construed settlement and subsistence models.

Similarities in the geographic distribution of Early Archaic and Middle Archaic biface styles in the Northeast and the parallel trajectories of the Southeast and Northeast projectile point sequences raise a host of questions about cultural continuity and social interaction. These questions will require researchers to develop new theoretical frameworks, research methods, and a vocabulary that can bridge the gap between large-scale archaeological patterns and the particular cultural contexts within which people lived their lives in the past.

#### **Connections with the Southeast during the Middle Archaic**

Technological and morphological similarities between contemporary stemmed biface forms in the Southeast and Northeast have been interpreted by archaeologists as evidence for historical connections between Middle Archaic populations in the two regions (Dincauze 1971, 1976). The straight-stemmed Stanly and the contracting-stemmed Morrow Mountain II projectile point types identified by Coe (1964) in the Carolina Piedmont find

equivalents in the Neville and Stark types of the Northeast as they have been described by Dincauze (1976). Other items of shared material culture for the Middle Archaic include full-grooved axes (Dincauze 1976) and winged atlatl weights (Coe 1964; Cross and Doucette 1994; Dincauze 1976).

Cassedy's (1983) regional study of Middle Archaic stemmed bifaces confirmed Dincauze's observations on site-to-site comparisons in stemmed biface morphology between the samples from Neville site in New Hampshire and samples from the Doerschuk and Hardaway sites in North Carolina. A comparison of measurements for Stanly and Neville points reveals that Stanly points are larger, on average, than Neville points (Cassedy 1983; Dincauze 1976). The Doerschuk and Hardaway sites (which provided the sample for the type description for Stanly points) are located in close proximity to extensive rhyolite outcrops that were the source of stone for tools. The absence of significant constraints on raw material availability may account, in part, for the larger overall size of the Carolina Piedmont Stanly points (K. Sassaman, personal communication 1994, 1995).

There are demonstrable similarities in technology and morphology between Middle Archaic artifacts in the Southeast and portions of the Northeast. Cassedy (1983) has noted minor differences in the ratios of neck width:base width and in the shoulder angle that might be used to monitor inter- and intra-regional variation in stemmed biface form. His research underscores the need to keep analytical frameworks open and flexible, and to avoid confusing the goals of analysis with the end task of sorting artifacts into "types". In a similar vein, Dincauze (1976:26) has recognized the non-equivalent goals and methods of examining artifact variation within a particular site using a "population approach" and making comparisons among different sites using a "typological approach". What this means is that archaeologists should avoid the tendency to seek a single standard for "Middle Archaic-ness" against which to evaluate individual sites within the region (Dunford and Cross 1994).

The geographic distribution of Neville and Stark points in the Northeast mirrors, to a significant degree, the distribution of Early Archaic bifaces in

the region. In general, those portions of the North Atlantic Region that exhibit a sequence of Early Archaic artifact styles comparable to the Southeast types also show parallels to the Southeast during the Middle Archaic Period. Neville points are technologically and morphologically similar to Stanly points in the Southeast (Coe 1964), Stark points may be linked to Poplar Island points in the Mid-Atlantic region (Dincauze 1976; Kinsey 1971; Ritchie 1971) and to Morrow Mountain II points in the Southeast (Coe 1964; Sassaman and Anderson 1994). The distribution of Merrimack points is limited to southern New England (Dincauze 1976; Funk 1979). The temporal equivalent of Merrimack points in the Carolina sequence is the Guilford Lanceolate (Coe 1964). The divergence of the Northeast and Southeast sequences at the end of the Middle Archaic has been interpreted as evidence for the development of localized styles (Dincauze 1976). Taken together, these Middle Archaic manifestations are part of what Dincauze has termed the "Atlantic Slope Macrotradition."

As Robinson (1992) and others have demonstrated, however, the Middle Archaic archaeological record for much of the North Atlantic Region does not conform to the Neville-Stark-Merrimack associations of southern New England. Instead of assemblages dominated by stone projectile points, assemblages in northeastern New England are characterized by non-biface-directed flake production and ground-stone tools (e.g., Petersen 1991; Robinson 1992; Sanger et al. 1992). Non-biface-directed lithic technology and the use of ground-stone gouges, celts, axes, abrading stones, and atlatl weights have been documented at sites with and without diagnostic Neville-series bifaces in the region (e.g., Bradley 1994; Bunker 1992; Cassedy 1984; Cross and Doucette 1994; Dincauze 1976; Dunford and Cross 1994; Richard Will, personal communication 1994). Sorting out the temporal and spatial distribution of different classes of Middle Archaic material culture constitutes a major research priority within the region, particularly with the recognition of Middle Archaic traditions other than those of the Atlantic Slope Macrotradition.

## **Subsistence Patterns and Seasonality**

The Middle Archaic has been interpreted as a period when seasonal patterns of settlement and subsistence became firmly established (Braun and Braun 1994; Dincauze 1976; Dincauze and Mulholland 1977). This interpretation is derived from the locations of the Neville and WMECO sites (at the falls of major rivers) and from the levels of iodine and mercury in a single soil monolith from the Neville Site (Dincauze 1976; Thomas 1980). The presence of iodine and mercury was taken to indicate the presence of decomposed waste from anadromous fish species. The reconstruction of subsistence patterns for the Middle Archaic has been built on this foundation (e.g., Braun and Braun 1994; Dincauze 1991; Funk 1983; Richardson 1985; Snow 1980). However, the complexity of soil chemistry requires that the character of the parent soil be evaluated systematically and that the diagenic and taphonomic relationships linking decomposition and inorganic soil chemistry be demonstrated before the Neville case is accepted as proven.

Dincauze (1976) has commented on the variety of wetland settings and topographic locations of other Middle Archaic sites in the Northeast, particularly those associated with the interior wetlands of eastern Massachusetts (Bradley 1994; Bullen 1949, Cote 1958; Cross and Doucette 1994). These sites undoubtedly reflect the use of resources other than anadromous fish. In instances where faunal material has been preserved at Middle Archaic sites (e.g., along the Little Ossipee River [Richard Will, personal communication 1994], Cobbosseecontee Dam South [Bourque 1992], at the WMECO Site [Thomas 1980], and at the Brigham and Sharrow Sites [Petersen 1991; Spiess 1992]), subsistence appears varied. Faunal remains reflect the exploitation of turtles and many species of fur-bearing mammals. Very few of the remains are attributable to fish, and deer bones are only a minor component of the faunal assemblages (Spiess 1992).

## **Mortuary Practices and Belief Systems**

There is little evidence on which archaeologists may draw to reconstruct mortuary practices in the Middle Archaic Period in the Northeast. Until very recently, the L'Anse Amour burial mound in

Labrador (dated to 7530±140) stood as the sole example of a mortuary feature from this time period (McGhee and Tuck 1975). The Wapanucket site complex in eastern Massachusetts may have contained one or more mortuary features dating to the Middle Archaic (Robbins 1980), but researchers have been unable to unravel the complexity of the site from the existing records.

The only example of a mortuary feature associated with the Neville complex in the Northeast is a deep pit feature at Locus 1 at Annasnappet Pond in southeastern Massachusetts (Cross and Doucette 1994). Cremated human cranial fragments were identified in association with three Neville points, a perforator, red ocher concentrations, a rectangular piece of flaked slate, and two winged atlatls. The feature was radiocarbon dated at 7570±150 B.P. Two other deep pit features in adjacent excavation units yielded comparable dates, although they lacked imperishable artifacts.

The Gulf of Maine Tradition was defined on the basis of a series of collections and excavation records from probable burial sites in Maine, New Hampshire, and northeastern Massachusetts (Robinson 1992). Collections from these sites contain the characteristic stone rods, adzes, celts, full-channel gouges, and splayed-bit gouges, but few projectile points. The projectile points from the Morrill Point site are broadly corner-notched; several points have serrated edges. The blade portions of the Morrill Point bifaces are generally similar to the those of stemmed points from the Barney site in Labrador (McGhee and Tuck 1975) and to a single specimen from the Hirundo site in Maine (Sanger 1975). The ground stone assemblages from the Gulf of Maine Tradition sites (Morrill Point, Sunkhaze Ridge, Table Land, Passudumkeag Sand Pit) described by Robinson (1992) share elements with the Late Archaic Moorehead Burial Complex and the Maritime Archaic Tradition, particularly the stone rods and full-channel gouges (Moorehead 1922; Snow 1980; Tuck 1978). The further definition of the Gulf of Maine Tradition on the basis of controlled excavations will force archaeologists to re-assess the criteria which have been used to identify all mortuary features accompanied by ground-stone tools as Late Archaic in age.

## **Summary: Understanding the Early and Middle Archaic Periods**

In a number of ways, the Early Archaic Period is the most poorly known interval of prehistory in the Northeast. In general, Early Archaic lithic assemblages consist of tools made from local raw materials, in contrast to the frequent use of cryptocrystalline silicates by Paleo-Indians. For this reason, Early Archaic sites and artifacts have attracted less attention than Paleo-Indian sites and artifacts from professional archaeologists and looters alike. In their search for Early Archaic components, archaeologists have faced a shortage of uneroded landforms and readily accessible buried surfaces that date to the early Holocene. For this reason, the identification and examination of geomorphological settings where Early Archaic sites may be located constitutes a research priority. Archaeologists have also been forced to confront the geographic variation in Early Archaic assemblages within the North Atlantic Region and the lack of clear precedents and analogues for certain stone tools in adjacent regions.

The past two decades have seen the definition and clarification of Middle Archaic cultural traditions in the Northeast (Dincauze 1976; Petersen 1991; Robinson 1992; Sanger and Belcher 1992; Starbuck and Bolian 1981), and ongoing research promises to expand our understanding further (e.g., Cross and Doucette 1994). Sites of the Middle Archaic Period cultural traditions, like those of the Early Archaic Period, are geographically limited to portions of the North Atlantic Region. No tradition can be said to characterize the region as a whole. Just what the observed differences in assemblages represent in social, chronological, or functional terms remains an open question.

Archaeologists have offered empirical generalizations about land use patterns during the Early and Middle Archaic Periods, particularly about seasonal exploitation of fish runs along rivers (Dincauze 1976; Thomas 1981) and the use of interior wetlands (e.g., Nicholas 1991). However, rigorous archaeological surveys have not yet been conducted in the region to identify Early and Middle Archaic sites, so there is a strong possibility that generalizations about land use during the early Holocene are built on an inadequate sample of Early and Middle Archaic sites.

The nature of the historical and cultural connections between the Early and Middle Archaic populations of the Northeast and those of the Mid-Atlantic, Southeast, and Midwest Regions will remain an important focus of research. Archaeologists have noted similarities between Northeast and Southeast artifact forms and technology during the Early and Middle Archaic Periods (e.g., Dincauze 1976; Tuck 1974). The emphasis in these discussions has been on the initial spread of artifact traditions rather than on the social mechanisms and processes that sustained stylistic similarities over broad areas and over long periods of time. The Early and Middle Archaic Periods present a challenge and an opportunity for archaeologists—to develop the concepts and vocabulary that can explain how and why artifact traditions were created, perpetuated, and changed. In order to achieve this goal, archaeologists will need to address the social context within which artifacts exist, including the stylistic and/or symbolic roles played by material culture in many societies (Hodder 1982; Larick 1985; Wiessner 1981; Wobst 1978), social boundedness, and the nature of social interaction within and between groups. Answers to these kinds of questions will not come easily, but through their searching, archaeologists may draw the Early and Middle Archaic Periods into sharper focus.

In summary, research on the Early and Middle Archaic Periods is experiencing rapid growth as archaeologists have come to recognize the diverse assemblages that date to the interval from 9000 to 5500 B.P. Although the number of excavated contexts remains low, especially for the Early Archaic, archaeologists working in the North Atlantic region can anticipate investigating, describing, and explaining that diversity in the coming decades.

## THE LATE ARCHAIC PERIOD (CA. 6000-3000 B.P.)

John R. Cross

### Introduction

The Late Archaic Period has been viewed as a cultural "florescence" according to the criteria used by many archaeologists (Braun and Braun 1994; Dincauze 1975; Funk 1983; Snow 1980). For this period, archaeologists have identified more sites—and sites in a greater variety of environmental settings—than for any comparable interval of the Archaic Period (Ritchie 1985) (see Figures 7-9). The relative abundance of Late Archaic sites has been taken as *prima facie* evidence for a peak in regional population density during the period (Braun and Braun 1994; Dincauze 1974, 1975; McBride 1984a; Mulholland 1984; Snow 1980).

The presence of clustered mortuary features (and associated artifacts) at several Late Archaic sites attracted the attention of archaeologists and the public in the late nineteenth and early twentieth centuries (e.g., Hawkes and Linton 1916; Moorehead 1916, 1922; Smith 1926; Willoughby 1898). Mortuary ceremonialism has been a central research topic for the Late Archaic Period ever since, as archaeologists have combined collections research, new analytical techniques, new excavation data, and models of social organization to gain insights into Late Archaic society through the study of mortuary contexts (e.g., Barbian 1994; Barbian and Magennis 1994; Bourque 1995; Cross 1990; Dincauze 1968, 1975; Pfeiffer 1992; Ritchie 1959; Rothschild 1983; Sanger 1973; Shaw 1988a; Tuck 1976). The comparative abundance, diversity, and complexity of Late Archaic mortuary contexts have played a key role in the perception of the Late Archaic as a cultural "peak" in the prehistory of the North Atlantic Region.

The Late Archaic Period in the Northeast has also been seen as a time of significant ecological, technological and cultural changes for the region's peoples. It is during the Late Archaic Period that groups may have begun to experiment with cultigens (Fritz 1990; McBride and Dewar 1987; Yarnell 1993), long before maize horticulture became established in the region (Bendremer et al. 1991;

Heckenberger et al. 1992; Mrozowski 1994). Evidence for the use of ceramic technology first appeared in the archaeological record towards the end of the Late Archaic (Kraft 1970; Ritchie 1959). Among the indications of favorable environmental conditions during the Late Archaic Period was a marked increase in shellfish exploitation, perhaps due to a slowing in the rate of postglacial sea-level rise (Bourque 1975; Brennan 1975). Finally, artifacts made from non-local materials were included in mortuary contexts, suggesting interaction and/or exchange within and between regions (Fitzhugh 1972; Pfeiffer 1992; Ritchie 1965a; Wellman 1984).

At this point in the telling of Northeast prehistory, what had been a single, generalized narrative from the Paleo-Indian Period to the Middle Archaic Period breaks down into several stories, each corresponding to a different cultural tradition and a different geographic area. The Late Archaic includes the following traditions: Maritime Archaic, Laurentian, Shield Archaic, Narrow Point, and Susquehanna. Although inter- and intra-regional variation in artifact assemblages has been demonstrated for the Middle Archaic Period, it is for the Late Archaic Period that archaeologists first begin to develop explicit arguments for distinct biological populations, linguistic divisions, adaptations, migrations, territoriality, and social boundedness (particularly ethnicity) on the basis of artifact styles (e.g., Dincauze 1976; Funk 1988; Ritchie 1965; Snow 1980; Turnbaugh 1975).

The fact that the Late Archaic Period has been a focal point for archaeological research for so long gives us an historical perspective on how archaeologists have changed their thinking in response to new methods (e.g., radiocarbon dating), new research questions, and new data (see Funk 1988; Ritchie 1985). Many of the culture-historical terms associated with the Midwestern Taxonomic Method (McKern 1939; Ritchie 1944) have survived in the literature on the Late Archaic, despite all these changes. For example, the definitions of "Lamoka" and "Laurentian" have undergone substantial revision over the years to accommodate new excavation data and a regional radiocarbon chronology (Curtin 1978; Funk 1988; Ritchie 1971a; Tuck 1977). It is now widely accepted that Lamoka is not the earliest Archaic manifestation in the region; archaeologists also recognize that Laurentian

Tradition components do not include ceramics, as Ritchie's original formulation once held (Ritchie 1940, 1944). In addition, "Lamoka" and "Laurentian" have been re-cast in "post--McKern" terms—as a "phase" and a "tradition" of the Late Archaic Period, rather than as a "focus" and an "aspect," respectively.

A contributing factor to the changing perspective on the Late Archaic Period in the Northeast was the influx of a new generation of scholars in the decade from 1965 to 1975 (see Fitzhugh 1975a; Funk 1988; Newman and Salwen 1977). During this period, researchers first identified Early and Middle Archaic components in the region (Dincauze 1971, 1976; Ritchie and Funk 1971), defined the Maritime Archaic Tradition (Bourque 1975; Fitzhugh 1975b, 1977; Sanger 1973a, 1973b; Tuck 1975, 1976), defined the Shield Archaic Tradition (Sanger 1973b; Wright 1972a), and described Susquehanna Tradition artifact types and mortuary ceremonialism (Bourque 1975; Dincauze 1968, 1972). Large-scale survey and excavation projects generated quantities of data, artifacts, samples, and radiocarbon dates that forced a reexamination of Northeast prehistory, especially for the Late Archaic Period (Bourque 1975, 1976, 1995; Brennan 1977; Dincauze 1974; Funk 1976, 1994; Funk and RippetEAU 1977; Kinsey 1972, 1977; Kraft 1970, 1975; Ritchie 1969; Ritchie and Funk 1973; Sanger 1975; Sanger et al. 1977; Snow 1975, 1977). The results and implications of these studies are far reaching, although they remain unevenly represented in regional syntheses of prehistory.

Starting in the mid-1970s, cultural resource management priorities began to claim an increasing share of archaeological research efforts and resources. As a result, the archaeological literature has grown rapidly, particularly the "gray literature" of contract reports and agency file reports, which have a limited distribution or availability. The number of archaeologists working in the region has also grown in the past twenty years. This combination of factors has limited the opportunities for clear debate on research issues, since it has become progressively more difficult for practitioners of Northeast archaeology to maintain a shared frame of reference.

Nowhere is the need for a shared frame of reference and a shared vocabulary more apparent

than in the interpretation of the Late Archaic Period. Explanations for the Late Archaic archaeological record bring sharply into focus the conceptual and terminological difficulties of regional archaeology. For example, the term "phase" has been used to partition the archaeological record according to spatial, temporal, or functional criteria. Dincauze (1968) has used "phase" to designate temporal divisions within a single cultural tradition. McBride (1984a, 1984b) groups the several Laurentian Tradition phases together for the lower Connecticut Valley in a single "Golet Phase"; in this context, "phase" defines a geographic subdivision of a cultural tradition. The archaeological phases defined for New York State combine elements of geography, time, and material culture, although the "rules" for assigning sites to particular phases are often vague and inconsistent (Snow 1980; Starna 1979b). In Maine, archaeologists rarely use the term "phase," except to refer to a unit of culture defined elsewhere (e.g., the Vergennes Phase of the Champlain Lowland). The lack of consensus on terminology reflects a broader debate among archaeologists over the methods, assumptions, and explanations used to reconstruct regional prehistory. As a result, the prehistory of the Northeast remains incompletely synthesized and is largely inaccessible to archaeologists who work in adjacent regions.

Difficulties may also arise when one attempts to translate the metaphors and language of large-scale abstractions such as cultural traditions, phases, or complexes into the "life-as-lived" world of human experience. The confusion of metaphorical and literal forms of expression in the reconstruction of prehistory has led, in turn, to conceptual "dead ends" that cannot be resolved with our existing archaeological vocabulary and understanding of cultural behavior. Examples from the regional literature include: the description of a "composite culture" resulting from the "contact metamorphosis" of two other cultures (Ritchie 1971a:5); the "grafting" of traits from one culture onto another; the "amalgamation" of two cultures, resulting in a "hybrid" culture; the distinctive "flavors" of regional adaptations; and discussions of "genetic" relationships between and among projectile point styles. It is clear from these examples that many of the metaphors that have been used to describe culture history contain deeply embedded

assumptions about the nature of culture change and how that change may be monitored in the archaeological record. One of the challenges facing Northeast archaeologists in the future will be to reexamine the assumptions that underlie our understanding of regional prehistory from a rigorous and consistent anthropological perspective.

#### **Transition from Middle Archaic to Late Archaic**

Each of the Late Archaic traditions that have been identified for the North Atlantic Region had Middle Archaic (or earlier Late Archaic) antecedents. Archaeologists have attempted to identify continuities within cultural traditions across space and through time by looking at similarities in material culture. However, the interpretation of static archaeological data—measurements and observations—in ways that reflect the dynamics of cultural behavior is a difficult challenge (see Box 5). What follows is a brief discussion of the Middle Archaic origins for each of the Late Archaic traditions recognized by Northeast archaeologists.

The Maritime Archaic Tradition (and what most researchers see as the related Moorehead Burial Complex of Maine) had its beginnings in a Middle Archaic maritime tradition of northeastern New England and the Maritime and Atlantic Provinces of Canada (Byers 1959; Fitzhugh 1972; Funk 1983; Harp 1983; McGhee and Tuck 1975; Robinson 1992; Sanger 1973b; Tuck 1975). Similarities in the ground-stone tool assemblage (consisting largely of gouges, adzes, and slate points), narrow, stemmed bifaces, and mortuary features containing red ocher have been cited as evidence for cultural continuity linking the 7,500-year-old burial at L'Anse Amour in Labrador (McGhee and Tuck 1975; Tuck and McGhee 1976) with 4,500-3,800-year-old sites in the area from Maine to Labrador. Recently, Robinson (1992) has suggested that a series of burials from northeastern Massachusetts, south-central New Hampshire, and central Maine (tentatively assigned to a Middle Archaic "Gulf of Maine Tradition") establishes a precedent for the use of red ocher, ground-stone rods, and full-channel gouges for the Moorehead Burial Complex in Maine.

The Laurentian Tradition developed out of what Funk (1983, 1988:17, 26) has called a "Proto-

Laurentian" South Hill Phase in southeastern New York State. The Proto-Laurentian phase, characterized by Otter Creek points, dates to the end of the Middle Archaic Period (ca. 6000 B.P.). The limited evidence for ground stone tools in these Proto-Laurentian components contrasts with the prominence of ground stone tools in the Laurentian assemblages as they were originally defined by Ritchie (1940, 1944). A number of archaeologists have interpreted the Laurentian Tradition as developing from a Proto-Laurentian cultural tradition at about 5200 B.P. and adopting the ground-stone technology of the Maritime Archaic Tradition from groups in the lower St. Lawrence Valley (Funk 1988; Haviland and Power 1981; Tuck 1977).

The Shield Archaic Tradition, as defined by Wright (1972a), is part of a long continuum of cultural development in the boreal forest regions of Canada. There are few diagnostic lithic artifacts associated with the tradition. Archaeologists have interpreted the generalized biface forms, scrapers, and flake tools of the Shield Archaic as evidence for a conservative lithic technology that has characterized the Boreal Forest region from the Late Paleo-Indian Period to the Contact Period. It is likely that the lithic assemblage is a poor indicator of the behavioral repertoire and technological sophistication in perishable material culture that allowed Late Archaic peoples to live in this region (e.g., Rogers 1967; Speck 1935; Steegman et al. 1983). Missing in the archaeological record is evidence for the clothing, containers, toboggans, boats, traps, snares, nets, and snowshoes that are so well documented for Boreal Forest hunter-gatherers in the ethnohistoric and ethnographic literature. Although no Shield Archaic sites have been identified for the North Atlantic Region, sites with Shield Archaic components have been reported for New Brunswick, Quebec, and Ontario (Sanger 1971b, Wright 1972b, 1979, 1981). The Shield Archaic is of interest to Northeast archaeologists because of the geographic overlap (and possible interaction) with groups associated with the contemporaneous Laurentian and Maritime Archaic Traditions within the St. Lawrence drainage.

The Narrow Point Tradition (also known as the Small Point Tradition, the Taconic Tradition, and the Appalachian Tradition) is widely viewed as

developing from the Middle Archaic of the Atlantic coastal drainages of the Mid-Atlantic region and southern New England (Brennan 1967; Dincauze 1975; Ritchie 1969). In fact, Kinsey (1972) has combined Middle and Late Archaic artifact types in his definition of a "Piedmont Archaic" for the Mid-Atlantic states. Dincauze (1975) has suggested that an "Atlantic Slope Macrotradition" united much of the eastern seaboard throughout the Archaic Period. Researchers have cited the technological and morphological similarities in the relatively thick and small projectile points (either stemmed or triangular in form) as evidence for continuity from the Middle to Late Archaic over this broad area.

Susquehanna Tradition artifacts and components first appear in the Northeast at approximately 4200 B.P. There has been considerable debate over whether or not the Susquehanna Tradition represents a migration of peoples, the diffusion of a particular lithic technology and suite of tool types, the addition of a new form of broad-bladed knife to an existing Late Archaic tool assemblage, or some combination of these (Bourque 1976; Cook 1976; Cross 1990; Custer 1991; Dincauze 1975; Pagoulatos 1986; Pfeiffer 1992; Sanger and Bourque 1986; Snow 1980; Truncer 1990; Turnbaugh 1975). There is widespread agreement, however, that the technological and morphological precedents of the characteristic broad-bladed bifaces of the Susquehanna Tradition are in the Southeast with Late Archaic Savannah River points (Claflin 1931; Coe 1964) and, ultimately, with Middle Archaic stemmed-biface types such as Newnan, Levy (Bullen 1975; Purdy 1981), and Stanly (Coe 1964; Justice 1987).

The tentative connections between Middle Archaic and Late Archaic traditions outlined above are in need of critical evaluation. In reconstructing prehistory, Northeast archaeologists have focused on traits such as projectile points that are typical or "diagnostic" of a particular cultural tradition. In effect, this has created an archaeological record that emphasizes discontinuity—in culture, time, and space. As a result, it has been difficult for archaeologists to develop explanations for *how* changes came about in prehistory. The problem has been compounded by the comparative scarcity of radiocarbon dates from the seventh and sixth

millennia B.P. (dates between 7,000 and 5,000 years ago) in the Northeast (Mulholland 1984).

### **The Maritime Archaic Tradition**

Of the Late Archaic traditions in the Northeast, the Maritime Archaic (particularly the Moorehead Burial Tradition) has received the greatest attention from the press and public over the past century. Popularly known as "the Red Paint People" because of the quantities of red ocher that were included in associated burial features, these Late Archaic peoples came to symbolize a mysterious and exotic past in the public imagination (Snow 1980). There has been no shortage of speculation about the origins and eventual fate of the Red Paint People in the professional literature either (e.g., Hadlock 1941; Moorehead 1916, 1922; Snow 1980; Willoughby 1935). Early researchers had noted similarities between tool assemblages of Maritime Archaic hunter-gatherers (particularly slate knives and projectile points) and those of circumpolar peoples, and suggested that there was a historical connection between the two groups (Byers 1959; Harp 1951; Moorehead 1922; Smith 1926; Willoughby 1935). Willoughby (1898, 1935) also cited traits of material culture and mortuary customs held in common by the "Red Paint Peoples" and by the Beothuk Indians of Newfoundland to support his claim that the Beothuks were descended from "Red Paint" groups (Howley 1915).

Both Willoughby and Moorehead assigned "Red Paint" artifacts, features, and sites to an ancient, "pre-Algonkian" tradition. The idea that the "Red Paint People" were biologically and culturally distinct from the native peoples living in the region at the time of contact has persisted in the archaeological literature (Bourque 1975; Moorehead 1922:259; Sanger 1975; Snow 1980). In general, researchers have argued that discontinuities in material culture, mortuary ceremonialism, and subsistence patterns separated Maritime Archaic peoples from subsequent groups that occupied northern New England and the Maritime Provinces (Bourque 1975; Sanger 1973b, 1975, 1991; Spiess et al. 1983c).

The formal designation of a Maritime Archaic Tradition dates to the early 1970s and a series of excavation projects undertaken in Maine and in the

Maritime and Atlantic Provinces of Canada (Bourque 1975, 1976; Fitzhugh 1975a, 1975b; McGhee and Tuck 1975; Sanger 1973a, 1975; Snow 1975; Tuck 1971, 1976; Tuck and McGhee 1975). Tuck (1971) is credited with the initial use of "Maritime Archaic" to refer to a Late Archaic cultural tradition, expanding on the definition of the "Boreal Maritime Archaic" that had been offered by Byers (1959). The elements that unite the Maritime Archaic Tradition are a reliance on marine resources (especially sea mammals and swordfish), the use of quantities of red ocher in mortuary contexts, and a distinctive suite of bone tools and ornaments, pecked-and-ground stone tools (e.g., plummets, gouges, slate "bayonets"), and stemmed/broadly notched bifaces of Ramah "chert," a distinctive lithic material from northern Labrador (Bourque and Cox 1981; Sanger 1973a, 1973b, Tuck 1976, 1978a). North of the St. Lawrence River, these traits first appear together in the Middle Archaic L'Anse Amour burial mound (McGhee and Tuck 1975; Tuck and McGhee 1976). Tuck (1975) has suggested a northern origin for the Maritime Archaic Tradition in particular and for the elaborate mortuary ceremonialism of the Late Archaic Period in general.

On closer examination, it becomes apparent that a great deal of diversity in cultural behavior is subsumed within the Maritime Archaic Tradition as it has been defined by archaeologists. Spiess (1992:168), in looking at the faunal evidence from Maritime Archaic sites in Labrador and Maine, has noted that at sites north of the St. Lawrence, Maritime Archaic groups focused almost completely on coastal resources and on sea mammal hunting. At these sites, there is little settlement or subsistence evidence for caribou hunting in the interior (Spiess 1992). By contrast, Maritime Archaic groups in Maine relied on interior/riverine resources, an inference supported by site locations and the available faunal data. The evidence for swordfish exploitation during the Maritime Archaic is restricted to Gulf of Maine sites such as Turner Farm (Bourque 1975; Will 1981), Stanley (S. Eldridge, personal communication 1994; Sanger 1975), and Nevin (Byers 1979). Thus, while Maritime Archaic peoples engaged in hunting, fishing, and gathering in the coastal zones of the northwest Atlantic, there would have been

considerable variation in the kinds of resources exploited, the timing or seasonality of resource availability, and the character of terrestrial and marine environments in the geographic area from Labrador to southwestern Maine. In general, few Maritime Archaic sites have been systematically excavated within the region, and fewer still have soil conditions that allow the preservation of bone. For these reasons, it may be premature to characterize the Maritime Archaic Tradition as a uniform subsistence adaptation (Snow 1980; Tuck 1978a).

For many years, sites of the Maritime Archaic Tradition in Maine were known almost exclusively from the richly furnished burials at large cemetery sites (Moorehead 1922; B. Smith 1948; Willoughby 1898). The Eddington Bend site on the Penobscot River was one of the few sites at which a habitation component had been identified prior to 1970 (W. Smith 1926). Although other habitation components have been reported subsequently at Turner Farm (Bourque 1975, 1976, 1995), Goddard (Bourque and Cox 1981), and at a number of interior sites (e.g., Bourque 1971; Sanger 1975), archaeologists have suggested that mortuary contexts provide the best information for defining common cultural threads. However, since the cemeteries, burial features, and artifacts constitute the physical remains of the mortuary subsystem and not a "whole cultural system," archaeologists have been reluctant to use broadly inclusive terms to describe them (Sanger 1973a). Concepts such as the "Maine Cemetery Complex" (B. Smith 1948), "Moorehead Complex" (Snow 1969), "Moorehead Phase" (Bourque 1971), and "Moorehead Burial Tradition" (Sanger 1973a, 1975) all acknowledge the distinctiveness of the mortuary behavior associated with Maritime Archaic components in the Gulf of Maine and the river systems that drain into it.

Prior to the excavation of an early Maritime Archaic burial at L'Anse Amour in Labrador, Sanger (1973a, 1973b) had argued that the Moorehead Burial Tradition represented the burial practices of Laurentian Tradition groups in the Maine-Maritimes area. With the demonstration of Middle Archaic precedents for the mortuary ceremonialism of the Moorehead Burial Tradition (at L'Anse Amour and perhaps with the Gulf of Maine Tradition as well [Robinson 1992]), the Laurentian hypothesis no

longer seems viable. Cox (1991) has suggested that the Moorehead Phase in Maine was influenced in its development by the earlier Vergennes Phase of the Laurentian Tradition and by the Narrow Point Tradition that had extended as far east as the central Maine coast. Bourque (1990) and Cox (1991) have argued that components of the Moorehead Phase are sufficiently different from those of the Maritime Archaic Tradition that they should not be included within it. For the purposes of this overview, the Moorehead Burial Tradition will be included within the Maritime Archaic Tradition. However, these challenges may renew research interest in the Late Archaic which, in turn, may resolve a number of unanswered questions about regional prehistory.

Despite the number of cemetery sites excavated in Maine by Willoughby and Moorehead, there is very little chronological control over variation within the Maritime Archaic Tradition (Sanger 1973a). The few available radiocarbon dates for the burial component in Maine indicate a span of 4500-3500 B.P. (Sanger 1973a). Attempts to seriate burial sites (Snow 1970) and features (Bourque 1971) have yielded conflicting results. It is difficult, given the unevenness of preservation conditions and the variable quality of early excavation records, to distinguish temporal trends, geographic trends, functional variation, ideological content, or social structure among the Maritime Archaic mortuary data. Published reports on large cemeteries convey a sense of the diversity of Maritime Archaic mortuary practices and material culture (e.g., Byers 1979; Sanger 1973a; Tuck 1976). Dog burials, accompanied by red ocher and artifacts, have been reported from the Turner Farm Site (Bourque 1976) and Port au Choix (Tuck 1976). The richness and uniqueness of the burial features has frustrated attempts to identify patterns and trends both within and between sites.

The expectation that particular kinds of artifacts and subsistence patterns will be unique to one of the Late Archaic traditions in the Northeast has occasionally resulted in misidentifications. For example, ground slate pendants from Susquehanna Tradition cremation features at the Turner Farm Site in Maine have been reported erroneously as Moorehead Burial Tradition artifacts (Snow 1980:199, Fig. 5.8). Although sea mammal effigies and slate rods fit our preconceptions for the

Maritime Archaic Tradition, the archaeological, cultural, and chronological context for the artifacts is unambiguously associated with the Susquehanna Tradition. The use of red ocher in mortuary contexts and even the hunting of swordfish are not restricted to the Maritime Archaic Tradition in the Northeast (Cox 1991; Cross and Doucette 1994; S. Eldridge, personal communication 1994; Leveillee 1995; Robbins 1980a; Robinson 1985a). Examples such as these underscore the point that archaeologists must continually examine and reevaluate the empirical basis for their interpretations and reconstructions of prehistory in light of new data, methods, and theory.

The uncertainties in the archaeological literature over an internal chronology for the Maritime Archaic Tradition and the social and ideological significance of the Moorehead Burial Tradition are overshadowed by one question: What happened to the Maritime Archaic Tradition? After about 3800 B.P., no Maritime Archaic Tradition sites are reported for the Maine-Maritimes Region (Sanger 1975, 1991; Sanger and Bourque 1976; Tuck 1984). Sanger (1975) has suggested that rising sea levels overtopped Georges Bank after 4000 B.P., allowing greater circulation of colder ocean waters into the Gulf of Maine. The cooling of the coastal waters may have affected the availability of swordfish, which, in turn, may have impacted Maritime Archaic populations (Sanger 1975; Strauss 1987). Although researchers have speculated on the fate of Maritime Archaic groups in the Gulf of Maine, there are few data that provide clear evidence for out-migration, a reduction in population, or the assimilation of Maritime Archaic groups into other Late Archaic populations.

Sites and components associated with the Susquehanna Tradition have been identified after 4000 B.P. in Maine and the Maritimes. Archaeologists have outlined contrasts between the Maritime Archaic and Susquehanna Traditions in artifact types (Bourque 1975, 1976; Sanger 1975; Snow 1980), lithic technology (Cross 1990), bone tool technology (Will 1981), mortuary pattern (Sanger and Bourque 1986), and subsistence patterns (Spiess et al. 1983c). Several models have been proposed for the "transition" between traditions: (1) the Susquehanna Tradition cultural system replaced the Moorehead/Maritime Archaic cultural system without a significant change in population; (2) the

appearance of Susquehanna Tradition components indicates a repopulation of an area abandoned by Moorehead/Maritime Archaic groups; and (3) the Susquehanna Tradition represents a population replacement of Moorehead/Maritime Archaic groups as an outcome of niche competition (Bourque 1975; Sanger 1975; Sanger and Bourque 1986)). These scenarios by no means exhaust the social processes, cultural mechanisms, circumstances, and events that may account for the changes observable in the archaeological record. The ultimate fate of the Maritime Archaic Tradition in the North Atlantic Region will likely remain a major research topic for the foreseeable future.

### **The Laurentian Tradition**

The Laurentian Tradition has been part of the vocabulary of Northeast prehistory since 1938 when William Ritchie first introduced the term in connection with his excavations at the Brewerton and Oberlander 2 sites in north-central New York. Initially, "Laurentian" was considered to be an Aspect of the Woodland Pattern within the Midwestern Taxonomic Method (Bailey 1939; McKern 1939; Ritchie 1944). There have been a number of subsequent revisions of the concept, most notably: (1) the recognition that ceramics were not associated with Laurentian phases; (2) the abandonment of the McKern System terminology (e.g., "focus," "aspect" in favor of "complex," "phase," and "tradition"; and (3) a reexamination of the chronological position of Laurentian phases relative to each other and to other Late Archaic traditions on the basis of radiocarbon dates (Funk 1976, 1983, 1988; Ritchie 1955, 1965a, 1969b, 1971b). Ritchie's (1965:79) revised conception of the Laurentian Tradition has provided the foundation for research, discussion, and debate for the past thirty years:

The Laurentian may perhaps best be regarded as an extensive Archaic cultural continuum, widely spread throughout northeastern North America, with its major area of development and diffusion within southeastern Ontario, southern Quebec, northern New England, and northern New York. Its most diagnostic traits, occurring in

considerable morphological variety, comprise the gouge; adz; plummet; ground slate points and knives, including the semilunar form or ulu, which occurs also in chipped stone; simple forms of the bannerstone; a variety of chipped stone projectile points, mainly broad-bladed and side-notched forms; and the barbed bone point.

Archaeologists have interpreted Ritchie's definition of Laurentian either narrowly and exclusively or broadly and inclusively (Tuck 1977). This latitude in interpretation has been the source of considerable disagreement and confusion in the literature over what kinds of artifacts, assemblages, components, and sites may be called properly "Laurentian." Ritchie (1971a) and Funk (1983, 1988) have advocated the position that an archaeological component must contain certain core traits from the list (particularly gouges, plummets, ground slate artifacts, and broad, notched points) to be considered Laurentian. The restrictive definition eliminates from further consideration any components that do not have the core Laurentian traits. Other archaeologists have relied primarily on the presence of diagnostic Laurentian Tradition projectile points to define Laurentian components (e.g., Dragoo 1959; Mason 1981). The Laurentian Tradition is widely regarded as an adaptation (in technology, settlement, subsistence, and social organization) to the interior lake and forest environments of northern and central New York, the Champlain Lowlands, and the St. Lawrence Valley (Funk 1983; Snow 1980; Tuck 1978).

### **Phases of the Laurentian Tradition**

Four phases have been defined for the Laurentian Tradition—Vergennes, Brewerton, Vosburg (Funk 1988; Ritchie 1965), and Duck Bay (Funk 1988). These phases are distinguished from one another by their respective temporal spans, different geographic distributions, and artifact associations. The earliest of these, the Vergennes Phase, dates from approximately 5000 to 4500 B.P., and is the most clearly defined of the Laurentian phases (Funk 1983:321; Ritchie 1965a, 1968). The large, side-notched Otter Creek points of the

Vergennes Phase are similar to the much earlier Big Sandy points of the Southeast and Raddatz points from Wisconsin (Funk 1976; Ritchie 1971b; Tuck 1974, 1977). According to several archaeologists (e.g., Funk 1983:321; Haviland and Power 1981; Tuck 1977:33), ground-stone tool technology that had developed within a late Middle Archaic/early Maritime Archaic tradition in the far Northeast was "grafted on" to a Southeast side-notched point complex to form the Vergennes Phase assemblage. These researchers have argued that the adoption of ground stone tool technology in the Lake Champlain basin followed the movement of Maritime Archaic peoples up the St. Lawrence River. The ground stone tools of the Vergennes Phase assemblage include gouges, ground slate points, "bannerstones" (stone weights attached to spearthrowers), plummets, and "ulus" (semi-lunar knives). Vergennes Phase sites have been identified in the central-northern Hudson Valley, northern Vermont, and portions of the St. Lawrence drainage (Bailey 1939; Funk 1988; Kennedy 1966; Ritchie 1968, 1979).

Researchers in Maine have also identified and described Vergennes or "Vergennes-like" components in the central and eastern portions of the state (Cox 1991; Sanger 1975; Sanger et al. 1977). Although archaeologists working in Maine have found the definition of the Vergennes Phase to be useful in describing the assemblages from a number of sites, they also take pains to point out that the other phases within the Laurentian Tradition are of limited value for explaining Maine prehistory.

The distribution of Brewerton Phase sites spans central and western New York, Southern Ontario, and the St. Lawrence Valley in Ontario and south-central Quebec (Funk 1976, 1983, 1988; Kennedy 1966; Ritchie 1940, 1968, 1971a, 1979b; Snow 1980; Tuck 1978a; Wright 1972b, 1979). The four varieties of projectile point styles within the Brewerton series (Ritchie 1971b) are more widely distributed to the south and west of New York State than are other Laurentian projectile point styles (Dragoo 1959; Funk 1988; Mason 1981). What distinguishes Brewerton from Vergennes is projectile point form and the presence of copper tools at Brewerton sites. According to Funk (1988), ulus and ground-slate points have not been recovered from subsurface contexts at Brewerton sites. The excavation of several large Brewerton

sites (e.g., Robinson, Oberlander no. 1, Frontenac Island, Morrison's Island) has generated the largest sample of mortuary features of any Late Archaic tradition or phase (Kennedy 1966; Ritchie 1940, 1944, 1945). The preservation of human skeletal material and bone tools, together with the size of the site assemblages from midden and burial contexts, has made the Brewerton Phase a focal point for research on rank and status in Late Archaic society (Rothschild 1983; Trubowitz 1977; Tuck 1976)

Of the three Laurentian Tradition phases initially defined by Ritchie, the Vosburg Phase is the least clearly defined (Funk 1988). Vosburg Phase sites have been identified in the Hudson Valley, southeastern New York, adjacent portions of Delaware Valley, and western Connecticut (Funk 1988; Ritchie 1971b; Thompson 1973). Like the Brewerton Phase, with which it is contemporary, the Vosburg Phase dates from approximately 5200 to 4400 B.P. Both Brewerton projectile point types and Vosburg Corner-Notched points are found at Vosburg sites (Funk 1983:323), although Vosburg components lack the copper tools often found at Brewerton sites. Unlike earlier Vergennes components, Vosburg sites show no evidence for ground slate projectile points. Funk (1988) interprets the Vosburg Phase as developing out of the Vergennes Phase in eastern and southeastern New York.

The mounting archaeological evidence in southern Connecticut for Laurentian Tradition sites, artifacts, and mortuary features (McBride 1984a, 1984c; Pfeiffer 1984) prompted Funk (1984, 1988) to recognize a fourth phase for the Laurentian Tradition—the Duck Bay Phase. At the Bliss-Howard Site, Pfeiffer (1990, 1992) identified a pattern of post molds that defined several subrectangular house structures as well as a series of cremation burial features. Unlike the other Laurentian phases, the Duck Bay Phase is not identified by a unique projectile point form. At the Bliss, Bliss-Howard, Bashan Lake Locus A, Ames Rockshelter, and Arbucci sites, projectile points of the Laurentian Tradition include Vosburg, Brewerton Eared-Notched, Brewerton Eared Triangle, and Beekman Triangle points (Pfeiffer 1990, 1992). The ground-stone tool assemblage for the Duck Bay Phase includes winged atlatl weights (or bannerstones), gouges, axes, and ulus—all

artifact classes associated with other Laurentian components. Radiocarbon dates for Duck Bay Phase sites range from ca. 4800 to 4100 B.P. (Funk 1988). It is clear, therefore, that the delineation of a separate Laurentian Tradition phase for the southern Connecticut material is based primarily on geography rather than on assemblage content or chronology.

#### **Alternative Perspectives: The Lake Forest Adaptation**

It is clear from the preceding discussion that the term "Laurentian" encompasses more than a half century of definitions, incomplete revisions, and conflicting opinions on its interpretation (Funk 1988; Tuck 1977). A number of archaeologists have found the geographic boundaries of Ritchie's Laurentian Tradition to be too confining. Snow (1980) has suggested the term "Lake Forest Adaptation" as an alternative to the narrowly defined "Laurentian Tradition." The use of "Lake Forest" formalizes Ritchie's own observations of the forest environments associated with Laurentian Tradition sites (Ritchie 1965a, 1971a, 1979a). It also amplifies Tuck's (1977, 1978a) characterization of the areas to which Laurentian Tradition groups adapted. The greatest appeal of Snow's formulation lies in its inclusiveness and its emphasis on adaptation (which implies flexibility in behavior) rather than on rigid trait lists. Although a number of archaeologists have adopted Snow's terminology (e.g., McBride 1984a; Pfeiffer 1992), others have argued that the ecological characterization is too broad, is inaccurate, or leads to an environmentally deterministic view of Late Archaic societies (e.g., Dincauze 1981; Funk 1981, 1984). At an empirical level, the distribution of sites and artifacts of the Lake Forest Tradition on Nantucket, Martha's Vineyard, and in other coastal or near-coastal areas of southern New England requires a reexamination of its characterization as an exclusively "interior" adaptation (e.g., Mulholland 1984).

#### **"Laurentian" Artifacts outside the Laurentian "Heartland"**

There has been considerable debate in the Northeast over the appropriateness of applying the term "Laurentian" to the Late Archaic record outside of New York State, northern Vermont, and adjacent

areas in Quebec and Ontario (Cox 1991; Dincauze 1974, 1975; Funk 1983, 1988; Ritchie 1971a; Sanger 1975). As originally defined by Ritchie, the Laurentian Tradition included a suite of notched projectile point styles (Otter Creek, Brewerton [corner-notched, eared notched, and triangle], Vosburg, and perhaps Beekman Triangle), ground slate points, ulus, gouges, and scrapers. Funk and others have argued that it is inappropriate to apply the term "Laurentian" to archaeological complexes that do not contain all of these elements (Funk 1983, 1988; Ritchie 1971b; Tuck 1977). Other researchers have agreed with this position. Dincauze has stated that there are no Laurentian Tradition sites in southern New England (1975); instead, there are diagnostic projectile point forms found in southern New England that are similar to those found in New York State.

The efforts to maintain the geographic and paradigmatic integrity of Laurentian Tradition phases have been at the expense of explaining the cultural processes and specific historical circumstances that account for the widespread occurrence of Otter Creek, Brewerton, and Vosburg biface styles outside the geographic boundaries defined for Laurentian by Ritchie. Since the term "Laurentian" has been declared "off-limits" to researchers working in much of New England, there has been a tendency to ignore the near ubiquitous presence of Laurentian style bifaces at multicomponent Archaic sites in southern New England (e.g., Byers and Johnson 1940; Johnson and Mahlstedt 1982, 1984; Kerber 1994; Lavin and Russell 1985; Robbins 1980a, 1980b). In the absence of an acceptable referent for this archaeological expression outside its defined range, archaeologists have been reluctant to formulate research questions about it. Ad hoc explanations for the presence of Laurentian Tradition biface types outside the Laurentian "heartland" emphasize the small-scale, temporary movements of and contacts between Late Archaic groups (e.g., Dincauze 1975). Given the widespread distribution of Laurentian projectile point styles in southern New England as revealed by collections analysis (McBride 1984a; Mulholland 1984), researchers can no longer treat these distributional data as the product of random or irrelevant "noise." The nature of social interaction in the Late Archaic Period and the relationship

between style in material culture and social boundedness constitute significant research topics for the Late Archaic Period. These issues must be addressed explicitly if archaeologists are to reach a clearer understanding of what the Laurentian Tradition represents in cultural terms.

#### **Relationship of the Laurentian Tradition to Other Late Archaic Traditions**

With the exception of projectile point styles, few classes of material culture are unique to the Late Archaic Laurentian Tradition in the Northeast. This has created a measure of uncertainty over the chronological position of the various phases of the Laurentian Tradition in Northeast prehistory. Similarities in the ground stone component of Laurentian and Maritime Archaic assemblages have given rise to speculations on a common origin for the two traditions in the far northeast (Cox 1991; Haviland and Power 1981; Tuck 1977). Ritchie (1945), in confronting the archaeological record at the Frontenac site on an island in Cayuga Lake in central New York, suggested that the presence of Laurentian and Lamoka (i.e., Narrow Point Tradition) traits in mortuary contexts was an example of "contact metamorphosis" between two traditions that had maintained a separate cultural identity for a century or more. Pfeiffer (1984) interpreted the parallels in mortuary behavior and lithic technology between Lake Forest/Laurentian and River Plain/Susquehanna Tradition sites in southern Connecticut as evidence that the latter tradition was derived from the former. Wright (1981:89) has interpreted the presence of diagnostic Laurentian Tradition artifacts on Shield Archaic sites in Ontario as evidence for interaction between two distinct Late Archaic traditions.

Cox's (1991) excavations at Site 95.20 in the St. Croix drainage along the Maine-New Brunswick border have raised a number of issues about the relationship between the systematics of artifact typology and the events of prehistory. All of the traits associated with the Vergennes Phase of the Laurentian Tradition are present in the assemblage. A similar situation has been noted for the Hirundo site in Maine (Sanger 1975; Sanger et al. 1977). This raises the question of whether or not the Vergennes Phase exists as a full cultural complex in Maine, a possibility mentioned without further

elaboration by Funk (1988) in his summary of the Laurentian Tradition. Cox points out that different traits (artifact types and styles) have their own geographic and temporal distributions, and that the spatial distribution of traits may be independent (i.e., not invariably linked). Cox presents a number of scenarios to account for a mixture of traits, uncoupling and recombination of elements from different traditions to account for the archaeological record in Maine. Instead of viewing the archaeological record as an imperfect blend of traits from two defined centers, Cox's argument opens the discussion to a non-typological examination of culture process.

#### **The Shield Archaic Tradition**

The Shield Archaic Tradition was originally defined by Wright for the Canadian Shield area (1972a). The southeastern portion of the distribution includes southern Quebec, Ontario, and northern New Brunswick (Sanger 1971b, Wright 1972b, 1979, 1981). No sites of the Shield Archaic Tradition have been reported for the North Atlantic Region, although parts of northern Maine lie within the area bounded by the known Canadian sites. The artifacts associated with the Shield Archaic Tradition include generalized bifaces, scrapers, and other core and flake tools. The assignment of an archaeological site or component to the Shield Archaic is based primarily on the overall character of the assemblage rather than on particular diagnostic forms. Therefore, the identification of Shield Archaic sites is potentially problematic, especially near the limits of its geographic distribution. For example, Tuck (1982) has questioned whether the Tobique Narrows site in northern New Brunswick (Sanger 1971b) represents a Shield Archaic site or is, instead, a short-term Maritime Archaic occupation.

The Shield Archaic Tradition covers the broad expanse of northern boreal forests geographically and the long span from the end of the Paleo-Indian Period until the Historic Period in some areas (Wright 1981:88). It represents the initial human settlement of the entire boreal forest region. Wright's (1981:Fig. 1) map shows the distribution of Shield Archaic sites as including the vast area east of Lake Ontario and north of the St. Lawrence

River. Ethnohistoric accounts of the seventeenth century document travel and alliances between the peoples of the Shield Region and those living south of the St. Lawrence and eastern Great Lakes (e.g., Biggar 1922-1936; Thwaites 1896-1901; Tooker 1964; Trigger 1976). It is likely that the peoples, politics, and events of the Shield Archaic were inextricably linked to the lives and (pre)histories of other Late Archaic peoples in the region.

### **The Narrow Point Tradition**

For the mixed hardwood forests of central and southern New York, southern New England, and northern New Jersey, archaeologists have identified a Late Archaic tradition variously known as the Narrow Point Tradition (Dincauze 1974, 1975), the Narrow Stemmed Tradition (Snow 1980); the Small Point Tradition (Ritchie 1969; Thomas 1991), the Small Stemmed Tradition (D. Ritchie 1981); the Piedmont Archaic (Funk 1983; Kinsey 1977; Ritchie 1985); the Appalachian Tradition (Funk 1976), the Taconic Tradition (Brennan 1977), or the Mast Forest Archaic (Snow 1980). Although these terms are not absolutely equivalent to one another, they share many elements: (1) a broadly-based subsistence pattern of hunting, fishing, and gathering (McBride 1984; Robinson 1985a); (2) site distributions in a variety of environmental and topographic settings (McBride and Dewar 1981; Mulholland 1984); (3) an artifact assemblage that includes triangular, narrow stemmed, or notched projectile points (often made of quartz), but few unifaces and scrapers (Funk 1983:324; Ritchie 1965b; Tuck 1978a); (4) comparatively little elaboration in bone or ground-stone tools (Thomas 1991; Tuck 1978a:35); (5) a temporal span from about 4500 to 3500 B.P.; and (6) cultural roots that extend back into the Middle Archaic Period along the Atlantic seaboard (Byers 1959; Coe 1964; Dincauze 1971, 1975; Snow 1980; Tuck 1978a). For the purposes of this discussion, the Narrow Point Tradition will be used as an inclusive term for the several related phases and complexes that have been identified in the North Atlantic Region.

The distribution of Narrow Point Tradition sites is concentrated in central and southern New York (and adjacent areas of the Mid-Atlantic Region) and in southern New England. Narrow Point components

have been identified as far north as southern Quebec (Clermont and Chapdelaine 1982; Cossette and Chapdelaine 1987; Plourde 1987) and as far east as central coastal Maine (Bourque 1976; Cox 1991; Spiess 1992), although the number of Narrow Point sites and artifacts drops off significantly in northern New York State and northern New England (Thomas 1991). Archaeological sites with Narrow Point components have been identified in a broad spectrum of topographic and environmental settings—coastal, estuarine, riverine (along both main channels and tributaries), interior wetland, and upland interior (Bourque 1975; Dincauze 1974, 1975; Funk 1984; Johnson 1994; McBride 1984a, 1984c; Mulholland 1984; Pagoulatos 1986; Ritchie 1969; Robinson 1985a; Thomas 1980). For the most part, archaeologists have interpreted the Narrow Point site distributions as evidence for a high degree of residential mobility among small groups of hunters and gatherers in southern New England and New York (e.g., Dincauze 1975; McBride 1984c).

### **Phases and Complexes within the Narrow Point Tradition**

Within the Narrow Point Tradition, archaeologists have defined a number of temporal and geographic subunits, although the boundary criteria that separate the different phases and complexes from each other are often unclear. For central and western New York and northern Pennsylvania, Ritchie (1932, 1965) defined the initial phase of the Narrow Point Tradition at the Lamoka Lake Site. At the time of its excavation (i.e., prior to the development of radiocarbon dating), the Lamoka Lake Site was thought to be the earliest expression of Archaic culture in the Northeast. Although it now has been clearly demonstrated to be a Late Archaic site, the Lamoka Lake Site remains an important reference point for other Lamoka Phase and Narrow Point Tradition sites. The type site is larger by far than any other Lamoka Phase site (3 acres) and has yielded the largest sample of artifacts and mortuary features of any Narrow Point Tradition site in the region (Funk 1983:327). The small stemmed or side-notched Lamoka points, beveled adzes, and bone or antler tools are considered to be diagnostic elements in New York (Funk 1983; Ritchie 1965).

*Figure 7. Late Archaic Sites in Southern New England.*

*Figure 8. Late Archaic Sites in Northern New England.*

*Figure 9. Late Archaic Sites in the New York Region.*

At the Sylvan Lake Rockshelter and at other sites in the Hudson Valley, Funk (1965, 1976) identified the Sylvan Lake Phase of the Narrow Point Tradition, dating from about 4500-2800 B.P. Other Sylvan Lake components have been reported from Long Island and western Connecticut (Ritchie 1959, 1965b). Further to the east, archaeologists are more likely to identify small stemmed and triangular points as part of the Squibnocket Phase or Complex, first described by Ritchie (1969) for Martha's Vineyard. Because of the "territorial" nature of archaeological practice in the Northeast, the frequency of points identified as Lamoka or Sylvan Lake diminishes with distance from the eastern political boundary of New York State. This situation creates terminological problems for researchers working in southwestern New England who are put in the position of choosing New York or eastern New England type names (Lavin and Russell 1985). Sylvan Lake and Squibnocket are widely viewed as contemporaneous phases or complexes (Funk 1983) and share a number of projectile point forms and other classes of material culture. They differ in that Squibnocket stemmed or triangular bifaces are often made from quartz cobbles; Sylvan Lake bifaces are made from chert or quartz and do not include triangular forms (Funk 1976; Ritchie 1971b).

For Connecticut, McBride (1984a, 1984c) has suggested that Narrow Point sites with quartz or quartzite triangular points tend to be slightly older than sites that contain only stemmed points. This interpretation is supported by a number of radiocarbon dates and limited evidence for stratigraphic superposition of stemmed forms (McBride 1984c; Swigart 1974). McBride (1984a, 1984c) has designated the earlier component (i.e., with triangular points) the Vibert Phase. The later component, characterized by the absence of triangular forms, is known as the Tinkham Phase. These phase names have been applied only to sites in Connecticut (e.g., Lavin 1984; McBride 1984a; Pagoulatos 1986), although a slightly earlier range of dates for Late Archaic components with triangular projectile points is implied by existing typologies in Massachusetts and New York (Johnson and Mahlstedt 1984; Ritchie 1971b).

For the Mohawk-Hudson region of New York State, Ritchie and Funk have identified the River Phase for the later portions of the Narrow Point

Tradition, largely on the basis of excavations at the River Site and the Bent Site (Funk 1976, 1983; Ritchie 1958, 1965, 1971b; Ritchie and Funk 1973). The River Phase dates from approximately 3700 to 4000 B.P., and the associated assemblage includes the narrow, broadly notched Normanskill projectile point forms, notched or perforated forms of winged atlatl weights, and effigy pestles. Funk (1983:329) has argued that the River Phase developed out of the Sylvan Lake Phase, citing stratigraphic relationships and the presence of projectile points that are morphologically intermediate between other Narrow Point forms (e.g., Lamoka, Wading River, Bare Island) and Normanskill types.

The small triangular, stemmed, or notched projectile points that are diagnostic of the tradition as a whole exhibit considerable variation in form (Barnes 1972; Johnson and Mahlstedt 1984; Ritchie 1965b, 1971b). The difficulties inherent in classifying a variable class of material culture are compounded by the long time span that small, stemmed bifaces are in use in the Northeast. As the number of reliable, dated contexts for small triangular and narrow stemmed points has grown for southern New England, it has become apparent that these kinds of artifacts may date from the end of the Middle Archaic Period well into the Early Woodland Period, and perhaps into the Middle Woodland Period as well (Filius 1990; Johnson and Mahlstedt 1984; McBride 1984c; Mulholland 1984; Pagoulatos 1986; Pfeiffer 1992; Shaw 1988). In New York and the Mid-Atlantic Region, the long temporal span for small stemmed and triangular points does not seem to apply. Instead, these forms are restricted to the Late Archaic Period (Funk 1984).

The use of quartz to make expedient tools and bifaces, once thought to be definitive evidence for the presence of a Narrow Point tradition site (e.g., McManamon 1984), is in fact a trait that has been shown to span the Archaic and Woodland Periods (e.g., Bradley and Carty 1994; Dunford and Cross 1994; Petersen 1991). As a result, archaeologists are faced with ambiguities in typology, classification, and interpretation for Narrow Point Tradition bifaces (Starna 1979b). The interpretation of all quartz projectile points and debitage as Late Archaic in age has undoubtedly contributed to a perception that the Late Archaic was a population peak; it is also likely

that Early Woodland components are under-reported in the literature for the same reason (Filius 1990). If this is indeed the case, then researchers may need to reexamine the evidence for a Late Archaic population peak and a subsequent Early Woodland population decline (Concannon 1993; Dincauze 1974, 1975; Filius 1990). On strictly technological grounds, the Small Stemmed points that are so commonly found in southern New England have a shorter use life than their functional equivalents for the Laurentian, Maritime Archaic, or Susquehanna Tradition because of practical limits for resharpening the comparatively small, thick quartz bifaces (Boudreau 1981; Kalin 1981). For these reasons, the frequency of Small Stemmed points at a site cannot be "read" as a direct measure of population size or as a relative measure for population density that could be compared to the frequencies of projectile points for other cultural traditions.

#### **Social Life and the Narrow Point Tradition**

Despite the fact that Narrow Point sites and artifacts are numerous, archaeologists have few insights into social life and social dynamics for the Narrow Point Tradition. Few mortuary contexts have been identified (e.g., Lamoka Lake [Ritchie 1932], Wapanucket [Robbins 1968, 1980], Bear Swamp I [Staples and Athearn 1969], and Seabrook Tidal Marsh [Robinson 1985a]) relative to the number of known Narrow Point sites. This situation stands in marked contrast to the ratios of burials:habitation sites for the Moorehead/Maritime Archaic and Susquehanna Traditions in the North Atlantic Region. For the most part, mortuary features consist of individual burials, either flexed (Ritchie 1932) or extended (Robinson 1985a). A complex pit feature at the Wapanucket 8 Site in Middleboro, Massachusetts, contained cremated bone, red ocher, and a variety of Middle and Late Archaic artifact types (Robbins 1968). Unfortunately, the archaeological context for the feature raises more questions than it resolves (Dincauze 1975:28). Overall, the artifact content of the mortuary features is highly variable, although preservation conditions and our small sample size may account for much of the observed variation. For example, a burial feature containing several projectile points and a ground

stone adze may be considered "richly furnished," whereas a burial accompanied by perishable items of wood, textile, shell, bone, hide, or feathers might appear to be "unfurnished" after the passage of 3,000 or more years. From the perspective of this geographically and temporally dispersed sample, it would be premature to offer generalizations about mortuary behavior that might apply to the tradition as a whole.

From the limited evidence available on Narrow Point Tradition subsistence, archaeologists have reconstructed a picture of successful and generalized use of the resources from a range of environmental zones (McBride 1978; Spiess 1992; Thomas 1980). The absolute number of sites and the variety of site settings documented for the Narrow Point Tradition provides circumstantial support for this view (Dincauze 1974; McBride 1984a; Mulholland 1984). At coastal sites of the Narrow Point Tradition, archaeologists have found evidence for swordfish hunting (at the Seabrook Tidal Marsh site in New Hampshire [Robinson 1985a]), the exploitation of shellfish and other coastal/estuarine resources (Bourque 1995), and the necessary seafaring skills to reach offshore islands by Narrow Point Tradition groups (Bourque 1975; Ritchie 1969). Archaeologists have suggested that the Boylston Street Fishweir in Boston (Johnson 1942, 1949) is associated with the Narrow Point Tradition, largely because it is the geographically "resident" cultural tradition at the time that the weir was built and in active use, as established by radiocarbon dates from weir stakes (Dincauze 1974).

#### **Relationship of the Narrow Point Tradition to Other Late Archaic Traditions**

The Narrow Point Tradition appears to have overlapped other Late Archaic traditions temporally and geographically. Ritchie (1969) and Dincauze (1975) independently concluded from the stratigraphic relationships of Narrow Point and Susquehanna Tradition components at sites on Martha's Vineyard and at the Neville Site in New Hampshire, respectively, that there was a period of coexistence between the two traditions before they merged into a single cultural expression (the Orient Phase). Pagoulatos (1986), Leveillee (1995), and others have raised the possibility that the Narrow Point Tradition and the Susquehanna Tradition are

different artifact assemblages produced by a single population. According to this perspective, the apparent differences in form and technology reflect functionally specific tool kits or the contrasts between utilitarian artifacts and those that might be restricted to mortuary/ritual contexts. At this point in time, the burden of proof rests with those who derive the two traditions from a single population.

For central New York, Ritchie (1944, 1971a) has argued that the Frontenac Phase represented the combination of two distinct cultural traditions – the Lamoka Phase of the Narrow Point Tradition and the Brewerton Phase of the Laurentian Tradition. At Frontenac Island, Ritchie identified three series of burial features. One group of burial features contained artifacts that were considered to be diagnostic of the Lamoka Phase of the Narrow Point Tradition. A second group of burials was associated with Brewerton Phase artifacts. The third set of mortuary features showed traits of both the Lamoka and the Brewerton Phases, which Ritchie has interpreted as a form of “blending” of cultural traditions in a zone of territorial overlap between the two cultural traditions.

Ritchie’s stated position on the Frontenac Phase is one of the few cases in the regional literature in which an archaeologist has attempted to identify the transformation of cultural traditions through interaction. Although the interpretation of the Frontenac Island data may seem overly simplistic in hindsight, it forces archaeologists to confront issues such as the role of style in creating social boundaries, the nature of interaction within and across social boundaries, and the mismatch in scales between prehistory as we reconstruct it (i.e., cultural traditions and phases) and prehistory as it was lived (i.e., at the level of individual and collective experience).

### **The Susquehanna Tradition**

By about 4,000 years ago, the Maritime Archaic, Laurentian, and Narrow Point Traditions were well established in the North Atlantic Region. Archaeologists have inferred a period of population growth from the Middle Archaic onward, in part because of favorable climatic and environmental conditions (Dincauze 1974; Funk 1988; Snow 1980). Against this backdrop of successful adaptation, there

is an apparent spread of a new cultural tradition into the region along the Atlantic seaboard (Cross 1990; Turnbaugh 1975). Although this archaeological manifestation is known by many names, it will be referred to as the Susquehanna Tradition here. Archaeologists have been unable to arrive at a consensus on the nature of the spread of the Susquehanna Tradition. It has been interpreted as a population migration (Snow 1980), a case of niche expansion and competitive exclusion (Turnbaugh 1975), a case of diffusion, the adoption of a broad-bladed knife into an existing tool kit (Cook 1976), or a combination of these factors (Dincauze 1975). What unites the cultural tradition is a series of broad, thin biface forms and the technology for making them (Cross 1990; Dincauze 1968; Witthoft 1953). In different areas, the changes in lithic technology are accompanied by changes in mortuary ceremonialism, settlement patterns, subsistence patterns, bone tool technology, and the use of stone bowls (Bourque and Sanger 1986; Cross 1990; Dincauze 1968, 1975; McBride 1984a; Pfeiffer 1984, 1992; Spiess and Lewis 1995; Will 1981).

The Susquehanna Tradition was originally thought to be part of a Transitional Archaic Stage or Period (Ritchie 1965, Witthoft 1953). The presence of steatite bowls in a number of Susquehanna Tradition contexts was interpreted as an intermediate step or developmental stage between having no cooking vessels and having ceramic vessels. The excavation of several flat-bottomed, lug-handled ceramic vessels from a cemetery at the Jamesport Site on Long Island (Ritchie 1959) supported the developmental link. However, the evolutionary framework implied by the term “Transitional” created expectations for directional changes that were not matched in the archaeological record, particularly a longer time span than originally envisioned and the absence of stone bowls with the earliest phases of the tradition. As a result, “Transitional” is no longer applied to the period from 4000 to 2500 B.P.

A number of archaeologists have used “Terminal Archaic” to refer to the later phases of the Susquehanna Tradition (e.g., Funk 1976, 1983; Kraft 1991; Snow 1980). Despite its frequent usage, the term creates an exaggerated sense of cultural discontinuity between the Late Archaic and Early Woodland periods (Filius 1990). In recent years,

archaeologists have been forced to reexamine the criteria that have been used to distinguish between Archaic and Woodland cultural traditions (Braun 1980; Filios 1990). Debates over terminology and classification for the Late Archaic Period will undoubtedly continue and will help frame research questions that can be evaluated against the archaeological record. Although a strong case could be made for adopting any one of the alternative terms, "Susquehanna Tradition" will be used here. The characteristic lithic technology described by Witthoft (1953) and Dincauze (1968) for the Susquehanna Tradition unites the various manifestations, from the early Snook Kill/Atlantic Phase through the Orient Phase. There is enough overlap in the dates of Susquehanna Tradition components with those of other Late Archaic traditions to argue against defining a separate Transitional Archaic/Terminal Archaic Period. Other referents for the Susquehanna Tradition in the archaeological literature include the Susquehanna Horizon (Thompson 1989), the Broadpoint Horizon (Cook 1976), the Broadspear Tradition (Kinsey 1972), the Stone Bowl Culture (Fowler 1956), and the Perforator Makers (W. Smith 1926).

Pfeiffer (1984, 1992), in expanding on Snow's (1980) classification of Late Archaic groups by broad ecological adaptation, has suggested "River Plain Adaptation" as an alternative to "Susquehanna Tradition". The term seems particularly applicable to the lower Connecticut River Valley where Pfeiffer has conducted much of his research. However, the distribution of Susquehanna Tradition sites reflects a greater diversity in environmental settings than the term implies (e.g., Bourque 1995; Johnson 1994). The extensive use of floodplain and terrace locations is also not restricted to the Susquehanna Tradition, but is common throughout human prehistory in the region. As was the case with "Lake Forest Archaic" (Laurentian Tradition) and "Mast Forest Archaic" (Narrow Point Tradition), the use of "River Plain Adaptation" presupposes the very kinds of behavior that archaeologists would like to investigate.

The Susquehanna Tradition subsumes a number of phases and artifact types. The earliest phases (dated from 4200 to 3600 B.P.) are the Snook Kill Phase of eastern New York (Funk 1976; Ritchie 1965, 1971b) and its equivalent expression in eastern New England—the Atlantic Phase (Dincauze

1972). Further to the south in the Mid-Atlantic Region, the early components of the Susquehanna Tradition are identified by other broad, straight-stemmed or contracting-stemmed projectile point forms such as Koens-Crispin and Lehigh (Funk 1983; Mounier 1974; Witthoft 1953). Snook Kill/Atlantic components have been identified at coastal sites (e.g., Bourque 1995; Dincauze 1972; Ritchie 1959), along major rivers and tributaries (e.g., Borstel 1982; McBride 1984a), and also at interior upland locations (Johnson 1994). At the Young Site (Borstel 1982) and the Turner Farm Site (Bourque 1995) in Maine, the Call Site in northeastern Massachusetts (Dincauze 1968), and the Rye Hill Site (6LF100) in western Connecticut (Thompson 1989), straight-stemmed or contracting-stemmed projectile points have been identified in cremation burial features. These bifaces fall within the range of form and technology described for Snook Kill (Ritchie 1971b) and Atlantic points (Dincauze 1972).

Subsequent phases of the Susquehanna Tradition are identified by expanding-stemmed bifaces and stone bowls of steatite in archaeological contexts dated from approximately 3600 to 3200 B.P. (Dincauze 1968; Funk et al. 1974; Ritchie 1965). For New York State, Ritchie has defined the Frost Island Phase from his excavations at the O'Neil Site in Cayuga County. The Frost Island Phase is characterized by Susquehanna Broad points and soapstone bowls with unsmoothed exterior surfaces. Funk (1976) has indicated that Frost Island components are more numerous in central and western New York than they are in the eastern part of the state.

For southern New England, Wayland Notched points are the equivalents of Susquehanna Broad points, both morphologically and chronologically (Dincauze 1968; Funk 1983). It is likely that Mansion Inn blades, as defined by Dincauze (1968), were final-stage preforms from which Wayland Notched points were made (Cross 1990). Dincauze has identified three varieties of Wayland Notched points or Mansion Inn blades, each defined by sets of length:width proportions and each corresponding to a 200-year time span (Dincauze 1975). At the New England sites, the steatite bowls associated with Wayland Notched points are smoothed on both interior and exterior surfaces (e.g., Dincauze 1968;

Fowler 1956; Kremp 1961; Pfeiffer 1980). Other artifacts from cremation burial features include grooved axes, gouges, celts, large flake-blanks, bone tools, beveled cobble abraders (probable hammerstones), pestles, and (rarely) copper artifacts (Bourque 1995; Dincauze 1968; Leveillee 1995b; Pfeiffer 1980, 1991). Clusters of cremation burial features have been reported at the Eddington Bend (W. Smith 1926) and Turner Farm sites in Maine (Bourque 1995), the Watertown Arsenal, Mansion Inn (Dincauze 1968), Swan Hold (Sautter 1967), and Millbury III (Leveillee 1995) sites in Massachusetts, the Griffin Site in Connecticut (Pfeiffer 1980, 1992), and the West Ferry Site in Rhode Island (Simmons 1970).

The most recent expression of the Susquehanna Tradition is the Orient Phase (Ritchie 1944, 1959), dating from 3200 to 2700 B.P. in eastern New York and southern New England. Orient Fishtail projectile points intergrade with Susquehanna Broad/Wayland Notched bifaces (Ritchie 1959, 1971b), and are the primary criterion used to identify the Orient Phase. A number of archaeologists would include the Orient Phase as part of a separate Terminal Archaic Period (e.g., Funk 1983). It is grouped here with the other phases of the Susquehanna Tradition because there are demonstrable similarities in chipped stone tool morphology and technology (Dincauze 1968; Ritchie 1971b) and because the Orient Phase shares with the earlier Susquehanna Broad/Wayland Notched components the manufacture and use of steatite bowls. The stone bowls from Orient Phase sites on Long Island are similar to those reported for Susquehanna Tradition sites in Southern New England in that they are smoothed on both the interior and exterior surfaces. A number of researchers have linked the Orient Phase to early ceramics, although the stratigraphic contexts and artifact associations cited as evidence are frustratingly equivocal (e.g., Pagoulatos 1986; Ritchie 1959).

#### **Insights into Susquehanna Tradition Society, Technology, and Adaptation**

The uniqueness of Susquehanna Tradition mortuary ceremonialism in the Northeast has provided an opportunity for archaeologists to explore belief systems and social organization for the latter half of the Late Archaic Period. The

cremation burial features associated with the Susquehanna Tradition often contain the remains of several individuals, quantities of stone and bone artifacts (usually heat-fractured), and, occasionally, cremated faunal material (Barbian and Magennis 1994; Bourque 1995; Cross 1990; Dincauze 1968; Pfeiffer 1992; Spiess and Lewis 1995). A number of Susquehanna Tradition cemeteries have been reported for the North Atlantic Region (e.g., Mansion Inn [Dincauze 1968], Griffin [Pfeiffer 1984, 1992], Millbury [Leveillee 1995], Watertown Arsenal [Dincauze 1968], Turner Farm [Bourque 1995]; Eddington Bend [W. Smith 1926], Schwartz [Dincauze 1975], Coburn [Dincauze 1968; Kremp 1961], and West Ferry [Simmons 1970]). In addition to the large cemetery sites, archaeologists have excavated single cremation burial features at several sites (e.g., Young [Borstel 1982] and Vincent [Dincauze 1968]). As Dincauze (1968) has noted, the greatest incidence of Susquehanna Tradition mortuary ceremonialism is found in southeastern New York, southern New England, and coastal Maine.

The existing sample of Susquehanna Tradition mortuary features in the Northeast reflects a great deal of variation in form, artifactual content, constituent human skeletal material, and, presumably, social/ideological meaning and circumstance. Although secondary deposits of cremated human remains and artifacts are the only documented mortuary features for the Susquehanna Tradition in southern New England (e.g., Dincauze 1968; Pfeiffer 1992), Bourque (1995) has also assigned a series of unburned inhumations to the Susquehanna Tradition occupation at the Turner Farm Site in central coastal Maine. The Turner Farm sample includes cremation burial features, a feature with the unburned, partially articulated remains of several individuals, and individual flexed or bundle burials (Barbian and Magennis 1994). Although several features that contained unburned human skeletal material yielded radiocarbon dates within the range expected for the Susquehanna Tradition, none of the features with unburned material were unambiguously associated with Susquehanna Tradition bifaces (Barbian and Magennis 1994; Cross 1990). By contrast, the characteristic broad, thin bifaces were found in each of the cremation features at the site.

The cremation burials that are associated with the Susquehanna Tradition in the Northeast vary along several axes: (1) in the age, sex, and number of individuals represented by skeletal remains from each feature (Barbian and Magennis 1994); (2) in the relative completeness of skeletal elements for individuals included in the feature (Barbian and Magennis 1994; Pfeiffer 1992); (3) in the preincineration condition of the human remains (Pfeiffer 1984); (4) in the intensity, duration, and degree of variation in the burning environment (Barbian and Magennis 1994; Buikstra 1981); (5) in the nature of faunal remains included in the cremation feature (Cross 1990; Spiess and Lewis 1995); and (6) in the kinds and quantities of artifacts associated with the features (Bourque 1995; Dincauze 1968; Pfeiffer 1992). All of the Susquehanna Tradition cremation features known from the region are secondary deposits of materials burned elsewhere. To date, no features associated with primary cremation activities have been identified in the Northeast, with the possible exception of the Eddington Bend site on the Penobscot River in Maine (W. Smith 1926). There, the quality of the excavation records do not allow for the resolution of this point.

Susquehanna Tradition biface caches have been reported from non-mortuary contexts throughout the region (Bourque 1971; Bullen and Hofmann 1944; Carty 1983; Custer and Morris 1989; Dincauze 1972; Funk et al. 1988; Johnson 1994; R. Will, personal communication 1995; Witek 1990). The contents of the caches are usually limited to sets of bifaces that are at a comparable stage of reduction. Few of the bifaces show evidence for use or resharpening. Cross (1990, 1993) has argued that uniformity in biface proportions, technology for manufacture, and raw material selection supports the position that Susquehanna Tradition lithic technology may involve craft specialization. Within the context of small-scale societies and in the absence of a market economy, craft specialization may foster interdependence within a group or create interpersonal ties between groups. Insights into the societies that created and used Susquehanna Tradition material culture are not restricted to observations on mortuary contexts and caches, although these do provide the best contexts for identifying sets of contemporaneous artifacts.

#### **Relationship of the Susquehanna Tradition to Other Late Archaic Traditions**

The Susquehanna Tradition is widely regarded as an intrusive cultural tradition in the Northeast. The earliest radiocarbon dates for Susquehanna Tradition components are more recent by 500-1,000 years than the earliest dates for Maritime Archaic, Laurentian, or Narrow Point Tradition sites. The comparatively rapid expansion of the characteristic broad stemmed biface forms and lithic technology of the Susquehanna Tradition from the Southern Coastal Plain to the Gulf of Maine has been interpreted as a migration (e.g., Dincauze 1975; Sanger and Bourque 1986; Snow 1980; Turnbaugh 1975). The nature of any population movements into the Northeast remains an active topic of debate. Archaeologists envision mechanisms ranging from a "trickle" of people bringing their distinctive tool kits and adaptive strategies into the Northeast to a wholesale population replacement or displacement of resident groups by Susquehanna Tradition groups. Snow has suggested that a migration of Susquehanna Tradition peoples may also represent a migration of Iroquoian-speaking peoples into the Northeast (Snow 1980). Other researchers regard the Susquehanna Tradition-Iroquois connection with skepticism (Dincauze 1981b), since the geographic distribution of Susquehanna Tradition sites extends much further to the north and east than the distribution of Iroquoian speakers ever did.

The Susquehanna Tradition contrasts with other Late Archaic traditions along a number of dimensions, including settlement patterns (McBride 1984a; Pfeiffer 1991), subsistence patterns (Spiess and Lewis 1995), stone tool technology (Cross 1990; Dincauze 1968, 1972), bone tool technology (Will 1981), and mortuary ceremonialism (Dincauze 1968, 1975; Pfeiffer 1992). These generalizations should be tempered with several caveats. First, the Susquehanna Tradition is not a unitary cultural expression throughout the temporal and geographic range for which it has been identified. At an empirical level, it is difficult to demonstrate the applicability of local patterns on a regional scale. Thus, the Susquehanna Tradition sites of central coastal Maine, eastern Massachusetts, the lower Connecticut River Valley, the Hudson Valley, and the upper Susquehanna River drainage may share a number of traits, but may also be distinguished from

one another by other traits. By the same token, the Maritime Archaic, Laurentian, or Narrow Point Traditions would be expected to exhibit a comparable degree of internal variation. If the expansion of Susquehanna Tradition lithic technology did not involve the complete replacement or displacement of Late Archaic populations in the Northeast, then the local expressions of the Susquehanna Tradition would have developed from a geographically variable Late Archaic base.

The apparent geographic and temporal overlap between the Susquehanna Tradition and other Late Archaic Traditions has led archaeologists to suggest a number of scenarios for culture contact, coexistence, replacement, functional differentiation of tool kits, or "blending" of cultural traits (e.g., Bourque 1995; Custer 1984; Dincauze 1976; Kraft 1990; Leveillee 1995a; Pagoulatos 1986; Ritchie 1969). For example, the "Batten Kill Complex" as defined by Funk (1976) is seen as bridging the cultural and chronological gap between the Frontenac Phase (itself a combination of Laurentian and Narrow Point Tradition elements) and the early Susquehanna Tradition Snook Kill Phase. Perhaps the relationship between the Narrow Point and Susquehanna Traditions has received the greatest attention from researchers. The idea that Narrow Point assemblages and Susquehanna Tradition assemblages may have been produced by a single population has been a persistent undercurrent in the literature over the past decade (e.g., Custer 1984; Leveillee 1995a; Pagoulatos 1986). Three observations constitute the heart of the argument: (1) Narrow Point and Susquehanna Tradition artifacts are frequently found at the same site, often in the same (albeit ambiguous) stratigraphic context; (2) Narrow Point mortuary contexts are scarce, as are "pure" Susquehanna Tradition habitation contexts; and (3) if the broad Susquehanna Tradition bifaces are knives, then what do Susquehanna Tradition projectile points look like?; conversely, if small stemmed points are projectile points, then what do Narrow Point Tradition knives look like? If the argument develops from a hypothetical statement of possibility into a series of propositions that may be evaluated against the archaeological record, researchers will be able to debate the merits of the case on more than a paradigmatic level (e.g., Custer

1984; Kraft 1990). In formulating these and other research questions, archaeologists will be in a position to understand the processes and events of the Late Archaic Period that have, to this point, remained elusive.

#### **Summary: Understanding the Late Archaic Period**

The cultural, biological, linguistic, historical, and geographic relationships of Late Archaic traditions and peoples have been and will continue to be the major source of research questions for the Late Archaic Period. The archaeological data base for the Late Archaic Period reflects cultural diversity along many dimensions—technology, subsistence strategies, artifact assemblage composition, mortuary ceremonialism, and settlement distribution (Dincauze 1975; Funk 1983; Snow 1980). This diversity forms the basis for the definition of cultural traditions in Northeast prehistory. Cultural traditions are often viewed (either implicitly or explicitly) as equivalent to ethnic groups, biological populations, or linguistically-distinct groups.

Since there is a degree of contemporaneity and geographic overlap among the various Late Archaic Traditions in the North Atlantic and adjacent regions, there has been a good deal of speculation on social boundedness and interaction among the region's peoples for the period between 5000 and 2500 B.P. At the center of these debates is the relationship of artifact typology to cultural behavior, particularly the connection between style in material culture and ethnicity (Dobres and Hoffman 1994; Hodder 1982; Larick 1985, 1987; Wiessner 1978; Wobst 1977). In general, Northeast archaeologists have assumed that the spatial and temporal distributions of distinctive projectile point styles track "ethnicity" in the archaeological record (e.g., Brennan 1967). Artifact traditions have often been treated as if they were culturally-distinct populations. These assumptions have become deeply embedded in the regional archaeological literature as interpretations or conclusions; they have not been subjected to critical evaluation in light of the recent theoretical developments on the behavioral basis for artifact style.

The number of Late Archaic traditions that have been identified for the North Atlantic Region has drawn the attention of archaeologists to issues of

social boundedness and ethnicity. The five traditions of the Late Archaic (Maritime Archaic, Laurentian, Shield Archaic, Narrow Point, and Susquehanna) have formed the basic units for discussing regional interaction. It has been assumed (though not demonstrated) that there is less variation within a tradition than there is between any two traditions. Initially, archaeologists have taken a coarse-grained view of social boundaries, and have focused on the normative or "typical" features of each cultural tradition. At this broad level of abstraction, cultural traditions (and not human groups or populations) adapted and transformed themselves. As a result, archaeological explanations at the "macro" scale tend to gloss over the processes and events by which large-scale changes came about.

A model of five distinct Late Archaic traditions poses interpretive problems for archaeologists, since many sites in the region contain artifacts from more than one of the traditions (e.g., Bourque 1995; Dincauze 1976; Johnson 1994; Ritchie 1969; Sanger et al. 1977). Often the relationship between Late Archaic components is seen as a sequential one—the site was occupied by groups from distinct cultural traditions at several points during the Late Archaic Period. For example, at the Turner Farm Site in Maine, the initial occupation of the site was by people of the Narrow Point Tradition (Bourque 1975). Bourque (1995) and Cox (1991) have suggested the small stemmed points at Turner Farm were made and used by peoples ancestral to the groups associated with the Moorehead Burial Tradition. In most cases, no historical connection or cultural continuity is implied by the sequence of traditions.

In general, archaeologists have assumed that the distinctive artifact types that have been used to establish boundaries for cultural traditions will also specify the boundaries between contrasting settlement patterns, subsistence patterns, and other realms of cultural behavior. As more sites have been excavated, archaeologists have gained an increased sense of the variation that characterizes the Late Archaic archaeological record in the Northeast. Cultural traditions that have been defined on the basis of "type sites" and central tendencies will undoubtedly be reexamined in light of these new data. It is likely that archaeologists will need to develop new concepts and a new vocabulary in

order to understand interaction and change on a societal level and at smaller temporal and spatial scales. Ultimately, an understanding of the relationships between and among the Late Archaic traditions in the Northeast will require an understanding of the cultural processes and mechanisms that operate at the scale of human experience.

## **THE EARLY WOODLAND PERIOD (CA. 3000-2000 B.P.)**

**Leslie C. Shaw**

### **Development of the Woodland Concept**

The concept of a Woodland Stage or period was originally developed to encompass similarities covering a very broad area including all of the Northeast and extending west as far as Iowa and Minnesota. William Ritchie (1965), who attended the First Woodland Conference held in 1941 (Anonymous 1943), applied and refined this concept, and was one of the first to identify traits specific to the Northeast region. With the advent of radiocarbon dating and the division of the Woodland Period into three parts (Early, Middle, and Late), the concept has been used to demarcate major changes in prehistoric adaptation during the 3,000 years prior to European contact. The most notable changes stem from the introduction of new technologies—specifically ceramics, the bow and arrow, and horticulture involving exotic domesticates. Along with these technological innovations came changes in social systems, including a well-developed mortuary ceremonialism, long-distance communication and exchange, and in some cases, a more sedentary way of life.

In the fifty years since the First Woodland Conference we have learned that this period is not so easily characterized. Although ceramics and horticulture do first appear in the Northeast sometime during the period, their introduction and their impacts vary considerably across space and through time. The variability seen across the Northeast region during the 3,000 or so years before European contact has led researchers to try to refine the Woodland concept to better reflect local conditions. Researchers in Maine and the Maritime Provinces prefer the term "Ceramic Period," acknowledging the use of ceramics throughout this period but not the adoption of horticulture except in isolated areas (Sanger 1979b). Snow (1980:262), on the other hand, has used a nomenclature which emphasizes horticulture in his recommendation to combine the Early and Middle Woodland under the term "Early Horticultural period." There has been an ongoing discussion of what system and

nomenclature would best address the needs of the region (e.g., Braun 1978; Feder 1984; Funk 1984; Granger 1988; Stoltman 1978; Tuck 1978), but the issue is a long way from being resolved.

The Woodland Period is perhaps best described as a period of rapid and diverse change, with both a pan-regional commonality seen in similar styles, burial practices, and technologies and, at the same time, very distinct regional differences in how the common elements are modified and incorporated by local cultures. The development of research questions to address issues unique to the Woodland Period requires that both the large-scale interactions and small-scale adaptations be considered. Within this context, some unique questions can be addressed, such as how and why domesticated plant resources were incorporated into a seemingly well-adjusted subsistence base or how the incorporation of new technologies affected social relations within or between groups.

An overview of the Woodland Period tends to highlight both what we know and what we don't know about this time in prehistory. There is great disparity across space in what is known about the period. The more intensive archaeological study in New York State and along the New England coast has given us a better picture of adaptations in these areas. But recent research in the interior, due in many cases to cultural resource management projects, has begun to rectify the uneven coverage. There is also an uneven representation of sites through time. Whether this reflects actual variation in population densities or settlement strategies or simply reflects our uneven investigation of sites by size, type, or location remains to be determined. The following overview of the Woodland Period in the Northeast attempts to highlight both our current knowledge and our major gaps in understanding. And from this baseline, the major research question for this period can be drawn more easily.

### **Chronology and Classification**

The time span that archaeologists have designated the Early Woodland Period varies among states, depending on which characteristics are seen as most diagnostic. By the early 1960s, Ritchie (1965) had used the few available radiocarbon dates to define the Early Woodland as dating roughly

between 2950 and 2150 B.P. in New York. This time frame has not changed greatly with the addition of dates obtained in the past 30 years. However, even with the new radiocarbon results the Early Woodland remains poorly dated across the region (Concannon 1993; Filios 1989; Mulholland 1984). This may be due in part to a greater research interest in Archaic Period sites during the 1970s and 1980s and to the tendency for Early Woodland components to be in multi-component Woodland sites, with the Early Woodland occupation often in the non-stratified deposits below shell middens.

The beginning date for the Early Woodland Period in the Northeast (Figure 10) has generally been identified by the first appearance of ceramics, with several projectile point types and modes of burial ceremonialism also used for period identification. The earliest type of ceramic in the Northeast is usually classified as Vinette I; it is a thick, grit-tempered pottery with fabric- or cord-impressed interior and exterior surfaces (Ritchie 1946; Ritchie and MacNeish 1949). Ritchie (1969:223) originally argued for a lag of at least several hundred years between the first use of ceramics in New York (Ritchie 1962, 1965) and the later appearance of Vinette I in southern New England based on a radiocarbon date from the Peterson Site on Martha's Vineyard [Ritchie 1969:192]). The increase in the number of radiocarbon dates obtained for Vinette I contexts obtained in the past 20 years (Figure A) does not support this west-to-east introduction of ceramics. Given the currently available range of dates, the introduction of ceramics appears almost simultaneously across the whole Northeast region around 3000 B.P. or soon after (Petersen and Sanger 1989). This is supported from dates from Maine (Belcher 1989a), New Hampshire (Howe 1988), Connecticut (McBride 1984a; Mulholland 1984:99), and coastal New York (Funk and Pfeiffer 1988). Ceramics have been found in contexts that would otherwise be classified as Late or Transitional Archaic based on lithic artifact associations (e.g., Cox 1982; Huntington 1982; Kinsey 1972:454; Ritchie 1959:66-67, 1965) which indicates that more sites with good contexts and dates are needed before we fully understand how ceramic technology was first incorporated into the Northeast region.

Projectile point types have been used as period markers in much the same way as ceramics, with side-notched (Meadowood), lobate-stemmed (Adena-like), and diamond shaped (Rossville) points often used to identify the Early Woodland contexts in much of the region. Other stemmed varieties of points have also been identified, such as Lagoon (Ritchie 1969) and Cape Stemmed (Mahlstedt 1986), and these might represent variations on the above types or local developments out of Late Archaic forms. Early radiocarbon dates associated with traditional Early Woodland projectile point types mark the shift to new styles around 3000 B.P., but relatively few dates are available from clearly associated contexts (Mulholland 1984). Unfortunately, point types of all kinds are proving to be unsatisfactory temporal indicators for the Early Woodland, primarily because both Late Archaic forms and characteristic Early Woodland forms have varying and overlapping periods of use. Recently obtained radiocarbon dates from strata that include Late Archaic Small Stemmed projectile points have shown that this form continues into the Early Woodland Period, and was probably used in conjunction with the types considered as Woodland (Filios 1989; McBride 1984a; Lavin 1984) (see Figure 10).

The Early Woodland florescence in burial ceremonialism appears to occur across the Northeast beginning soon after 3000 B.P. (Heckenberger et al. 1990; Kraft 1976; Ritchie 1965; Ritchie and Funk 1973; Spence and Fox 1986). Burial ceremonialism is encompassed in the Meadowood Phase of New York and southern Ontario and the Middlesex Phase of the Atlantic seaboard, stretching from at least Maryland to the Maritime Provinces. While most of the Meadowood and Middlesex Phase burial sites were found through accidental disturbances and have produced few radiocarbon dates, the few carefully excavated sites have provided dates suggesting their initial use was early and emerged directly from Late Archaic burial manifestations. Ritchie (1965:180) dates the Meadowood complex as occurring between 2950 and 2500 B.P. and several recent dates suggest that it continued until around 2250 B.P. with some change in ceramic associations (Clermont 1978; Spence and Fox 1986).

The Middlesex complex was expected to date after the development of the Ohio Valley Adena,

which begins around 2450 B.P., although dates from a number of Northeast burial contexts now suggest that Middlesex may have a slightly earlier beginning. The Boucher Site, a Middlesex cemetery in northwestern Vermont, has 16 associated acceptable dates, the earliest of which is 2835±35 B.P. (Heckenberger et al. 1990:112). The admittedly limited sample of dated Middlesex contexts suggests that this date from the Boucher site is too early, and a range of roughly 2450 to 1950 B.P. is viewed by some as more realistic (Rutherford 1990; Spence and Fox 1986). The Augustine Mound in northern New Brunswick (Turnbull 1976) also produced early third millennium dates but those thought to date the mound construction fall around 2350 B.P. (Spence and Fox 1986:32, from personal communication from C. Turnbull). A single date from the Rosenkrans site in New Jersey of 2560±120 B.P. is one of the earlier dates for this manifestation along the mid-Atlantic seaboard (Custer 1984; Kraft 1976; Ritchie 1937, 1965). The Middlesex burial complex is not strongly evident in New York, where Ritchie (1965) reports only the Vine Valley Site in the west-central part of the state (also used by Ritchie as the type site for this complex).

The end date for the Early Woodland Period is equally difficult to identify and also varies somewhat among states. Ritchie (1969:161, 226) estimates the end of the Early Woodland in southern New England at 2050 B.P. based on a radiocarbon date from the Vincent Site in association with an early Middle Woodland ceramic type. Most archaeologists would place the end of this period between 2150 and 1900 B.P. based on the appearance of heavily decorated ceramics (Petersen and Sanger 1989) and a general decline in the frequency of characteristic Early Woodland artifact types. The burial ceremonialism seems to drop off considerably by 1950 B.P., especially in the greatly reduced use of exotic artifacts as grave goods. The more recent acceptable dates from the Boucher Site indicate the use of this cemetery until about 2050 B.P., although Heckenberger et al. (1990:109) note that use of the site may have continued into the early second millennium (see also Rutherford 1990; Spence and Fox 1986). Dates on the side-notched type bifaces and Vinette I ceramics also end by around 2050 B.P., but some Early Woodland types,

such as Rossville, continue well into the second millennium (e.g., Dincauze 1976; Shaw 1989).

Although beginning and ending dates for the Early Woodland Period are not yet firmly established, a workable range would fall between 3000 and 2050 B.P. Figure 10 shows the temporal range of dated phases and artifact types, and highlights some of the more significant radiocarbon dates for this period. As can be seen in the following overview of the Early Woodland burial ceremonialism, material culture, and adaptive strategies, there is great variability and overlap, which makes this one of the more dynamic—and difficult to characterize—periods in Northeast prehistory.

### **Burial Ceremonialism**

The Meadowood and Middlesex Phases or complexes are used to refer to elaborate burial activity that took place across the Northeast in the Early Woodland Period. These terms are used today to refer only to burial sites and the associated ritual activities accompanying the interment of the dead. Most sites attributed to these complexes were found accidentally in the late nineteenth or early twentieth centuries and limited documentation remains for the associated artifacts now found in museums and private collections (e.g., Keith 1965; Loring 1985; Moorehead 1922; Young 1969). The Meadowood sites are primarily located in central, northern, and western New York (Granger 1978; Ritchie 1965; Ritchie and Funk 1973) and in southern Ontario (Spence and Fox 1986) (Figure 11). The Middlesex complex sites are widely distributed from Maryland to Canada's Maritime Provinces and, although sites tend to be concentrated in the coastal plain area, they also have been identified in interior New York (Custer 1984; Kraft 1976; Loring 1985; Ritchie 1965; Rutherford 1990; Spence and Fox 1986) (Figure 11).

Ritchie (1944, 1955) named the Meadowood Phase and defined it as a ritual burial complex occurring in western, central, and northern New York. It was originally characterized by a list of artifacts found in the graves, which include trapezoidal and rectangular gorgets, birdstones,

*Figure 10. Date Ranges for Early Woodland Phases and Artifact Types*

*Figure 11. Meadowood and Middlesex Complex Sites in the Northeast.*

tubular pottery pipes, copper awls and rolled beads, side-notched (Meadowood) bifaces, and leaf-shaped "cache blades" (Ritchie 1965:190-193). The blades have been found in great numbers in some graves, ranging between 100 and 1,500 specimens, and are predominantly made of a western New York (Onondaga) chert (Granger 1978, 1981). Vinette I ceramic sherds have been found in graves, but only in a few instances (Ritchie 1965:193). The location of the graves and the treatment of the dead has also been used to characterize the Meadowood Phase. The burials, primarily cremations but including primary and secondary inhumations, were commonly located on the tops or east-facing slopes of "natural, mound-like knoll[s]" (Ritchie 1965:197). The graves commonly included red ocher.

Ritchie also defined the Middlesex Phase, using data from central New York and New England, and noted similarities in material culture with an Adena-related complex in Maryland (Ritchie 1937, 1965). The Middlesex Phase, like the Meadowood, is characterized by a select group of artifacts found in graves. The artifact types that distinguish the Middlesex Phase from the Meadowood include types associated with the Adena complex of the upper Ohio River Drainage. The most diagnostic of these include blocked-end tubular smoking pipes, lobate-stemmed bifaces, copper awls and beads, several styles of birdstones and gorgets, and shell beads (Ritchie 1965:201). These objects are often made of exotic material indicating they have been transported long distances, but "copies" of the Adena types made of locally available materials have also been found. The artifacts and adornments made from exotic materials include pipes made from Ohio fireclay, chipped stone tools made of chert or chalcedony from Ohio and Indiana, gorgets made of banded slate from Ohio, beads and awls made from copper possibly from the Great Lakes region (but see Levine 1993), and shell beads and gorgets from mollusc species found at least as far south as the Mid-Atlantic coast (Cooke and Jordan 1972; Heckenberger et al. 1990; Ritchie 1965:201; Turnbull 1976).

The types of graves and treatment of the dead for the Middlesex Phase are very similar to the Meadowood characteristics already described. The Boucher Site (Figure 11), which contained the remains of a minimum of 72 individuals in burial

contexts, exemplifies the variety seen at most sites with primary interments, secondary bundle-burials, and cremations all represented (Heckenberger et al. 1990:114). Artificial earthen mounds reminiscent of Adena mounds are sometimes associated with Middlesex but most burials are not found in this context. The Augustine mound in New Brunswick, Canada (Turnbull 1976) and the mounds on Long Sault Island in the St. Lawrence River (Ritchie and Dragoo 1960) are examples (Figure 11), but such major sites as Boucher are not mound locations. The occurrence of mound sites along the St. Lawrence River and the Northeast part of New Brunswick suggests that this trait may have been most common to that drainage area, reflecting the influence of peoples of the Great Lakes region (Spence and Fox 1986).

Ritchie originally viewed the Meadowood and Middlesex complexes as two distinct manifestations or ethnic groups (Ritchie 1965; Ritchie and Funk 1973:115). He proposed that the Middlesex complex generally followed the Meadowood in time; however, recent dates have established that the two complexes overlap, possibly quite considerably, depending on which dates are used. The Meadowood complex was seen to have developed out of the Late Archaic cultures of western and central New York, most notably the Glacial Kame and Old Copper Culture (Ritchie 1965). The Middlesex complex, on the other hand, was interpreted as being influenced by the Adena of the upper Ohio River Drainage. Ritchie and Dragoo (1959, 1960) proposed that Middlesex sites in the Northeast represent an actual migration of people from the Ohio region via the Chesapeake Bay area (see also Allen 1981).

More recent interpretations of the Middlesex complex argue for an in situ increase in burial ceremonialism, with an extensive trade network introducing Adena-like characteristics into an indigenous concern with burial ceremonialism (e.g., Dragoo 1976; Grayson 1970; Griffin 1961; Heckenberger et al. 1990; Spence 1967; Turnbull 1976). Both the Middlesex and Meadowood complexes probably grew out of Late Archaic ritual practices (Granger 1988; Spence and Fox 1986). Similarities between the two complexes in terms of burial practice and the overlap in artifact types seen in graves suggest that there may be more of a

spatial (i.e., regional variation and differential access to trade routes) rather than a major cultural difference between the two manifestations. The exchange of items and the development of traits such as mound building took place within a network of exchange that extended at least from Maryland (Custer 1984; Ford 1976) to the Maritime Provinces (Rutherford 1990; Turnbull 1976; see Fitting and Brose [1970] for a possible Adena-related site in northern George's Bay in Ontario) and west to Ohio. The mechanism of this exchange probably involved neighboring groups in such a way that any given item may have been exchanged many times, thereby working its way far from its source. As Custer (1984:128) has suggested, this exchange operated as a "chainlike organization where ties among participating members were highly ritualized." This "down-the-line" pattern of exchange would be expected to result in geographic variation in where objects were ultimately interred in burials as well as in how ritual practices were interpreted and incorporated into local burial traditions. The very rare occurrence of Middlesex-related artifacts in Maine (Sanger 1991; Spiess et al. 1988), as well as a lack of associated cemetery sites in that state, suggests that the primary communication/exchange routes might have followed the Atlantic coast and the St. Lawrence River and Lake Ontario, leaving Maine somewhat on the periphery. With the discovery and careful excavation of more sites dating to this period, it may be possible to identify some of the links in this exchange network and explain why certain traits such as mound building were adopted only sporadically.

The Meadowood and Middlesex complexes as they are used today refer only to burial sites and are reflective of a limited range of burial practices. As Heckenberger et al. (1990:137) note, the Middlesex complex still is defined by the recovery of a limited range of specific artifact types. It is very likely that less elaborate burials, or burials without the distinctive artifact types, also occurred with some frequency during the Early Woodland (Loring 1985). To understand fully how the Meadowood and Middlesex burial complexes articulated with everyday life, it is important to focus on habitation and special activity sites. Early researchers often noted that Meadowood and Middlesex cemeteries were not associated with habitation sites (Ritchie

1965). Their expectation was that, given such elaborate cemeteries, the associated sites should be sizable villages. Instead, what is seen all across the Northeast region and into Canada are comparatively small habitation and special activity sites for this time period, reflecting a continuation of hunting, fishing, and gathering strategies common to the Late Archaic Period (e.g., Ritchie and Funk 1973; Thomas 1991). Although a few sizable Early Woodland sites have been reported (e.g., Riverhaven No. 2 in New York [Ritchie 1965]), the evidence supports a picture of non-stratified societies in which exchange relationships exist between neighboring bands. The cemetery sites do indicate some differences between graves in terms of the numbers and types of grave goods, but these seem to coincide with age and sex differences and do not indicate hierarchical relationships (Heckenberger et al. 1990). The adaptations for this period reflect populations well adjusted to available resources.

#### **Artifact Types and Technology**

The artifact types that are most commonly used to identify Early Woodland habitation or special activity sites include Vinette I ceramics, side-notched (Meadowood) bifaces, diamond-shaped (Rossville) bifaces, and items that are also found in burial sites such as copper beads or gorgets. Vinette I ceramics and side-notched points do cluster within the Early Woodland Period in New York and southern New England, with dates ranging from around 3000 B.P. until about 2050 B.P. (e.g., Mulholland 1984), but they were not the only artifact types used during the period. As was noted above, there is such variability across space and through time for these types that single artifact types should not be used alone as temporal period markers. A more productive approach is to evaluate an associated assemblage of materials in conjunction with radiocarbon dates and stratigraphic associations to identify Early Woodland components.

The Early Woodland ceramics found across New England and New York show a remarkable degree of similarity suggesting that the new technology was introduced rapidly across the region. Ceramics were originally assumed to be associated with agriculture, and the appearance of ceramics was thought to signal the introduction of domesticated plant species.

Today we know that assumption is not valid and, although we are not exactly sure when or where the first use of domesticated plants took place, most archaeologists would argue it was notably later than the introduction of ceramics and was not as widespread in its geographic distribution as ceramics (e.g., Ceci 1979; Sanger 1979).

The ceramic type labeled *Vinette I* (*Vinette Interior cordmarked*) by Ritchie and MacNeish (1949) is a relatively thick, grit-tempered ceramic with exterior and interior surfaces that are cord- or fabric-impressed, but otherwise undecorated. It is found across the Northeast region, but has been documented most frequently along the coast or in major drainages (Fowler 1966; Hamilton and Yesner 1985; Mulholland 1984). Maine researchers (Sanger 1980:113; Spiess and Heddon 1983:186) have noted a general absence of this type on the far eastern coast of that state and into the Maritime Provinces, although it has been recovered in small numbers at several sites in New Brunswick and south-coastal Nova Scotia (Allen 1981; Petersen and Sanger 1989; Sanger 1987). Understanding the significance of the spatial patterning of early ceramics will require further study.

An interesting suggestion for distinct interior versus coastal populations has been argued using ceramic data. Specifically, differences in the direction of twist for the cordage used in ceramic surface treatment has been identified. Researchers in Maine and New Hampshire (e.g., Doyle et al. 1982; Hamilton and Yesner 1985; Kenyon 1985b; Petersen and Sanger 1989) have noted a consistent distribution of a "Z twist" at coastal sites and an "S twist" at interior sites. This distribution is interpreted by Doyle et al. (1982) to reflect stylistic differences attributable to two distinct populations.

With an increase in dating of ceramics from good contexts, it is now clear that *Vinette I* was not the only ceramic type used during the Early Woodland. The classic *Vinette I* is still the ceramic type associated with the earliest dates in the region (e.g., Belcher 1989:39; Howe 1988; Mulholland 1984; but see Brumbach 1979). However, soon after about 2550 B.P., variations on the *Vinette I* type are found. A *Vinette I* vessel with incising has been found at the Boucher Site (Figure 12) in a Middlesex burial context dated at 2550±195 B.P. (Heckenberger et al. 1990; see also Loring 1985;

Petersen and Hamilton 1984). A type referred to as *Modified Vinette I* (Salwen 1968; Suggs 1958) overlaps *Vinette I* in use beginning about 2450 B.P. (e.g., Deal 1986; Doyle et al. 1981; Howe 1988; Lavin 1980; Robinson and Bolian 1987; Shaw 1984, 1988b; Skinas 1987; Spiess et al. 1983b) and continued in use until about 2050 B.P. when *Vinette I* also fell out of use. The *Modified Vinette I* has smoothed interior and exterior surfaces, with the cord impressions still visible in some places. A type with only the exterior smoothed has also been found (McBride 1984a). While *Vinette I* and associated variations are found across a large area, there are some indications that regional variation in ceramics, which was clearly apparent by the Middle Woodland, may have begun in the Early Woodland (Luedtke 1986:129).

The comparatively numerous site excavations that took place in New York between the 1940s and the 1970s under the guidance of Ritchie and Funk (e.g., Funk 1976; Ritchie 1965; Ritchie and Funk 1973) resulted in a well-defined artifact typology for that state. However, attempts to carry this typology into New England or beyond have shown that it is not applicable over a broad area. The Meadowood projectile point, a long, thin, side-notched type, and the associated "cache blade" are very characteristic of Early Woodland tool assemblages in central and western New York and southern Ontario, with only rare finds of classic-type Meadowood points found east of the Hudson River (Ritchie 1965; Ritchie and Funk 1973; Spence and Fox 1986). These types are almost always made of New York chert, which is considered a diagnostic feature (Granger 1988). Meadowood points generally date to the first half of the third millennium, with the earliest dates coming from the Fortin Site (Figure 13) in the Upper Susquehanna Valley (e.g., 3180±95 B. P. [Funk et al. 1973; Funk 1973:278]) and from a site in western Connecticut (e.g., ca. 3335 B.P. [Swigart 1974:25]).

Side-notched bifaces of similar shape but usually thicker in cross section have been found throughout the New England states in Early Woodland contexts (e.g., Connecticut [Lavin 1984; Lavin and Russell 1985]; Maine [Belcher 1988; Borstel 1982; Bourque 1971; Petersen 1991; Spiess and Heddon 1983; Spiess et al. 1988], Massachusetts [Dincauze 1974;

*Figure 12. Early and Middle Woodland Sites in Northern New England.*

*Figure 13. Early and Middle Woodland Sites in the New York Region.*

Ritchie 1969; Shaw 1984]; New Hampshire [Dincauze 1976]; Vermont [Bolian and Gengras 1991; Thomas 1991). These are often made of local lithic materials, although examples are occasionally found that are made of New York chert (Bernstein and Savulis 1988; Dincauze 1974, 1976; Ritchie 1969:76). Probably related to this form is a small, weakly side-notched (expanding stem) type that has been found in the far northern region (e.g., Allen 1981; Trautman and Spiess 1992). It is not clear what this similarity means—whether the thicker, side-notched type of the Atlantic Coastal Plain represents an indigenous projectile point form or an attempt to mimic the Meadowood type.

The examples made of New York cherts may be connected in some way with the long-distance exchange of goods found in burials. Most of the Northeast sites where the side-notched type is found have low numbers of this type (an exception is the Pratt Site [Ritchie 1969:76]), and they are often found associated with other types, most notably the Small Stemmed type as seen in southern New England (Juli and McBride 1984; Lavin 1984b; Lavin and Salwen 1983; McBride 1984). It should also be noted that several forms of side-notched points—including a thicker type similar to the New England examples—have been found in Middle Woodland contexts in New York associated with Levanna and Jack's Reef types included in the Kipp Island phase (Ritchie 1969; Ritchie and Funk 1973). This suggests that side-notched points other than classic Meadowood forms may have been used in varying frequency across the Northeast region throughout the Early and Middle Woodland Periods.

The other Early Woodland projectile point types, such as the Rossville, the lobate-stemmed (Adena and Lagoon), and the stemmed forms (e.g., small stemmed, narrow stemmed, Wading River, Cape Stemmed) have a relatively wide distribution across New England. The general similarity to Late Archaic stemmed types suggests an in situ development out of these earlier forms. Examples of the lobate-stemmed point have been found made of exotic lithic materials (and are therefore usually classified as Adena) which suggests they were traded into the Northeast from the Ohio Valley, but locally produced examples have been recovered in greater numbers (Belcher 1989a). Lagoon points (Ritchie 1969:245, 1971) bear a strong resemblance

to the Adena type in general morphology and may reflect local interpretations of this form in immediately available lithic materials. A rare "turkey tailed" point, which has a four-sided base, has been found in Maine and New Brunswick and is thought to date to the Early Woodland (Spiess and Heddon 1983:66; Tuck 1984; Turnbull 1976). The shape of the base is similar to a type called Fulton Turkey Tail (Ritchie 1971b), which is found in New York, primarily in the Seneca and Oneida Rivers region. This type in New York is often made of non-local chert, including a type from Indiana, and has been found in Late Archaic and Early Woodland contexts. Ritchie (1944, 1971b:22) recovered an example from a grave at the Oberlander No. 2 Site (Figure 13) at which a similar grave was dated at  $2948 \pm 170$  B.P. The significance of the similarities between the New York examples and those in the far northeast are not clearly known, but probably reflect the dynamics of the exchange and communication networks that circulated influences to and from the Great Lakes region.

McBride and others working in Connecticut (Juli and McBride 1984; Lavin 1984; Lavin and Salwen 1983; McBride 1984) have proposed that narrow stemmed types characteristic of the Late Archaic Period continued in use through the Woodland Period in the lower Connecticut River Valley and along the Connecticut coast (Figure 14). Other types, such as the side-notched type, were used in association with these stemmed varieties but in fewer numbers. The continued use of stemmed points could also be argued for the rest of southern New England, potentially including the Lagoon (Ritchie 1969) and Cape Stemmed (Mahlstedt 1986) types, as well as in Maine and the Maritime Provinces where stemmed types are found in Early Woodland contexts (Sanger 1980; Tuck 1984). The recovery of Meadowood-like side-notched and a small stemmed point from the same feature at the Smyth Site in New Hampshire (James Bradley, personal communication, 1994) is part of the growing evidence for continued use of stemmed forms across the Northeast region (see also Filios 1989; Funk and Pfeiffer 1988; Klein 1983; Lavin 1984). Funk (1984:134) notes that west of the Hudson Valley this continued use of narrow stemmed types is not evident, as these points are only found in Late Archaic contexts. The observed

variation in stemmed types from these Early Woodland contexts might reflect local variations in hafting technique and/or types that developed regionally. With the completion of more regional studies, the significance in variation in stemmed forms in the Early Woodland and how they are combined with the use of other types of this period should become more apparent.

The Rossville type can range from a clear diamond shape with straight edges to examples that have a weakly defined stem (Ritchie 1969, 1971). These different forms can be recovered from the same deposit, which suggests that the variation is not temporal. The Rossville type tends to be found in occupations on the Atlantic Coastal Plain from the Mid-Atlantic states (Custer 1984; Kinsey et al.

*Figure 14. Early and Middle Woodland Sites in Southern New England.*

1972), through eastern New York and southern New England (e.g., Dincauze 1974; Eisenberg 1982; Fiedel 1991:145; McBride 1984a), and into Maine (e.g., Borstel 1982; Spiess and Heddon 1983). A comparable type has also been found in aceramic contexts in Maine and the Maritimes (Davis 1978; Sanger 1971). On Cape Cod, a variation on the Rossville type has been recognized, which has a weak shoulder and is slightly longer than typical examples, making it similar in outline to the Middle Archaic Stark point (see Dincauze 1976). These variants have been found in clear Woodland contexts and tend to have a more regular flaking pattern and a more lenticular cross section than their Middle Archaic counterparts (Cross and Shaw 1991; Shaw 1989, 1991; Strauss and Goodby 1993; Fred Dunford, personal communication 1988; see also discussion in Hoffman 1991). Few radiocarbon dates have been obtained from samples directly associated with Rossville types. In 1984, Mulholland (1984:99) listed only those dates from Ritchie's (1969) Martha's Vineyard excavations which ranged from  $1885 \pm 125$  B.P. to  $2540 \pm 105$  B.P. In Early Woodland contexts, they tend to be associated with lobate and small stemmed types. Rossville-like examples have also been found in unambiguous Middle Woodland contexts associated with forms distinctive of that period (e.g., Dincauze 1976; Shaw 1989), and a possible continuation of Rossville-like points into the Late Woodland has also been suggested in the lower Hudson Valley (Claassen 1991).

This variation in ceramic and lithic types used during the Early Woodland helps to explain why there has been difficulty in identifying Early Woodland sites. If only part of the material culture assemblage is used as diagnostic indicators—such as side-notched points or Vinette I ceramics—then all sites that lack these often minority types will be misclassified as belonging to earlier or later periods (Concannon 1993; Juli and McBride 1984). The low frequency of traditional Early Woodland types in artifact collections (e.g., Johnson and Mahlstedt 1982; Towle 1983) and from multi-component sites has led some to argue for a decrease in population across the region during this period (e.g., Dincauze 1974). However, with the recognition that there is greater variability in Early Woodland assemblages than archaeologists had previously thought, it is

expected that more Early Woodland occupations will be identified in the Northeast.

### **Settlement and Subsistence**

The evidence collected on Early Woodland settlement and subsistence practices by the early 1970s suggested a shift of the population to coastal or riverine environments. A general decrease in population was also proposed for most of the region based on the relative low frequency of characteristic Early Woodland artifact types and single component Early Woodland sites. In the coastal lowlands of southern New England, the evidence suggested a shift toward the resources of estuaries and the first falls of major rivers (Dincauze 1974; Lavin 1988a; Ritchie 1969). For interior New York, Ritchie (1965) noted a strong association of sites with major river drainages and lakes, but he also noted that Late Archaic populations also tended to focus in these areas (Funk 1973; Ritchie and Funk 1973). Reasons posited to explain the shift in settlement patterns have included changing climatic conditions, a greater productivity of estuarine environments due to a slower sea level rise, and a need to have access to major communication corridors (e.g., Braun 1974; Lavin 1988a; Sanger 1982; Thomas 1991; Thorbahn 1987).

If the types of artifacts used to identify the Early Woodland sites are expanded, as proposed above, then a decrease in population for this period is not strongly indicated. The shift in settlement to coastal or riverine habitats may have more validity, but our increasing knowledge about Early Woodland settlement suggests that this increased use of coastal and riverine resources was complemented by the use of interior resources (e.g., Flagg Swamp, Massachusetts [Huntington 1982]; Cedar Swamp, Massachusetts [Hoffman 1992]; Robbins Swamp, Connecticut [Nicholas 1991:89]; Dawson Creek, Ontario [Jackson 1986]). Several assumptions about Early Woodland material culture need to be reevaluated before a clear picture of settlement and subsistence can be formulated. One assumption that may be misleading is the tendency for lithic bifaces to be used to identify site age, with the proportional percentage of such bifaces in a site or regional assemblage used to suggest the intensity of use. Luedtke (1983:70) has suggested that there may

have been a decrease in the use of stone point tips during the Woodland Period, with organic tips, such as those made of wood, bone, or antler, augmenting the lithic tool kit. Because the organic projectile point tips would be preserved less frequently, the lower number of projectile points would appear reduced compared to Late Archaic assemblages.

It is also characteristic for lithic artifact indicators to be used more consistently than other materials. If ceramics are the focus of study, Early Woodland occupation appears more widespread, especially if the Modified Vinette I types are recognized. The increase in regional evaluations of ceramic assemblages has helped to identify Early Woodland Period occupation at many sites where, based on lithic artifacts alone, it may not be recognized (e.g., Cowie 1990; Kenyon 1986; Lavin 1984; Johnson and Mahlstedt 1982:36; Petersen 1991; Petersen and Sanger 1989; Spiess et al. 1983). It has also been suggested by Largy (1983:106) that ceramics tend to be underrepresented in surface collections in contrast to excavated collections. This could be due to the generally small size and brown color of sherds, which makes them difficult to detect in surface inspections. This bias could again minimize the recognition of Woodland Period sites if only surface data were used.

The proposed shift in settlement strategy during the Early Woodland to the coastal lowlands or river valleys is an important research question for this period. Early Woodland occupation levels are common at coastal sites, especially in southern New England, but they are often located below the main shell-bearing levels at sites. The reason for this low use of shellfish could be because shellfish populations had not yet become firmly established and abundant in the forming estuaries or because Early Woodland sites situated to exploit shellfish have since been submerged due to ongoing sea level rise. The evidence for Late Archaic use of shellfish at some sites (e.g., Turner Farm [Bourque 1976]) suggests that Early Woodland populations would have utilized shellfish if it had been available to them as a food resource, but the pattern of this use may be obscured in the archaeological record.

On Cape Cod, evidence from a growing number of sites (e.g., Dunford, personal communication 1994; McManamon 1984; Shaw 1989) suggests that shellfish was not heavily exploited until sometime in

the Middle Woodland Period. Recent work by Oldale (1986, 1992) on sea level rise and estuary development on Cape Cod and the Islands suggest that the large shellfish beds may not have been firmly established until the second millennium B.P. The low use of shellfish for the Early Woodland is also seen in Maine and the Maritime Provinces, where the complex interplay between sea level rise, land rebound and subsidence, and changing current dynamics in the Gulf of Maine has led to considerable subregional variation along the coast in the use of shellfish (Grant 1970; Kellogg 1982; Sanger 1985; Yesner 1988). Using data from Passamaquoddy Bay, Sanger (1985) has shown that sea level rise may have slowed down after about 2500 B.P., thereby creating a better habitat for shellfish. He also notes that there has been a more rapid sea level rise in recent times, which may account for the erosion and submergence of early coastal sites.

An example of the effects of continued sea level rise and changing habitat can be seen on New York's Shelter Island (Witek 1990) where a now-submerged midden of hard-shell clam and oyster was found, and about 18 meters further upslope, a soft-shell clam midden was located. There is other evidence that many Early Woodland, and possibly even Late Archaic, shell midden sites are now submerged or located in low areas that became less suitable for habitation during the Middle Woodland (see also Barber 1982; Braun 1974; Dincauze 1974:53; McManamon 1984; Robinson 1985).

The settlement and subsistence pattern on the northern New England coast may have been similar, with Early Woodland occupants exploiting marine resources but using shellfish only to the degree that they had become established in local estuaries. The evidence from a number of interdisciplinary studies on sea level rise and estuary development along the coast of Maine and the Maritime Provinces has identified variability across this region in the impacts of changing sea levels and in the effects changes in tidal amplitude had on the productivity of the Gulf of Maine (Grant 1970; Sanger 1985; Sanger and Belknap 1987; Sanger and Kellogg 1989; Young et al. 1992). Estuary habitats would have responded gradually to changing temperatures and salinity, and extensive soft-shell clam flats may not have been fully developed in most areas until

the second millennium B.P. The giant oyster shell middens of Damariscotta Harbor have been dated between roughly 2400 and 1000 B.P., with heaviest use between 2200 and 1500 B.P. (Sanger and Sanger 1986). This indicates that the resource was originally exploited in the Early Woodland with a peak use during the first half of the Middle Woodland. By the late Middle Woodland, the conditions in Damariscotta Harbor had changed to such a degree that oyster populations had decreased considerably, and the human population had accommodated this by shifting its collecting to the developing soft-shell clam beds nearby (Sanger and Sanger 1986).

Even though shell-bearing sites are less numerous for the Early Woodland than for later periods, coastal environments were probably heavily utilized, with fish, sea urchins, birds, and sea mammals being the major focus. Brumbach (1986) has compiled an extensive review of ethnohistoric and biological literature to argue that the biomass of fish resources was much higher in pre- and early contact times than can be observed today. Although caution should be used when interpreting Contact Period documents (Carlson 1988), early European accounts repeatedly mention large anadromous fish spawning runs in the spring as well as numerous large fish species, such as cod, striped bass, and sturgeon, found in areas along the coast. Several factors have worked to greatly diminish the fish resources of New England over the last five hundred years, including damming of rivers, pollution, increased siltation, alteration of drainages, and overfishing. In order to fully appreciate the potential of the fish resource in estuaries and bays during prehistoric times, it is important to reconstruct the precontact environments (Brumbach 1986; Carlson 1986, 1988).

Certainly one reason archaeologists have not recognized the potentially important role of fish resources at various times throughout prehistory is poor recovery techniques that lead to biases in faunal data. The use of flotation to retrieve small bones has proven to reduce the biases in bone recovery and, when flotation is used, fish bone is usually much more numerous in faunal assemblages from coastal sites (e.g., Carlson 1986, 1988; Dunford 1992; McManamon 1984; Shaw 1989; Yesner 1988). But recovery methods alone may not

explain the representation of fish bone in Northeast coastal sites. There are indications that fish waste may have been disposed of away from the living areas, and could therefore, be underrepresented in domestic middens. As Brumbach (1986) notes, it is important to use different avenues of investigation to fully appreciate the use of fish resources at any site or within a region.

A less direct indication of fish exploitation than the actual recovery of fish bone is archaeological evidence for the methods and material culture related to fishing. This is certainly relevant to more than just the Early Woodland Period, and raises the issue of whether archaeologists are recognizing various forms of fish procurement. The recovery of implements such as hooks, net weights, or harpoons can imply fishing activity although it is not always obvious what a particular artifact may have been used for (Luedtke 1980:66). For example, harpoons may have been more frequently used for sea mammal exploitation. There is growing evidence to suggest that along the coast and in lower river drainages, people commonly used fish weirs and traps although these are rarely well preserved (Banks 1990; Johnson 1942).

A second issue in the discussion of fishing technology is the use of boats. Here again, this issue is not restricted to the Early Woodland. Although data on precontact canoe use are rare (Plane 1991), and are generally limited to a few petroglyphs (e.g., Heddon 1987) and canoes preserved under water (Thomas 1991:11-6), there is ethnohistoric evidence of seaworthy canoes with lengths of up to 28 feet (Sanger 1991). The use of boats by both coastal and riverine peoples probably dates back well into the Archaic Period, and continued into the Historic Period (Cook 1984). In coastal Maine, there is evidence for both deep-sea fish exploitation and settlement on distant, offshore islands (e.g., Belcher 1989b; Bourque 1979). There is also evidence for contact between the Maine coast and southern Nova Scotia from Late Archaic times through the Woodland, and Sanger (1991) argues this may have been accomplished using ocean-going canoes. It is likely that although ocean resources may have changed somewhat between the Late Archaic and Woodland Periods, the use of boats to exploit the marine environment continued, and interpretations of

coastal adaptations should take this into account (e.g., Sanger 1987:118).

The reconstruction of Meadowood-related settlement and subsistence patterns in New York posited by Ritchie and Funk (1973) argues for an extreme focus on riverine and lacustrine habitats and resources. Ritchie and Funk (1973) and Granger (1988) suggest year-round occupation of sites adjacent to major rivers and lakes, and cite the rare evidence for use of interior sites, seasonality indicators from all times of the year, and large storage pits as supportive evidence. The site data that have come to light since the 1970s do not strongly support this semisedentary pattern for the full region associated with Meadowood, and seasonal movements of occupation sites are often indicated, including the use of interior resources (e.g., Jackson 1986; Spence and Fox 1986). The location of larger sites near waterways is of importance, however, and may relate to the transportation needs of the dynamic communication and exchange networks of the time.

The current evidence on Early Woodland settlement and subsistence patterns suggests that adaptive strategies did not change drastically from those of the Late Archaic Period. There is no evidence for horticulture using introduced species, although some have speculated that there may have been some experimental cultivation of local species such as *Chenopodium* (Smith 1992). Habitat manipulation using such techniques as controlled burning (Johnson 1994; Patterson and Sassaman 1989) may also have been used to encourage the growth of certain useful plants and to attract animals, such as deer, to the second growth and forest edge habitats that were created. A hunting-fishing-gathering strategy continued to provide food and a seasonally varied settlement pattern was organized around locations of abundance such as the headwaters of major river drainages during the spring anadromous fish runs (e.g., Brumbach 1986; Dincauze 1976) or areas of high nut and deer productivity in the fall or winter (e.g., Howe 1988; Huntington 1982; Jackson 1986). How the coastal habitat fit into the seasonal cycle probably varied between drainages and/or across time. A review by Lightfoot and Cerrato (1989) of the studies that have been done on shellfish growth lines for determining season of death (and by extension the

time of site occupation) has suggested that the season of shellfish use varied considerably throughout the Woodland Period, with evidence of use throughout the year (but see comments by Claassen 1990). Shellfish would have been one of the more predictable resources and would have been available during any season. It may have been generally reserved for the more stressful cold months (e.g., Shaw 1989) but support for summer use has also been presented (e.g. Kerber 1985).

The seasonal scheduling of the annual cycle continues to be debated for both northern and southern New England. The lower number of Early Woodland sites identified as compared to earlier and later periods and the low number of Early Woodland sites with well-preserved faunal and floral remains has made it challenging to reconstruct seasonal and regional variations in settlement and subsistence for this period. Researchers in northern New England have identified a cold weather use of the coast with summer use of river valleys and interior lakes (e.g., Bourque 1971, 1982; Sanger 1988; Spiess et al. 1983c). Extensive settlement on the coast during the summer, as recorded by early explorers along the Maine coast, may have been a very late adaptation, possibly dating to post-contact times (Sanger 1982, 1985; Spiess et al. 1983). The seasonal cycle on the southern New England coast may have been similar to that in the north in some areas, with population movements up and down the lower drainages of major rivers (e.g., Dincauze 1974; Kenyon and McDowell 1983). There are also regionally specific patterns, such as those predicted for Cape Cod in Massachusetts or Long Island in New York, in which seasonal movements may rarely have extended beyond a few miles from the coast. The compressed habitat diversity in these areas could have accommodated this restricted pattern of movement (Dunford 1992; Lightfoot et al. 1985a, 1985b; McManamon 1982).

The presence of well-developed communication and exchange routes throughout the region is supported by the almost simultaneous and areally extensive distribution of new technologies, artifact styles, and similar burial practices. Ritchie (1965) suggested early on that the intensification of social communication may have been a factor that drew Early Woodland populations to concentrate along travel corridors such as rivers, large lakes, and the

coast. The importance of communication and transportation may have been as important as local densities of food resources in Early Woodland settlement. It remains to be worked out how economic and social factors combined to influence settlement strategies during this period.

#### **Summary: Understanding the Early Woodland Period**

The Early Woodland Period is an interval of prehistory about which archaeologists would like to know a great deal more. It is a period of both continuity and change. The mortuary ceremonialism of the Meadowood and Middlesex complexes has been interpreted as an outgrowth of Late Archaic mortuary practices in eastern North America (Heckenberger et al. 1990). The form and content of Meadowood and Middlesex mortuary features parallel those of contemporaneous cultural traditions in the Great Lakes, Midwest, and Mid-Atlantic regions.

During the Early Woodland, ceramic technology first appears and spreads rapidly within the region. Archaeologists have made a great deal of progress in refining ceramic chronologies for the Northeast over the past decade (e.g., Lavin 1986; Luedtke 1986; Petersen and Sanger 1989). Researchers have focused primarily on documenting changes in ceramic vessel form, decoration, and surface treatment. Future research may address the existing gaps in our understanding of the many social, functional, and technological aspects of ceramics. The study of Early Woodland ceramic technology may inform archaeologists about the processes by which innovations are adopted and spread (Sassaman 1992), the spatial and social pathways along which technological knowledge passes, and the modifications of a proven "formula" of paste, vessel form, and firing conditions to accommodate the properties of local clays (Braun 1983).

Groups in the Northeast also began to experiment with cultigens toward the end of the Late Archaic Period, a trend that continues and perhaps intensifies in portions of the Northeast during the Early Woodland. Horticulture may not have been established in parts of northern New England before the Contact Period; for other areas, commitment to the cultivation of domesticated plants ranged from a permanent change in

subsistence, settlement, and seasonal scheduling to occasional cultivation as a minor component of a hunting-gathering adaptation. The introduction of cultigens to the region would have had consequences for all populations, however. A change in one group's residential mobility pattern during the course of a year would have required other groups to adjust their own movements and activities accordingly. The long- and short-term consequences of horticulture on social organization and leadership, intergroup relations, and human impacts on the natural environment remain largely unexplored.

Changes in subsistence strategies, settlement patterns, exchange networks, and social organization would have had direct and indirect consequences for other groups in the region. A number of these changes would have redefined or reoriented the social landscape by altering seasonal scheduling, patterns of residential mobility, alliance formation, and the routes along which people, information, and material culture moved. For example, the development of estuaries in New England at the beginning of the Early Woodland Period created new opportunities for the seasonal use of coastal resources. This would have affected both subsistence and settlement patterns on an annual cycle. Changes in the distance and direction of exchange networks provide another example. Artifacts made from nonlocal materials (e.g., copper, chert from Midwest sources, shell from the Southeast [Heckenberger 1990; Loring 1985]) may have played a central role in creating, defining, and enhancing status in Early Woodland societies. The geographic extent and the symbolic importance of exchange networks are evident in the distinctive materials that were included in mortuary contexts. The presence of large Meadowood caches of bifaces (i.e., quaternary blanks [Granger 1978]) made from New York cherts raises a series of questions about the nature of exchange networks and the scale at which craft specialization may have existed in Early Woodland society.

The Meadowood and Middlesex mortuary complexes represent only a portion of the culture history of the Early Woodland Period, however. At a regional scale, the Early Woodland consisted of a complex cultural mosaic of interconnected (rather than discretely bounded) groups. The connection of

the Meadowood and Middlesex complexes to cultural developments in the Midwest, Great Lakes, and Mid-Atlantic areas has been established through the artifacts included in mortuary features, although the specific cultural relationships are not yet understood. The other Early Woodland cultures of the Northeast have been discussed primarily in terms of diagnostic artifact types and subsistence patterns. One of the priorities of research on the Early Woodland Period is to build an understanding of the variation within and between Early Woodland societies. From this foundation, archaeologists will be in a better position to address the dynamics of culture continuity and change for this crucial period of the region's prehistory.

## THE MIDDLE WOODLAND PERIOD (CA. 2000-1000 B.P. [A.D. 0-1000])

Leslie C. Shaw

### Introduction

Our general understanding of the Middle Woodland Period suffers more from neglect than from an absence of data. Much of the documentation on Middle Woodland sites or occupation levels is provided in descriptive form; such as presenting characteristic biface or ceramic types or making broad generalizations about behavior. Perhaps the most apparent missing element in archaeological considerations of the Middle Woodland Period is a developed set of research questions. In contrast, the Early Woodland is dominated by interest in the associated burial complexes while the issues for the Late Woodland Period center around where and how horticulture and permanent settlements were established. The Middle Woodland can sometimes be overshadowed by these other periods but this could be remedied by developing multi-scale social and economic research questions that go beyond artifact descriptions.

An overview of the Middle Woodland Period helps to show how dynamic and important the second millennium was in the course of Northeast prehistory. Although some of the more obvious markers of long-distance exchange that were seen in the Early Woodland disappeared, the Middle Woodland continued to be a time of intensive interaction that linked the Atlantic coastal zone from Maryland to Nova Scotia and the Great Lakes area with points south and east. Changing artifact styles, especially in ceramics, seem to have occurred almost simultaneously across extensive areas, and new innovations, such as the bow and arrow, were incorporated quickly across the region but with varying consequences. The overview of the Middle Woodland Period provided here will highlight the similarities seen across broad regions and point out differences that might indicate boundaries between groups.

### Chronology and Classification

The Middle Woodland, like the preceding period, has relatively few radiocarbon dates in good

associations with artifacts. This restricts what can be said about the time span of artifact types (Figure 15). This period is generally differentiated from the Early Woodland by dramatic changes in ceramic types. Against the simple, undecorated ceramics of the earlier period, the Middle Woodland is characterized by great innovation and variety in vessel form, surface treatment, and decoration.

An exact dividing date between the Early and Middle Woodland is not easily distinguished because there appears to be a considerable overlap in the use of the new, decorated types and the older styles that characterized the Early Woodland. The dentate- and pseudo-scallop-shell impressed pottery that is associated with the early Middle Woodland has been dated at several sites to the last few hundred years of the third millennium B.P. In interior Maine, pseudo-scallop-shell decorated ceramics are in general association with a feature dated at about 2300 B.P. (combining three dates) at the Evergreen Site (Spiess et al. 1983b) and with a date of  $2130 \pm 70$  B.P. at the Collins Bridge Site (Sanger et al. 1986:13). On the coast, dentate stamped ceramics have been reported at the Turner Farm Site in a level dated at  $2275 \pm 130$  B.P. (Bourque 1979:54). Overlapping these in time are dates associated with Vinette I and Modified Vinette I from sites in both northern and southern New England (e.g., Belcher 1989a; Kenyon 1985b:46; Ritchie 1969; Robinson and Bolian 1987; Skinas 1987). Whether this overlap reflects the actual use of both types during this period or problems with radiocarbon dates and contextual associations remains to be determined.

There is a lack of dates earlier than 2000 B.P. for dentate-stamped or impressed pottery in southern New England, but this is most likely due to the small number of dated ceramic contexts in this region, and does not necessarily indicate a later occurrence for decorated ceramics than has been noted to the north. Radiocarbon dates falling soon after 2000 B.P. indicate that decorated types of ceramics dominated throughout the northeast region by this time (Figure 15). Dentate-stamped ceramics have been found at three early Connecticut sites: the Selden Point Site ( $1915 \pm 150$  B.P. [McBride 1984:134]); a small rockshelter ( $1835 \pm 105$  B.P. [McBride 1984:133]); and the Tuthill Site ( $1830 \pm 140$  B.P. [Wiegand 1987]).

*Figure 15. Date Ranges for Middle Woodland Phases and Artifact Types.*

The end date for the Middle Woodland Period is rather arbitrarily defined by changes in ceramic style, and for southern New England and New York, an increased use of triangular bifaces. This transition is more gradual than pronounced, with the beginning of the Late Woodland Period following much the same patterns of settlement and subsistence as that identified for the end of the Middle Woodland. In Maine, a date of 950 B.P. is often used to mark the beginning of the Late Ceramic (e.g., Sanger 1979); This date generally marks the widespread use of shell-tempered pottery along the region's coast. In southern New England, an archaeological survey of the Cape Cod National Seashore used radiocarbon dates to define the end of the Middle Woodland at 1050 B.P. (Borstel 1984a; McManamon 1984). A survey in the Connecticut River Valley also used a series of dates to establish a 900 B.P. terminus date (McBride 1984; McBride and Dewar 1981). Ritchie (1965; see also Ritchie and Funk 1973) defined his Hunter's Home Phase, a transition period linking Middle Woodland with the pre-Iroquoian Owasco Phase in New York, as ending around 950 B.P.

#### **Burial Ceremonialism**

The elaborate grave preparations and interment of grave goods associated with Early Woodland Period burials drops off considerably in the Middle Woodland. There are indications of contact with Hopewellian cultures of the Great Lakes region reflected in some Middle Woodland burials, especially those of south and western New York and southern Ontario (Fitting 1978; Ritchie 1965). In New England, there are rare finds of Great Lakes artifacts in graves, but this seems to reflect more the practice of burial with an exotic item than an actual influence of Hopewell ideology and ritual. Middle Woodland burials are generally uncommon in the Northeast, due perhaps in part to less elaborate burial sites, that are less visible archaeologically.

The strongest Hopewell influence is seen in New York as the Squawkie Hill Phase which dates to the early part of the Middle Woodland (Ritchie 1965). Several mound sites have been affiliated with this phase, both in New York and southern Ontario, and include the Lewiston and Le Vesconte Mound Sites (Ritchie 1965: 215-218). A few non-mound grave sites that include Hopewell-related grave goods are

also known (Ritchie 1965:214). The diagnostic artifacts include carved-base, platform pipes of Ohio fireclay, bifaces of Flint Ridge chalcedony, copper ear ornaments, copper axes, pearl beads, slate gorgets, and sheet mica (Ritchie 1965).

By around 1700 B.P., the extensive Hopewell influence on burial practices disappears in central and western New York. The burial patterns associated with the Kipp Island Phase (which follows the Squawkie Hill Phase) are usually primary burials with single, and occasionally multiple, interments (Ritchie 1965:234). Grave goods generally include locally made tools and ornaments and large quantities of red ocher. Some non-local grave goods are also found, including items made of copper or shell. Ritchie (1965:235) links these with the Intrusive Mound culture based in Ohio. By the end of the Middle Woodland, and associated with the Hunter's Home Phase, exotic grave goods disappear, red ocher is no longer used, and burial ceremonialism with ties to the west seems finally to wane (Ritchie 1965:257). What replaces it is a pattern of cemeteries with evidence for multiple burials and variation in preparation of the dead. Although grave goods are generally rare, there was probably considerable ritual associated with the preparation of the dead and the possible communal or family based interment of a number of dead in a single grave (e.g., Kipp Island No. 4 [Ritchie 1965:260-265]). Secondary bundle burials seem to dominate, suggesting a period of exposure prior to burial. Primary burials and cremations are also present and there are instances of combinations of these types in a single grave (Ritchie 1965:262-263).

Middle Woodland burial practices for southern and northern New England and coastal New York are poorly understood because not many burials have been dated to this period. There are only a few sites with evidence for extensive burial ceremonialism, and such ceremonialism seems to disappear by the end of the period (Lavin 1988). What evidence is available suggests that burials were often single interments with a few grave goods of local origin or lacking grave goods altogether (e.g., Sanger et al. 1980). Graves have been found at habitation sites, often preserved below midden deposits on the coast. Several notable exceptions to this pattern have been reported that include grave

goods associated with the Hopewellian tradition. These include several burial sites along the north shore of Massachusetts that include platform pipes (Johnson and Mahlstedt 1982:36) and a burial in Revere, Massachusetts with a platform pipe, sheet mica, and a shell-tempered ceramic pot (Dincauze 1974).

One burial practice, the burial of domestic dogs, although not confined to the Middle Woodland, seems to be slightly more pronounced during this and later times. In New York, a dog burial was found at Rector Mound, a Squawkie Hill Phase site (Ritchie 1965:223), and dog burials have been found at other New York sites in both Middle and Late Woodland contexts (e.g., Kipp Island Site [Ritchie 1973:159], Nahrwold No. 1 Site [Ritchie 1973; Ritchie and Funk 1973]). The special burial of dogs in prepared graves has been noted for earlier contexts, including Late Archaic examples from the Turner Farm Site in Maine (Bourque 1976) and several Early Woodland examples (Deal 1986; Thomas 1991; Ritchie 1969). The practice seems more prevalent in Middle and Late Woodland times, although this may be due in part to better preservation conditions in the shell midden deposits associated with these later periods. In southern New England, dog burials have been found at a number of Woodland Period sites (Dincauze 1974; Fowler 1956; Kerber et al. 1989; Nelson 1989; Ritchie 1969:71).

Although the ideological significance of dog burials is unknown, they do reflect the special role of the domestic dog in a society without other domestic animals. It is likely that dogs played roles in hunting and protecting, and also served as companions (Leveillee 1993). Evidence for the use of dogs as food, as is known for the postcontact Iroquois, is not documented prehistorically in the Northeast but should not be ruled out (Leveillee 1993).

### **Artifact Types and Technology**

The increase in site investigations over the past 20 years has introduced new stylistic and temporal data to the record of Northeast prehistory. For the Middle Woodland Period, the increases in artifact assemblages found in clear association with good radiocarbon dates have begun to clarify temporal

and geographic trends. New ceramic data have tended to support the sequences proposed early on (e.g., Fowler 1966; Ritchie and MacNeish 1949; Rouse 1945, 1947; Smith 1947, 1950) but the new data have also clarified and refined the classification systems both in time and across space. In contrast, new temporal and spatial data for lithic tool types have tended to complicate more than clarify due to the considerable overlap and variation now recognized in the lithic artifact types defined in the 1970s and earlier (e.g., Ritchie 1965, 1969).

The changes in material culture observed for the Middle Woodland Period seem comparatively rapid within the context of prehistory, with several characteristic types being used only for a few hundred years. The rapid changes documented for this period have led to regional subdivisions of this period into two or even three shorter time segments. There are also reasonably well-defined spatial distinctions during the Middle Woodland, and three broad regions can be distinguished. These include: (1) the far northeast (Maine, parts of Vermont and New Hampshire, and the southern Maritime Provinces); (2) southern New England and eastern New York; and (3) central, northern, and western New York. Although there are clear similarities between these regions as well as indications that communication and exchange relationships were ongoing, their unique records for the second millennium B.P. seem to provide the foundations for their subsequent histories in the Late Woodland Period. In this overview, both time and space are used to structure the discussion of changing artifact types and technology. For a discussion of patterning in material culture, the three generalized regions outlined above will be used to organize the discussion.

### **The Far Northeast Region**

The transition between the Early and Middle Woodland Periods is often identified by the appearance of heavily decorated ceramics, primarily impressed decorations using a dentate (toothed) or a pseudo-scallop-shell implement. In the far northeastern portion of the region, Petersen and Sanger (1989:20) have described the Ceramic Period 2 (2150-1650 B.P.) as "... an early perceived peak in

terms of technological proficiency and decorative elaboration."

The earliest dates in clear association for the use of dentate and pseudo-scallop-shell decoration fall in the few hundred years prior to 2000 B.P. (e.g., Bourque 1979:54; Sanger et al. 1986); these traits are clearly widespread by the beginning of the second millennium B.P. (e.g., Hamilton 1990:22, Table 1; Hamilton and Yesner 1985; Petersen and Power 1983, 1985). At the Winooski site in the Champlain lowlands of Vermont, a ceramic firing area with pseudo-scallop-shell impressed ceramics was identified and dated at 1790±130 B.P. and 1780±155 B.P. (Petersen and Powers 1985:134). Pseudo-scallop-shell decorated ceramics tend to be found in far northern New England and areas of New York, Ontario, and the St. Lawrence Valley (Petersen and Powers 1985:140), falling within an area defined by Fitting (1970, 1978) as the Lake Forest Tradition. Early Middle Woodland vessels continue to be grit tempered, and the variety of vessel shapes increases. Sites with strong early Middle Woodland components (e.g., Belcher 1989a; Spiess and Heddon 1983) exhibit very consistent expressions of this elaborate decorative style.

At present, the variation in lithic artifacts used during the Middle Woodland is, on the whole, poorly understood for the far northeast. The lithic projectile points associated with early Middle Woodland ceramics in this region include side-notched and corner-notched types (called "expanding stemmed" [Sanger 1979]) and stemmed forms generally similar to earlier forms (e.g., Belcher 1989a; Bourque 1979:54; Bunker 1988; Cox 1987; Cox and Kopec 1988; Petersen 1980:44; Spiess and Heddon 1983; Spiess et al. 1988; Trautman and Spiess 1992). Also apparently associated with early Middle Woodland occupations is a long, thin, lanceolate biface type lacking any notching or defined stem (e.g., Sanger et al. 1986; Spiess and Heddon 1983). It is not clear whether this type represents preforms or tools that were hafted for use. Bifaces in northern New England are often made from felsite, an igneous rock found at outcrops, most notably on Mt. Kineo at Moosehead Lake, as well as in glacial gravels in coastal Maine (Sanger 1979). The use of exotic lithic materials is noted at some sites, although this seems to decrease or disappear in the later part of the Middle

Woodland in some areas (Bourque 1992; Crock 1992; Petersen 1991). At coastal sites, unifacial scrapers, which are generally common in Late Archaic sites, tend to increase in frequency while they decrease in size during the Ceramic Period (Sanger 1979).

Archaeologists working in the far northeast have deliberately avoided classifying projectile points into named types (Sanger 1979:8), and have instead reported on lithic artifacts by using descriptive terms that reflect general morphology. Although this strategy has avoided the confusion inherent in adopting types that have been defined elsewhere (such as New York State), it has tended to discourage comparisons of lithic assemblages among sites or among drainages. Certainly one research goal for the far northeast is to improve the quality and quantity of temporal and spatial data on variation in lithic tools.

The decreased emphasis on the use of stone projectile points noted for the Early Woodland (Luedtke 1983) seems to continue during the Middle Woodland Period in all parts the regions of the Northeast (e.g., Ritchie 1969; Sanger 1988). Bone and antler artifacts, including projectile points, are generally common at Middle Woodland sites along the coast of the Gulf of Maine where suitable soil conditions permit good bone preservation (e.g., Belcher 1989a; Bourque 1971; Sanger et al. 1980). Other bone artifact types include harpoon tips, awls, needles, and beaver incisors, which are sometimes found hafted or still in the mandible or maxilla (e.g., Passamaquoddy Bay sites [Sanger 1987, 1979:11]). The higher number of shell-bearing sites recorded for the Woodland Period compared to the Archaic Period may account in part for the higher numbers of bone artifacts for the later periods. Shell neutralizes soil acids and therefore increases the potential for good bone preservation. Whether this increase in the use of bone tools is a result of better bone preservation or the relative decrease in overall frequency of stone projectile tips when compared to earlier periods, or a combination of both factors, remains to be established.

At roughly 1650 B.P., changes in ceramic and lithic tool types are noted for all regions of the Northeast. In the far northeast, this time is defined by Ceramic Period 3 (1650-1350 B.P.), and is signaled primarily by changes in decorative styles.

In this region, trends in manufacture and decoration of ceramics include a general increase in vessel size, the addition of thickened rims or low collars, a continued use of dentate stamping (although with a larger tooth size), an increase in cord-wrapped-stick impressions, and a decrease to disappearance of pseudo-scallop-shell impressed decoration (e.g., Kenyon 1985; Petersen and Sanger 1989:26). Vessels are often smoothed or wiped prior to decoration, and some vessels remain undecorated (Kenyon 1985). The decoration is very often applied in a rocker fashion and usually covers the body of the vessel. Punctate decoration is occasionally present. Also appearing at this time are undecorated fabric-paddled vessels with smoothed interiors, similar to earlier undecorated types. The vessels continue to be grit tempered, although a few examples of shell or organic temper may date to the end of this period (Petersen and Sanger 1989:29).

The lithic artifacts used in the far northeast during Ceramic Period 3 appear to be continuations of earlier types and do not fully parallel the new projectile point types that appear in southern New England and parts of New York at this time. At the Knox Site in coastal Maine (Belcher 1989a:181), a wide, side-notched biface was recovered in association with dentate-stamped ceramics and a date of  $1610 \pm 70$  B.P. There are examples of a predominantly southern biface form, the Jack's Reef corner-notched, at several northern sites (e.g., Kenyon 1985a; Yesner 1988) but they are found in low numbers and often in association with the larger northern types.

The advent of Ceramic Period 4 (1350-950 B.P.) in the northern region sees a decrease in certain ceramic decorative styles from the earlier part of the Middle Woodland and an increase in styles that were present but uncommon during the earlier period. Rocker stamping and drag stamping, and dentate decoration as a whole, largely disappears during Ceramic Period 4 (Petersen and Sanger 1989:31). It is replaced by cord-wrapped-stick impressed decoration, found over either a smoothed or a fabric-paddled or cord-impressed surface (e.g., Bunker 1988; Sanger et al. 1980). The fabric-paddled exterior appears to be more common in western parts of the far northeast, such as in Vermont at the Winooski Site (Petersen 1980) with the smoothed exterior possibly more common in

coastal Maine and the Maritime Provinces (Petersen and Sanger 1989:3). Punctations become more common as a decorative element, and are generally applied to vessel rims and shoulders. Petersen (1980:46) notes greater heterogeneity in ceramic styles across the Northeast by the late Middle Woodland, which is interpreted as a shift toward provincialism. This is supported by an increase in the use of local lithic resources (e.g., Power et al. 1980; Thomas 1980).

A visible change in ceramic manufacture that appears during the latter portion of this period along the northern coast is the use of crushed shell as temper (Petersen and Sanger 1989). The dates from several sites in coastal Maine and the Maritime Provinces indicate that shell temper was infrequently used (in contrast to grit or sand temper) by around 1200 B.P. (Allen 1981; Skinas 1987). Petersen and Sanger (1989:40) argue that the use of shell as temper is largely stylistic, as opposed to functional (e.g., Braun 1983) and may relate to social boundaries between coast and interior populations. This suggestion of a non-utilitarian function for shell temper is certainly one that will be debated among Northeast ceramic specialists. The tendency for shell temper to be associated with the thin-walled vessels of the later Woodland Period (Luedtke 1986), and the argument that the thinner wall and smaller temper size of such vessels allows for prolonged heating (Braun 1983) opposes the non-stylistic argument. More research on this topic, including experimental studies, may resolve the debate.

The distribution of shell-tempered pottery in the far north during Ceramic Period 4 and later times is concentrated on the coast, but not exclusively; some localized interior areas contain sites from which shell-tempered ceramics have been recovered (Petersen and Sanger 1989). Petersen and Sanger (1989) suggest that this distribution, which includes variability that cross cuts ecological zones, reflects social interaction much more than technological or functional factors. The suggestion of a social boundary dividing the coast from the interior uplands based on temper type is also supported by the regional distribution of S vs. Z twist in the cordage preserved on ceramic surfaces that was first identified in Ceramic Period 1 types (Doyle et al. 1982, Hamilton and Yesner 1985). Petersen and

Sanger (1989:41) go on to note an almost complete association of shell temper with the Z twist, regardless of whether it is found on sherds from coastal or interior sites.

The lithic artifact types that correlate with Ceramic Period 4 are not well established, but appear to be continuations of earlier side-notched and corner-notched types (e.g., Cowie 1990), although Sanger (1979:113) notes a trend through the Ceramic Period for more narrowly notched points. The distinctive Jack's Reef types, seen in southern New England and New York, occur only sporadically in this region, in coastal New Hampshire and southern Maine (Robinson and Bolian 1987; Yesner 1988). Triangular bifaces, possibly related to Levanna, are found at some sites in Maine and Passamaquoddy Bay, especially along the coast, but the beginning date on their use is not well established. The small notched bifaces of the Late Ceramic Period in Maine appear to have been more commonly chosen to tip arrows. The significance of differences in projectile point types between the northern and southern portion of New England for the Middle Woodland Period as a whole is an intriguing research question.

#### **Southern New England and Eastern New York**

The beginning of the Middle Woodland in southern New England, the Hudson River, and Long Island follows a pattern similar to but distinct from that described for the far northeastern region. Ceramics with either cord/fabric-impressed or smoothed surfaces are now often decorated, especially with dentate or cord-wrapped-stick impressions (e.g., Childs 1984; Dincauze 1975; Funk and Pfeiffer 1988; Lavin 1987; McBride 1984a; Wiegand 1987). Pseudo-scallop-shell impressed decoration, which was so prevalent in the far north, occurs only rarely in the south. Based partly on the differences in surface decoration, Petersen and Power (1985:143) have argued for a "major style boundary" between northern and southern New England beginning at this time. The early classification for coastal New York and Connecticut ceramics by Smith (1947, 1950) and Rouse (1947) incorporated all of the Middle Woodland in the Clearview Stage (see also Lopez 1957, 1958; Salwen 1968). A recent reevaluation of

Smith and Rouse's ceramic typology (Lavin 1987) found that the basic classification was remarkably accurate, but Lavin added the Fastener Stage (roughly 1650-1950 B.P.) to cover the early transition period of the early Middle Woodland. This would correspond to early dates for decorated ceramics in the lower Connecticut River drainage that McBride (1984a:133-134) includes in his Roaring Brook Phase (see also Wiegand 1987).

Farther north in Massachusetts and Rhode Island, relatively little research has focused on ceramics and no region-specific classification system is in current use (Dowd 1986; Luedtke 1986). The information available indicates that dentate and cord-impressed ceramics also dominated in this area, and again, with only a minor representation of pseudo-scallop-shell impressed (e.g., Childs 1984; Dincauze 1975; Fowler 1966; Dowd 1986; Luedtke 1985, 1986; Ritchie 1969). A change in ceramic manufacture has been suggested for the Middle Woodland on the coast. Vessels tempered with grit and formed by the coiling method give way to vessels tempered with shell and shaped by the paddle and anvil technique by the later part of the period (Funk and Pfeiffer 1988; Ritchie 1969). The date of 1550±80 B.P. from the Cunningham Site on Martha's Vineyard (Ritchie 1969:122) has often been used to date Middle Woodland ceramics for the region, but its context appears temporally broad, so it is difficult to establish exactly what decorative styles are associated with this date. Stamped ceramics have been found in contexts dated at 1715 B.P. at the Shattuck Farm Site in Massachusetts (Luedtke 1986:126). Earlier dates are expected for dentate-stamped ceramics for southern New England, and clear associations on ceramic contexts are needed.

The lithic artifact types associated with the early part of the Middle Woodland Period appear to be continuations of Early Woodland forms. The Rossville type, or a variation of this type with a more pronounced shoulder, has been recovered in Middle Woodland contexts (e.g., Dincauze 1976:131; Funk and Pfeiffer 1988:103; Shaw 1989). Funk (1976) sees no clear lithic types associated with the early Middle Woodland in the Hudson River area of New York, but coastal sites include notched and stemmed forms (e.g., Ritchie 1969). Bone tools, including projectile point tips, are

generally numerous in coastal shell middens of this date, following the pattern to the north. But the increasing use of small unifacial scrapers seen in the far northeast is not paralleled in the south.

The changes in ceramic manufacture and decoration seen in southern New England by the middle of the Middle Woodland Period continue in a distinctly different trend to that in the north, suggesting a growing regionalism at this time. The types of decoration used in southern New England include types used to the north, such as dentate stamped, scallop shell impressed, and cord-wrapped-stick impressed, and are often applied in a rocker fashion or in horizontal and/or vertical zones (e.g., Childs 1984; Lavin 1987; McBride 1984a). The decoration is often limited to the shoulder and rim areas of the vessel, in contrast to the all-over decorations seen in the north. For Connecticut and coastal New York, these types are included in the Clearview Stage (1050-1650 B.P.) as originally defined (Rouse 1947; Smith 1950) and as updated by Lavin (1987).

Ceramic sherds with a smoothed interior and exterior tend to be common at sites on Cape Cod and the islands; this pattern continues through the end of the Middle Woodland (Childs 1984; Luedtke 1986; Shaw 1989). The frequency of smoothed interior/exterior sherds may be inflated somewhat by the tendency for only the upper area of the vessels to be decorated at this time, thus allowing sherds from the lower portion of these vessels to be counted as undecorated (Lavin 1987; Luedtke 1986). These smoothed and undecorated vessels are relatively thin-walled and are found with both grit and shell temper. An example of this undecorated ceramic with grit temper was dated at 1400 B.P. at a site in Boston Harbor (Luedtke 1975:) and examples with shell temper have been found in late Middle Woodland components at the Willowbend Site on Cape Cod (Shaw 1989) which suggests this type may have a long period of use. Also seen during this time is the reoccurrence of an undecorated type with fabric-paddled exterior and smoothed interior (Fowler 1966; Lavin 1987; McBride 1984a; Petersen and Sanger 1989; Rouse 1947), as was noted for the far northeast region.

There are new lithic biface types identified for the middle part of the Middle Woodland Period in southern New England and eastern New York.

These include the Fox Creek lanceolate and stemmed types which are found in contexts dated between 1600 and 1250 B.P. These are also called Steubenville (Ritchie 1971) or CONY points (Kaeser 1968). The Fox Creek types tend to be well made with symmetrical outlines and uniform edges. This type has been found at coastal sites as far north as southern Maine and New Hampshire (Robinson and Bolian 1987:40) and at primarily coastal or riverine sites in Massachusetts (Luedtke 1983; McManamon 1984; Moffet 1951; Mrozowski et al. 1988; Ritchie 1969; Shaw 1989; Towle 1986), Rhode Island, Connecticut (Lavin 1986; Swigart 1974), and New York, including the Hudson and upper Delaware River drainages (Funk 1968, 1971; Funk and Johnson 1964; Funk and Pfeiffer 1988; Funk et al. 1971; Kaeser 1968; Ritchie and Funk 1973, 1968). In the Hudson River Valley, Fox Creek points are sometimes found in association with preforms or large knives called Petales Blades by Ritchie (1971b; see Westheimer and Tufano sites [Ritchie and Funk 1973]). Funk (1976) noted the association of Fox Creek points with net-impressed ceramics in New York, but this association is not as pronounced in other areas.

The Fox Creek types have been found in general association with two types called Jack's Reef corner-notched and Jack's Reef pentagonal (Ritchie 1971b), and occasionally with a third, the large Green point (Ritchie 1971b:122). The Green points overlap temporally with the early use of Fox Creek. They are found usually in New York, generally in low numbers at sites, including graves (e.g., Funk 1976; Ritchie 1969; Towle 1983). The Jack's Reef types seem to predominate in the later half of the Middle Woodland Period, and may only partially overlap in time with the use of Fox Creek types. Jack's Reef components have been dated as early as 1420±110 at the Rocks Road Site in New Hampshire (Robinson and Bolian 1987). Ritchie (1969) found both Fox Creek and Jack's Reef type bifaces in the stratum dated at 1550 B.P. at the Cunningham site on Martha's Vineyard, but evidence from other sites suggests this is early for the Jack's Reef type. Points of this type apparently continued to be used into the early Late Woodland (Barber 1982:14) during which they are often found in association with triangular bifaces. Ritchie (1965) has also associated the Jack's Reef types with the contemporary populations of

central, northern, and western New York, which indicates that these types had a wider distribution of use than the Fox Creek types.

The Jack's Reef bifaces are often made of chert derived either locally or from a considerable distance from a site (e.g., Barber 1982; Power et al. 1980; Robinson and Bolian 1987). On the east coast, Jack's Reef bifaces are sometimes made from a golden yellow chert thought to have originated in Pennsylvania or possibly Rhode Island (e.g., Barber 1982; Luedtke 1987), and indicates a continuation of communication and exchange networks that had developed earlier. Middle Woodland sites are often characterized as having higher proportions of exotic lithic material, both as artifacts and debitage, than either the earlier or later periods. McBride (1984a) noticed an increasing frequency of exotic lithic materials throughout the Middle Woodland with a peak frequency in the Late Woodland Selden Creek Phase (1200-450 B.P.) in the lower Connecticut River area. A particularly high frequency of non-local lithic material was observed at the Wheeler Site in northeastern Massachusetts (Barber 1982) and at the Rocks Road Site (Robinson and Bolian

1987). Middle Woodland sites on Cape Cod also have exotic cherts as both debitage and artifacts, but in lower proportional frequency (Borstel 1984b). But while exotic cherts have sometimes been used to identify a later Middle Woodland occupation, there is clear evidence that not all sites of this period contain exotic material. The well-dated Willowbend Site (Shaw 1989) included multiple levels dating to the late Middle and early Late Woodland periods, as did the Wheeler Site, but exotic lithic material was found in only one context on the Willowbend Site's periphery (Shaw 1989). In the Champlain drainage, the use of exotic lithic material drops off dramatically in the late Middle Woodland. Researchers there suggest this reflects a breakdown of trade relationships outside of the area (Powers et al. 1980; Thomas 1980). The variable use of exotic stone for tools opens intriguing questions about the communication and exchange networks for this time, and challenges archaeologists to consider factors that might have impacted exotic material use at any given place, such as seasonality, functional variation in tools, or unequal access.

## BOX 6: CONTEXT AND STRATIGRAPHIC CONTROL

Northeast archaeologists have grappled for many years with the problem of shallow sites and indistinct cultural stratigraphy. Soils in the region tend to accumulate very slowly, so that thousands of years can be compressed in only a few inches of soil. Efforts have been underway in the past few decades to improve the ways in which prehistoric sites are excavated so that there is greater stratigraphic control on the data being recovered. These efforts include a shift to the use of cultural versus natural stratigraphy whenever possible, the use of smaller arbitrary levels when cultural stratigraphy is not present, and the recording of details (e.g., soil grain size or phosphate levels) which might indicate different depositional episodes (e.g., Sanger 1981; Stein 1992). All these procedures have improved the contextual information on the material excavated from sites. It is the clearly documented associations of different types of data that will ultimately help us sort out some of the biggest problems in Northeast archaeology.

One area where significant improvements can be made is in the excavation of shell midden sites where cultural stratigraphy is often present. In such situations, it is critical that distinct layers be recorded and excavated individually, so that the materials from each layer have tighter temporal and behavioral association (Shaw 1994). Distinguishing each microlayer is consuming of time and money, but the use of a matrix recording procedure developed by Harris (1989) for the complicated stratigraphy found at some historic sites is proving useful (Shaw 1989; Stein 1992). The consideration of stratigraphy and an improvement in the contextual control of material remains will help refine the lithic and ceramic typologies that are used so widely in the region and should help to address more specific behavioral issues, such as the organization of households and communities, or how disposal behaviors may affect our interpretations of subsistence.

The ceramic types in the late Middle Woodland include the beginning of Late Woodland types. At the Tuthill Site in coastal Connecticut, a sherd with smoothed surfaces and cord-wrapped-stick impressed decoration characteristic of later periods was dated at  $990 \pm 120$  B.P. Although this site is on the coast, both shell and grit tempers were used (Wiegand 1987:31). At the Willowbend Site (Shaw 1989), the Late Woodland ceramic assemblage includes predominantly smoothed exterior and interior sherds, with rare examples of impressed or punctate decoration in the rim to shoulder area. Tempers included both shell and grit. Shell temper has also been documented as beginning in the Middle Woodland from ceramic assemblages from sites on outer Cape Cod (Childs 1984:204). Ceramics at the Wheeler Site are more extensively decorated and are considered by Barber (1982:48) to be more similar to types found to the north of that site.

The late Middle Woodland is the time when triangular projectile points begin to become prominent. The Levanna type defined by Ritchie (1971) for the Late Woodland is described as a medium to large triangle, often with a concave base and, in southern New England, sometimes made of exotic chert. The triangular biface of the late Middle Woodland appears to be somewhat smaller and closer in proportions to the triangular Late Archaic Squibnocket type (Ritchie 1969), and the Middle Woodland examples are often made of local materials including quartz. This has led to some ambiguity in identifying late Middle Woodland components, but recovery of these smaller triangular types in clearly dated late Middle Woodland and Late Woodland contexts (e.g., Luedtke 1985; Shaw 1989) exposes the need to evaluate the definition for Woodland Period triangular projectile points. These triangular bifaces have been found in association with Jack's Reef corner-notched types at sites dated to the end of the Middle Woodland (e.g., Barber 1982; Mulholland 1984; Powers et al. 1980). At the Winooski Site, a feature dated at  $1200 \pm 130$  B.P. contained both types, but by around 950 B.P., the shift to exclusive use of triangular points appears complete (Powers et al. 1980).

## West, Central, and Northern New York

The early Middle Woodland in north, central and western New York was defined by Ritchie (1965) as the Canoe Point Phase and is associated with radiocarbon dates between 1810 and 1625 B.P. (Funk 1983:338). Canoe Point phase sites are concentrated around Lake Ontario and the St. Lawrence River drainage, including the Lake Champlain area in Vermont (Petersen and Sanger 1989; Thomas 1991). Comparable sites are found in southern Ontario (Spence and Fox 1986). Although the Canoe Point Phase overlaps in time with the Hopewell-related burial complex (Squawkie Hill Phase) identified in western New York by Ritchie (1965), it is not clear how these two might be related. Ritchie (1965) suggests that a migration of Hopewell-related people were responsible for the mound construction; Funk (1983:339) has more recently suggested that the mounds and associated burial practices may be influenced by contact with people to the west of New York but were made and used by local populations, ostensibly those represented by the Canoe Point Phase. Snow (1984:253) suggests that the Squawkie Hill burials should be incorporated in what he calls the Canoe Point cultural system.

The ceramic types associated with the Canoe Point Phase are classified as Vinette 2 ware (originally Early Point Peninsula) which includes forms of dentate stamping (Ritchie and MacNeish 1949). Pseudo-scallop-shell impressed was only a minor decorative technique in this region, although it appears to have been more common in the Champlain drainage, as seen at the Winooski Site (Petersen 1980; Ritchie and Funk 1973:117). Channeling or scraping on the interior vessel wall is more common in this region than in northern New England (Petersen and Sanger 1989). The non-ceramic artifacts associated with this phase include untyped stemmed and side-notched points, not unlike those in New Hampshire, Maine, and the southern Maritime Provinces. Fishing implements, including fishhooks (both of bone and copper), harpoons, and net weights, are numerous at these sites.

Ritchie (1965:233) defines the Kipp Island Phase date range at 1640-1320 B.P. for central, northern, and western New York, and into southern Ontario. This phase is defined primarily from burial sites, most of which are seen as being affiliated with the Intrusive Mound complex of Ohio (Ritchie 1965; Ritchie and Funk 1973). The habitation sites for the Kipp Island Phase are rare and often poorly distinguished from other occupation levels in multicomponent sites (Ritchie 1965; Ritchie and Funk 1973). Several sites along the Seneca River in central New York (e.g., Kipp Island Site, Felix Site, Jack's Reef Site) do have evidence of habitation as well as burial components. The ceramics of this time are characterized primarily by cord-impressed exteriors (e.g., Late Point Peninsula [Ritchie and MacNeish 1949]) with rocker-stamped and dentate decorations disappearing. Ritchie (1965:238) notes that these are clear precursors to the later Owasco ceramic types and, with MacNeish, argues for great time depth for the Iroquoian cultures of New York (Ritchie and MacNeish 1949).

The artifact types associated with the Kipp Island Phase include the Jack's Reef points and the introduction of the Levanna triangular type (1965). Also identified is a thin, side-notched point designated as the Long Bay type (Ritchie 1971), which Ritchie (1965:243) sees as a "holdover" from the early Middle Woodland. Tools made of bone and antler are again numerous and sometimes elaborate; they include types used for hunting and fishing (Ritchie 1944). Ritchie (1965:250) also notes the common occurrence of antler-hafted beaver incisors, a tool type that dates back to the Meadowood Phase.

The final phase in the Point Peninsula sequence of central, northern, and western New York is defined as the Hunter's Home Phase. This phase dates roughly between 1320 and 950 B.P., with the few dates reported by Ritchie (1965) falling at the end of the period. This time span overlaps with what is defined as Late Woodland in New England. Ritchie (1965:253) noted that this phase was "a vague stage of transition" defined to link the characteristics of the Kipp Island Phase and the beginning of the Owasco (Late Woodland) culture. Ritchie sees a gradual transition, with shifts in pottery decoration and vessel shape and a move to

an almost exclusive use of the Levanna triangle projectile point type.

The ceramics associated with this transitional period are dominated by cord-impressed decoration on cord-marked surfaces. The decoration was applied in horizontal, oblique, or plated fashion. Punctates are present but not dominant (Ritchie 1965:254). The shape of vessel lips changes during this time from rounded to flattened, sometimes with decoration on the lip surface. Some of these characteristics continue into the Owasco phase, which has been used to argue for a direct *in situ* development of later Iroquoian culture in this region. The triangular Levanna point became dominant, which Ritchie (1965:254) argues signals a significant use of the bow and arrow. Bone tools and projectiles continued to be important and an increase and diversification of non-projectile types of stone tools (e.g., knives, drills, scrapers) is noted (Ritchie 1965:254). It is also during this time that smoking pipes increase in number (Ritchie 1965). Ritchie (1965:254) argues that this increase reflects the beginning of the local growing of the domesticated tobacco (*Nicotiana rustica*) as opposed to its procurement through trade.

Sites attributed to the Hunter's Home Phase have also been found in eastern New York, specifically in the Mohawk Valley, which is part of the Hudson River drainage. The similarities in ceramic and lithic projectile point types between Hunter's Home and areas to the south supports the idea that there was open communication between these regions. Funk (Funk 1976:296; Funk et al. 1965) has defined the Burnt Hill Phase as a regionally specific late Middle Woodland adaptation to an area centered on the middle Hudson River Valley around Albany, New York. Stylistic particulars in ceramics perhaps best distinguish this phase, although differences from contemporaneous Middle Woodland phases in central New York are not major; both use the Jack's Reef, Levanna, and Fox Creek type projectile points (Funk 1976).

#### **Settlement and Subsistence**

Middle Woodland settlement and subsistence patterns are generally continuations of what is seen regionally during the Early Woodland, but there are

indications of increasing sedentism, especially along the southern New England coast and along major rivers. Movement between seasonal sites continues, although the moves may be more infrequent with longer stays at a single location. The settlement focus tends to remain on the coast or along large waterways, with seasonal use of the uplands to procure specific resources. The higher frequency of shell midden sites for this and later periods may be a reflection of estuary maturation and increased shellfish productivity. The concentrated use of marine resources stretches back into the Archaic Period, but the types of resources, and how they were incorporated into the annual diet, appear to shift in response to natural changes in the coastal environment. The far-reaching communication and exchange networks that were clearly building during the Early Woodland continue throughout most of the Middle Woodland, but by the end of the period, regional provincialism is becoming the norm, setting the stage for the Late Woodland Period.

While many archaeologists acknowledge the seasonal movement of groups between productive habitats, few agree fully on the timing and duration of these moves. One of the more debated issues is when and how intensively the coastal zone was utilized. The original interpretations of seasonality were influenced strongly by early European accounts that suggested a summer use of the New England coast (see summaries by Bourque and Cox 1981; Salwen 1978; Sanger 1988, 1987). The archaeological data accumulated since the 1960s have supported several different interpretations of seasonal movements, with strong evidence for a winter use of the coast in certain regions. In some cases, large coastal sites have been argued to be year-round settlements, situated to take advantage of particularly productive environments (Bourque 1976, 1979; McManamon 1984; Spiess et al. 1983c). What the existing data do indicate is that there was no single pattern followed by all Northeast populations. The variation in patterning can be seen across the region; it probably reflects a variety of factors that go beyond the simple availability of food.

#### BOX 7: SITE LOSS ALONG NEW ENGLAND'S COAST

The increase in archaeological research along New England's coast in the last 25 years has, aside from greatly expanding our knowledge of prehistory, exposed how rapidly sites along the coast are being damaged or destroyed. Part of this loss is due to continued land development in coastal areas, such as the rapid growth on Cape Cod in the 1980s (e.g., Bradley 1987b; Dunford 1986). But site loss has also been occurring at an alarming rate due to erosional effects, which are in part caused by rising sea levels. But this erosion has also been exacerbated by human modifications of the last few hundred years, such as increased upland erosion causing filling of bays and estuaries, dredging of harbors causing changes in currents, and land destabilizing such as plowing making newly exposed areas more susceptible to wave undercutting. Examples are piling up of sites that are losing meters of shore edge in a single storm, such as a site in Boston Harbor that lost three meters due to slumping in a 1978 storm (Caldwell 1978), or sites along outer Cape Cod. In Maine, Sanger and Kellog (1989; see also Kellog 1982; Simonsen 1978; Spiess 1981) have focused on coastal site loss and have found that erosion can be quite variable at different points along the coast. But coastal erosion is surely ongoing, with most coastal sites exhibiting a cut bank indicating an unknown amount of site loss.

The evidence we now have on coastal site erosion suggests that we can not simply use a strategy of site avoidance if we expect sites to be there in ten or twenty years. Protection is difficult and costly; sea walls or beach filling are only temporary solutions to long-term problems. The best immediate strategy may be to focus on identifying coastal sites, since extensive coastal surveys have been conducted in only a few places, and then develop a research design that helps to structure future research. Public-owned coastal properties should be target in particular, but research beyond the scope of CRM projects should be developed to address the archaeology of our rapidly disappearing coastal sites.

In the far northeast region, there are indications that coastal sites were used during the winter, with a combination of shellfish and terrestrial mammals providing the bulk of the meat (Sanger 1987; Sanger et al 1980). But there are clear exceptions to this pattern; sites such as the Knox Site (Belcher 1989a, 1989b) indicate a late spring through late fall occupation depending heavily on fish such as cod (see also Rojo 1990; Sanger 1982). The location of the Knox Site on an off-shore island may indicate that, like the Turner Farm Site (Spiess et al. 1983c), the islands were utilized differently than were estuaries and their associated drainages.

In addition to the variations seen on the coast, the growing body of data from inland sites also indicates that no one single strategy was used. Interior sites dating to the Middle Woodland have been found in New Hampshire, Vermont, Maine, and the Maritime Provinces. Similarities in ceramic types, as well as some incidences of shell-tempered pottery at these sites in the later part of the period, argue either for well-established interaction between two populations or for one population using both regions. One interpretation suggests coastal residence during the winter, with a move up the river drainages in the spring and summer to utilize anadromous fish, deer and/or moose, and plant foods (e.g., Snow 1980), but this drainage-focused pattern has been questioned (e.g., Bourque 1986; Sanger 1986). The large number of sites located near falls in major drainages suggests that anadromous fish continued to be an important spring resource (e.g., Dincauze 1976). There are indications that a generalized movement may have been the pattern for some estuaries and lower drainages, such as the Merrimack River (Kenyon 1983, 1986) or the Penobscot River (Sanger 1988). There is a growing argument for two distinct populations, one focusing on the interior beyond the lower falls and the other moving seasonally to the coast (Doyle et al. 1982; Petersen and Hamilton 1984). An increased number of surveys focused on the upper drainage basins have brought out evidence to support this interior adaptation, or in some cases, a notable lack of use of the interior (e.g., Bayreuther 1980; Starbuck 1983). With the increasing number of well-excavated sites in both the interior and the coast, the issues of seasonal movement, variable subsistence strategies, and relationships of trade will continue to

be an important research focus in the far northern region.

The reconstruction of seasonal movement for southern New England has also been an area of recent interest. Here too, early European accounts have influenced the ways in which archaeologists have approached the region's prehistory, but there is growing recognition that post contact patterns may be significantly different than those employed before contact. The evidence now suggests that the peoples of southern New England were shifting strategies to accommodate the maturation of estuaries and the compressed abundance of resources found in certain areas. Connecticut researchers (e.g., Lavin 1988a; McBride 1984b) have noted an increase in site size for the Middle Woodland Period, with a reduction in both the frequency and size of upland sites. This may correspond to other evidence of specialized procurement sites for the extraction of a particular resource that is processed and brought back to more permanent settlements (e.g., Lightfoot et al. 1985). This pattern is also suggested for the Massachusetts coast where specialized procurement sites have been identified (e.g., Barber 1982; Dincauze 1974; but see Carlson 1990). A large shell-bearing site on Thompson Island in Boston Harbor has yielded evidence for specialized shellfish procurement during the end of the Middle Woodland and/or Late Woodland. This is seen in the general lack of artifacts and food remains in these deposits, which suggests the shellfish may have been dried or smoked and transported to another site.

But while there is evidence for specialized procurement and an increase in the size of habitation sites, there was still probably at least one major seasonal move. Evidence for year-round occupation of sites is rare, and is limited to locations where a particular resource abundance is seen to support a more permanent settlement (Lightfoot et al. 1985a; McBride 1984a). For Cape Cod and the islands, the settlement and subsistence patterns indicate a compressed schedule of seasonal movement. People continued to change site locations at least a few times a year, but their movements were possibly over shorter distances. Evidence suggests small winter occupations on protected locations in upper estuaries or near interior ponds, and summer sites along lower estuaries or on the more exposed coast (e.g., Carlson 1990; Dunford 1992; Shaw

1989; Strauss and Goodby 1993). Because of the shorter distances needed to travel to different habitats, there may have been fewer major moves and more specialized sojourns to collect food to bring back to the settlement. Seasonality studies for coastal sites are still limited and interpretations of seasonal indicators are rather hotly debated (e.g., Carlson 1990; Claassen 1990; Lightfoot and Cerrato 1989; Little 1985). The better bone preservation at coastal sites, as well as occasional good preservation at interior sites (e.g., Huntington 1982), provides samples relevant to this issue, but much more concentrated study is needed.

The evidence for settlement and subsistence in the river drainages of New York tends to indicate primarily a continuation of seasonal movement. Several large sites adjacent to major waterways, such as the Kipp Island Site (Ritchie 1965; Ritchie and Funk 1973), may indicate more permanent occupation, but these seem to be located in particularly productive zones. The general pattern for riverine areas proposed by Funk and others (e.g., Funk 1976; Funk et al. 1971) is the use of interior and upland sites during the fall and winter and a spring and summer use of lower areas along streams and rivers. Special purpose sites, such as those used for deer hunting (e.g., Barber 1982), are probably used in association with settlements to allow for longer periods of site use, much the way specialized procurement was employed along the southern New England coast. There does appear to be considerable variation among drainages, or even segments of drainages, which argues against a uniform adaptation for this region at this time (e.g., Funk 1976; Petersen 1980; Thomas 1980a). As was suggested for coastal New England and New York, populations would organize their settlement to best utilize the conditions within their area, and were not yet influenced by the limitations of horticulture.

One type of evidence used to support the idea of winter use of the coast is the discovery of semisubterranean house pits at some sites. Evidence for structures is certainly not limited to the Woodland Period (Yesner 1984), but the increase in shell deposits at coastal sites may aid in the preservation and easier detection of Woodland Period examples of these features. The Knox Site (Belcher 1989a), located on an island in Penobscot Bay, Maine, has examples of Early Woodland house

pits with continued preparation of house pits during the Middle Woodland. During the Middle and Late Woodland, house pits or living floors are found at a number of sites, especially along the northern New England coast and the southern Maritime Provinces (Bourque 1971; Cox 1983; Davis 1978; Sanger 1971, 1987; Sanger et al. 1980; Skinas 1987; Spiess and Heddon 1983). At a site on Mount Desert Island a semisubterranean feature was found which was associated with a date of 1105±70 B.P. (Sanger et al. 1980:20).

The well-preserved semisubterranean house pits found at several sites in Passamaquoddy Bay provide insight into features of the superstructure. Sanger (1987) noted that the floors tend to be shell-free but include a relatively high number of artifacts. Shell was sometimes used to bank the outside of the structure; this appears as a ring of shell around the floor. Hearth features tend to be situated off center which, Sanger (1987) argues, provides a greater amount of usable living space than if the hearth was situated in the center of the floor.

The semisubterranean house pits have not been clearly identified in southern New England, but there are examples of features identified as house floors. An oval sand lens with charcoal and small artifacts, but no shell, was identified at the Willowbend Site as a house floor (Shaw 1989). At several sites on Martha's Vineyard, circular or oval patterns of post holes were interpreted by Ritchie (1969) as evidence for structures. Patterns of post hole features tend to be difficult to identify at coastal sites due to a variety of disturbances. In addition, as Sanger et al. (1980) note for northern sites, houses may have been placed back from the water and behind the midden deposits, thus making post hole features more difficult to detect. Greater use of an excavation strategy that opens up contiguous units, and therefore larger areas of sites, may help in identifying more features associated with prehistoric houses.

The patterning of post hole features has also been used at riverine sites to identify house locations. Two roughly circular patterns of post molds at the Kipp Island Site have been interpreted as Middle Woodland Period houses measuring about 18-20 feet in maximum diameter, possibly identical

to the dome-shaped wigwams of historic Algonkian settlements (Ritchie and Funk 1973:353).

Middle Woodland Period sites in general are often associated with greater numbers of pit features than those of earlier periods, especially in southern New England and New York. This characteristic is most pronounced by the end of the period and continues into the Late Woodland (e.g., Lavin 1988b). There is great variety in the shape and size of features, and they tend to be found filled with trash deposited after their primary use had been completed. It has been suggested (Ritchie 1965; Ritchie and Funk 1973) that this increasing frequency of features indicates food storage, and by extension, a more sedentary settlement pattern with fewer annual moves. Studies of the botanical remains from Middle Woodland features have not identified exotic cultigens such as corn, but there are suggestions that these pits were used to store nuts and/or other wild foods (e.g., Barber 1982; Bernstein 1992; Fitzgerald 1984).

#### **Summary: Understanding the Middle Woodland Period**

The literature on the Middle Woodland Period in the Northeast has generally emphasized description at the expense of problem formulation. The variability in ceramic vessel form, decoration, and paste accounts for some of this emphasis, as does a reluctance over the past twenty years to name new artifact types (Bourque 1995; Sanger 1979a). The result has been an unevenness in the vocabulary and chronological frameworks in use across the region. There are, however, a number of important research questions that can be asked of the archaeological record for the Middle Woodland.

Many of the research issues and questions about the Middle Woodland Period apply to the Early and Late Woodland Periods as well. The criteria that have been used to set the arbitrary boundaries for the Middle Woodland Period are based loosely on artifact styles. While there may be differences among the Early, Middle, and Late Woodland Periods, many research issues remain the same—the nature of coastal adaptation, the variable commitment to agriculture of the region's peoples, and the role of exchange networks in inter- and intra-group politics and social organization. The exchange networks associated with the Middle

Woodland do not replicate those of the Early Woodland; whether or not similar mechanisms created and sustained the two networks remains to be demonstrated.

As was the case with the Early Woodland, there is an almost simultaneous adoption of ceramic decorative styles and techniques over a broad area. This challenges the idea that innovation represents a single pulse of information, personnel, or material from a single source, but is instead a process of long-term communication and integration. External cultural influences, such as a series of Hopewell-related components in central and western New York, can be demonstrated, although the nature of the social and symbolic ties have not been fully explored.

The Middle Woodland Period defies easy characterization, since it encompasses considerable variation in the North Atlantic Region. The richness of Hopewell-related mortuary contexts contrasts starkly with contemporary mortuary patterns in eastern New York and New England which generally lack durable artifacts in association. It is possible to distinguish Middle Woodland sub-regional stylistic zones that apply to the Late Woodland Period as well: (1) far northeast (Maine and portions of New Hampshire and Vermont); (2) southern New England and eastern New York; and (3) central, northern, and western New York. Research into the underlying social behavior that generated and perpetuated areas of stylistic similarity within the region constitutes an important research priority for the Middle Woodland Period.

## **THE LATE WOODLAND PERIOD (CA. 950-1450 A.D. [1000-500 B.P.]**

**Leslie C. Shaw**

The 500+ years before Europeans began influencing the cultures of the Northeast region are encompassed in the Late Woodland Period. This period saw a broad regionalism in which populations were building off their fine-tuned adaptations to both their natural and social environments. In some areas, such as the lakes region of New York, populations were adopting and modifying influences and technologies from the west and south to build a more complex social structure. In other areas, such as the Maine coast, the resource abundance found in the stabilizing estuaries, and the coastal zone in general, supported cultures developing long-distance alliances to the north. The differences in adaptation between areas in the northeast provide a unique context to address issues of cultural autonomy versus far-reaching interaction.

Our interpretations of Late Woodland Period archaeology have been influenced by the early European accounts of the ways of life of the Native peoples. The archaeology of the last 25 years has exposed a number of contradictions between what was observed historically and the material evidence for behavior in many aspects of settlement, subsistence, and trade. Several influences are responsible for these contradictions, not the least of which is the differing worldview of the Europeans which influenced how they interpreted what they observed. In addition, the first written accounts of contact along the New England coast do not record the first encounters between peoples of the Old and New Worlds. There were many undocumented contacts during the sixteenth century that potentially influenced Native lifeways, perhaps considerably. The tragic impacts of infectious disease irrevocably altered conditions along portions of the New England coast in the early seventeenth century, leaving segments of the coast virtually depopulated just prior to the arrival of the Pilgrims in 1620.

The archaeology of the Late Woodland Period is shaped by the images presented in the first European accounts, both in how we interpret the early European influence and in how the early records give a glimpse into aspects of the cultures

of the peoples of the Northeast that are not evident from archaeological contexts. But the archaeological record itself provides evidence of how people in the differing subregions adapted successfully to increasing population, changing resources, influences from neighboring regions, and ultimately, how they coped with the arrival of Europeans.

### **Chronology and Classification**

Like the two earlier subperiods of the Woodland, the temporal boundaries of the Late Woodland Period are not firmly fixed (Figure 16). This is true for both the beginning and ending dates. The division between the Middle and Late Woodland Periods is indistinct because there was a gradual change over several centuries in material culture and adaptation. The end date for the period is often seen as the date of first European contact, but this varies considerably across the region. The direct contacts that were taking place along the coast as early as the sixteenth century were being felt indirectly inland and to the west.

The beginning of the Late Woodland, as with the ending date for the Middle Woodland, varies somewhat across the region but generally falls within the hundred years between 1050 and 950 B.P. Ceramics again are used as a primary dividing feature with new design elements and technological changes signaling the start of the Late Woodland. In the far northeast, the beginning of Ceramic Period 5 is set at 950 B.P. (Petersen and Sanger 1989) and in southern New England, the beginning of the Sebonac Stage is 1050 B.P. (Lavin 1986; Rouse 1947; Smith 1950). In the Connecticut River Valley, McBride (1984a) has used the temporally long Selden Creek Phase (1150-450 B.P.) to emphasize the continuity between the late Middle Woodland and much of the Late Woodland Period.

In central New York, the Late Woodland Period is the time when the predecessors of the historic Iroquois and Mohawk were developing. Here the Owasco Tradition encompasses populations across New York, northeast Pennsylvania, and southern Ontario between 950 and 650 B.P. (Lucy 1991; Ritchie 1965). It has also been used in a broader sense to include early Late Woodland populations in adjacent regions, such as the Hudson River Valley (Funk 1976:301), which were not areas of Iroquois

*Figure 16. Date Ranges for Late Woodland Phases and Artifact Types.*

development. The Owasco Tradition is subdivided into the Carpenter Brook Phase (950-850 B.P.), the Canandaigua Phase (850-750 B.P.), and the Castle Creek Phase (750-650 B.P.), with the primary distinctions between phases defined by changes in ceramics (Ritchie 1965; Snow 1980; Tuck 1978b). The prehistoric Iroquois Tradition (650-450 B.P. [1300 to 1500 AD]), with the Oak Hill and Chance phases, is seen as the direct predecessor of the historic Five Nations Iroquois in the Finger Lakes region of New York as well as groups in Ontario and Quebec (Bamann et al. 1992; Lenig 1965; Tuck 1978b). The later period Garoga Phase (450-380 B.P.) represents the emergence from the Iroquois of the historic Mohawk centered around the Mohawk River drainage.

For areas of southern New England and New York, the most diagnostic artifacts for sites of the Late Woodland are the triangular bifaces used for projectile points. In the far northeast, the Late Woodland is most clearly defined by changes in ceramics, both in surface treatment and in the switch to shell as the primary temper at coastal sites (Petersen and Sanger 1989), but a small, deeply side-notched projectile point is also generally indicative of the period.

The end of the prehistoric period falls in the sixteenth century when sustained European presence began with exploration and trading along the northeast coast and up the St. Lawrence River. Cartier encountered Iroquois along the St. Lawrence near Montreal in 1534 (Trigger 1978), Verrazano explored the coast in 1524, and Gosnold, Pring, Champlain and others were traveling the New England Coast in the first decades of the seventeenth century (Salwen 1978). The Pilgrim's settlement at Plymouth, followed shortly by English settlements in Massachusetts Bay, are seen as pivotal events in the way Europeans impacted native cultures. The sixteenth century continues to be a very poorly understood period, and apart from the few surviving European accounts and Native traditions, archaeologists can contribute to our understanding of how and when European influences were first felt by native peoples, and how the native groups responded to this contact.

The final prehistoric periods used in New England and New York reflect the identification of marked changes in the few hundred years just prior

to European contact. Ceramic Period 6 in Maine dates to 650-400 B.P. and a postcontact Ceramic Period 7 (400-200 B.P.) is used to emphasize the continuity of Native American culture even after European contact. In southern New England, the Niantic Stage falls between 450 B.P. and contact, demarcating very late changes in ceramic style as well as changes in settlement and subsistence strategies (Lavin 1986; Rouse 1947).

### **Burial Ceremonialism**

Data regarding burial practices during the Middle Woodland often indicate a waning of burial ceremonialism by the end of that period, and a relative lack of such ceremonialism during the Late Woodland. This contrasts to Early Woodland practices which included elaborately furnished graves in either distinct cemeteries or mounds. The Early Woodland associated grave goods indicate a far-reaching exchange network that influenced locally developing burial ceremonialism. The burial practices of the Late Woodland Period are certainly different from the elaborations of the Early Woodland, but they are no less significant in their ceremonial contexts.

The types of human burial associated with the Late Woodland include single interments as well as cemeteries and ossuaries and can include primary, secondary, and/or cremated individuals. Single interments are often reported as primary, flexed burials, both with and without grave goods, and are most often associated with evidence of habitation (e.g., Lavin 1984; Thomas 1991). The use of mass graves, many of which are located away from contemporaneous habitation, may indicate that an aggregation of people came together for ritual burial, possibly on the basis of common ancestry. In the far northeast, a mass burial at the Minister's Island Site in New Brunswick had a minimum date of  $900 \pm 180$  B.P. (Sanger 1987:106). In coastal Maine, a burial of at least 17 individuals on Moshier Island (Figure 17) was dated around 970 B.P. (Yesner 1984, 1988) and a burial feature with four individuals at the Fernald Point Site was associated with a date of  $855 \pm 60$  B.P. (Sanger et al. 1980:18).

*Figure 17. Late Woodland Sites in Northern New England.*

*Figure 18. Late Woodland Sites in Southern New England.*

Both primary and secondary burials were found in three graves at the Goddard Site (Bourque and Cox 1981). Two of these graves were mass burials (one with 7 and a second with 13 individuals) and they are thought to date to the late Late Woodland or possibly early postcontact times. Yesner (1984) has argued that a special burial place located away from habitation areas may signal the special aggregation of peoples from different residential groups.

One line of evidence for a decrease in ceremonialism associated with Late Woodland burials is the usual low number to absence of grave goods. The graves on Moshier Island contained beads of shell, bone, and copper and a single Jack's Reef point (Yesner 1988) while the graves at Fernald Point had one possible associated artifact; a harpoon tip (Sanger et al. 1980:17). A second grave at Fernald Point with a single interment dating to the end of the Middle Woodland contained no grave goods (Sanger et al. 1980). The mass burials at Goddard (Bourque and Cox 1981:17) included several items made of copper, four chipped and ground celts, a shark's tooth, and a small, ceramic vessel. The copper may be of historic origin, although this has not been firmly established. Two skeletons from Goddard had stone projectile points embedded in bone suggesting intergroup conflict.

Similar indications of group burial are also known for southern New England. The Indian Neck Ossuary located on outer Cape Cod (Figure 18) included at least 56 individuals, with both secondary and cremated burials present (McManamon and Bradley 1988; McManamon et al. 1986). This ossuary has several associated radiocarbon dates suggesting use around 1015-930 B.P. (McManamon et al. 1986:18). Bradley (1989) has identified the existence of a second ossuary on Cape Cod in Bourne, and suggests that several mass burials in coastal New York may also be ossuary burials. McManamon and Bradley (1988) have argued that ossuary burial is indicative of a settled village way of life which reaffirms social/ancestral ties through the occasional event of mass burial of the dead from several related groups. Burial sites of the Late Woodland are rare in southern New England, so the distribution of the use of mass burials and/or cemeteries versus single interments is not fully known (e.g., Mills 1991). If the tendency was for burials to be placed away from habitation areas, this

may decrease the likelihood that archaeologists would encounter them in their surveys or site excavations.

The burial practices for New York for this period are similar, but reflect the development in this region toward larger population aggregations and the emergence of the Iroquois Tradition. The Kipp Island No. 4 (Figure 19) burial component dates to the Hunter's Home phase (Figure 16) and includes mass burials of up to 14 individuals along with solitary interments. One burial has been dated to 1055±100 B.P. (Ritchie and Funk 1973:155). Grave goods are rare and are found in only a few of the graves. Burials known to be associated with the Owasco Tradition, although rare, tend to be individual, primary burials placed in pits throughout settlement areas (Tuck 1978b). Grave goods continue to be rare, often limited to a ceramic vessel or pipe. A few cemeteries are known, such as at the Sackett Site (Ritchie 1965). The number of burials found at Owasco settlements is low, with some sites having no known graves, suggests that burials may have occurred elsewhere (Ritchie 1965:295).

The burial customs associated with the Iroquois Tradition seem to continue the practice of single interments, but the low numbers discovered in sites again argues for special cemeteries located away from habitation areas. Grave goods continue to be low in number or absent until after European contact, when the practice of including grave items increase dramatically (Ritchie 1965). The use of ossuaries is limited to the Iroquois (particularly the Huron) of southern Ontario (Tuck 1978b).

#### **Artifacts and Typology**

The ceramic and lithic types that distinguish the Late Woodland Period developed out of Middle Woodland patterns, with little to no influence from beyond the region. Projectile point types tend to get smaller by the end of the period; the small triangular Madison points are associated with the Iroquois Tradition in New York and are found sporadically in southern New England and coastal New York. The small side-notched type dominates in the far northeast. Ceramic styles and manufacture continue in the provincialism identified by the end of the Middle Woodland, with some broad influence

possibly relating to the Iroquois seen at the end of the period.

The far northeast sees a continued change in the style of ceramics through the period, with the possible abandonment of ceramic technology in some locales around the time of initial contact. Ceramic Period 5, which dates between 950 and 650 B.P., includes a widespread use of cord-wrapped stick impressions and circular punctates as decoration (Petersen and Sanger 1989). The use of shell temper becomes dominant and widespread along the coast, and although use of shell temper may have begun at the end of the Ceramic Period 4, shell temper becomes a distinguishing characteristic of Ceramic Period 5 and later period sites in the coastal zone (Petersen and Sanger 1989). Shell temper pottery has been found at interior sites (e.g., Cowie 1990; Petersen 1991; Thomas 1991) suggesting exchange relationships or the actual movements of people.

A notable change in ceramics is seen during Ceramic Period 6 (650-400 B.P.). During this time vessel shape shifts to globular forms, in contrast to the conical forms of earlier periods (Petersen and Sanger 1989:43). Vessels also are significantly thinner, with up to an 80% reduction in thickness (Kenyon 1985b; Petersen and Sanger 1989). Over much of the region, decoration continues to be cord-wrapped stick impressed, with both linear and circular punctates added around the rim and shoulder. Shell temper continues but there is an increased use of grit temper both in coastal and interior areas (Petersen and Sanger 1989:43).

The western part of Maine did experience influences from the Owasco and Iroquois Traditions centered to the west. This is seen in the use of extrusive collars on vessel rims which are often decorated with geometric motifs, including the characteristic chevron (Petersen and Sanger 1989:47). The human face is also a late Late Woodland design motif, although relatively rare, and is found at sites in general association with the Connecticut River, either near the river's mouth on the coast or in the upper drainage (e.g., Lavin 1984; Ohl 1991) as well as in the Mohawk Valley (Tuck 1978b). Ceramics very similar to the St. Lawrence Iroquois have been found in the interior, western lake region of Maine and New Hampshire, but are not found in the coastal area of the states. In the

Merrimack River Valley of New Hampshire, very late ceramics may have elaborate collars and castellation suggesting Iroquois influence (Kenyon 1985b). Sites in the Champlain Valley of Vermont have ceramics that clearly link the area with the St. Lawrence Iroquois, but whether this represents an actual Iroquois presence or trade of vessels is still debated (Haviland and Power 1981; Pendergast 1990; Petersen 1990; Thomas 1991).

The use of ceramics is proposed by some to have disappeared in Maine and the Maritimes very soon after European contact. Some have argued that ceramic use was diminishing even before European contact because of the low frequency of ceramics in very late period sites (e.g., Bourque and Cox 1981; Cox 1983; Sanger 1979; Snow 1980). Ceramic Period 7, dating between 400 and 200 B.P., is used by Petersen and Sanger (1989) to encompass the time when the indigenous technology was influenced by Europeans. But as they note (Petersen and Sanger 1989:56), the ceramics are similar to Ceramic Period 6 types, and only rare examples occur that indicate modifications in form or decoration resulting from European contact. It is thought that in some parts of New England ceramic technology decreased rapidly after the introduction of trade goods in the sixteenth century, while in other parts it persisted longer (e.g., Burr's Hill [Gibson 1980], Fort Shantok [Williams 1972], Fort Hill [Thomas 1979]).

The early Late Woodland lithic assemblage is difficult to distinguish from its precursor, with the continued use of side-notched types. The Goddard Site (Bourque and Cox 1981) provides a good example of the late Late Woodland lithic assemblage in this coastal region. Bifaces include a deeply side-notched type, which appears to start with a relatively long blade which is subsequently reduced during episodes of resharpening. Side- and corner-notched (expanding stemmed) bifaces are typical of Late Woodland sites in Maine (e.g., Sanger et al. 1980), although Sanger (personal communication cited in Bourque and Cox 1981:17) notes the more common occurrence of corner notching to the north of Penobscot Bay. Triangular bifaces generally comparable to Levanna are also found in smaller numbers at Goddard, as they are at several other Maine sites, especially to the south (e.g., Bourque 1971; Spiess et al. 1983b). The small,

*Figure 19. Late Woodland Sites in the New York Region.*

steep-edged scraper made on a flake is also strongly represented at Goddard, as it is at other sites of this period (e.g., Petersen 1991; Sanger 1987). Unifacial scrapers, which are found in sites in the far northeast at least as far back as the Late Archaic, become smaller through time, with the very small types characteristic of sites occupied after 950 B.P. (Sanger 1979b).

The relatively high representation of nonlocal lithic materials in the Goddard assemblage is of note, and contrasts with the general use of local lithics in the previous Woodland Periods. The majority of the exotic material comes from sources to the north such as coastal Nova Scotia, northern Labrador, and the Munsungen Lake region of interior Maine (Bourque and Cox 1981:15). The use of northern lithic materials, along with the use of native copper which may also have originated from this northern region, suggests the opening of exchange relationships to the north during this late period. The heavy use of exotic lithic materials is also seen at Late Woodland sites in the Passamaquoddy Bay area (Davis 1976; Sanger 1987) and south of Goddard at the Sparkes Site in the St. George's River drainage (Eldridge 1990:186). This pattern is also apparent at the Dennis Site in the upper Connecticut River drainage in New Hampshire (Ohl 1991) and suggests a link between this interior region and areas to the east and north, crosscutting major river valleys.

The changes that occurred in southern New England during the Late Woodland Period are seen generally as accommodations to an increasing population and, in places, a shift in settlement that concentrates this population at larger and more permanent sites. There is some evidence for western influences and possibly even population migrations, although in most of the region, a direct continuum from Middle Woodland is the norm. The material culture includes changes in ceramics as well as a shift to the dominant, if not exclusive use of triangular projectile point tips. The uneven focus on ceramic classification in this region, which has plagued ceramic analyses for the earlier periods, continues to be a problem for the Late Woodland Period. This is accentuated by the fact that relatively few well-preserved Late Woodland sites have been found, so Late Woodland ceramic assemblages are not available consistently across the region.

Along the Rhode Island and Massachusetts coasts, shell temper predominates and cord marking is the most common decoration, although there is some continuation of dentate stamping, scallop-shell impressing, and punctates (e.g., Childs 1984; Cross and Shaw 1991; Luedtke 1986; Ritchie 1969). Shell-tempered, cord-marked pottery is associated with a date of  $910 \pm 145$  from a site on outer Cape Cod (Childs 1984:204). Ceramic smoking pipes are also known for southern New England for the Late Woodland Period, although they tend to be rare (e.g., Cross and Shaw 1991).

The late Late Woodland ceramic sample from Calf Island in Boston Harbor (Luedtke 1980) is made up of shell-tempered sherds with the outer surfaces cord marked, with some examples showing smoothing of the marked surface. Decoration, if present, is found on the outer rim area and often on the lip surface. Decoration includes cord impressing, stamping, incising and trailing, with examples of both parallel rows and triangles. Luedtke (1980:49) notes the similarity of the Calf Island assemblage to the Windsor Tradition, Sebonac Stamped types which are associated with late Late Woodland occupations south of Boston Harbor in coastal Connecticut and New York (Smith 1950; Salwen and Ottesen 1972). The dominant use of triangular designs, along with horizontal parallel lines, has also been found at sites on Cape Cod (Childs 1984; Fowler 1966; Moffet 1957).

The lithic artifacts associated with the Late Woodland in southern New England include the triangular point commonly referred to as Levanna after Ritchie's definition (1971). This type is found in varying numbers at almost all Late Woodland sites (e.g., Lavin 1988a). In some early Late Woodland sites, the side-notched Jack's Reef type is found to be a minor type in conjunction with the triangular bifaces (e.g., Indian Crossing Site, in the middle Connecticut River Valley [Mulholland personal communication]). The extent of the use of the Jack's Reef type in the Late Woodland has not been firmly established, either temporally or spatially (e.g., Thomas 1980). By the late Late Woodland, a smaller triangular type (often referred to as Madison) is found in low numbers at some sites, but never becomes dominant as it does in central and western New York (Lavin 1984). Madison points have been dated to  $550 \pm 150$  at the

Campbell Site in Rhode Island (Thorbahn and Cox cited in Klein 1983) and to 390±80 B.P. at Cedar Swamp, in east-central Massachusetts (Hoffman 1992). The continued use of narrow, stemmed points in conjunction with triangular forms is seen at sites in the Connecticut coastal zone (Funk and Pfeiffer 1988; Lavin 1984; McBride 1984a).

The use of nonlocal material for triangular bifaces is seen at a number of sites, especially for the late Late Woodland sites, but in reasonably moderate proportions (Feder 1983). At the late Late Woodland Morgan Site (Lavin 1988b:10), exotic chert was used to produce between 25% and 33% of the triangular bifaces. The majority of the material used in southern New England seems to be gray, green, or brown cherts originating from New York, in contrast to the pronounced use of the yellow/gold chert, thought to come from Pennsylvania, which is often associated with Middle Woodland sites. The local materials used for triangular bifaces are varied, and include felsites, rhyolites, and quartzites. A triangular point production area using felsite was found at the Baxter Neck Site on Cape Cod (Cross and Shaw 1991) with all but primary cobble reduction phases represented.

The ceramic evidence for Connecticut and eastern Long Island indicates a clear continuum with late Middle Woodland in the region. Smith's (1950) Windsor Tradition includes the Sebonac phase (1050-450 B.P.), which encompasses most of the Late Woodland, and the Niantic Phase (450 B.P. to contact), which develops just prior to contact (see also Byers and Rouse 1960; Rouse 1945, 1947). Sebonac Phase ceramics have primarily smoothed exterior surfaces, with a few examples of brushed and cord or net impressions (Lavin 1986). Decorated vessels are in the minority, and decoration usually consists of cord-wrapped-stick stamping or scallop-shell stamping or dragging (Lavin 1984). The Niantic Phase includes traits that are considered to be generalized Iroquois influences such as the globular shape of vessels, their pronounced collars and thin walls, and the impressed and incised decorations (Salwen and Ottesen 1972). Shell temper seems to dominate for the Late Woodland but some sites, such as the Old Lyme Shell Heap, have a considerable percentage of sherds with a mineral-type temper (Lavin 1986). Smith's classification, which is based primarily on ceramics,

has been refined and expanded by others (e.g., Lavin 1984, 1986, 1988a; Lavin and Morse 1985; McBride 1984a; Salwen 1968; Salwen and Ottesen 1972), but all generally report that the limited number of excavated sites for this period limits the synthesizing statements that can be made.

The lower Hudson Valley, which has paralleled southern New England and coastal New York throughout the Early and Middle Woodland Periods, experiences a break with this region during the Late Woodland. Although the number of excavated sites for this period is limited, the influence of a population migration from the upper Delaware drainage in New Jersey and New York into the lower Hudson River drainage and the western part of Long Island has been proposed (Byers and Rouse 1960; Funk 1976; Smith 1950). This is reflected in Smith's (1950) East River Tradition (750 B.P. to contact), which includes the successive Bowman's Brook and Clason Point ceramic phases, and is seen as a predecessor to the historic Munsee. Funk (1976:301) notes similarities between the East River Tradition and the developments that took place in the Mohawk drainage. Other researchers, citing overlapping traits with the southern New England Windsor Tradition, argue for a diffusion of ceramic characteristics from northwest New Jersey and central New York, and not an actual population migration (Jacobson 1980; Lavin and Morse 1985; Suggs 1957). The boundary between the East River and Windsor Traditions is thought to fall somewhere between the Norwalk and Housatonic Rivers along Connecticut's coast, with some sites in this area containing ceramics of both traditions (Lavin 1984; Lavin and Morse 1985; Salwen 1978; Wiegand 1987).

In the middle and upper Hudson River Valley, Funk (1976) has reported relatively few sites for this period, although the data that have been recovered suggest similarities to the Owasco Tradition of the Mohawk drainage and areas to the west and north. There are also indications of material and adaptive differences, especially by the latter half of the Late Woodland. Comparisons of ceramics between these areas have not identified a distinct cultural break between groups (e.g., Brumbach 1975), but the heavy use of small triangular Madison Points and smoking pipes in the Mohawk drainage verses the use of the larger triangular Levanna points and the

rare use of pipes in the Hudson drainage indicate some differences (Funk 1976:301; Snow 1980). The identification of Algonquian speakers (i.e., Mahicans) in the Hudson drainage in the seventeenth century has led Funk (1976) to suggest this contrast with the Iroquoian speakers in the Mohawk drainage extended back at least through the few hundred years prior to contact if not longer. Funk (1976) has argued that more Late Woodland sites in the Hudson Valley must be located and excavated before the relationship of Hudson drainage occupants to surrounding populations can be fully worked out.

Studies of Iroquois material culture have focused on ceramics, with attempts to identify styles that might characterize particular known historic groups. Iroquois ceramics in general are very distinctive in contrast to earlier types in the region, with globular bodies, thin walls, collared necks, and castellated rims (Tuck 1978b). Decoration is confined to the upper part of the vessel with linear and geometric designs common. Ceramic pipes also increase with various forms evolving from the Middle Woodland elbow pipe (Tuck 1978b). Attempts to identify ethnicity in Iroquois ceramics have met with some frustration, but as Starna and Funk (1993) suggest, material culture is not always a clear indicator of ethnic or group boundaries. No attempt will be made here to synthesize Iroquois ceramic types; instead, a perusal of the abundant literature (e.g., Engelbrecht 1972, 1979; Whallon 1968) is recommended for those who are seriously interested. The lithic projectile point characteristic of the Iroquois is the small, triangular Madison point usually made of local material (Ritchie 1971).

### **Settlement and Subsistence**

Two major research issues dominate the archaeology of the Late Woodland Period in both southern and northern New England. These are: (1) the degree to which Late Woodland populations shifted toward permanent settlements, and (2) the presence/absence and effects of horticulture of domesticated, non-native plants. Intermingling with these research questions are the issues of the seasonal use of various ecozones (both for special purpose or permanent settlement), the growth in population suggested by increasing site size and

frequency, and the possibility that climate change (particularly the Little Ice Age dating between 750 and 100 B.P.) influenced settlement and subsistence. New England archaeologists have been grappling for years over the fit between the early European accounts of native life and the archaeological record. The resolution of contradictions has been hampered by the limited number of late Late Woodland Period sites that have been found and the general absence of the large, settled villages that were predicted on the basis of European accounts.

For the Iroquois region of New York, the shaping research questions have also focused on settlement and subsistence. The issue of when the Iroquois shifted to permanent settlements based on horticulture, and the process by which this took place, is of particular importance (e.g., Chapdelaine 1993a; Niemczycki 1988). Questions of Iroquois origins also continue to be debated. The archaeology of this region, like the east coast, has been influenced by early European accounts, especially with regard to the historic Five Nations Iroquois and settlements along the St. Lawrence River. Recent efforts to synthesize the current knowledge and conflicting hypotheses relating to the Iroquois have helped to organize the research objectives for the area (e.g., Bamann et al. 1992; Bradley 1987; Chapdelaine 1993b; Pendergast 1991; Starna and Funk 1994; Trigger 1976; Tuck 1971, 1978b; White 1961). But with all the work that has been directed toward the prehistoric Iroquois, the next several decades still remains to be the most illuminating and exciting because many researchers are working to resolve conflicts between the historic records and the archaeological data.

The Late Woodland brought changes to the far northeast region, but not apparently as a direct effect of corn horticulture. The current evidence suggests that corn was not grown north of the Kennebec River in Maine, and nowhere in Maine or New Hampshire is it seen as a significant element in Late Woodland subsistence (Demeritt 1991; Petersen 1988; Spiess et al. 1983c). Even though extensive flotation procedures were utilized at the Moshier Island Site in Casco Bay, Maine, no corn was found in any Late Woodland contexts (Yesner 1988:211). The limiting factor on the incorporation of agriculture in the northern states was thought to have been as the number of frost free days, but

increasing evidence suggests that some people living in areas northeast and south of Maine within the zone of requisite growing days did not adopt corn agriculture until the Contact Period. (Demeritt 1991) has argued that other factors also played a role in deciding if and to what degree corn agriculture was incorporated, including summer temperatures, soils, and climatic fluctuations, which might result in intermittent crop failure.

There are indications in the far northeast of a general population increase, as is argued for the Northeast as a whole. Surveys in the coastal region have identified a proportionally larger sample of Late Woodland occupations than recorded for the Early or Middle Woodland Periods (e.g., Eldridge 1990; Kellogg 1982; Sanger 1987; Yesner 1988). This pattern may be inflated somewhat by the easier detection of Late Woodland shell midden sites versus earlier nonshell sites and the more temporally diagnostic Late Woodland artifact types. However, other indications, such as site size, number of activities indicated, and quantity of material remains, do suggest a growth in population. Yesner (1984) has argued that the greater population developing by the end of the Late Woodland required the use of more marginal areas. The greater use of outer islands may indicate the need to expand to previously underutilized areas.

The strategies of settlement and subsistence for the early Late Woodland in the far northeast seem to be continuations of Middle Woodland strategies. Several "basecamps" were used throughout the year and were situated to exploit a variety of resources. Small, special purpose sites are associated with the more permanent sites, and represent limited resource extraction. The seasonal scheduling for the various moves does not conform to a single pattern, although there remains the suggestion that there may be separate populations, one focusing on the interior lakes and upper drainages, and the other oriented to the coast and estuaries (Sanger 1987).

Changes in settlement patterning began to be recognized in the late Late Woodland and may carry over to the Contact Period. There is evidence that some groups were remaining in the coastal zone year-round, although they may have moved their location several times to take advantage of differing resources and topographic features (Carlson 1986; Sanger 1988; Yesner 1988). The late Late Woodland

Goddard Site (Bourque and Cox 1981) is a non-shell bearing coastal site which is interpreted as a summer occupation. Marine resources dominate the faunal assemblage, with evidence for the use of gray and harbor seal, sturgeon, and other fish, while birds, moose, deer, and fur bearing animals are also utilized (Bourque and Cox 1981). The Flye Point Site (Cox 1983), a site of comparable age to Goddard, is seen as a winter site at which terrestrial resources and shellfish made up the bulk of the meat resources.

The recovery of exotic materials such as stone and copper at late Late Woodland sites indicates that a far-reaching exchange network developed during this time with areas to the north. An eleventh-century Norse coin recovered from the Goddard Site suggests a form of down-the-line exchange with neighboring populations, with the coin probably originating from short-lived Norse settlements in northern Newfoundland (Bourque and Cox 1981). Spiess et al. (1983c) have suggested that an extensive exploitation of beaver for trade actually began before European contact. Although beaver remains are often found in Early and Middle Woodland sites, such remains seem particularly ubiquitous at both interior and coastal sites of the late Late Woodland (e.g., Deal 1986). This may explain the apparently very late shift to the summer/coast and winter/interior pattern seen by early European explorers, versus the reverse pattern more often documented for the rest of the Woodland Period. But as many researchers have argued (e.g., Eldridge 1990; Sanger 1987, 1984), there seems to be considerable variety in the settlement strategies used by Woodland populations and better dating is needed to document a marked shift in pattern that may relate to precontact trade.

A change in settlement pattern for the late Late Woodland is also noted for interior regions of the far northeast. At the Dennis Farm Site in the Upper Connecticut River Valley, Ohl (1991) noted a shift from an early Late Woodland pattern of limited, special purpose use of the uplands to a more intensive use during the late Late Woodland. The later occupation appears more substantial with more activities indicated, but this site is probably associated in some way with a larger site in the lower valley (Ohl 1991). The Skitchewaug Site, located further south on the Connecticut River, may

be an example of a late Late Woodland floodplain site. This site yielded corn remains from a number of contexts but wild foods continued to supply the bulk of the annual diet (Thomas 1991). This pattern is detected in the Champlain drainage (Haviland and Powers 1981; Thomas 1991), the Merrimack River Valley, and the lower reaches of the Connecticut River (McBride and Bellantoni 1982). The very infrequent occurrence of maize in sites of this region (e.g., Bumstead 1980; Haviland and Powers 1981; Thomas 1991) suggests this shift in settlement was not simply due to the requirements of agriculture, but may have been a result of several factors, such as population increase, increased territoriality, (possibly resulting in intergroup conflict), and/or pressures related to trade. It is of note that at the Dennis Farm Site, exotic lithic materials from both northern and western sources were found with the late Late Woodland occupation but not in the earlier occupation (Ohl 1991:66). This indicates that a long distance exchange network, which included the upper reaches of major drainages, was operating at this later time.

In Vermont, the early Late Woodland is well represented in the state, especially along the Connecticut and Lake Champlain drainages, where sites dating between 850 and 500 B.P. have been found (Haviland and Powers 1981; Thomas 1991). However, as Thomas notes, there are very few sites that date between 500 and 350 B.P. Snow (1980) has suggested that Iroquois settlements along the St. Lawrence River may have cut off the Champlain Valley, leaving it largely depopulated. The general pattern for this period is comparable to other areas, with larger sites near rivers and small, limited-use sites in surrounding zones (Thomas 1991). The Donohue Site, located along the Winooski River, included corn remains and was dated at around 510 B.P. (Thomas 1991). Although decreased population is suggested for the Champlain drainage after this time (Snow 1980), there is evidence that several small Iroquois villages may have developed on the west side of Lake Champlain (Haviland and Powers 1981; Thomas 1991).

The settlement and subsistence patterns identified for the Late Woodland Period in southern New England reflect a change several centuries prior to European contact. This change is not, however, what has been predicted on the basis of either

European accounts or the supposition, often accepted, that corn became a major food staple during the Late Woodland. The majority of evidence indicates that a horticultural economy did not replace the hunting/fishing/gathering strategy that had existed during the preceding part of the Woodland Period, nor did large, nucleated settlements replace a strategy of small, seasonal occupations. However, no single pattern characterizes the entire region for this period; there is evidence for several different, and possibly complementary, patterns.

The subsistence and settlement strategies used during the early Late Woodland for southern New England did not change much from those in use at the end of the Middle Woodland. Population numbers may have been growing during this time, but there continued to be a seasonally varied use of the lowlands, coasts and estuaries, with limited, short-term use of the uplands (Lavin 1988a; McBride and Bellantoni 1982). Many sites that were used in the late Middle Woodland continued to be used in the same fashion during the early Late Woodland (Shaw 1989; Dunford, personal communication). There is some evidence for permanent settlements near estuaries after 950 B.P. (e.g., Bernstein 1990a; McBride 1984a; McBride and Dewar 1987), but as is the case with suggestions of permanent settlement in earlier times, this pattern appears restricted to locations that combine a variety of advantageous features.

The earliest evidence for corn in New England comes from coastal occupations dating to the early Late Woodland. One of the earliest dated context for corn continues to be Ritchie's (1969:52) date of 790±80 B.P. associated with a single kernel of corn from the Hornblower II Site on Martha's Vineyard. An early date of 840 B.P. from the Mago Point Site (McBride and Dewar 1987) on the Connecticut coast is essentially contemporaneous with Ritchie's date. A few slightly earlier dates have come from sites at the mouth of the Connecticut River and areas to the south, including a date of 1060±70 B.P. from the Selden Island South Site (Bendremer et al. 1991; McBride 1984a). For all the early Late Woodland contexts in which corn is found, it is considered to be a very minor component in the diet and may even have been a trade item.

The large early Late Woodland human skeletal sample from the Indian Neck Ossuary on Cape Cod has provided an opportunity to evaluate the role of corn in the diet based on dental pathology. Magennis (McManamon et al. 1986), in a detailed study of the skeletal assemblage, concludes that the presence of low carie frequency and pronounced enamel chipping suggests a diet low in or even lacking corn. Efforts to investigate bone chemistry for evidence of corn as a prominent dietary element have not been conclusive due to difficulties in distinguishing corn from marine resources in diet, but generally no strong evidence of a corn-based diet has been detected (Medaglia et al. 1990).

Although it appears clear that people in southern New England were aware of domesticates such as corn by at least 850 B.P., there is no evidence that horticulture was incorporated as a significant contributor to the diet until after European contact in most of the region (e.g., Ceci 1979, 1990; Demeritt 1991; Fritz 1990). Corn remains are found at a number of late Late Woodland sites in the coastal region but still in very small amounts (e.g., Bendremer et al. 1991; Dunford 1992; Luedtke 1980). Demeritt (1991:196) has argued that lower summer temperatures along the coast due to fog and

### BOX 8: ISSUES OF GENDER IN PREHISTORIC ARCHAEOLOGY

Gender as a research topic in prehistoric archaeology has been gaining increased attention by archaeologists (Conkey and Spector 1984; Gero and Conkey 1991; Hastorf 1991). For many years, issues of gender have been embedded in assumptions that are rarely stated explicitly but influence how archaeological data have been interpreted. These very broad assumptions are based on generalizations about which tasks males or females performed in prehistory (e.g., males hunt and therefore are associated with stone tools, females perform domestic tasks and therefore are associated with pottery). But the more we learn about the organization of tasks in nonstratified societies, the more we become aware that people tend to have varied and often fluctuating roles within their group. Although recognizing gender-specific materials or activity areas at archaeological sites is not always easy, it is important to keep issues of gender in mind when developing research designs.

Incorporating gender into our research goes beyond determining male or female associations with particular kinds of artifacts. The most exciting aspects of a consideration of gender come from interpretations of how gender roles shape behavior and decision-making processes, and how changes in gender roles relate to changes we can distinguish in the archaeological record. For southern New England and New York, the impacts of the adoption of horticulture on the gender division of labor may have had far-reaching effects on other aspects of culture (e.g., storage, control of surplus, inheritance of land rights). Admittedly, such aspects of culture may be difficult to get at using archaeological data; however, there are an increasing number of examples of research in which gender has been used as an axis along which archaeological indicators of behavior have been insightfully interpreted (e.g., Gero 1992; Spector 1993). Gender has been largely untapped as a research topic in Northeast prehistory. Future consideration of gender and incorporation of gender-related questions into research designs promise to enrich our understanding and interpretation of the region's prehistory.

ocean breezes may be responsible for the limited use or absence of corn horticulture. A subsistence strategy emphasizing hunting, fishing, shellfish collecting, and gathering continued to be the norm, with a settlement strategy combining both long-term habitation sites and short-term special purpose sites (e.g., Dunford 1986; Feder 1984; Funk and Pfeiffer 1988; Juli 1994; Lavin 1988a; Lightfoot et al.

1985b; McBride and Dewar 1987; McManamon 1984; Salwen 1979). The stresses imposed by an increasing population, which have been proposed as causes of the incorporation of horticulture, are seen instead to be alleviated by expanding the diversity of resources used (Bernstein 1990b; Lightfoot 1985) and by utilizing more marginal areas that have been underexploited up to this time (Luedtke 1980; see

also Yesner [1984] for the northern coast). The larger sites noted for this period may be due in part to the decrease in mobility imposed by denser population and a developing territoriality which encourages the multi-season or year-round occupation of particularly prime locations (Bernstein 1990a, 1992), rather than a need to protect horticultural fields, as has been suggested (e.g., Silver 1981; Snow 1980).

The interior areas of southern New England see a change sometime in the Late Woodland to more intensive use of the uplands, and in some locations, greater emphasis on horticulture in riverine areas. Lavin (1988b) sees the Morgan Site on the floodplains of the Connecticut River as an example of a late Late Woodland strategy that combines corn (and possibly beans and squash) with wild plant foods and meat resources to provide a relatively dependable annual diet. Numerous corn remains have been recovered from the Morgan Site, which dates between 630 and 590 B.P. (Lavin 1988b). The winter months are the season of scarcity, and lacking the abundance of the coastal zone, the addition of corn—a storable resource—to the diet was a plausible strategy for dealing with the stresses of population increase in the interior (Lavin 1988a, 1988b; Demeritt 1991). However, Lavin (1988b) identifies the Morgan Site as a late spring to at least late fall settlement, and notes that it would have been abandoned during late winter and early spring when the areas flooded.

The noted increased use of upland areas during the late Late Woodland may correspond to the use of floodplains during the growing season. Upland areas at this time see a more sustained use, although only seasonally, with sites reflecting a more intensive occupation with a variety of activities indicated, in contrast to the special purpose camps identified for the preceding centuries (e.g., Lavin 1984; McBride and Bellantoni 1982; McBride 1984b). This pattern, seen to a lesser degree in the upper Connecticut and Lake Champlain drainages (Ohl 1991; Thomas 1991), has an extended family household occupying an upland winter site and a lowland, summer agricultural settlement. But this pattern is clearly not the only strategy used (e.g., Feder 1990; Lavin 1986; Pagoulatos 1990; Wiegand 1983), and may be more indicative of the major drainages.

The late Late Woodland settlement patterns identified for eastern Massachusetts and Rhode Island do not indicate horticulturally based villages like the Morgan Site (Kerber 1988; Luedtke 1988; Thorbahn 1988). Although some coastal sites have yielded the remains of corn (e.g., Dunford 1992; Luedtke 1980; Ritchie 1969), it appears to be a minor food item, as people continue to use the diverse marine resources as well as interior resources on a seasonal basis. Luedtke (1980, 1988) has noted that multicomponent sites on inner islands in Boston Harbor seem to be abandoned sometime in the Late Woodland at about the same time that the more marginal outer islands are beginning to be used more extensively. Luedtke suggests this may reflect a growing territoriality, possibly linked to the needs of horticulture which incorporated the inner harbor islands as garden areas. A similar pattern of site abandonment sometime in the Late Woodland has also been noted on Cape Cod, and following this, numerous late Late Woodland sites are found in slightly differing habitats, again possibly situated to allow for some horticulture (Dunford, personal communication).

The general absence of the large sedentary villages that might be expected in the late Late Woodland in light of an argument for intensifying horticulture has perplexed archaeologists for some time. Luedtke (1988) has argued that early historic accounts of Indian "towns" along the southern New England coast may have been misleading to archaeologists who use the twentieth-century definition of the term. In the seventeenth century, the "town" could be used for much less nucleated settlements, including hamlets or even single farmsteads. Luedtke (1988) has also argued that in eastern Massachusetts a dispersed settlement pattern was used which allowed small groups or even single households to situate themselves near good agricultural soils. Dunford (recounted in Little 1988) has suggested a shift to dispersed farmsteads along Cape Cod's estuaries beginning around 450 B.P., and although these farmsteads may have been united in political groups, the record left archaeologically is of small, dispersed sites. Kerber (1988) cites several possible examples of village sites in Rhode Island, but suggests that the existing evidence does not follow a single pattern and argues that, given the

## BOX 9: PREHISTORIC SITES IN MODERN URBAN AREAS

The general absence of Late Woodland village sites has been explained by some as the result of extensive European settlement and development on the same areas once occupied by Native villages, which destroyed the evidence for these villages. Although there is growing evidence to suggest other explanations for the low number of these villages (e.g., Ceci 1979; Luedtke 1988), the issue of how prehistoric peoples used the full landscape, including the choice lands developed by European settlers, remains an important research question in New England. The major urban areas in the North Atlantic Region are situated along the coast and major estuaries in areas also expected to have been utilized intensively during the past 10,000+ years. Recent examples of the discovery of prehistoric sites in urban areas have opened up the possibility that we are not at a total loss in identifying prehistoric use of these areas.

CRM projects in urban areas, especially those that require inspection of deep deposits (e.g., building foundations, tunnels, subways) have identified preserved prehistoric deposits within areas that were thought to be totally disrupted by historic construction. Perhaps the best known example is the Boylston Street Fishweir, preserved under fill in Boston's Back Bay (Johnson 1942). Another example can be found in Charlestown, Massachusetts, where prehistoric deposits were found protected and extremely well preserved under fill in the backyards of seventeenth-century dwellings (Shaw 1984). Prehistoric sites have also been discovered in New York City (Lenik 1992). These discoveries tell us that we cannot assume that there are no prehistoric remains in developed areas, and that we should be looking for preserved deposits under filled areas or in alleys and yards built in the last centuries.

variability, a more regional look at settlement is needed before patterns can be worked out.

The shift to year-round coastal settlement has been argued forcefully by Ceci (1979) to be a postcontact phenomenon in which native peoples situated their settlements to take advantage of trading opportunities. The intensification of corn horticulture in the region's coast is seen as a strategy to allow for longer coastal occupation providing better access to European ships. As has been argued for the northern coast (Spiess et al. 1983c), the extensive, long-distance networks operating before the sixteenth century may have been expanded to incorporate European trade (Ceci 1980).

The Late Woodland occupations in the Hudson River drainage are similar to those described for the major drainages of southern New England with seasonal use of both floodplains and uplands (Eisenberg 1982; Funk 1976; Funk et al. 1971; Hammer 1993). In the Mohawk drainage and in Owasco settlement areas to the west, a shift in pattern occurred sometime between 750 and 650 B.P. During the early phases of the Owasco Tradition, settlements are on the floodplains along major rivers, with some minor use of the uplands (Bamann et al. 1992; Lucy 1991; Ritchie and Funk 1973; Snow 1980). These are thought to be horticultural villages, with domesticates playing an

increasing role in the diet but still significantly complemented with wild foods. Recent arguments suggest a gradual adoption of permanent villages relying on horticultural production during late Owasco times. It is not until after around 700 B.P. or even 650 B.P. that permanent agricultural villages have been clearly identified for the Iroquois (Chapdelaine 1993a; Niemczycki 1984, 1988). The longhouse also appears in full use after 650, although a few precursors to the large Iroquois examples are known (Bamann et al. 1992; Chapdelaine 1993a; Ritchie and Funk 1973). Chapdelaine (1993a:185) notes that the appearance of the large longhouse implies social change, particularly the development of lineage organization.

By the end of the period, settlements are positioned back from the rivers on higher ground, possibly as a strategy to allow for better fortification. Other explanations have also been posed as, at least in part, contributing to the shift to higher elevations. The move to the hilltop sites has been explained as a response to the needs of agriculture at the beginning of the Little Ice Age. Hilltops were preferred for their better sun exposure and warmer temperatures (Bond 1985; see also Demeritt 1991). The importance of long-distance trade, and maintaining water-borne transport systems, has also been proposed as a factor in the settlement

system (Hasenstab 1987; see also Ceci 1977, 1982b). The need to move settlements has been explained as a response to the depletion of soils that results from intensive horticulture, but other factors, such as depletion of firewood or game, accumulation of refuse, or chronic warfare could also be important (Bamann et al. 1992; Sykes 1980; Tuck 1978b).

Palisaded villages first appear in the Castle Creek phase (750-650 B.P.), but not all villages of this time or even later times are known to have had palisades. The evidence for intergroup hostility among the prehistoric Iroquois is supported by the defensible locations of settlements on hilltops, the construction of palisades, and evidence for traumatic death, and occasional ritual cannibalism indicated in human skeletal remains (Tuck 1978b). It has been suggested that the apparent intensification of warfare was driven by periodic crop failures among people increasingly dependent on horticulture. The expansion of peoples into New York from areas to the west has also been argued as a cause of increasing hostility (Dincauze and Hasenstab 1987; Hasenstab 1987; but see Griffin 1993).

#### **Summary: Understanding the Late Woodland Period**

The Late Woodland Period takes on particular importance because it serves as a baseline against which to measure the far-reaching changes brought about by contact between Native Americans and Europeans. Archaeologists have struggled for years to reconcile the archaeological record and ethnohistoric accounts. The ways in which sixteenth- and seventeenth-century Europeans experienced and reported encounters with Native Americans reflect their own biases and expectations as much as they do a recounting of events and observations. Contradictions between the written accounts of the Contact Period and the archaeological record of the Late Woodland and Contact Periods are an important source of future research questions.

Apart from its importance in establishing "pre-contact conditions," the Late Woodland Period includes the climatic cooling interval known as "the Little Ice Age," which may have forced the abandonment of agriculture in parts of the far northeast (Leonard 1993). In some areas, such as southern Ontario and western and central New York

State, the intensification of agriculture supported large settled villages. In other areas, agriculture played a less central role in subsistence. The interaction of groups that were following different subsistence strategies in adjacent areas created an archaeological record filled with potential for examining leadership, diplomacy, warfare, territoriality, and the use of style to create social boundaries in Late Woodland societies.

The Late Woodland Period also provides the time frame for the cultural development of the historic Iroquois and Mohawks (Bamann et al. 1992; Snow 1984; Tuck 1978b). The contrasts in language, culture, settlement patterns, and material culture between Iroquoian and Algonquian populations in the Northeast have encouraged archaeologists to examine issues of social boundedness and territoriality, although the coarse chronological resolution of the archaeological data has often proven equivocal.

Throughout the Woodland Period, different classes of artifacts exhibit non-synchronous change; styles of projectile points, ceramics, and ground-stone tools often do not change at the same time, at the same rate, or across the entire region. The collection and documentation of reliable data that establish trends, distributions, accurate chronologies, and new types of material culture is an important step in the research process.

## **INITIAL CONTACT (CA. 1450-1700)**

**Ann McMullen**

### **Introduction**

The organizational framework of the Contact and Colonial Period chapters is basically narrative, organized chronologically. However, rather than chronology based on centuries or political events, we divide 1450-1776 into four periods based on generalized patterns of production and everyday life applied simultaneously to the cultural groups under discussion. The periods are not absolute chronological divisions, but represent the "moving frontier" of change in the region; thus the periods overlap one another reflecting different rates and sites of change and stability. The concept of production, taken in its widest meaning, is the organizing principle for these chapters. Production refers to humans' socially organized capacities to transform social and physical environments in order to extract and manipulate various forms of energy (Wolf 1982). Although it is not our intention to reduce societies to behaviors associated with production, production can be used as a way to enter societies and observe the various linkages that connect production to other facets of daily life. Productive activities, sites of production, and results of production should provide maximum visibility with respect to archaeological resources. With regard to the concept of the "moving frontier," we do not mean to evoke the traditional idea of the frontier or its literature which concentrates on the actual movements of Europeans and their cultures across the American landscape. The frontiers we are discussing are shifting patterns of production and everyday life that do not replace each other on the landscape but rather integrate and coexist (Namias 1993). Thus as European and African-American populations moved onto the land, they brought with them particular ideas and modes of life, and adapted these to both the environmental and social situations they found, namely Native American societies and the landscapes they had created. Native people also adapted to these changes, creating new lifeways and social relations to cope with or take advantage of new situations. The multiple adaptations of all

groups—indigenous and immigrant—are the primary focus of the following chapters.

### **The Character of the Period and the Overall Setting**

This period was characterized by initial contact between Native and European individuals and cultures, usually comprised of sporadic, short-term contact and visitation by Europeans—explorers, scouts, sailors, fisherfolk, and traders—but also including epidemiological contact, kidnapping, and/or secondhand trade/exchange of European goods via other Native individuals (Brasser 1978a; Morison 1971; Wroth 1970; Champlain 1922-36; Jameson 1909; Axtell 1988a; Bourque and Whitehead 1985; Bradley 1987a; Bourque and Cox 1985). Established contact—longer-term and more frequent visitation and actual settlement—marks the transition to the next Period, although several unsuccessful colonies are included in this period because they may have led to epidemics but otherwise do not appear to have affected Native life to any great extent. There are sub-regions within the North Atlantic where initial contact was intense, and therefore there was no period of "initial contact." For example, in the Albany area, the Dutch penetrated rapidly and established posts and trade relationships with the Mohawks and Mahicans (Brasser 1978a, 1978b; Trigger 1978b).

It was during this period that North America was brought into European systems of production through resource extraction and exploitation. This follows from expanded definitions of the idea of production a la Wolf's (1982) tributary mode of production, although Native people probably did not see it in this light. The different needs and desires of European nations and companies combined with the availability of certain products to create the extractive colonial patterns that developed during this period (Braudel 1975, 1979, 1982; Wallerstein 1974). For instance, English, Portuguese, and Spanish needed codfish (Braudel 1975; Axtell 1988a), and so generally stayed on the coasts, contenting themselves also with furs that their trade extracted from those regions and the interior. The Dutch however, sought greater profit margins and tried to eliminate Native middlemen on the coasts by penetrating the interior and setting up trading posts (Brasser 1978a). Even on the coasts, European

resource extraction was not solely through Native people, since expeditions both fished and collected sassafras themselves (Archer 1602; Pring 1602; Brereton 1602). After a particular point, political control of the region, rather than simply trade, became the impetus for exploration and later settlement.

### **Native Groups at Time of Contact**

At initial contact, the North Atlantic region was home to a large Native American population composed of diverse groups. However, the groups and group names recognized and described by early explorers may not be appropriate. If the constellation of ethnic groups was affected by the earliest contacts, explorers may have described a system already considerably altered by the effects of contact and early colonial resource extraction; certainly they described a dynamic situation. The spatial territories of sixteenth-century groups are illustrated in Figures 20-22, and their respective cultural patterns are summarized below, with the understanding that these may not always accurately reflect the early contact situation.

Native groups of this region may be divided into three basic adaptational patterns according to their subsistence practices and social organization: northern Algonquian hunter-gatherers; southern Algonquian horticulturalists; and Iroquoian horticulturalists.

#### **Northern Algonquian Hunter-Gatherers**

Northern Algonquian hunter-gatherers within the North Atlantic region included the Etchemin (Passamaquoddies and Maliseets) and the Eastern Abenakis, defined by Snow (1980) as composed of the river-based groups Penobscots, Kennebecs, Arosaguntacooks, and Pequawkets. There is some debate as to whether the respective territories of these groups extended from the coast inland to large hunting territories or whether different groups occupied coastal and interior areas as with the historic Maliseets and Passamaquoddies (Snow 1980; Erickson 1978; Sanger 1989). Based on population estimates by Snow (1980), these groups maintained population densities between 12 and 29 people per 100 square kilometers. The total

population of this region was probably close to 20,000 (Snow 1978; McMullen 1990b).

The seasonal round and settlement pattern included: multivillage gatherings at spring fishing spots (Erickson 1978); dispersal of families to the coast for ocean fishing, shellfishing, hunting, and gathering in small villages with multifamily housing (JR 1896-1901; Lescarbot 1907-14); movement to the uplands to regroup at fall fishing spots to exploit eels, with larger settlements composed of multifamily dwellings (McMullen 1990b); and travel upriver to dispersed selected territories hunted by single families living in single family dwellings (JR 1896-1901). If the hunts failed, groups returned to the coast to exploit shellfish and tomcod under the ice (Snow 1973, 1976, 1978, 1980; Bourque 1973; JR 1896-1901; McMullen 1990b). If inland-coastal ethnic divisions existed, the pattern would have been similar, but on a slightly different scale. Inland populations may have ranged only between the fall line and inland hunting territories, while coastal populations would have alternated between the coast and those areas used by inland groups during the summer. Besides their exploitation of coastal resources, Native people could take advantage of European fishermen and explorers on the coast in summer (Champlain 1922-36; Wroth 1970; Howell and Baker 1988).

Within the respective territories of different groups (Smith 1616; Kupperman 1988; Hoffman 1955; Erickson 1978; Snow 1978, 1980; McMullen 1990b), rights to resources were allocated variably. Spring and fall fishing areas were exploited by multivillage populations, while weirs built on smaller streams might be under the control of a single family or a set of brothers. Coastal weirs might be similarly controlled (McMullen 1990b). Interior group hunting territories were undoubtedly subdivided, probably on the basis of yearly usufruct relationships (Cronon 1983; McMullen 1990b). The family hunting territory system described by Speck as the basis of Algonquian social organization (1915a) was probably the result of contact (Leacock 1954; McMullen 1990b).

The division of labor was based on gender and age, with men responsible for hunting and probably trade, and women responsible for gathering, butchering, skin and clothing preparation, and housekeeping. Both sexes probably participated in

*Figure 20. Native Groups of Northern New England.*

fishing and shellfishing, although women, older men, and children probably concentrated on shellfishing from summer settlements while men hunted on the mainland or on offshore islands.

Groups were patrilineal, with polygyny confined to leaders (although this may be a postcontact phenomenon). Lineages appear to have controlled access to particular resource areas in which they had invested labor (e.g., weirs). These Native societies were basically egalitarian, with status differences based on age, and to some extent, gender. Leadership was most likely charismatic, and shifted according to the season and the constitution of the group. Summer settlements were probably composed of sets of patrilineal kin, headed by the eldest male. Winter habitations, if composed of more than one nuclear family, would likely be a set of brothers and their families, or a man and his sons' families (McMullen 1990b). By the Contact Period, however, "sagamores" rose on each drainage to control the trade and presumably to redistribute goods (Purchas 1625; Snow 1978, 1980).

There was probably little conflict among different groups within this region, and trade and other social relationships existed to maintain harmony over large areas. Given the debate over whether there existed social divisions between coastal and inland populations, ideas about trade and social networks depend on the model chosen. If river-based groups were relatively homogeneous and moved seasonally from the coast to the uplands, trade would have been important primarily between groups up and down the coast. However, if divisions existed between coastal and inland populations, significant trade and social relationships would have served to link these groups, with trade with other groups to the north and south of secondary importance. Different patterns may have characterized different drainages. At contact, trade did exist between the southernmost groups of the "Eastern Abenaki" and groups at the northern boundary of horticulture, the Saco River. Champlain observed exchanges of northern furs for southern horticultural produce there in 1613-1614. He also reported that interior "Eastern Abenaki" populations were horticultural (Champlain 1922-36). If this is true, interior-coast exchange would have been the norm. Seasonal movements of family and other groups would have facilitated trade and contact.

### Southern Algonquian Horticulturalists

Southern Algonquian horticulturalists included the Western Abenaki (defined by Day [1978] as composed of the Sokokis, Cowasucks, Winnepesaukee, Penacooks, Amoskeags, Souhegans, Nashaways, Pawtucketts, Naamkeeks, and Missisquois), the Pascataways, Accomintas, Agawams, Nonotucks, Pocumtucks, Nipmucks, Massachusetts, Pequots, Mohegans, Narragansetts, Niantics (Eastern and Western), Pokanokets, Podunks, Wangunks, Tunxis, Paugussetts, Potatucks, Wepawaugs, Quiripis, Corchaugs, Shinnecoeks, Montauks (Salwen 1978), the Nayacks, Marechkawiecks, Canarsees, Rockaways, Massapeguas, Matinecocks, Esopus, Minisinks, Haverstraws, Tappans, Hackensacks, Raritans, Navasinks, Wappingers, Kichtawanks, Sinsinks, Wiechquaeskecks, Rechhawawanks, Siwanoy, Tankitekes, Sewapois, Little Siconeses, Naraticoncks, Mantaes, Armewamexs, Remkokes, Atsayoncks, Sankhikans, Big Siconeses, Minguannans, and Quineomessinques (Goddard 1978). In comparison to the northern Algonquian hunter-gatherers, these people had more settled territories, as their commitment to horticulture suggests, with population densities between 193 and 266 people per 100 square kilometers (Snow 1980). Total population estimates for these groups at the time of contact are: Western Abenakis, 10,000; Massachusetts, 20,700; Mohegans and Pequots, 13,300; Narragansetts 15,000-25,000; Pokanokets, 10,000-15,000; Tunxis, Podunks, and Wangunks, 9,000-12,000; Pocumtucks, 15,200; Quiripi-Unquachogs (western Connecticut and eastern Long Island), 24,700; Mahicans, 5,300; Munsees (New Jersey, southeastern New York, and western Long Island, 24,300-51,300 (Snow 1980; Gookin 1970; Winthrop 1908).

The seasonal round and settlement pattern included (but were not necessarily limited to) large winter villages with multifamily houses based on lineages or perhaps clans; large, perhaps multivillage gatherings at spring fishing spots; dispersed summer farming hamlets with single family dwellings and larger communal structures and chiefs' houses; and dispersed fall and winter hunting camps (Dermer 1841; Salwen 1978; Simmons 1978; Wood 1977; Thomas 1979, 1985; Wojciechowski 1985; Speck

*Figure 21. Native Groups of Southern New England.*

1928; Smith 1916; Kupperman 1988; Williams 1936; Mourt 1963; Josselyn 1988; Levine 1983; Brassler 1966; Day 1978; Haviland and Power 1981; Goddard 1978; Weslager 1972, 1983; Kraft 1986; Newcomb 1956; MacLeod 1922). In some areas, seasonal movement may have been somewhat abbreviated, with groups moving relatively short distances. Although family hunting territories have been suggested for some of these groups (MacLeod 1922), this was probably the result of the growing fur trade brought about by European contact.

Within the gender-based division of labor, men assisted in clearing horticultural fields, while women were responsible for all horticultural and household work, as well as gathering, and probably shellfishing. Men hunted, fished, traded, went to war, and probably made some of the tools that they and their families used.

Leadership was strongly hereditary, at least in some places, by 1524. Local leaders (sagamos or sachems) probably served as redistributors of trade goods and tribute payments, as well as spokespersons and mediators. Besides social differences based on age and gender, little institutionalized inequality existed at the time of contact. Some groups may have had a basically egalitarian society headed by "royal" families or lineages, while others may have had social ranking based on heredity and personal achievement. Important men sometimes had more than one wife. Native societies in the region were fundamentally egalitarian. Ownership of resources was largely communal, as was much production. Leadership privileges were balanced with responsibilities, and there were definite limitations on the leaders' power and authority. Although not all members of a community could aspire to be sachem, there were positions of responsibility and status for all who could achieve them (Johnson 1993).

Within these matrilineal societies, ranked clans may also have served to organize incipient societal inequality. Since local communities were exogamous, clans may also have helped incorporate and regulate individuals from neighboring groups who intermarried. Conflict over patrilineal tendencies may have existed, since at time of contact women controlled horticultural lands and products, but leadership usually seems to have descended in the male line. However, this is not

entirely consistent, and seventeenth-century genealogies suggest shifts in emphasis that may predate European contact (Means 1947; Burton and Lowenthal 1974).

Patterns of established conflict and warfare between Native groups recorded for the Contact Period may also be the result of European contact, which brought about new competition for resources (Brassler 1978a). Precontact Native trade probably functioned between interior and coastal populations and also took the form of larger scale trade networks that brought raw materials (e.g., copper) and perhaps finished goods into the region from the Great Lakes, the Mid-Atlantic region, and northern New England.

#### **Iroquoian Horticulturalists and the Mahicans**

The cultural pattern of Iroquoian horticulturalists—the Senecas, Cayugas, Onondagas, Oneidas, and Mohawks—was different in several ways from that of Algonquian horticulturalists in the region. The Mahicans were more like the Iroquois than any other Algonquian group and so have been included here. For horticulturalists, they had very large territories and relatively low population densities: 90 to 200 people per square kilometer for the Iroquois groups and 31 people per square kilometer for the Mahicans (Snow 1980). Mahican population at contact has been estimated at 5,300 (Snow 1980). Total population estimates for the Iroquois are problematic, as they must be based on observations made by the Jesuits in the 1660s of postepidemic populations (JR 1896-1901). Based on Snow's reconstruction of Mohawk population at 9,000-11,300 (1980), the total populations of the other Iroquois groups can be estimated at: Oneida, 1,800-2,260; Onondaga, 5,400-6,780; Cayuga, 5,400-6,780; Seneca, 18,000-22,600.

Populations were concentrated in settled villages of multifamily or clan houses with horticultural fields which shifted every ten to twelve years. Village and house size varied widely. Hunting, fishing, and gathering activities extended into groups' respective territories, presumably with short-term encampments for those purposes and for resource processing (Brassler 1978b; van der Donck 1841; Trelease 1960; Rutenber 1992; Fenton 1978; Jennings 1978; Fenton and Tooker 1978; Campisi

*Figure 22. Native Groups of the New York Region.*

1978; Blau et al. 1978; White, Englebrecht and Tooker 1978; Abler and Tooker 1978; Kent 1984; Tuck 1978; Ritchie 1980; Speck 1945).

The gender-based division of labor made women responsible for horticultural work and housekeeping, while men hunted, fished, and traded, although the latter was not an exclusively male activity. Government and warfare were also male activities.

Iroquois societies were strongly matrilineal; women controlled horticultural lands, the election of leaders and, to some extent, warfare. However, conflict over gendered power may have existed. Personal inequality appears to have been minimal, with the exception of social divisions based on age and personal accomplishment. With strong clan organizations and communal female work patterns, personal wealth and status may have been located in clan mothers rather than male leaders, and achieved male status may have been marked only by respect and power rather than authority and material display. Polygyny appears to have been absent.

If we assume that the League of the Iroquois existed before European contact, institutionalized peace between the five nations of Iroquois would have existed, but this did not preclude raids and wars against groups outside the League. Strong clans provided an organizing framework for social relations both within and between groups. Trade relationships between groups probably existed, and trade with the Mahicans for shell beads and other coastal products was said to exist (Brasser 1978b). Trade with the Susquehannocks and other groups to the south probably also occurred. Tribute relationships and control of trade by conquest was also likely. Unlike the southern Algonquians, trade may have been more individually based rather than controlled by redistributive leaders. Both women and men engaged in trade.

### **European Visitors and their Motivations**

European explorations of the Atlantic were motivated by economics—the desire to find an alternate route to Asia's resources and markets. They were begun in 1420 by the Portuguese monarch Henry, also called Henry the Navigator. These quests were soon taken up and supported by other European monarchs, who encouraged explorers and trading companies to take advantage of what they

found (Morison 1971; Braudel 1975; Wolf 1982; Bachman 1969; Bailey 1937; Healy 1958; Jacobs 1969; Jaenen 1976, 1982, 1984; Jennings 1975; Kupperman 1980; Sauer 1971; Trelease 1969; Trigger 1985; Vaughn 1965). Each of the European countries and their respective companies had different motivations for exploration, trade, and settlement, depending on the different needs, desires, and possibilities of their populations. In addition to these different motivations, each nation had different ideologies of contact and ethnic relations.

Growing European populations, many of them Roman Catholic, required larger and larger amounts of fish in order to comply with the Church's established calendar of meatless days. This spurred fishermen farther west in search of cod (Braudel 1975; Axtell 1988a). During the period of these earliest contacts, Europeans would have come ashore for fresh water and perhaps provisions (Morison 1971). In the course of these visits, they may not have had any real contact with Native people, but may have attracted their attention and eventually traded. Once fishermen established trade with Native people and began to bring back furs, European merchants realized the potential for expansion. Established European markets for furs took advantage of New World resources in order to replace vanishing Scandinavian and Asian fur supplies (Wolf 1982). In addition, Native people provided markets for items that did not sell in Europe (Braudel 1982), including brandy and English cloth (Jennings 1975).

What were originally relatively innocuous trading ventures undertaken by sailors and whalers were transformed by the advent of intentional exploration for the purposes of evaluating New World resources. With the entrance of European monarchies and their agents, the power relationships between Europeans and Native people changed, and America and Native Americans were made into subjects of European powers. With these alterations, the basis and effects of contact also changed. In modifying the basis for exploration from individual profit to the gathering and control of information about North America, explorers set the conditions faced by later arrivals. At a time when human slavery was relatively common, explorers seldom hesitated to take Native captives to ensure their own safety during exploration and trading ventures, or to

capture parties of Indians and bring them back to Europe for exhibition or sale (Dermer 1906, 1841; Axtell 1988a; Salisbury 1981). These misdeeds brought about Native distrust of Europeans, and led to a relatively discontinuous record of contact, since Native people sometimes intentionally avoided Europeans afterward.

The Europeans who came to this region during the period of initial contact were remarkably diverse, in terms of their nationalities, social backgrounds, and agendas. One of the only things they had in common was that they were all men. Since their attitudes and expectations affected contacts they had with the Native people they encountered, we will briefly discuss just who these European visitors were.

### **BOX 10: NORSE SETTLEMENTS IN THE NORTH ATLANTIC REGION**

Although a Norse settlement dating circa A.D. 1000 in northern Newfoundland has been extensively documented (Ingstad 1969), claims of Norse contacts with Native people in the North Atlantic region are rather suspect. Early historians of New England have always been glad to claim that Leif Ericsson, Thorvald Ericsson, and Thorfinn Karlsevni visited their coasts, yet these claims have never been substantiated. Besides Norse sagas and the L'Anse aux Meadows site, the only indication of Norse contacts in the New World is a Norse coin from the Goddard site in Maine, which may have arrived through direct trade, or may have travelled down the coast via secondhand trade (Ingstad 1969; Bourque and Cox 1981). Until more such finds surface, the Norse presence in the North Atlantic Region will remain a mystery, about which fringe archaeologists will gladly spin tall tales.

The earliest European visitors to the North Atlantic region were probably Basque whalers and English fishermen visiting the Grand Banks. In general, only the poorest men were recruited for ship crews (Braudel 1979), and these individuals were no different. While the captains of these vessels and later explorers may have come from different social backgrounds, the common sailors

who went ashore probably had the greatest impact on Native people.

Shiploads of Basques came to the Grand Banks every year and at least a few of them probably made their way to shore (Kaplan 1987). The potential to trade with the Indians for valuable furs probably immediately occurred to these sailors, who were said to have removed every spare piece of metal from their ships in order to have something to trade (Axtell 1988a). Later sailors intentionally brought with them small items to trade (Wallerstein 1974). Many Basques were said to have abandoned whaling in order to devote themselves to the fur trade since it was much more profitable (Braudel 1979). English fishermen probably reacted in much the same manner. While later English colonial attitudes saw Native people as alien and only useful in terms of their economic value (Kupperman 1980; Jacobs 1969; Brassier 1978b; Axtell 1985; Jennings 1975; Sauer 1971) relatively peaceful trade probably continued until the first European settlements.

Although Portuguese, Spanish, and Italian explorers probably continued to make contacts with Native people in the fifteenth and sixteenth centuries, their emphasis on attempting to find passages to China, Japan, and the Indies rather than trading probably made their contacts with Native people less important. Little is known about these explorers, because many never returned. Since we have no written accounts of their meetings and dealings with Native people, we cannot gauge whether they were peaceful, or whether trade took place.

By the 1570s, the French and Spanish were said to outnumber the English on the Grand Banks (Sauer 1971). They, along with Basque whalers, would have continued their trade with Native people. In terms of their cultural temperament, the French were said to have been more accepting of cultural differences than were the English. In later years the French quickly adapted to Native technologies and ways of life (Sauer 1971; Wade 1969; Jaenen 1976, 1982, 1984; Healy 1958; Bailey 1937; Axtell 1985; Trigger 1985). Furthermore, French and Basque sexual relations with Native women, which may have been violent or forceful, were said to have disrupted the trade for others (Brassier 1978a).

Besides interacting with Native people, European powers and their agents also vied with one another for control over North America's newfound resources. The long-standing English-French rivalry was transferred to northern New England in the 1580s when explorers sought to claim the area by founding colonies (Brasser 1978a). After that point, the fur trade, which had been subsidiary to fishing interests, gained momentum, and enterprising merchants sought to gain control of the fur-rich north, where hunter-gatherers seemed more likely to alter their subsistence to provide furs for trade (Brasser 1978a).

The Dutch entry into the world of North American exploration and trade began relatively late. Dutch whalers visited New York Bay between 1580 and 1609 (Brasser 1978a). Whaling could also be combined with privateering, as Dutch ships reportedly captured others off Newfoundland in 1606 (Gehring 1993). Following Hudson's exploration of the "Great River" in 1609-1610, the Dutch quickly made literal inroads into the North Atlantic region by setting up trading posts on interior rivers: the Hudson and the Connecticut rather than only on the coasts, in an attempt to divert furs from French traders on the St. Lawrence (Brasser 1978a; Trelease 1969). Thus the earliest Dutch visitors to North America were purposeful traders living amongst the Indians rather than sailors who risked little by sharp dealing or aggressive sexual tactics with Native women. Because of their businesslike attitudes, the Dutch relied on the Mahicans and Iroquois as middlemen and, rather than insisting early on land purchase, they created interdependencies with Native people (Bachman 1969). The Dutch strategy shows competitiveness, a sharp sense of New World geography, and a willingness to manipulate Native people for their own ends.

### **European Settlement Patterns**

The simple contacts and trade between Native people and visiting Europeans eventually gave way to attempts at colonization. In the sixteenth century, trade ships staked out particular harbors where Native people could expect them yearly. European activities were largely extractive, either by using Native people to get the resources they wanted, such

as furs and wampum (Ceci 1977, 1982), or gathering resources themselves, such as fish or sassafras, for sale in Europe (Archer 1602; Brereton 1602; Pring 1603).

While it has not been recorded, it is also conceivable that European fishermen set up processing stations, or flakes, for drying and salting fish on shore. Setting stationary trading posts in such locales was the next logical step, but planting colonies of settlers was a sure way to solidify the claims of European monarchs to their new domains. In 1579, Sir Humfry Gilbert sent a ship to the Penobscot to scout for a likely site for his planned colony. Although this colony was never actually founded, it showed that Europeans understood that the placement of their colonies was important and worthy of some study. One of the primary criteria for site placement appears to have been defensibility; many of the earliest colonies in New France were placed on islands in the Atlantic (Clark 1983; Brasser 1978a; Trigger 1978b; van der Donck 1841). Access to Native trade, favorable environmental conditions, a good harbor, and safe access were other considerations. The Dutch, for instance, sought an ice-free port in choosing the site for their trading post at Burlington Island; unfortunately they misjudged the climate (Gehring 1993). In their attempts to harvest sassafras on their own, Gosnold's men chose islands near Martha's Vineyard for their encampments and resource extraction stations (Archer 1602; Pring 1603; Brereton 1602). The first colony attempted in the Northeast was Pierre de Gua de Monts failed colony on the island of St. Croix in 1604 (Champlain 1907; Lescarbot 1928). The Popham colony, at the mouth of the Kennebec, was founded in 1607 and abandoned in 1608 (Clark 1983; Prins 1989). This was followed by the French Jesuit mission, Saint Sauveur, on Mount Desert Island, in 1613, which was almost immediately dispersed by the English Captain Samuel Argall (Prins 1989).

In general, early colonies were doomed because of their unfamiliarity with the environment, and because they failed to forge strong enough contacts with Native people. While Europeans often depended on Native people for emergency food (Snow 1978); they did not adapt quickly enough to their new environments and usually ended up starving and becoming a burden on their Native

neighbors. Once trade became a regular phenomenon, colonies quickly saturated local Native markets with available goods, and dissatisfied Native people simply sought another trader with different goods.

#### Patterns of Contact in Coastal Northern New England

Because of the different needs of early European visitors to the North Atlantic region, their diverse exploitation patterns, and regional interactions with Native people, different regional patterns of contact resulted. These early contacts affected subsequent historical developments in their respective regions.

### BOX 11: EUROPEAN VISITS TO NORTHERN NEW ENGLAND

1470-1480	Bristol fishermen and Basque whalers on Grand Banks, potential landings, followed by ships from other European countries (Braudel 1975)
1498	John Cabot may have landed on the Maine coast, lost at sea, no record (Morison 1971)
1500	Portuguese on the Grand Banks (Morison 1971)
ca. 1500	Gaspar and Miguel Corte Real in Newfoundland and Labrador, may have reached the Maine coast, lost at sea, no record (Morison 1971)
1522	Portuguese fishermen in Penobscot Bay (Brasser 1978a)
1524	Verrazano, sailing for France, from south to north, Indians in Maine familiar with European desire for furs, but unfriendly (Morison 1971; Wroth 1970)
1525	Estevan Gomez (Portuguese sailing for Spain), sails up the Penobscot, later captures 58 Indians somewhere in New England (Morison 1971)
1556	French crew sails up the Penobscot, finds a small fort that they call Norumbega (Prins 1989)
1579-80	Simon Ferdinando or Ferdinandes seeks site for Sir Humfry Gilbert's colony on the Penobscot (Morison 1971; Prins 1989)
1580	John Walker, on the Penobscot, steals 300 moose hides from a Native stockpile (Prins 1989)
1580s	escalation of English-French rivalry over exploration and trade on the Maine coast
1600	Montagnais middlemen trading with Maine Abenakis, European trade goods not necessarily firsthand (Brasser 1978)
1603	Martin Pring on coast of Maine, may not have landed (Snow 1978)
1604	Pierre de Gua Sieur de Monts failed colony on St. Croix Island (Champlain 1907; Lescarbot 1928)
1604+	increasing French on Grand Banks (Morison 1971)
1603-5	Samuel de Champlain on Maine coast, Indians interested in French fur trade, noticed trade goods and some pidgin French among them (Champlain 1907; Snow 1978)
1605	George Weymouth kidnaps Indians on Maine coast (Snow 1978; Burrage 1906)
1607	coastal Maine reached by middleman trade from St. Lawrence and Maritimes (Brasser 1971)
1607	Weymouth, Popham, Raleigh, Gilbert on the Kennebec, failed Popham colony (Snow 1978; Clark 1983)
1609	Henry Hudson on Maine coast, attacks Indians and steals rather than trades for furs (Brasser 1978a)
1611	Pierre Biard's Jesuit mission on Mount Desert Island (Brasser 1978a; JR 1896-1901; Prins 1989)
1616	Richard Vine winters near mouth of Saco (Clark 1983)

Of all of the subregions of the North Atlantic region, coastal Northern New England probably had the longest period of initial contact. Because of Basque and English interests in the Grand Banks, sporadic contact on the Maine coast may have begun as early as 1480, and continued with the Basque, English, French, and Portuguese until the establishment of the English fishing colony at Monhegan Island in 1610 (Morison 1971; Braudel 1975; Clark 1983; Prins 1989). While trade may have continued without event until the 1520s, Native People on the Maine coast were wary of Verrazano during his 1524 visit (Wroth 1970), which suggests some earlier unpleasantness. It is conceivable that early explorers, rather than fisherman, were the cause of Native reluctance to trade in the 1520s, since we do not have records for all explorers' visits, or their actions. The escalation of European rivalries may have led to kidnapping of Native people or more forceful tactics on the part of early explorers (Morison 1971; Axtell 1988a).

During this period, trade and exploration appear to have been confined to the coast, with some forays up the larger rivers as explorers sought a passage to Asia. In 1525, Gomez sailed up the Penobscot (Morison 1971), and it is likely that others also sailed into rivers until they realized their error. Fishing, provisioning, and trade were all likely European activities during these trips, as were sexual encounters with Native women (Brasser 1978a). In northern New England, all European activities were extractive in one way or another, with Europeans relying on Native people for their participation. Native people of northern New England were said to prefer metal artifacts as trade goods, refusing beads and other goods.

#### **Patterns of Contact in Interior Northern New England**

While Europeans landed along the coast and occasionally sailed up larger rivers, the movement of trade goods into Maine's interior appears to have been second hand. Seasonal movements from the coast to hunting areas would have brought Native people, carrying European trade goods, inland. These goods may then have been traded to other inland groups without access to coastal trade. Besides French trade from the coast, Montagnais middlemen were also said to have reached Eastern

Abenaki populations by 1600. If these came down river from the St. Lawrence, trade goods could also have filtered into the interior from the north.

#### **Patterns of Contact in Coastal Southern New England and New York Bay**

While the earliest recorded Native-European contacts in southern New England and New York Bay are those described by Verrazano in 1524 (Wroth 1970), earlier contacts may have been made with undocumented visitors to the coast. Verrazano reported that Native people in Newport Harbor (Refugio) and New York Bay were friendly and willing to trade, suggesting that they lacked the bad experiences with earlier traders that made the Maine Indians wary. The fact that the Grand Banks were closer to Maine than southern New England, and the fact that Europeans seemed to recognize that northern New England was richer in furs, focussed trade in the north (Brasser 1978a). Only for later explorations did Europeans venture farther south. In addition to firsthand contacts with Europeans, Indians of southern New England may have received trade goods secondhand from Native people from Northern New England in the course of the regular trade described by Champlain (1922-36).

In this region, presumed contact was with Dutch, English, and French in ship-to-shore trade; the Dutch founded trading posts only at the end of this period. The extent of the trade was probably quite significant, because parts of coastal southern New England were depleted of beaver by about 1600, forcing the Dutch to set their posts inland to take advantage of resources there (Brasser 1978a). French, English, and Dutch ship trade may have involved different sets of trade goods, and it may be possible to identify spheres of influence and competition for these groups through analysis of trade goods from Native archaeological sites (e.g., Johnson and Bradley 1987:13). Native people of southern New England were said to prefer beads, bells and other ornaments to utilitarian metal trade goods. Suiting these tastes would have been a primary concern for European traders.

## BOX 12: EUROPEAN VISITS TO COASTAL SOUTHERN NEW ENGLAND AND NEW YORK BAY

- 1498 John Cabot, possible landing on coast, lost at sea, no record (Morison 1971)
- 1511 Miguel Corte Real inscription on Dighton Rock, Taunton River, Massachusetts (doubtful) (Morison 1971)
- 1524 Verrazano at New York Bay and Newport Bay (Refugio): Native people friendly and eager to trade, spends two weeks at Refugio (Wroth 1970)
- 1508-1609 Dutch whalers in New York Bay (Brasser 1978a; Gehring 1993)
- 1602 Bartholomew Gosnold explores Martha's Vineyard, Cuttyhunk, Elizabeth Islands, stays one month trading and collecting sassafras (Archer 1602; Brereton 1602; Pring 1603)
- 1605 Samuel de Champlain sails from Maine to Cape Cod, depicts Native settlements and horticultural fields (Champlain 1922-36)
- 1609 Henry Hudson explores Hudson River and Connecticut coast, trades beads, knives, and hatchets for beaver and otter pelts, notes ceremonial presentation of shell beads (Jameson 1909)
- 1610 growth of Dutch fur trade (Brasser 1978a)
- 1614-1616 Adrien Block reexplores Connecticut coast and its major rivers
- 1614 Thomas Hunt explores Massachusetts coast and Cape Cod, kidnaps seven Nausets and 20 Patuxets, including Squanto, sold as slaves in Spain (Brasser 1978a)
- 1614-1617 Dutch found Fort Nassau trading post on Castle Island near Albany (Brasser 1978b)
- 1619 Thomas Dermer explores Massachusetts coast (Dermer 1841, 1906)
- 1624 Dutch settlers on Burlington Island in Delaware River, set posts upriver to avoid contact with coastal areas that are already depleted of beaver (Brasser 1978a)
- 1626 Dutch move from Burlington Island to New Amsterdam (Brasser 1978b)
- 1630-1631 Dutch found trading post in Narragansett Bay

In addition to peaceful trade, European visitors to the New England coast probably also landed to provision their ships, fish, and on at least one occasion, to collect a cargo of sassafras (Archer 1602; Pring 1602; Brereton 1602). European visitors also kidnapped Native people in southern New England, which affected later contact and trade.

### Patterns of Contact in Interior Southern New England

While Native people in the interior of southern New England may have received trade goods secondhand from coastal groups, this does not appear to have occurred very rapidly, as trade was said not to have penetrated to interior Massachusetts until 1609. This may suggest that there were no preexisting trade networks between the coast and the interior for this region, since the dispersal of material usually followed these routes. And, while trade moved up the Connecticut River rather early, it does not seem to move away from the rivers very rapidly (Thomas 1979, 1985), suggesting that travel and trading relationships were confined to groups up and down the river rather than from the river to the interior. However, investigations of changes in subsistence and seasonality for interior groups may lead to greater knowledge of their involvement in secondhand trade of European goods.

## BOX 13: EUROPEAN CONTACTS WITH INTERIOR SOUTHERN NEW ENGLAND

- 1614 Dutch establish Fort Nassau trading post on Castle Island in the Hudson River
- 1614 Dutch trade on the Connecticut River near Hartford
- 1624 Dutch build Fort Orange, use Mahican middlemen to control trade with Iroquois and others (Brasser 1978b)
- 1633 Dutch establish trading post on an island in the Connecticut River near Hartford (Day 1978)
- 1636 William Pynchon establishes trading post at Springfield (Day 1978)
- 1640s possible contact between the French and Western Abenakis (Day 1978)

The period of initial European contact with Iroquois groups, specifically the Mohawks, begins with secondhand trade from the St. Lawrence, which was established by 1609 (Trigger 1978b). The Chesapeake Bay groups were also reached by St. Lawrence middlemen by 1607, so presumably these individuals carrying trade goods were moving through Iroquois territory and may have traded along the way (Brasser 1978a). Seneca sites from 1550-1575 contain small amounts of European trade goods, which may have come secondhand from the Atlantic or from the St. Lawrence. These include iron axes and knives, brass ornaments—presumably made of cut-up kettles—and a few glass beads. Besides direct trade, the Mohawks may also have acted as middlemen between the Dutch and other Iroquois groups, as Dutch artifacts appear for later periods (Wray and Schoff 1953). Iroquois groups were said to be involved in the fur trade by 1630 (Trigger 1978b). Since the Dutch moved up the Hudson quickly (Brasser 1978a,b), the Mahicans and the Mohawks may actually have experienced a very abbreviated period of initial contact and skipped quickly to sustained contact and settlement. This may also be true for the Susquehannocks.

**BOX 14: EUROPEAN CONTACTS WITH THE IROQUOIS**

1534	French contacts (Cartier) with Iroquoians outside the region, secondhand trade could come from these sources (Trigger 1978b)
late 16th century	Mohawks raid St. Lawrence groups for trade goods (Trigger 1978b)
1607	Chesapeake reached by middleman trade from St. Lawrence and Maritimes (Brasser 1978a)
1610	Champlain states Mohawks get iron axes in warfare with others rather than through trade (Champlain 1922-36)
1614	Dutch establish Fort Nassau trading post on Castle Island in the Hudson River, trade with Mahicans who act as middlemen to the Iroquois (Brasser 1978b)
1624	Dutch build Fort Orange, use Mahican middlemen to control trade with Iroquois and others (Brasser 1978b)

European trade succeeded only because Europeans could insert themselves into existing trade structures and patterns; thus we can expect continuity of existing trade networks in moving goods away from coasts and posts. However, it also suggests that Native people had existing ideas about what their side of exchange ought to be like—what goods were likely to be desirable and what the social contexts of exchange would be. Native people in northern New England, who had expectations to trade with Indians from southern New England, appear to have stockpiled furs for that purpose (Champlain 1922-36; Prins 1989). In southern New England, horticultural surpluses would have been made available for the same exchange, but these may have been less attractive to Europeans at this time. At some point, transformations in the expectations of trade must have occurred. There is also the question of why Maine's Native people chose to trade only for metal articles with Verrazano, while those in the south wanted ornaments rather than seemingly utilitarian items (Wroth 1970). This suggests that these categories of items may reflect Native expectations for trade during this period. These expectations, along with the availability of classes of European trade goods and their relative bartering "prices," influenced what was actually traded during this period.

In the earliest recorded exchanges, Verrazano gave bells and beads to the Indians of Refugio (Newport Harbor). They did not want cloth or metal implements. They already had wrought copper plates they wore as ornaments, which may have been made of native copper traded from the Great Lakes. There does not appear to be a record of what the Indians offered in exchange for these gifts. In Maine, Native people offered furs on sticks, accepting only metal implements (Morison 1971; Wroth 1971).

Other standard trade goods that appear in early inventories include: red stroud and other varieties of cloth, although these may have only become popular later; iron nails, knives, and hatchets; glass beads; brass kettles, which were broken up and refashioned into ornaments and tools; liquor; shallops, used to create new middleman traffic and raid other Native groups (Bourque and Whitehead 1985); latten spoons; bells; and thimbles. Some of

these were used in Native societies in ways similar to those intended by their makers; beads and knives might take the place of their Native counterparts. Many metal artifacts, including knives, were intentionally broken up and simply used as raw materials to fashion artifacts that fit Native templates. Items without analogue in Native society could be adopted in any way that seemed feasible; latten spoons might become pendants, glass bottles could become iconic and be placed in Native graves for ritual purposes (Gibson 1980). As Hamell (1983) suggests, Native people fit trade goods, no matter what their intended use, into their own ideas about society, and symbolic values could be grafted onto seemingly utilitarian items.

Most documented trade goods would all have been stocked on ships, and do not reflect the accidental or incidental trade events of earliest contact. The bits of metal said to have been traded by the earliest Basque visitors may survive archaeologically as ornaments or arrow points.

While furs may have already been stockpiled in the North, other Native people had to learn that Europeans desired furs above almost anything else. This appears to have happened relatively quickly, as Hudson was offered beaver and otter skins, for which he gladly gave glass beads, iron knives, and hatchets (Brasser 1978b). The reorganization of Native ideas of trade would probably have emphasized the production of existing categories, such as wampum beads and furs. Lescarbot described the aboriginal production and trade of wampum in 1606, which probably involved exchange between the Iroquois and coastal groups, but which may have required Native middlemen like the Mahicans (Lescarbot 1928; Salwen 1978; Brasser 1978b). In addition, we must look for changes in Native seasonality and production to determine the extent of the reorganization of Native societies to support the fur trade.

Besides looking at the material goods that entered Native societies, we must also ask what sort of social contacts between Native people and Europeans are represented by the physical trade of material items. These contacts would have affected Europeans as much as Native people yet they may remain invisible until inquiry is focused upon them.

## Consequences of Contact: Cultural Change

In terms of changes in Native American societies for this period, Brasser (1978a) has suggested that Native culture change was limited by language barriers, and that ideological and nonmaterial change could not have taken place. However, we must recognize that changes in Native material culture brought about by trade goods could still have significant ramifications for Native societies. Even if early traders and explorers were uninterested in converting or assimilating Native people to European cultures, the changes brought about by the reorganization of Native societies to take advantage of the fur trade brought sweeping changes. Changes in Native seasonality and settlement pattern could bring Native people to the edge of starvation since they might give up large mammal hunting or horticulture in order to procure furs or make wampum. The items they received in trade for furs or wampum beads were often inedible.

The introduction of beads and other categories of ornaments probably altered the existing system of status markers and perhaps the systems of calculating status. For example, among men, successful hunters might be esteemed less than individuals who cultivated exclusive relations with Europeans. Archaeologists must also question whether European trade goods in Native graves really signal status or whether other symbolic means might have been used to mark the graves of important individuals. We must also question whether the relatively rigid categories of social status described by Verrazano for Indians in southern New England were present before European contact, arose from the early trade and subsequent reorganizations of Native societies, and/or reflect the biases of the observer (Brasser 1978a). These questions may be examined through changes in Native mortuary patterns from precontact to postcontact times (Simmons 1970; Gibson 1980; Tuck 1971; Bradley 1987b; Turnbaugh 1984, n.d.). However, since few early Contact Period Native remains are known, and fewer are likely to be excavated in future, archaeologists may need to devise different ways to examine such questions.

Mortuary studies, including reanalysis of existing collections, may also help us to understand whether Contact brought about alterations in Native

gender relations. If we assume that precontact gender roles and relations were equal and complementary (which may or may not be borne out by Late Woodland studies), did this change? Were women's roles and status altered by the exclusive male participation in trade with Europeans? Did Native women try to find ways to equalize these situations and reaffirm their place in Native societies? At what point did women become important as wampum producers and how did this accord with their traditional roles?

Despite Brassers's suggestion that the earliest period of contact may have affected only Native material culture, the changes in status systems and social relations brought about by the advent of Europeans and their trade goods would likely have affected Native worldview. Similarly, the changes in Native politics and leadership brought about by European contact illustrate that change was not simply the material substitution of one artifact for another.

Because the earliest trade was conducted between European fishermen and whalers and the individual Native people they found on shore, it followed indigenous patterns of individual trade. However, as explorers were more likely to seek out headmen of Native groups and make ceremonial prestations to them, the transformation of individual to group trade (on both sides) altered the dynamics of trade, and Native leaders become more important in redistribution. The responsibility of controlling trade and redistributing European trade goods fell to sachems and sagamores, whose duties were radically transformed in the North (Brasser 1978a). While northern patterns of leadership changed, they never become as strong, or perhaps as hereditary, as those in southern New England because of winter dispersal (Brasser 1978a). Among the Delaware as well, strong leaders emerged among larger groups to control trade and access to goods (Brasser 1978a; Goddard 1978; Wallace 1957; Weslager 1972, 1983; Kraft 1983).

In southern New England, Native groups began to compete with one another over access to European traders and their established posts, causing warfare and aggression to a greater degree than that which appears to have existed prior to contact. Besides overt competition between groups, we must also examine whether the new emphasis on relations

with Europeans caused Native-Native trade to decline, and whether the relations between Native groups that were maintained by this trade deteriorated as European trade escalated, leading to more Native aggression against other Native groups.

Discussion of relations between Native groups brings us to the question of whether the Native groups met by Europeans are identical to those known and described during later historic times. Recent work in northern New England suggests that the Native groups we recognize today probably did not exist at time of contact, but are most likely the result of sixteenth- and seventeenth-century reorganizations of Native societies based on access to Europeans and trade goods (Brasser 1978a; Bourque 1989). For instance, in 1614 Champlain described an alliance including all coastal Native groups between Casco Bay and Cape Ann (Champlain 1922-36; Salwen 1978). This did not adhere for any period after that, so we must wonder at the causes of its breakdown. Similarly, we must wonder what constellation of conditions brought about the hostility that existed between groups from the Narragansetts to Penobscot Bay during the early Contact period, but which probably did not exist in the Late Woodland. The creation of trade monopolies by the Penobscots, Narragansetts, Pequots, Mahicans, and Woronocos (Brasser 1978a) and intertribal wars like the Tarrantine War of 1607-1615. (Snow 1978) also suggest that new conquests might have brought about tribute and dominance relationships between Native groups.

In addition to new hostilities, new linkages were also created in terms of the formation of confederacies—local communities with direct trade and contact with Europeans linked up with other Native communities. Warfare between different confederacies also led to the amalgamation of larger settlements, palisaded villages, and generalized defensive behavior on the part of Native people (Brasser 1978a). Among the Iroquois, conflict over trade increased hostility between the Iroquois and other groups, especially the Hurons (Trigger 1978b). The Mohawks also warred with the Susquehannocks in 1615, presumably over control of the trade (Trigger 1978b). Mahican control of the middleman trade with the Dutch was also challenged by the Mohawks, with trade wars in 1624 (Brasser 1978a; Trigger 1978b).

The reorganization of Native groups and intertribal aggression also brought about population movements relatively early on. Because of their contacts with the Dutch, the Hudson River Wappingers gained direct access to European trade goods. With their growing power, they forced the Munsees to move from the lower parts of the Hudson River in 1617. Mahican control of the trade brought about the 1624 trade war between the Mahicans and the Mohawks. As result, the Mahicans were pushed east of the Hudson in 1628, and shifted their hunting territories toward the north (Brasser 1978a; Hoffman 1967). This in turn displaced other Native groups in the region (Brasser 1978a).

## **Research Questions**

### **General**

What are the consequences of initial contact, how do these vary from group to group, how can they be observed archaeologically?

How are our ideas of the precontact period affected by projecting Contact Period situations into the past? Is this realistic or are there contradictions between the records of these two periods that require more attention?

What are the sources most likely to inform archaeological interpretations (e.g., early accounts, Native traditions, material culture analyses)?

How accurate are Champlain's depictions of Native settlements from the Saco down to Cape Cod and their extent and organization of horticultural fields?

We have assumed here that the Mahicans and Mohawks skip the initial, sporadic contact and that their initial contact with Europeans was more intense and of longer duration. Is this true? Is it also true for the Susquehannocks?

### **Demography, Ethnicity, Territoriality, and Interethnic Relationships**

How large were precontact Native populations?

What were the existing ethnic divisions and relationships in Native societies before contact with Europeans? Were they organized along river

drainages (Snow 1980) or differentiated by coastal versus inland divisions (Sanger 1989)? Were the differences subsistence-based, linguistic, or political? How might these differences be reflected in the archaeological record?

Is Snow's river drainage model solely postcontact, or does it apply to precontact societies?

If we assume that tribal groups before contact are different than the ones recognized today, how do earlier groups become later groups and how do we know it? What are the roots of today's tribes?

Did large-scale Native conflict of the type that characterizes the seventeenth century exist prior to contact, or is this a Contact Period phenomenon? What was the extent and basis of competition between groups? In what areas are fortifications present or absent before contact?

Historical records suggest that Native population movements occurred as a result of trade wars and the availability of resources: how do these effect relationships of social diversity (mixing of groups) and how are they visible archaeologically (e.g., the movement of the Mahicans)?

What was the scale of seasonal movement for groups in southern New England?

Can we do an archaeology of family and group hunting territories?

Does contact bring about tribute and intergroup dominance relationships or do these already exist in some form? How might such relationships be reflected in the archaeological record?

Can we do an archaeology of the League of the Iroquois?

### **Early Contact and Trade**

Is there any real impact from the Norse in Northern New England, or does it appear only as distant secondhand trade? Is there any real Norse influence or presence in this region?

We assume that because Europeans were present off the coast after 1480 that they did make occasional contact and trade with Native people. How can we see these contacts archaeologically?

Can we recognize differences between directed and random trade? What would incidental, random, or unplanned trade look like archaeologically? Would we be able to differentiate it from organized trade through the amounts and type of goods traded?

Can the different European origins of early trade goods be determined through metallurgical or other compositional analysis?

We have assumed that the earliest trade was between European and Native individuals, and that later, more organized trade occurred between ship captains and sachems or sagamores. Does analysis of the frequency and amounts of trade goods point to the development of a redistributive role for sachems/sagamores that developed with later trade? To what extent did individual trade continue after the beginning of organized trade?

Portuguese, Italian, and Spanish explorers documented the coast of the North Atlantic region, and we assume that they made some contact, however incidental, with Native people. Is this trade visible archaeologically? Verrazano (1524) noticed copper plates among the people at Refugio (Newport) and it has been assumed that this copper was traded from the Great Lakes or other regions outside New England. Is there archaeological evidence of this trade, or does the presence of copper suggest trade with European visitors before Verrazano?

#### **Middleman Trade and the Interior**

Can we see direct contact between Native people and European traders on rivers? How might this look different archaeologically from European goods traded upriver by Native people?

Do trade goods appear in the interior regions for this period? Do they come from English and Dutch via the Atlantic coast through the fur trade or do they come from the French on the Saint Lawrence?

To what extent are precontact trade routes maintained or transformed after contact? How does this vary across the region (e.g., Connecticut River Valley, St. Lawrence-Chesapeake, interior Maine)?

Are there changes in subsistence and seasonality occurring in the interior that suggest that contact or trade existed that is not yet supported by the material record (e.g., Iroquois, interior New England groups)? If so, can we tell whether interior people were drawn into the fringes of the fur trade by Native middlemen or through direct contact with Europeans?

Do Native people in Southern New England receive European trade goods from Native people in Northern New England before Europeans themselves land and trade in Southern New England?

European trade goods are said not to have penetrated to the interior of Massachusetts until 1609; is this true? If so, why?

Can we see the role of the Mahicans and Mohawks as middlemen in aboriginal and/or European trade through archaeology?

Historical records suggest that contacts existed between the French on the St. Lawrence and the Western Abenaki. Can we see this archaeologically?

How are Native groups in the interior drawn into the trade? Does the pattern of Native leaders elaborating their redistributive roles apply to the interior as it may to the coast?

#### **Trade Goods**

Can we see patterns of European exploitation and influence by looking at trade goods, including which areas each European group sought or claimed to control and what mechanisms they used to try to gain control?

Are there real differences in what each European group traded? (this is an archival question that may inform the above idea of determining European spheres of influence in the North Atlantic region)

What does identifying the country of origin of trade goods really tell us? Are these appropriate ways to look at the real interactions that occurred if Europeans were trading and buying and selling amongst themselves? Are there particular categories of material culture for which this strategy is an appropriate mode of inquiry and ones for which it is not?

During the early contact period, Native people were said to have stockpiled furs in anticipation of trade. Do Europeans simply take the place of preexisting Native trade partners? Is there archaeological evidence for these expectations for Native-Native trade in precontact sites? Do these change after contact?

How does the availability of particular classes of European goods, and their relative "prices," affect what is traded?

Early explorers suggested that Native people in Northern New England preferred metal objects of any type as trade goods, and that Native people in Southern New England sought more decorative goods. Can this be tested archaeologically?

What is the impact of the Dutch trading post in Narragansett Bay? Is there any way to differentiate the Dutch goods traded here from Dutch goods traded by the English at same time? If so, what was the sphere of influence of the Dutch trading post?

Are categories of Native material culture replaced by European goods as a result of trade? If so, which categories, how, and with what consequences?

#### **Changes in Native Culture as a Result of Contact**

Generally speaking, how did Native societies change to provide resources for Europeans?

At what point do Native societies begin to be transformed by trade and alter their existing cultural patterns to take advantage of trade opportunities? Do changes in subsistence and settlement pattern inform this? Can changes in Native seasonality and production help us determine the extent of the reorganization of Native societies to support the fur trade?

Historical accounts suggest that the Dutch quickly penetrated interior areas to avoid coastal areas depleted of beaver. Can we test this archaeologically? Can we see the extent of Native-European trade by looking at the rates of depletion of fur-bearers in other regions?

Can archaeology inform the extent of horticulture in Northern New England (suggested by Champlain)? Is it abandoned or does it simply become less important?

Can we see the development of the wampum trade and changes in production through archaeology?

What do trade goods mean in Native graves?

#### **Status and Gender**

Were Native social relations, and gender relations in particular, changed by contact and trade? What might be the relationships between shifts in gender relations, changes in status systems, and what appears to be the rise of patrilineality during the Contact period in southern New England? Is one of these a trigger (cause) and the others resulting effects, or do they feed back on each other?

Are shifts in gender relations for the Iroquois, including the rise of matrilineality, related to trade through a growth in the importance of women in trade?

To what extent do social hierarchies develop in seventeenth-century Southern New England? How are such developments related to trade and contact?

Are there alterations in generational relationships because of contact and trade? For example, if elders gain in status after epidemics, when they may become important as repositories of traditional knowledge, what was their status during the early Contact period?

Seventeenth-century mortuary sites include large amounts of trade goods for younger individuals. How can we explain this pattern? Do younger people gain status as a result of their activities in European trade? (Gibson 1980; Simmons 1970; Bradley 1987b; Turnbaugh 1984; n.d.)

Status systems change with the introduction of new goods, but which of these is the primary factor? Does the introduction of new materials breed a new social system, is an existing social system elaborated through the addition of new goods, or is a new system of status marked by new goods?

How can archaeologists examine social status without relying on mortuary assemblages?

Does trade in European goods increase men's status? If so, what happens to women and women's status?

If gender relations become unequal, do subordinate members of society attempt to equalize these situations and reaffirm the roles and status positions of women? If so, how?

Did women become important as wampum producers in southern New England? If so, when and why?

In northern New England, the duties and status of leaders are said to have been transformed by contact; their primary role became that of redistributor of European goods. Is this evident in the archaeological record? Is this the case among other groups (e.g., the Delawares)?

#### **Archaeology of European Life**

How can archaeology inform us about European life in the earliest colonies (e.g., St. Croix, Acadia)? How much archaeology has been done, or can be done, on the European side of this period? How can archaeology complement, supplement, or interrogate European accounts of the earliest settlements?

Is there archaeological evidence of the dependence of Europeans in early colonies on Indians? Are European populations constantly at risk in terms of their physical survival, both in terms of subsistence and personal safety? For early fishing stations and settlements, can we see dependence on Native people for surplus foods, etc?

Can we do an archaeology of early European shore stations, such as fish flakes?

Can we find archaeological traces of island landings for other resources, such as Gosnold's stop on the Elizabeth Islands?

What social contacts and relationships between Native people and Europeans are represented by the existence of trade goods or other European items on Native sites? How did these contacts effect Europeans?

What were the effects of the failed or short-lived colonies (e.g., St. Croix, Popham, Richard Vine's winter on the Saco River) on nearby Native communities?

What is the potential of shipwreck archaeology to inform our ideas about Native-European trade? Would these wrecks give us some idea of the number of Europeans involved in exploration (especially in terms of carrying disease), cargoes of potential trade goods, and ship hardware that could be ripped off by seamen for trade, or salvaged by Native people?

## **SUSTAINED CONTACT, EPIDEMICS, AND EUROPEAN SETTLEMENT (CA. 1600-1756)**

**Ann McMullen**

### **The Character of the Period and the Overall Setting**

Like the period of Initial Contact, this period was extremely variable in duration. Marked by the establishment of trading posts and successful colonies, the period was also characterized by constant, face-to-face contact between Natives and Europeans, the spread of epidemic diseases, and rapid, massive culture change in Native societies. For subregions within the North Atlantic, this period continued until the European presence was firmly established. For greater New England it continued until the beginning of armed Native resistance to European encroachment, while in New York it continued to the end of the era of trading posts and the influx of large numbers of settlers. These two regions can be distinguished according to differences in changes in Native societies and everyday life. Different regions can be identified based on variations in European settlements and their adaptations, including maritime pursuits, agriculture, and trade. In some cases, these adaptations were more situational than regional; the trading post adaptation existed in New York State and some locales in Maine, even though surrounding areas fit the maritime and agricultural patterns.

During this period, Native production focused increasingly around trade with Europeans. The growing importance of European trade goods to Native life fostered a reliance on trade to supply goods and materials and a reorganization of production to secure resources for exchange with Europeans. In some areas fur production escalated, and Native people near the coasts became middlemen, facilitating trade between interior hunters and Europeans on the coast. Shifts to large-scale wampum production for trade and associated resource extraction (Ceci 1977, 1982, 1990) also occurred among coastal people. Horticultural production decreased as people shifted to wampum production. At the same time, many shifted hunting strategies away from large food animals like deer and moose toward smaller fur-bearers, upsetting traditional subsistence patterns. Where Native people

had traded food surpluses and other resources with one another, surpluses were redirected to Europeans to secure trade goods, and relations between Native groups deteriorated. Competition among European groups for access to Native trade increased demand for furs and wampum, spurring production and further altering Native patterns of production. Changes in production and political and ethnic relations, exacerbated by population losses due to introduced diseases, profoundly affected the fabric of Native societies.

While the fur trade predominated in some areas, the creation of European settlements for fishing, whaling, agriculture, and other pursuits became increasingly important. Production of wood products—lumber, shingles, wood, and masts—occurred simultaneously with clearing for subsistence agriculture. Hunting and fishing augmented agriculture for subsistence, and provided small surpluses for trade. Trading posts, which continued to collect furs from Native people, also supplied the needs of European settlers and redistributed locally produced agricultural products, local manufactures, and necessary tools, such as guns and knives. In order to facilitate travel and the transportation of goods, the colonial infrastructure grew, creating a network of roads connecting trading posts, taverns, and settlements.

### **Native People and Their Cultures**

At the beginning of the period of initial European settlement of the North Atlantic region, Native cultures were much the same as they had been before European contact. However, the influx of European trade goods had an impact on Native material culture, and resulted in changes in subsistence, seasonality, social relations within and among Native groups, and relations between Native groups and Europeans. While we can discuss regional adaptations and patterns of life with some certainty, the actual constitution, names, and territories of particular groups are more problematic for this period. Competition for access to European traders and their goods brought about conflicts between Native groups based on territory and access to resources and trade routes (Salisbury 1982), resulting in new leaders and new groups that may have been based more on political and economic

circumstances than ethnic or linguistic differences (Bourque 1989). With the introduction of epidemic diseases and resultant loss of population, these effects and reorganizations continued on a massive scale.

### **Northern Algonquian Hunter-gatherers**

During this period, Native cultural groups probably included those that have been called Etchemins and Eastern Abenakis (Penobscots, Kennebecs or Canibas, Arosaguntacooks, and Pequawkets). However, in relation to the territories these groups held before contact, shifts probably were in process between drainages or between coastal and upland areas, and conflicts between groups arose over these changes. Whatever the changes, the population of the area inhabited by northern Algonquian hunter-gatherers probably remained steady at around 20,000 (Snow 1978). In some cases, populations may actually have shifted, or may simply have traded their political allegiances from one sagamore to another in attempts to gain more profitable access to resources, both furs and contacts with Europeans. Besides links with political leaders, individuals and families may have sought to maximize trade opportunities by exploiting or emphasizing different kin relationships that allowed them entry into different resource areas and spheres of influence of different European traders.

The commitment of some Native people to alter their ways of life in order to participate in the fur trade is exemplified by the Etchemin sagamore Bashabes' statement to Champlain that his people were willing to hunt more beaver for trade (Snow 1980). During the initial phase of contact, Native people already recognized European traders' preferences for particular harbors and altered the timing and location of their summer camps on the coast to coincide with the arrival of Europeans. However, the French quickly realized that summer, the best time for their travel, was not the best time to get high-quality furs, and shifted their trade to a winter schedule. The English also observed that Native people were eager to trade furs for Horticultural products in winter. Native emphasis on fur-bearers decreased their ability to concentrate on moose and deer as food resources and increased the risk of winter starvation. Where earlier trade

between Europeans and Native individuals occurred at dispersed summer camps on the coast, exchange later fell under the control of sagamores like Bashabes (Snow 1976) and occurred during winter at villages near the fall line. These changes were accompanied by the escalation of conflicts among Native groups over access to fur bearers and traders, such as the Etchemin-Souriquois conflicts of 1608-1610. As a result of such conflicts, smaller villages moved together, creating fewer and larger villages, which were more easily defended.

These larger villages, at the sites of traditional spring fishing camps, provided a more permanent central base from which Native people could exploit both their coastal fishing and hunting areas and interior hunting territories. Dispersal to other areas for particular tasks and resource extraction still occurred, but part of the population, including the sagamore, probably remained at the village to control the accumulation and trade of furs there. At coastal and interior camps, the organization of everyday life probably remained the same, although fall and winter hunting focussed more on beaver and other fur bearers rather than on moose and deer. Periodic returns to the central village to deliver furs and reprovision from stored food resources may have been necessary.

At the beginning of this period, Native material culture was probably similar to that of precontact Native societies, with the addition of metal and some other materials. Large-scale substitution of European for Native artifacts only occurred later. Since European trade goods were accumulated and redistributed by the sagamores, access to them, and changes within Native material repertoires, were probably relatively uniform. The northern preference for utilitarian rather than decorative European trade goods probably resulted in an emphasis on metal knives and other artifacts that could improve hunting and skin-processing technologies for the fur trade. Additionally, a small number of firearms might have entered Native societies during the early part of this period. However, these probably did not have a significant effect on hunting and the fur trade until the 1630s (Cronon 1983).

Since trade and redistribution were centrally regulated and therefore relatively uniform, northern Algonquian Native societies probably remained basically egalitarian. The only exception was

probably the sagamore and his family, whose elevation in status within the group may have been more symbolic than material. However, polygyny was present for northern sagamores, and this may indicate: 1) greater personal inequality, 2) that a larger household could be supported by the sagamore, and/or 3) that a larger household was necessary to feed, entertain, and house visiting traders. All would suggest that group members contributed to the maintenance of the sagamore's household in some fashion, either through direct gifts of food, furs, other materials, or services.

While trade relationships between Native individuals probably suffered at the expense of increasing trade with Europeans through the sagamores, social relations between kin probably continued much as they had. Trade in resources not valued by Europeans might have continued between kin and trading partners in nearby groups, but was probably secondary to the fur trade. As emphasis on the fur trade grew, the economic value of women's contributions to subsistence and society may have been devalued, perhaps with concomitant reductions in their social status.

#### **Southern New England Horticulturalists**

As with Native groups in northern areas, cultural groups in southern New England were probably relatively fluid during this period. While ethnonyms—the names of ethnic groups (Mailhot 1986)—remained relatively constant, the populations they represented did not, due to everyday tension associated with village life and political interaction. Thus while linguistic or ethnic entities such as the "Western Abenaki" or "Lenni Lenape" may have existed for long periods, the actual residential and political groups comprising them were much shorter lived. However, because Native groups in southern New England were horticultural and therefore more closely tied to the land, groups appear to have been less likely to make major territorial shifts than people in northern New England. Until epidemic decimation in the early seventeenth century, the Native populations for these groups probably remained relatively stable. As with groups in northern regions, individuals might emphasize kin relationships with other communities or groups to gain access to European traders. The potential for

individuals to manipulate kinship to their own ends is demonstrated by the Mohegan sachem Uncas' genealogy, recorded in the 1630s (Means 1947; Burton and Lowenthal 1974).

Although Native people in southern New England were eager to trade with Europeans, greater human densities and lower fur-bearer populations led to rapid depletion of beaver and other animals by the mid-1600s. To continue their participation in the fur trade, southern New England's Native people became middlemen by increasing the production of wampum to use for trade or by exacting tribute in wampum or furs from interior or other coastal groups. These adjustments to Europeans and trade do not appear to have had any great effect on settlement patterns in southern New England, although subsistence and land use altered to increase fur production. Later, procurement of shells to make wampum increased the amount of time people spent on the coast. In addition, Horticultural production in some areas may have risen to compensate for the decreasing importance of fall and winter hunting, and perhaps to provide surpluses for trade to Europeans.

While trade with Europeans in southern New England appears to have had more of an individual than group basis, Native groups acted to try to control the trade. The Narragansetts, Niantics, Mohegans, and Wampanoags, for instance, all sought at times to control other groups via tribute relationships, which sometimes resulted in raiding and other forms of warfare (Johnson 1993). Many large villages were palisaded against attack, although they were never large enough to house the group's entire population permanently, and may have been used instead as refuges, as workshops for wampum production and as storage places for stockpiling trade goods. Conflicts among Native groups may have resulted in loss of territory, but more probably involved the shift of tribute obligations. For example, Massasoit's loss of the island of Aquidneck probably meant that he lost their tribute, and not that the "Pokanoket" population left and was replaced by "Narragansetts."

Compared with northern New England, trade was more individual in southern New England. Thus, greater personal inequality was more likely than in the north, where sagamores controlled redistribution. Individuals, perhaps both male and

female, could trade their horticultural surplus, furs, and wampum for European trade goods and redistribute them as they chose. Since Native people in southern New England favored decorative rather than utilitarian goods, new systems of status marking appear to have developed involving types and amounts of trade goods (Simmons 1970; Gibson 1980). However, utilitarian goods—knives, metal, blankets, clothing, etc.—were also traded, and brought about changes in Native everyday life as they were added to material repertoires. European goods did not replace Native manufactures until later in the seventeenth century, thus Native material culture remained functionally the same, with the addition of a few new categories of European trade goods.

By the time European settlers first moved into this area, some institutionalized inequality existed within the basically egalitarian Native societies in southern New England. This may have been further encouraged by the growth of the wampum trade, where individual production or acquisition of wampum could lead to personal wealth, although traditional obligations to redistribute surplus may have countered tendencies toward inequality. While not a true class system, a limited amount of hereditary inequality appears to have existed, although status was largely determined by personal achievement. Before contact, women's work and status was probably relatively equal to that of men. However, post-contact changes in the worth of women's work in relation to male trade may have altered the status quo. However, women's ability to produce and trade horticultural surplus and wampum could have kept personal status an individual matter, rather than one determined by gender. As with northern New England, kin relations probably would have continued after contact in much the same pattern as before. Since trade remained a relatively individual matter, it could continue with kin and members of other groups for personal benefit.

### **Iroquois and Mahicans**

Although the actual composition of Iroquois and Mahican populations changed during this period, the ethnic groups present before contact, and the territories they held, remained relatively constant. However, since initial contact and European trade

had substantial effects only on the Mahicans and Mohawks (and to a lesser extent the Senecas), the other Iroquois groups were primarily affected by Europeans only after the mid-seventeenth century. Until that time, their populations and internal relations were relatively stable. Subsistence, settlement pattern, land use, and other aspects of these societies were substantially identical to those of precontact times.

The presence of Europeans and their trade goods brought about changes in the organization of Mohawk and Mahican societies by altering ideas about trade with other groups. While trade was individual, groups competed, and attempted to limit travel of members of other groups through their territories in order to control trade. Mahican and Mohawk tribal members became middlemen in the fur trade with other groups in the interior, and the escalation of conflict between the two groups over access to Dutch traders brought about territorial shifts, with the Mahicans moving east of the Hudson River. Both men and women were active in the trade, and travelled extensively within their own territories and those of other groups. For those participating more directly in the fur trade, hunting of fur bearers increased. The effects of trade on Iroquois and Mahican status systems probably caused some individuals to rise in status, but since the structure of the League of the Iroquois was peace related and controlled by women, it is unlikely that successful traders gained substantial influence over society. Trade goods themselves, especially utilitarian wares such as knives, axes, and the like, were added to local material inventories, but did not replace their Native counterparts.

### **Europeans and Their Cultures**

Following initial contact, when tentative explorations and colonies brought Native people in contact with Europeans, trading companies sought patents to trade and settle in the North Atlantic region in order to secure the claims of European powers. As suggested above, the Europeans who came to the New World were diverse in terms of their social backgrounds and expectations. How these various attitudes affected later phases of contact and settlement has been the subject of a vast literature (e.g., Axtell 1985, 1988d; Bachman 1969;

Bailey 1937; Brasser 1978a; Braudel 1975, 1979, 1982; Healy 1958; Jacobs 1969; Jaenen 1976, 1982, 1984; Jennings 1975; Kupperman 1980; Sauer 1971; Simmons 1981; Trelease 1969; Trigger 1978b, 1985; Vaughn 1965; Wade 1969; Wallerstein 1974; Wolf 1982).

While Old World attitudes and expectations affected patterns of European colonization, settlers also learned from Native people and in some cases took on specific Native patterns or adaptations. For instance, Europeans followed Native whaling adaptations on Cape Cod and Long Island and exploited these resources themselves. However, this was not always the case. For example, English settlers on Cape Cod chose subsistence agriculture over the Native fishing adaptation. In some cases, European adaptations and patterns of land use eliminated Native ways of using the same resources, because European patterns of exploitation displaced Native patterns spatially or exhausted the resources.

Despite the fact that we can discern patterns of settlement, not all Europeans were part of established, "official" settlements. Besides those who came with the intention of settling in established colonies, there were also traders who decided to settle on their own, and others who abandoned European ways of life and joined Native communities. Besides their potential to introduce disease, these individuals probably also had other, as yet undocumented, impacts on Native cultures.

### **The English**

As suggested above, the English largely felt themselves superior to Native people (Jacobs 1969; Kupperman 1980). Many of the English who settled at Plymouth and other locales were educated and of the higher classes. They recognized that Indians were human, but felt that they were like European lower-class folk—simple, relatively honest, and untutored. Like the English lower classes, Native people were valuable economically (Kupperman 1980), and efforts to befriend them and maintain peaceful relations were necessary because the English needed Native trade in order to turn a profit on their settlement ventures (Vaughn 1965). Once these profits were secured, however, Natives could be pacified or eliminated (Brasser 1978b). English racism generally limited contact between Europeans

and Natives to trade and treaty relations (Jacobs 1969).

The earliest English settlements were fishing stations in what is now Maine (Clark 1983), and were placed on islands, probably for the sake of defensibility, and on the coast. What little land these stations needed could be obtained via grants or usufruct permissions from local Native leaders. Early on, these fishing settlements were composed entirely of men, and probably had little contact with Native people, except perhaps to trade. Because of this, their material culture and general pattern of life was probably a transplanted version of English maritime life, to the extent that this was possible.

Following epidemics of introduced diseases and massive Native depopulations, early fishing colonies were followed by Pilgrim colonies in Massachusetts, which focussed on agriculture, fishing, and hunting for subsistence, and the production of lumber, shingles, masts and the like, and the trade in furs for profitable export (Clark 1983).

Europeans learned to clear agricultural land and cultivate local crops—especially maize—from Native allies, but often depended on trading for Native horticultural surpluses for the first several years. Since they often took over lands formerly held by decimated Indian groups, English settlers first depended on grants or land purchases from local sachems. These early agricultural settlements included entire English families, and they depended on goods they brought with them from England. As these wore out and settlers began to depend on some Native technologies (e.g., canoes, woodenware, etc.), their more extensive contacts with Native people probably provided them with more Native artifacts for use in their homes.

Unlike Native horticulture, European agricultural work was the province of men, who also cleared land, hunted, fished, built houses, and traded. Women maintained all aspects of home life, including food, clothing, and some gardening. For households composed entirely of men, other divisions of labor undoubtedly applied.

As later epidemics further reduced Native populations, English settlers took over larger areas and raised livestock to supplement their agricultural production. However, English men still hunted. Eliminating wolves and other threats to livestock decimated those species quite rapidly. Extensive

clearing for agriculture, lumbering, and firewood deforested large areas and altered earlier ecosystems (Cronon 1983).

### **The Dutch**

Like the English, the Dutch felt superior to Native people, but saw their differences as religious rather than moral or social. This may have also been a result of the fact that those Dutch people who inhabited early trading posts and settlements were themselves from the lower classes of society (Trelease 1969). In the 1620s and 1630s, the Dutch West India Trading Company established posts on the Connecticut River near Hartford and on the Hudson River. While the Native fur trade was the primary function of these posts, their populations also included families who practiced subsistence farming and hunting (Brasser 1978b; Trelease 1960, 1969). Later, the Dutch began to settle more extensively in the Mahican homeland, but these advances were not rapid (Brasser 1978b). Because they were in the midst of Native settlements and populations and needed Native allies in order to trade with the interior, Dutch traders and settlers avoided any actions that might anger their hosts, and maintained peaceful, relatively dependent relations with Native people. Since these trading posts required very little land, the Dutch avoided extensive purchases and were thus accepted more than the land-demanding English in Massachusetts (Bachman 1969). They also relied on the Iroquois as middlemen to other fur sources (Trelease 1969; Sauer 1971; Brasser 1978a). Since the Dutch were somewhat more open to Native people and their cultures than were the English (Trelease 1969; Sauer 1971), and in fact sometimes intermarried, they may have adopted more aspects of Native culture, especially those that enabled them to live more easily in the region.

### **The French**

Early in the history of exploration, the French were little different from the Spanish and Portuguese. In 1536 on the St. Lawrence, Cartier kidnapped a chief and two of his sons and took them back to France (Wade 1969). However, in 1540, the Society of Jesus (the Jesuits) was founded and conversion of Native people soon became an

integral part of French exploration and colonialism. The Jesuits worked on their image, that of the "White Legend" (Axtell 1988b, 1988c), emphasizing the value of compromise in colonial encounters and the goal of saving Native societies by keeping their converts separate from the corrupting influences of the common French (Healy 1958). By their own description, the Jesuits were adaptable, and were eager to learn Native ways. Their greatest success story was their attention to Native languages, which both facilitated conversions and helped trade with Native people (Wade 1969). Jesuit adaptability became the foundation for Jesuit missionary activity after 1622, when the Sacred Congregation of Propaganda ordered the priests to adapt themselves to Native cultures as best they could (Dickason 1984).

No matter how kindhearted the Jesuits appear, it is important to remember that their ultimate goal was to convert Native people by destroying their culture and planting Catholicism in its place (Dickason 1984). Unlike other French missionaries and the French authorities, the Jesuits thought it possible to convert Native people, then civilize them gradually in their separate communities. The Jesuits uniformly saw inherent good in Native people and their cultures (Healy 1958). By their lack of civilization, Native people were considered closer to that good and an example of simplicity for Europeans (Jaenen 1982). In contrast to the Jesuit view, we should ask whether there was a French view of Native people. In general, the rest of the French were polarized in their views of Native people: noble savage or wild man; esteemed or despised (Jaenen 1984). All the French people the Indians met were not so noble either, nor were they as ideally adaptable as the Jesuits. At the French trading post of Pentagoet, the French were said to have made an effort to build a little France in the Maine woods (Faulkner and Faulkner 1987). Many French disagreed with the Jesuits' program and were dismayed to find that Native converts did not speak a word of French. The common man of France preferred the attitude of civilize first, baptize later (Wade 1969). The good opinion the French held of themselves was often shared by Native people, since some Native groups allowed only Frenchmen to come among them as traders (Bailey 1937).

However the French felt, they valued Native people and aspects of their cultures as useful for their own purposes. Seeing that Native canoes and technology were ideally suited to the Northeast, the French were quick to use them. Native people were also valuable because they were the key to the interior. Because the French were more interested in fur than land, their plans for the New World never included intentional extermination of Native people (Wade 1969). In addition, the French were far more likely to intermarry with Native people. For the *coureur de bois*, a Native wife was an asset; she made learning a Native language far easier and her family ties made trade more profitable (Axtell 1985). Although the French concentrated their trade efforts on the St. Lawrence in an attempt to control access to the interior, they made early attempts at missionization and trade on the Maine coast, until they were displaced by the English. From the St. Lawrence, the French sent missionaries to the Western Abenakis in the early 1650s (Day 1978), and later the Jesuits and other orders reached the Iroquois and established permanent missions in several villages (Blau et al. 1978; Abler and Tooker 1978; White et al. 1978). Conversion and friendly feeling toward French missionaries helped open these areas to French trade as well.

**Epidemic Diseases and Their Relation to European Patterns of Settlement**

Within the North Atlantic region, patterns of epidemic disease, Native depopulation, and European settlement were interrelated. The introduction of European diseases and their spread as epidemics created moving frontiers of depopulation and rapid change that moved inland and advanced up rivers. These effectively opened huge territories for European settlement which quickly followed.

As a result of their isolation from Old World populations, Native Americans had little or no immunity to diseases endemic in Europe. Because of the lengthy duration of the early transatlantic voyages undertaken by explorers and fishermen, and the combination of incubation periods for diseases and the small size of ship crews, infection was unlikely during the period of initial contact. However, faster crossings and larger ships' complements after 1600, along with closer contacts

between Native people and settlers quickly led to the introduction of disease. Within populations lacking immunity, these diseases rapidly reached epidemic proportions. Since several different diseases were introduced at approximately the same time, weakened populations were attacked by successive epidemics, magnifying mortality. And, because different diseases had their own mortality patterns, attacking specific age groups or genders, whole societies were decimated at once by several infections. Fall was the most common time for epidemics to hit, and village populations weakened by disease often died because they could not care for themselves throughout the winter. Those who managed to survive and bear children seldom managed to pass on total immunity, and successive reinfections wiped out entire generations. During this period, Native populations were reduced by 75 to 95 per cent (Cronon 1983; Crosby 1976, 1978; Dobyns 1983; Snow 1978, 1980; Snow and Lanphear 1988; Snow and Starna 1989; Ramenofsky 1987; Thornton 1987).

**BOX 15: MAJOR EPIDEMICS**

year(s)	area(s)/group(s) affected
1616-19	between the Penobscot River and Cape Cod
1622	south of the Merrimack River
1631-33	south of the Merrimack River
1633	Narragansetts and Wampanoags
1633-35	interior Connecticut River, interior Connecticut
1634-35	Mohawks (smallpox)
1640-41	Senecas (smallpox)
1646-47	other Iroquois groups
1650+	all Iroquois groups
1661	Susquehannocks
1662	all Iroquois groups (smallpox)
1690	Mahicans (smallpox)

## BOX 16: MAJOR EUROPEAN SETTLEMENTS

YEAR(S)	NATIONALITY	PLACE(S)	ECONOMIC BASE/PURPOSE
1610	English	Monhegan Island	fishing
1620	English	Plymouth	agriculture and lumber
1620s	Dutch	Albany	trade, some agriculture
1623	English	Dover Point, Piscataqua River, NH	fishing, some agriculture
1630	English	Boston	agriculture, lumber
1630+	Dutch	Albany area	agriculture and trade
1631	English	Richmond Island, Casco Bay	trade, fishing
1632-35	English	Nauset	agriculture
1633	Dutch	near Hartford	trade
1635	English	Dover, NH	agriculture
1634-36	English	Windsor, Hartford, and Wethersfield, Connecticut, Springfield, Massachusetts	agriculture, trade
1636	English	Providence, R.I.	trade, agriculture
1638	English	Exeter and Hampton, NH	
1638	English	New Haven	agriculture
1636	English	Providence, RI	trade, agriculture
1650s	French Jesuits	Onondaga	mission
1656-82	French Jesuits	Cayuga	mission
1668	French Jesuits	Seneca	mission
1669	English	Pocumtuck (Deerfield, Massachusetts)	agriculture
1674	French	Pentagoet	trade
1680s	English	Schenectady	
1710-12	English	Fort Hunter, Schoharie Creek-Mohawk River confluence	military
1711	French	Onondaga	military
1725-26	English	Fort Oswego	military, trade
1750-55	Moravians	Onondaga	mission

The first European settlements in the region actually preceded the earliest recorded epidemics. In Maine, small settlements of English fishermen probably introduced diseases in the period following 1615, with the earliest epidemics occurring there in

1616 and moving south to Cape Cod by 1619. More English settled in Massachusetts in 1620 in these depopulated areas. With larger numbers of Europeans present, and more intensive trade and contact, Native populations became reinfected and

spread disease to other groups to the south and into the interior. In Iroquoia, massive epidemics immediately followed missionaries' entrance into Native societies (Crosby 1976, 1978; Dobyns 1983; Snow and Lanphear 1988; Snow and Starna 1989; Ramenofsky 1987; Thornton 1987; Clark 1983; Duncombe 1966, 1977; Sly 1967; Brassier 1978a).

Obviously, the factors of epidemic disease and European settlement in the North Atlantic region had different effects on its populations, both Native and European. During this period Native societies changed rapidly. Epidemic diseases, depopulation, and subsequent cultural reorganization combined with shrinking land bases and population movements to alter the fabric of Native lives everywhere. In some cases, the presence and actions of European settlers motivated these changes. At other times, alterations in Native societies brought about opportunities for further settlement and changes in European life in the region. For both Native and European populations, various trends of change existed, and differed from region to region.

#### **Changes in Native Cultures and Native Lives: Economics, Trade, and Production**

Native systems of economics and production were fundamentally altered by trade with Europeans, epidemic diseases, and European settlement in the North Atlantic region. Generally, what had been subsistence economies that produced modest surpluses for trade with other Native individuals and groups, increasingly shifted emphasis to the extraction or production of commodities desirable to Europeans, especially furs and wampum.

In the 1630s and 1640s the English developed a unique triangle trade. Goods were brought from Europe and traded to Native people in southern New England for horticultural products. These, in turn, were transported to northern New England and traded for furs, which were returned to Europe (Cronon 1983). Thus in northern New England, groups like the Eastern Abenakis traded with the French for liquor and other goods, but also with the English for food and wampum by 1626 (Snow 1978). In southern New England, horticultural and wampum production grew to supply English demands. Wampum manufacturing took on an increasingly important role in the economies of the Narragansetts, Pequots, Mohegans, Niantics, and

Long Island Native communities, and finished beads were traded to both the English and the Dutch for use in the inland and northern fur trades (Salwen 1978; Ceci 1977, 1982, 1990; Brassier 1978a). Other economies also rose at this time, including Native commercial whaling on Long Island from 1650 onward. This increased after 1672, when whalers were also recruited from other Native groups (Brassier 1971).

Through the Dutch, New England wampum made its way to Iroquois acting as middlemen to other groups involved in the fur trade. Wampum production also increased in New Jersey to supply the same markets. In the second half of the seventeenth century, the Iroquois shifted from raiding and conquering other groups and concentrated on their position as middlemen in the fur trade. Mahican, Munsee and Iroquois involvement in the fur trade continued, with middlemen/traders venturing into Virginia and the Carolinas for furs (Trigger 1978b).

#### **Changes in Native Cultures and Native Lives: Material Culture**

During the period of initial contact, Native culture change was limited by the occasional nature of interaction with Europeans, and perhaps by language barriers (Brassier 1978a). Items introduced by European trade were added to Native material inventories but did not replace their indigenous counterparts. Categories of items unfamiliar to Indians were understood and conceptualized within Native systems of thought (Hamell 1983), and thus were not necessarily used as their European makers had intended. However, during later phases of contact and settlement, some European items replaced their Native analogs, sometimes with their associated cultural meanings attached.

As the fur trade escalated, furs and skins became almost too "expensive" for Native people to wear, and were replaced with Europeans fabrics, clothes, and blankets (Cronon 1983). In some areas, copper and brass kettles replaced Native ceramics for cooking and other uses, although some forms survived and were used as grave goods and perhaps also in Native curing. Trade in alcohol—especially French brandy—also had significant effects on Native cultures. Besides actual replacements,

European goods also influenced Native artifacts and new European-style types were created using traditional media and technologies (Brasser 1978a). Although most groups switched to hunting small fur bearers to support the trade (Brasser 1978a; Bailey 1937; Sauer 1971), the influx of guns to some regions—such as northern New England after the 1630s—brought about the depopulation of larger Native species, including the moose, by the mid seventeenth century (Cronon 1983). While there appears to have been resistance to the replacement of some categories, such as shell hoes and stone axe heads (Brasser 1978a), changes in material culture brought about changes in other aspects of society as well. The availability of glass and copper beads, European clothes, ornaments, etc. altered existing Native systems of marking status, and perhaps also changed the basis on which status was reckoned. Successful traders could become “wealthy” in terms of European trade goods without wielding political power, or could become powerful through their control of the trade.

Within the region, there were differences in material culture change based on Native relations with different European groups. By 1620, Indians in Maine received far more French than English goods, and the French emphasis on the liquor trade had profound effects (Brasser 1978a). With the rise of English settlement, trading posts provided many more categories of artifacts suited to English homelife, such as ceramics, pewter, and European clothing items, all of which were available to Native people in southeastern New England (Gibson 1980). Other regional differences in material culture change included greater reliance among the Delaware groups on Dutch trade goods—muskets, powder, bullet-making equipment and materials, liquor, and European clothing—by the 1650s (Goddard 1978). Among the Iroquois, few guns were traded before 1640, but the Dutch became active in arms trading after that, which helped Iroquois groups rob others of their furs and control the trade (Trigger 1978b).

#### **Changes in Native Cultures and Native Lives: Subsistence and Settlement Patterns**

In Northern New England, participation in the fur trade brought about greater attention to small fur bearers and skin processing, and reduced emphasis

on horticulture or subsistence hunting (Brasser 1978a). Where small-scale horticulture had been practiced by some interior groups, it appears to have been abandoned (Brasser 1978a). Since horticultural products from southern New England could be “bought” with furs, subsistence hunting became less important, especially on the coast, and visits to the coast during summer became optional or abbreviated. The effects of epidemic diseases changed the ratio of hunters to their animal prey, and those engaged in the fur trade could hunt year round and focus on a smaller number of species, especially beaver, which were more valuable for their furs than as food (Cronon 1983). Because of their emphasis on the fur trade, Native people spent more and more time in the interior. With English fishing settlements taking over productive parts of the Maine coast, Native reasons to visit the coast shifted from fishing to trading (Snow 1978; Cronon 1983). Native populations congregated at spring or summer village locations—centrally based between Europeans and furs—for a greater portion of the year. Communities decimated by epidemics coalesced in these upriver villages, which became more permanent. The pattern of winter dispersal to hunting territories disintegrated and women, children, and old men remained in the villages while hunters travelled out alone setting up small hunting camps (Snow 1978). As beaver populations fell because of overexploitation, Native people became concerned with their conservation, and particular hunting areas became associated with families who were better able to manage “their” beaver from year to year (McMullen 1990b). This sense of investment in territory led to the erosion of the traditional pattern of usufruct rights to resources and land use.

Native people in southern New England also turned away from subsistence hunting and horticulture, though not to the same extent as those in the north (Brasser 1978a). Relatively early on, depletion of beaver and other fur bearers in this region resulted in a shift from fur production to barter and middleman economies. Some Native groups continued horticultural production to produce surpluses for trade with European settlers and traders, while others in southeastern New England increased their wampum production and used these new resources to extract furs from the interior (Salwen 1978). Horticultural lands and the shell

resources for making wampum were on or near the coast and Native people probably spent more time there. Since they were participating in a bipolar, middleman trade with Europeans on the coast and interior Native groups, trips back and forth between these resources probably became more common. Forays into the interior for fall and winter hunting probably became abbreviated as fur resources dwindled, and Native people may have relied on these only for meat, preferring instead to trade furs or wampum for European blankets and clothing. In addition, some Native people began to adopt livestock, especially pigs, which could fend for themselves and be captured or hunted in much the same manner as deer. Depopulation from epidemic diseases brought about the amalgamation of new populations in villages closer to the coast. There, stockpiles of furs and wampum could be safeguarded in palisaded forts (Day 1978; Snow 1978; Ceci 1977; Williams 1972). Among the Delawares, the beaver were depleted by the mid seventeenth century, and hunters travelled deeper inland on long hunts. In addition to traditional corn, bean, and squash horticulture, Native people cultivated introduced European crops, such as pumpkins and melons, and raised chickens and pigs as well (Goddard 1978; Weslager 1972; 1983; Newcomb 1956; Salwen 1978).

Among the Iroquois and Mahicans, traditional subsistence economies probably remained relatively stable, although men may have shifted their hunting away from deer and toward fur bearers to some extent. With the depopulations brought about by diseases introduced by French missionaries, weakened villages banded together. As the Iroquois became more involved in the fur trade and raided groups outside the League, defensible fortifications probably became increasingly necessary. With higher male mortality as a result of raiding and warfare, large numbers of captives were adopted from other groups, and the role of women as political figures, cultural carriers, and caretakers of the land became emphasized (Trigger 1978b).

**Changes in Native Cultures and Native Lives: Ethnic/Racial Relations and Political Trends**

In northern New England, group territoriality increased to control access to European traders and furs. A smaller number of larger bands emerged,

whose leaders sought to control individuals' trade with Europeans and restrict European contacts with other, competing Native groups. Within groups, witchcraft increased and Native leaders often emerged as shamans. Family hunting territory institutions replaced systems of usufruct rights to resources, so competition grew both within and between Native groups (Brasser 1978a).

**BOX 17: MILITARY CONFLICTS AMONG NATIVE GROUPS**

1607-15	Tarrantine War. raiding, ends with the death of Bashabes (Snow 1978)
pre-1620	Massasoit's War with the Narragansetts over Aquidneck
1662	war between Iroquois and Mahicans (Brasser 1978b)
1640s	Iroquois (mostly Mohawks) War with Abenakis (Trigger 1978b)
1642	western Iroquois (Senecas with Mohawks allies) attack Huron (Trigger 1978b)
1652	Mohawks attack Susquehannocks to prevent trade with Swedish-armed Eries (Trigger 1978b)
1653-58	Seneca-led Confederacy makes peace with the French (Trigger 1978b)
1659-60	Senecas, Cayugas, and Onondagas ally for war with Susquehannocks (Trigger 1978b)
1663-67	Iroquois make peace with the French (Trigger 1978b)
1669	Mahicans and allies unsuccessfully attack Mohawks (Brasser 1978b)
1675+	Susquehannocks defeated by Maryland and Virginia, taken into the Iroquois Confederacy (Trigger 1978b)
1680	Iroquois war with the Illinois (Trigger 1978b)

During initial contact with Europeans, competition over access to European traders brought about aggression and violence between Native groups attempting to gain exclusive rights to trade and resource areas. Before 1620, war between the Pokanokets and Narragansetts led to the latter's domination of the Narragansett Bay area and

exclusive contacts with the Dutch. With these conflicts, Native fortifications arose, along with a cult of militarization and an increase in male war-related status systems. Following the earliest epidemics, which affected the Pokanokets and other Wampanoag groups more than the Narragansetts, the latter expanded their territories and control. In an attempt to reinforce his Pokanoket's position, Massasoit allied himself with the Plymouth colonists, creating a peace that lasted from the 1620s to 1662, although this only prevented aggression between the Pokanokets and the English. While the colonists at Plymouth lived in an uneasy peace with the Pokanokets, other communities, such as Thomas Morton's Merrymount, lived in greater harmony with Native people. However, colonial encroachment on Native holdings and rights increased the discomfort of Native people living in these areas, which eventually led to large scale warfare.

Iroquois militancy increased after 1630 as a result of the fact that their own fur resources—and those of the Mahicans—were trapped out. Attempts to maintain their superior position were made through conquest of other groups and tribute exactions (Brasser 1978b). After 1650, Iroquois attacks on Mahicans, Sokokis, Abenakis, and Maliseets increased, as did military ventures against Canadian groups, including the Mistassinis, and Native people in the upper Great Lakes and Ohio River Valley (Trigger 1978b). These depredations were accompanied by internal problems within the League of the Iroquois as the Mohawks attempted to control trade and political affairs. Western Iroquois groups began to make alliances with the French to fortify their economic positions (Trigger 1978b). Within these situations, the Mahicans increasingly became mediators—an extension of their role as middlemen—especially against the Iroquois, causing continued friction (Brasser 1978b). In 1655, after the Dutch took New Sweden, the Susquehannocks made peace with the Mohawks, but continued to attack Seneca traders en route to Fort Orange (Jennings 1978). After the Dutch surrendered to the English in 1664, the Iroquois made peace with the English but excluded the Mahicans from the treaty. Finally in 1669, the Mahicans and others—including Indians from eastern Massachusetts—attacked the Mohawks at Caughnawaga. The Mahicans were

defeated and entered into a final peace with the Mohawks in 1675 (Brasser 1978b).

### **Changes in Native Cultures and Native Lives: World View and Religion**

While changes in Native culture and world view began with the onset of extensive trade, the greatest alterations in Native world view probably began with epidemic diseases and subsequent Christian missionary activity. For many Native people, the spread of disease and death signalled dissonance in the world order and the displeasure of Native deities. In attempts to rectify these situations, many sought alternatives, and were assured of salvation by priests and ministers if they converted. Whether or not these conversions were true or lasting (Axtell 1988c; Brenner 1984), missions did affect Native world views by communicating other ways of apprehending nature, the world, and relationships between people and the supernatural. Even those who did not convert to Christianity may have questioned traditional religion, and may have altered aspects of their lives, in order to assure themselves a place in the living world or the afterlife.

### **BOX 18: MISSIONARY ACTIVITIES**

- 1611 Pierre Biard, Jesuit, at Mount Desert Island (Axtell 1985)
- 1640s Mayhews convert Indians on Cape Cod and islands, growth of Eliot's "Praying Towns" (Beaver 1988; Eliot and Mayhew 1953; Eliot 1647, 1670; Gookin 1836; Ronda 1988; Axtell 1985; Salisbury 1986; Simmons 1981; Bowden 1981)
- 1650s Jesuit mission among Onondagas (Blau et al. 1978)
- 1651 French missionaries among Western Abenakis (Day 1978)
- 1650s LeMoyne at Onondaga (Blau et al. 1978)
- 1656 Jesuit Mission at Seneca (Abler and Tooker 1978)
- 1656-82 French mission at Cayuga (White et al. 1978)
- 1668 permanent Jesuit mission among Senecas (Abler and Tooker 1978)
- 1750-55 Moravians at Onondaga (Blau et al. 1978)

## BOX 19: POPULATION MOVEMENTS

While epidemics brought about the amalgamation of many decimated Native communities, most remained in the vicinity of their aboriginal territories. However, among the Mahicans, Delawares and Iroquois, warfare brought about a number of territorial shifts and population movements.

- 1630+ Dutch settlement of the Mahican homeland slowly shifts them away from their horticultural areas, toward the further reaches of their territory (Brasser 1978b)
- 1657+ the Eries move south toward the Susquehannocks and merge with the Iroquois (Trigger 1978b)
- 1657+ Delaware groups shift their territories and regroup among themselves (Goddard 1978)
- 1660+ Cayugas move to north shore of Lake Ontario after war (White, et al. 1978)
- 1662-76 Many western Abenakis move into Canada (Day 1978)
- 1664 Iroquois attacks on Sokokis, Pocumtucks, and Pennacooks cause movements and amalgamations (Trigger 1978b)
- 1676+ Mahican populations reduced by epidemics and wars, joined by King Philip's War refugees (Brasser 1978b)
- 1680- bands of New England Indians move west to exploit furs, living among the Miamis and in southern Alleghenies and Ohio River Valley, and perhaps in the southeast
- 1694 Shawnee move into Munsee area
- 1721 Many Mahicans move to Indiana and live among the Miamis (Brasser 1978b)

### Changes in European Life: Economics, Trade, and Production

European economic efforts in the North Atlantic region were divided between production for subsistence and export trade. While the French and Dutch traded and did subsistence hunting and fishing, the English diversified their subsistence economies by adding other activities for the sake of export. The earliest fishing settlements supported themselves and exported salted fish and perhaps also lumber products. Early agricultural settlements at Plymouth and other locales soon expanded the existing fur trade in order to support themselves and turn a profit, and complemented this with lumber production and whaling for export. In some cases, agricultural settlements shifted to maritime pursuits as soils were depleted. Thus the basic economies included maritime pursuits, agriculture, trading, and lumbering (Cronon 1983; Finch 1985; Barnard 1975). As Native people were increasingly drawn into the fur trade, their dependence on European trade made this aspect of colonial economies more profitable.

In addition to basic extractive economies, European settlers also began limited manufacturing, although only those industries that would not compete in home markets were allowed. For instance, the English encouraged Massachusetts' colonists to produce flax, but not wool: New England was an important market for English woolen exports. Although some did make their own woolen and leather clothing, many settlers made clothing of imported cloth. Iron working was one industry that was encouraged. The Saugus iron works smelted local bog iron to produce cast iron implements such as kettles, and supplied wrought iron stock to New England blacksmiths. Using imported raw materials, whitesmiths and redsmiths—and to some extent silversmiths and goldsmiths—produced for local markets. Using native materials, potteries sprang up to supply the needs of settlers. Coopers, wheelwrights, shipwrights, cartwrights, carpenters, and cabinetmakers also produced for local consumption.

All of these manufactures benefited by the growth of road systems to transport people and commodities between settlements and trading posts.

Shipping also expanded to meet the increasing need to transport materials and products back to Europe and between points on the coast. As transportation networks grew, urban centers developed at hub points. Smiths, potters, and millers could conveniently locate themselves in such centers to draw on wider areas for their clientele. Besides the basic subsistence and export adaptation, urban life also became an adaptation. It was founded on the expectations of urban settlers based on the conceptions of "city" and "city life" they held or brought with them. Thus New Amsterdam grew up as a Dutch city and port, while English urban settlements (e.g., Salem, Boston) took other forms.

From these concentrations of population, other settlements spread out into unsettled coastal areas, and up rivers into the interior. For some, initial settlements failed. For those who survived, resettlement to new areas and new adaptations often followed. Depletion of soils and firewood resources necessitated larger amounts of land, which further expanded settlement opportunities and needs. However, European settlers seldom learned from their mistakes in land use and conservation, and usually exhausted the resources of a particular area and moved on or shifted their adaptations to take advantage of other not yet depleted resources. The image of the North Atlantic region as a boundless wilderness free for the taking contributed in great measure to the rapid expansion of settlement, extensive deforestation, and sweeping changes in natural environments (Cronon 1983).

#### **Changes in European Life: Ethnic/Racial Relations and Political Trends**

During this period, conflict between political entities existed on different levels. The political contexts of Europe created a climate of competition between the French, English, and Dutch over the possession of lands and rights to Native trade in the North Atlantic region. This conflict sometimes took the form of price gouging and, in some cases, seizure or destruction of opposing settlements. In Maine for instance, a number of sites alternated between French and English possession (Faulkner and Faulkner 1987), while the Dutch fought by offering higher prices for beaver in an attempt to draw the trade away from the French especially. While European powers tried to create spheres of

influence and allies among Native groups, they succeeded only in providing Native traders choices and perhaps in escalating Native intergroup aggression.

For the settlers and traders themselves, these European-based competitions may not have existed, except in the sense that their trade, if undercut by that of another settlement, was not as profitable as expected. Thus, their loyalties were to their own interests first, and secondarily to that of country. In terms of competitive and political relationships, they probably saw themselves in opposition to their Native neighbors and clients, who sought to maintain or maximize their own positions. Added to this sense of competition was the European perception that settlers and traders were alone in a wilderness filled with strange people whose actions were sometimes unfathomable. This did not prevent individuals like Roger Williams and William Pynchon from setting up trading posts in areas distant from other European settlements, but a mentality of fear or anxiety did pervade settlers' lives, and sometimes led them to see threats of violence in ordinary Native actions. The English treaty with the Pokanoket did not eliminate their fear of the Narragansett or any other group. In fact, Native allies often encouraged English fears and suspicions regarding rival Native groups (Burton 1975; Johnson 1993).

As suggested above, different European attitudes toward Native people affected the processes of trade and settlement. The French and Dutch agendas for trade rather than land acquisition for agriculture made them better neighbors than the English, although rapid English settlement probably contributed to England's ultimate colonial domination of the region. In addition, English uneasiness about physical relationships between their settlers and Natives inhibited them from making advantageous trading links with Native people. The Dutch and French, who were more open minded about such things, solidified trade more rapidly by living alongside Native people (Axtell 1985; Bailey 1937; Healy 1958; Jacobs 1969; Kupperman 1980; Sauer 1971; Trelease 1969; Wade 1969).

Religion also had an impact on the progress of settlement in the North Atlantic region. For many, the church was the foundation of any community, it

was often established first, with community life growing up around it. And, at least in word if not in deed, the conversion of Native people was a primary expressed reason for settling the New World. Within the region, the French were the only Europeans to take this objective seriously early on, and their missions in Maine and interior New York were often Native peoples' first exposure to Europeans. By the 1640s, when English settlements were relatively well established, they too turned their attention to Christianizing the Indians, although these attempts were confined to eastern Massachusetts.

Through their adaptations to new environments—both physical and social—Europeans gradually drew away from patterns which were strictly European in nature. While settlers may have felt that they were European, their attitudes affected further colonization. No longer simply transplanted English, Dutch, and French, their attitudes toward life combined with the new settings in which they found themselves forged new ways of life that were suited to North America. Those who were part of settlements with families may have succeeded longer in maintaining traditional ideas about gendered divisions of labor, family, and kin relations, but with very different colonial economies and the distance between settlements, new patterns of social interaction developed that became increasingly unlike those of Europe.

### **Research Questions**

Settlers' accounts and histories tell us some things about their lives and Native lives, including subsistence, family organization, settlement, politics, religion, and conflict. European colonists, settlers, and investors left economic records that can inform us about trade and production. We can also extrapolate from earlier or later accounts. Native population data are generally reconstructed from postepidemic populations and presumed male:female and adult:child ratios. Another source of information about Native Americans of the North Atlantic region is ethnographic analogy with nearby groups or from groups similar in some significant way(s) to those of this time and place. Native informants may hold information in family traditions and oral histories.

Archaeological sites provide another important source of information. Analysis of material culture, from archaeological sites or from ethnographic collections is an important aspect of this area of research. For example, we know a lot about changes in mortuary patterns by comparison with earlier sites; information from cemeteries informs ideas about nutritional and ideological stress, trauma and pathology (Simmons 1970; Gibson 1980; Robinson et al. 1985; Turnbaugh 1985, n.d.). We have some ideas about the demographic effects of particular epidemics because of age and sex ratios from mortuary sites. Although we have some knowledge of changes in Native material culture, we know less about non-material change in Native societies. Integrating information from European documents, Native traditions, archaeological data, and material culture studies is a challenging task, but one that will yield exciting new insights. Many research questions for the preceding period also apply to this period and are thus repeated.

### **General**

Have interpretations of this period been skewed by reliance on later observations and descriptions of Native cultures already substantially changed by contact?

How are our ideas of the precontact period affected by projecting Contact Period situations into the past? Is this realistic or are there contradictions between the records of these two periods that require more attention?

How accurate are Champlain's depictions of Native settlements from the Saco down to Cape Cod and their extent and organization of horticultural fields?

We have assumed here that the Mahicans and Mohawks skip the initial period of sporadic contact and that their initial contact with Europeans was more intense and of longer duration. Is this true? Is it also true for the Susquehannocks?

### **Demography, Ethnicity, Territoriality, and Interethnic Relationships**

If we assume that tribal groups before contact are different than the ones recognized today, how do earlier groups become later groups and how do we know it? What are the roots of today's tribes?

Can we do an archaeology of family and group hunting territories?

How are relationships between Native groups in this period visible in the archaeological record?

Can we see Native movements in terms of territory (not seasonality) for this period? For instance, can we see the Mahicans shifting north and displacing other groups? Do European and Native encroachments bring about all of the Native population movements of this period or are Native people actually seeking to regroup? Can Native population movements be seen archaeologically, even if the destinations are outside the North Atlantic?

Can archaeology tell us things about effects and spread of epidemic disease that history hasn't? Were the Narragansetts isolated from other groups in southeastern New England? Why didn't the earliest epidemics affect them? Can we see changes in ethnic/tribal groups and territoriality based on diseases?

Did kin and partner trade continue? Does trade in native resources fall apart or continue?

Can archaeology inform the numbers debate in terms of the effects of epidemics on Native populations?

In southern New England, it has been assumed that Native populations were stable until early seventeenth-century epidemics. Is this true? Can we see archaeological evidence of epidemics before European contact and settlement?

The earliest epidemics among the Iroquois are said to have followed the entrance of missionaries and trade. Is this true?

If Iroquois aggression was directed to groups outside the League, can we see the development of more fortifications? Can we see Iroquois tribute exactions and relations with other through material culture analyses? Can we see shifts in their relations with the Dutch and the French, and the movement

toward closer alliances with the French to reinforce the Iroquois' position?

#### **Middleman Trade and the Interior**

Do trade goods appear in the interior regions for this period? Do they come from English and Dutch via the Atlantic coast through the fur trade or do they come from the French on the Saint Lawrence?

To what extent are precontact trade routes maintained or transformed after contact? How does this vary across the region (e.g., Connecticut River Valley, St. Lawrence-Chesapeake, interior Maine)?

How are Native groups in the interior drawn into the trade? Does the pattern of Native leaders elaborating their redistributive roles apply to the interior as it may to the coast?

#### **Trade Goods**

Can we see patterns of European exploitation and influence by looking at trade goods, including which areas each European group sought or claimed to control and what mechanisms they used to try to gain control?

What does identifying the country of origin of trade goods really tell us? Are these appropriate ways to look at the real interactions that occurred if Europeans were trading and buying and selling amongst themselves? Are there particular categories of material culture for which this strategy is an appropriate mode of inquiry and ones for which it is not?

Are there real differences in what each European group traded? (this is an archival question that may inform the above idea of determining European spheres of influence in the North Atlantic region)

During the early contact period, Native people were said to have stockpiled furs in anticipation of trade. Do Europeans simply take the place of preexisting Native trade partners? Is there archaeological evidence for these expectations for Native-Native trade in precontact sites? Do these change after sustained contact and European settlement?

How does the availability of particular classes of European goods, and their relative "prices," affect what is traded?

Early explorers suggested that Native people in Northern New England preferred metal objects of any type as trade goods, and that Native people in Southern New England sought more decorative goods. Can this be tested archaeologically?

What is the impact of the Dutch trading post in Narragansett Bay? Is there any way to differentiate the Dutch goods traded here from Dutch goods traded by the English at same time? If so, what was the sphere of influence of the Dutch trading post?

Are categories of Native material culture replaced by European goods as a result of trade? If so, which categories, how, and with what consequences?

How prevalent were firearms in Native societies, and what effects did they have?

It has been assumed that the Iroquois were affected relatively late by trade and the introduction of European trade goods. Is this true? Is the earliest Iroquoian use of European trade goods by addition to existing repertoires or replacement of categories of Native material culture? Can we see a difference archaeologically between Iroquoian men's and women's trade?

Because English trading posts served colonists as well as Indian clients, we can suggest that their inventories contained more household goods, while the French would have continued to rely on standard trade goods, largely those desired by Native people. Is this true? Can we see whether English posts were making their money on English or Indian trade?

It has been suggested that trade in guns was most prevalent between the Dutch and the Delaware. Is this true? Is it equally true for other Dutch posts? Are the Dutch supplying the Iroquois with guns to protect their status as middlemen, or do the Iroquois get guns elsewhere?

Can we estimate the extent of Native-European trade by looking at the rates of depletion of fur bearers in other regions?

Can we see the role of the Mahicans and Mohawks as middlemen in aboriginal and/or European trade through archaeology?

Can we see Native people accessing different kin networks to get at trade? Is this represented by the movement of families, or a shift in trade routes and patterns?

**Changes in Native Culture as a Result of Contact**  
Generally speaking, how did Native societies change to provide resources for Europeans?

At what point do Native societies begin to be transformed by trade and alter their existing cultural patterns to take advantage of trade opportunities? Do changes in subsistence and settlement pattern inform this? Can changes in Native seasonality and production help us determine the extent of the reorganization of Native societies to support the fur trade?

Historical accounts suggest that the Dutch quickly penetrated interior areas to avoid coastal areas depleted of beaver. Can we test this archaeologically? Can we see the extent of Native-European trade by looking at the rates of depletion of fur-bearers in other regions?

Can archaeology inform the extent of horticulture in Northern New England (suggested by Champlain)? Is it abandoned or does it simply become less important?

Can we see the development of the wampum trade and changes in production through archaeology?

What do trade goods mean in Native graves?

We can see the extent of material culture change for this period, to the extent that some trade goods survive archaeologically, but how can archaeologists recognize any other kind of change?

At what point do changes in material culture start to spur other changes? Do changes in material culture indicate other kinds of culture change? How is Native production of food, wampum, and furs affected by material culture change? What falls out of production or use because of European introductions? We know that Native cultures are materially changed by the late 1600s, but how great are the changes in other aspects of culture?

Are European items replacing Native analogs but with attached meanings? Kettles replace Native ceramics rapidly in some areas but not in others. What accounts for this variation? Which categories of European artifacts are adopted during this period?

It has been suggested that there was some Native resistance to the replacement of some categories of material culture, for instance shell hoes and stone axes. Is this true? Does this have to do with gendered ideas about tradition versus progress? How else can it be explained?

In northern New England, can we see changes in seasonality and subsistence, such as the abandonment of horticulture, archaeologically? The growth of central villages and different patterns of gendered work are thought to have accompanied the increasing emphasis on the fur trade. Is this visible archaeologically?

In southern New England, can we see the early growth of the wampum and fur trades? Can we see the shift in Native economies from subsistence to extractive production? How do these affect settlement pattern, subsistence, and land use? Are Native people spending more time on the coast for wampum production or more time inland getting furs? Does horticultural production increase to support other members of society? How would we see this?

Can we see amalgamations of populations in villages closer to the coast?

Are forts used for defense or stockpiling?

Did Europeans take over Native resource areas or adaptations eliminating Native peoples' opportunities

to use them? How would this be visible? For instance, when the English took over the Maine coast, was there less emphasis on Native coastal fishing? Were Native people using their time on coast for trade instead?

It has been widely assumed that massive culture change follows epidemics, depopulation, population movements. Is this true?

Can we see the rise of the Native whaling economy on Long Island or Cape Cod? How does this change affect other aspects of life?

Can we see the rise of the wampum-based economy in coastal areas? How are other aspects of culture affected?

Can we see a decrease in Iroquois militarism/raiding 1650-1700 and the rise of middleman trade? At this time, the Iroquois were said to have concentrated their raiding ventures to the south. Is this true? Can we see the introduction of distinctive southern materials, trade goods, etc.? Do these reflect adoptions of people—new spouses—or simply movements of material culture and ideas?

In northern New England, moose were said to be depleted as a result of Native use of firearms. Is this visible archaeologically? How would this look any different than Native shifts away from moose and deer to fur bearers? Does such a shift actually occur, and if so, does it apply both to southern and northern New England? How does this affect Native life? Does this shift also occur among the Iroquois?

Is there archaeological evidence of Native people adopting European livestock? This is supposed to have particularly important among the Delaware. Is it visible archaeologically? Can we see shifts to European crops?

With the rise of status of sagamores in northern New England, there is said to be an increase in witchcraft and the role of sagamores as shamans. Can we see this?

Did alterations in Native world view precede epidemics and conversion? Are there alterations in

Native mortuary rituals and curing practices as a result of epidemics?

Can we see whether conversion actually affected Native life through archaeologies of Praying Towns, Iroquois settlements near French missionaries, and in coastal Maine? Are the effects of Moravian missionaries among the Onondaga and Mahican different? Can the effects of culture contact be separated from conversion?

#### **Status and Gender**

Were Native social relations, and gender relations in particular, changed by contact and trade? What might be the relationships between shifts in gender relations, changes in status systems, and what appears to be the rise of patrilineality during the Contact period in southern New England? Is one of these a trigger (cause) and the others resulting effects, or do they feed back on each other?

Are shifts in gender relations for the Iroquois, including the rise of matrilineality, related to trade through a growth in the importance of women in trade?

To what extent do social hierarchies develop in seventeenth-century Southern New England? How are such developments related to trade and contact?

Are there alterations in generational relationships because of contact and trade? For example, if elders gain in status after epidemics, when they may become important as repositories of traditional knowledge, what was their status during the early Contact period?

Seventeenth-century mortuary sites include large amounts of trade goods for younger individuals. How can we explain this pattern? Do younger people gain status as a result of their activities in European trade?

Status systems change with the introduction of new goods, but which of these is the primary factor? Does the introduction of new materials breed a new social system, is an existing social system elaborated through the addition of new goods, or is a new system of status marked by new goods?

How can archaeologists examine social status without relying on mortuary assemblages?

Does trade in European goods increase men's status? If so, what happens to women and women's status?

If gender relations become unequal, do subordinate members of society attempt to equalize these situations and reaffirm the roles and status positions of women? If so, how?

Did women become important as wampum producers in southern New England? If so, when and why?

In northern New England, the duties and status of leaders are said to have been transformed by contact; their primary role became that of redistributor of European goods. Is this evident in the archaeological record? Is this the case among other groups (e.g., the Delawares)?

Were changes in status uniform in the north? Is the elevation of sagamores symbolic or material? How are sagamores and their families supported by others?

If we assume that contact brought about conflict among Native groups, can we see an increase in actual militarism and the symbolic value of war exploits in male artifacts? Are these status related, and is the rise of militarism one of the factors that affects changes in existing status systems?

Does an emphasis on women's trade in southern New England and the Lenape area make status more individual than gender-based? If status is more individually based in southern New England, is kin trade and partner trade more likely to continue than in northern New England?

Does the rise in status of individual Native traders in Iroquoia affect them politically, or are these changes mediated by existing structures of League politics? Do Iroquoian traders grow more powerful or elevated in status? How can we address this archaeologically?

With the rise of Iroquois warfare bringing about the influx of large numbers of "foreign" male captives, does women's status increase?

### **Archaeology of European Life**

How can archaeology inform us about European life in the earliest colonies (e.g., St. Croix, Acadia)? How much archaeology has been done, or can be done, on the European side of this period? How can archaeology complement, supplement, or interrogate European accounts of the earliest settlements?

Is there archaeological evidence of the dependence of Europeans in early colonies on Indians? Are European populations constantly at risk in terms of their physical survival, both in terms of subsistence and personal safety? For early fishing stations and settlements, can we see dependence on Native people for surplus foods, etc?

What social contacts between Native people and Europeans are represented by the existence of trade goods on Native sites? How did these contacts effect Europeans?

English fishing stations are said to have had limited contact with Native people. Is this true, and can we see what kind of contact might have existed? What were the lives of Englishmen like at these fishing stations?

What would trading post life have been like?

Can we see European transculturation and Europeans becoming Americans? What effects do European cultural attitudes have on intermarriage and transculturation? What are the effects of intermarriages, etc. on Europeans? can we see Europeans gone Native?

Can we see the impact of religion on the construction of English settlements? Can we see gender roles in early settlements? Are there issues of class and inequality that have been hidden by the rhetoric of accounts of early European settlements? Can these be exposed through archaeology?

What are the differences in production that apply to urban versus rural situations?

Can we see local resource processing in sites related to blacksmiths, potters, millers, etc.?

How are the economic systems of European settlements affected by changes in Native society?

English racism is said to have limited social contact with Indians. Is this true? To what extent did Europeans in different regions adopt Native manufactures? Is this a matter of suiting themselves to new environments or is it that things brought from Europe are wearing out and can't be replaced?

What divisions of labor existed in all-male settlements and households?

Can we see ecological changes as a result of deforestation and soil loss, associated with European practices?

Can we see different European attitudes in trade and settlement practices? The Dutch and French are said to have been more open to Native people than the English. Does the archaeology of Dutch or French settlements show more adoptions of Native material items and practices than for the English?

Can we see European conflict in terms of price gouging and the destruction of other settlements? Can we see the creation of European spheres of influence in the North Atlantic region?

Can we see the genesis of American ways of life, which are less European in pattern?

Can we see the diversification of colonial economies?

Can we see the beginnings of industry in addition to the Saugus iron works? Can we see the development of urban centers? What would an urban center look like? Can we see developing city patterns as copies of transplanted European ideas?

## **WARS OF CONQUEST AND RESISTANCE (CA. 1635-1678)**

**Ann McMullen**

### **The Character of the Period and the Overall Setting**

Although episodes of violent European conquest and Native resistance in the North Atlantic may be considered historic events that simply mark the inherent conflict between populations, this period also represents a pattern of everyday life when all relationships between Native people and Euroamericans were strained by the threat or fact of armed conflict, and patterns of production and distribution were interrupted by hazardous travel and the destruction of entire settlements. This period includes violent Native uprisings and/or resistance against European colonization and encroachment in their own interests, but excludes Native participation in Euroamerican wars as allies or mercenaries. However, as a pattern it applies only to New England, the New York Bay area, and New Jersey, since the Iroquois maintained peaceful treaty relationships with the British and New York. Ultimately, the cessation of armed conflict also ended the military autonomy and political influence of Native groups in the areas involved and altered the productive systems of both Native people and Euroamerican settlers (Jennings 1975; Salisbury 1982, 1990; Chapin 1931; Malone 1991; Leach 1958; Deforest 1850; Hubbard 1677, 1680, 1865; Mather 1677, 1913; Means 1947; Peale 1939; Peirce 1878; Penhallow 1859; Vaughn 1971; Church 1975; Mason 1736). This does not mean, of course, that Native people did not remain an important presence in these and other areas.

To a large extent, the processes and events of this period were brought about by the increasing penetration of European economies into Native societies and their operations and Native peoples' unwillingness or inability to accept these changes. While tributary relationships existed between Native groups before this point and controlled access to resources, these situations probably were reciprocal in nature and were not necessarily violent. For their tributary allegiance to another group, a village could expect military assistance or protection in times of strife, and might rely on the ongoing social

relationships that were part of the tribute system. However, within the European-Native tributary mode of production (Wolf 1982), the extraction of Native-produced surpluses was inherently coercive and violent, and ultimately was a means of submission by force. Once they came to rely on European sources of goods, Native people were forced to alter their ways of life to produce and yield what Europeans wanted, whether furs, horticultural surplus, or land. And, since Native perceptions of trade relationships functioned on the basis of balanced reciprocity and relative equality, Native people probably did not recognize that their entrance into European systems of production would eventually bring them under the control of Europeans. It was only during this period that Native sachems began to realize the extent to which Europeans had altered the balance of power in the region, dictated the terms and arrangements of trade, and thus maintained dominance over Native societies.

As the presence of Europeans increased competition and conflict between Native groups, Native militarism rose. Europeans tried to control the situations of escalating violence in which they found themselves and limit the power of Native people, especially their freedom of movement and possession of European weapons. Both of these had been key to Native success in securing furs and other resources desired by Europeans, but as fur sources dwindled Europeans perceived armed Indians as threats to the security of their families and settlements, and attempted to confine Native people to smaller amounts of land where they could be watched and to disarm them, either via legislation or force. These actions ultimately led to the Pequot War and King Philip's War in New England (Jennings 1975; Salisbury 1982, 1990; Chapin 1931; Malone 1991; Leach 1958; Deforest 1850; Hubbard 1677, 1680, 1865; Mather 1677, 1913; Means 1947; Peale 1939; Peirce 1878; Penhallow 1859; Vaughn 1971; Church 1975; Mason 1736) and the Esopus Wars and smaller conflicts in the lower Hudson River area and New Jersey (Kraft 1986; Rutenber 1992; Weslager 1972).

The end of this period also saw the abandonment of New Netherland as a Dutch colony and its transfer to English control. While the

Netherlands was the greatest colonial world power at the time, its investment of time and effort in New Netherland had never been great and it did not expend any more effort in maintaining it against the English. Although Dutch control of New Netherland did not extend over any great area or time span, the Dutch were an important part of the early colonial history of the North Atlantic, and the population of New Netherland largely remained after being abandoned by the Dutch West India Company. Because the later historiography of the region focuses on the British, the Dutch presence and influence is often largely forgotten, making it an important area for future research on this period.

### **Native People and Their Cultures**

As a result of the decimation of Native populations by epidemic diseases and the alteration of Native lifeways in order to participate in the fur and wampum trades, patterns of subsistence and land use changed. Because labor was being redirected to producing wampum, acting as middlemen, or securing furs, the balance of food production shifted. Women were drawn away from subsistence horticulture to produce wampum and men were drawn to focus their hunting on fur bearers, which yielded less meat than traditional deer and moose hunting. Horticultural production decreased or became insufficient for Native populations, and Native people began to rely on foods traded from colonists or groups not participating in European barter economies, leading to nutritional stress (Cronon 1983; Salisbury 1982; Leach 1958; Deforest 1850). Native people also took up raising livestock, especially chickens and swine, which were left feral and hunted like deer (Mandell 1993).

In southeastern New England, land transactions between Natives and Europeans continued from earlier periods and combined with increasing encroachment on remaining Native lands. As Native people were confined to smaller parcels of land, they could no longer move their settlements freely when soils and firewood sources became depleted. Different patterns of land use probably arose, including shorter fallow periods or no fallow periods for horticultural lands, resulting in lower production. Native people may have countered this by increasing

their catches of herring for use as fish fertilizer or by taking up new European crops which were more tolerant of depleted soils (Ceci 1975; Nanepashemet 1991).

At the same time, shrinking Native land bases made subsistence hunting problematic, and Native people needed firearms to hunt more effectively on the lands remaining to them. At the same time, hunters may have needed to venture farther from their settlements in order to avoid competing with settlers. European fear of armed Native forces led to colonial laws against selling firearms, powder, and shot to Native people, which led to Native peoples' circumvention of these laws and production of their own shot.

The growing importance of firearms to Native people is strong evidence of the extent of material culture change in Native societies during this period. As the number of settlers grew, trading posts increasingly catered to their needs, which made larger amounts and more diverse types of trade goods available to Native populations. Most categories of Native material culture had been replaced or were in the process of being supplanted by European goods, including lithic technologies, ceramics, and clothing (except moccasins), also the degree and kind of replacement varied from place to place. Native woodenware (including bowls, ladles, and spoons) and textiles (mats and baskets) continued to be produced throughout this period. Native house forms remained constant, but their construction may have been changed by the introduction of iron axes and other tools.

As the importance of trade controlled by men continued, and horticultural production decreased, women's roles may have changed. Individual women could become traders and shamans. As epidemic diseases and Native warfare eliminated male heirs to sachemships and other leadership positions, the number of female sachems increased (Grumet 1980). For others, their roles within society may have remained relatively constant. Demographic changes as a result of epidemic decimation could have altered household organizations and kinship relations, especially those between generations. Orphaned children and widowed older relatives might join complete or fragmentary nuclear households, creating different patterns of work and interaction. Recognition of the loss of key

individuals, and the cultural knowledge they held, could have brought about greater status for older individuals who remained as repositories of cultural information. In addition, the rise in status of individuals heavily involved in the trade may have led to greater social distance between members of Native societies.

Internal changes within Native societies created by epidemic depopulation, ethnic reorganizations, changes in status systems, economics, and subsistence were not the only source of large-scale alterations in Native lives. While conversion of Native people to Christianity began in northern New England in 1611, the 1640s saw the beginning of attempts to convert Native people in southern New England. These largely took the form of simultaneously converting Native people to Christianity and European patterns of life through the creation of "Praying Towns" (Figure 23) where Christian Indians lived separately and were marginalized from both Europeans and non-Christian Natives (Eliot and Mayhew 1653; Axtell 1985, 1988d; Beaver 1988; Bowden 1981; Salisbury 1986; Eliot 1647, 1670; Ronda 1988). At the same time, the reservation system for some Native groups began, with the Gay Head Indians living in Christian settlements on lands purchased for them in the 1640s. Similarly, the Mashpees were confined to fifty square miles set aside for them in 1660. With such changes, Native production changed to a greater extent. As other groups were divested of their lands, some Native people took up residence in newly developing urban areas, if their adaptations suited them to those situations. Increasing numbers of "urban" Indians worked as domestics or in small-scale industry. However, even in these situations, European settlers attempted to control their interaction with Native people through mechanisms like the curfew in Salem, Massachusetts, which dictated that Indians could not remain in town overnight, but had to stay north of the river. Other individuals and families left the area to join other groups in less settled areas (Conkey et al. 1978).

Interaction with Europeans also changed Native patterns of warfare. Where alienation of goods and property was probably the focus of earlier warfare, European emphasis on burning Native settlements and actually killing enemies and even noncombatants led to similar retributions by Native

people, resulting in an upward spiral of death and destruction (Leach 1988; Jennings 1976; Rutenber 1992; Malone 1991). In addition, European imposition of Native scalp bounties made raiding and murder profitable, and increasingly set Native groups against each other.

### **Europeans and Their Cultures**

The rapid decimation of Native populations by epidemic diseases created unique settlement opportunities for European colonists. Large amounts of cleared, arable land were made available as Native villages were abandoned, and European settlers rapidly filled these areas, especially in southern New England. Thousands of English colonists filled eastern Massachusetts, coastal New Hampshire, and Maine, with smaller numbers of settlers in Dutch and French areas. While most earlier settlements had remained on the coast, this period saw the expansion of European settlement into the interior, with English colonists moving up the Connecticut River to settle at Agawam (Springfield), while the Dutch continued at Hartford and Albany. To protect growing European colonial populations, garrisons arose in many areas, including the Isle of Shoals, in South County, Rhode Island, and elsewhere. As colonists depleted resources in the areas they had taken over, they began to purchase or seize more and more Native land, as well as to assume control over resource areas used by remaining Native populations.

European economies continued to focus on subsistence production and extraction, as well as production for export. With increasing numbers of settlers, local industrial production of ceramics, metals, lumber, furniture and the like increased as well. With the rise of non-subsistence economies, agricultural and maritime production increased to support and feed craftspeople, creating new patterns of land use and local trade. As the number of dispersed settlements and urban centers increased, new networks of communication and transportation arose, with systems of roadways developing. With the penetration of settlements and roads into new areas, European colonists became increasingly concerned over their safety, and were often uncomfortable with their Native neighbors despite treaties establishing peaceful relations.

*Figure 23. Seventeenth-Century "Praying Towns" and Reservations in Southern New England.*

Europeans sought to cement relationships with Native people in different ways. The English focused on trade, treaties, and in some cases military engagements with Native people, while the French concentrated on mutual aid agreements and conversion to Catholicism. The Dutch maintained peace through trade and treaty relationships and by maintaining a relatively low population density that did not threaten Native resources or land use. However, competition between European groups for economic control of the region led to trade tactics and actions that used Native people as pawns. As Native people saw themselves losing control of trade situations and autonomy, they reacted by resisting European efforts to control trade and the distribution of trade goods, especially firearms, resorting to trade with the French and Dutch when the English tried to curtail arms sales, or raiding settlements to secure arms and ammunition. The rise of Native militarism and European responses brought about strained relationships between Europeans and Native people. These were exacerbated by the rapid inversion of ratios of Native to European populations as a result of epidemic depopulation and rapid European settlement.

#### **Armed Conflicts Between Native People and Europeans**

Within the North Atlantic region, seventeenth-century military engagements between Europeans and Native people were largely confined to New England, the New York Bay area, the lower Hudson River Valley, and New Jersey. There, large numbers of English and Dutch had settled and displaced Native people, creating tensions over trade and land use. While treaty relations existed, these usually served to limit Native power and solidify European claims to the land and domination over Indians, including punishing Native people for crimes and depredations against European settlers, even where Native populations were reacting to colonists' exploitations.

#### **New England**

In 1634, strained relations between Massachusetts Bay, the Connecticut colony, and the Pequots led to the events that brought about the

Pequot War. At the beginning of these conflicts, the Narragansetts were allied with the Pequots against the English, but later switched their allegiance to the English (Means 1947; Mason 1736). The Pequot presence became increasingly problematic for the English and, in 1636 and 1637, the English colonies mounted an offensive war against the Pequots (Washburn 1978). With the assistance of the Narragansetts and the Mohegans under Uncas, the English destroyed the Pequots, attacking and burning the Pequot fort at Mystic (Underhill 1638). Surviving Pequots were enslaved by the English and their Native allies, with some shipped to the West Indies. As a tribe, the Pequots were declared exterminated, and it was illegal for them to congregate or live together as a group. The effects of the Pequot War were not confined to the Pequots themselves, since the ruthless actions of the English in killing defenseless women and children at the Mystic fort showed the Mohegans, Narragansetts, and other Native people that Europeans had a fundamentally different approach to war, which permitted mass killing of noncombatants for the purpose of total extermination of a people. Native people had never practiced warfare on such a scale or for such ends. However, they realized that they would have to adopt European strategies and tactics if they were to successfully fight against Europeans.

During this period, military conflicts were not confined to wars between Native people and Europeans, although the colonies were certainly part of the cause and resolution of Native-Native conflicts. Smaller, localized conflicts and massacres also occurred, such as Turner's Massacre in the central Connecticut Valley during the 1640s, which dramatically illustrated and exacerbated tensions between Natives and colonists and growing fears among the colonists. Wars between Native groups also occurred. The English did not interfere in the 1643 war between the Narragansetts and Mohegans, and sanctioned the murder of the Narragansett sachem Miantonomi by the Mohegan sachem Uncas (Chapin 1931; Washburn 1978), probably because it was in the colonies' best interest to prevent Native alliances with one another against the English, and also because they were drawn into complicity by their ally Uncas (Johnson 1993; Sainsbury 1971). The Narragansett attempt to treat directly with England, through the person of Charles I, was

ignored by the confederated English colonies, who declared war on the Narragansetts, but ultimately signed a treaty with them in 1645, which effectively made vassals of the Narragansetts and decreased their power. The Narragansetts remained closely allied with Roger Williams's Rhode Island colony and continued to seek the protection of the English monarchy against Massachusetts Bay and the Connecticut colonies (Washburn 1978).

While the Plymouth colony maintained a treaty with the Wampanoags under the Pokanoket sachem Massasoit, the 1660s saw the deterioration of English-Wampanoag relations. With the death of Massasoit, his son Wamsutta (alias Alexander) assumed the sachemship, and conflicts arose over his right to sell Wampanoag lands to the Rhode Island colony. Plymouth attempted to stop these sales, and apprehended Wamsutta and took him to Plymouth. Wamsutta's death on the way home strained relations with the English further, and his brother Metacom (King Philip) opposed Plymouth's continued efforts to prevent Wampanoag land sales and their conveyance of lands near his remaining territory. When, in 1663, Rhode Island was granted its charter, which included Philip's remaining domain, Plymouth objected, and in 1667 established the town of Swansea near Philip's home at Mount Hope, near Bristol, Rhode Island. The Wampanoags threatened Swansea, and in 1671 Plymouth ordered the Wampanoags under Philip to surrender their arms. Philip was ultimately forced to sign a treaty subjecting his people to Plymouth and its laws and agreeing not to sell land without the colony's permission.

In 1675 Philip was accused of plotting against the English, and the death of a Praying Indian, John Sassamon, led to the outbreak of warfare between the Pokanokets and the English at Swansea. At this point, other colonies also joined the fight, with Connecticut claiming portions of the Narragansett lands and demanding Wampanoag refugees who had fled to the Narragansetts. Warfare quickly broke out in other parts of New England as tensions rose and English settlers became anxious about the threat of Native attack, and demanded that Maine Indians also surrender their arms. Despite the fact that the Narragansetts had not joined with Philip against the English, forces were sent against them by the confederated colonies, resulting in the Great Swamp

Massacre in December 1675, where at least 600 Narragansetts were killed in a swamp fort.

Over the winter of 1675-1676, Philip and his forces attacked and moved west through Connecticut and Massachusetts to Albany, where they failed to enlist aid from the Mahicans and were attacked by the Mohawks. During Philip's roving campaign, huge areas were decimated, entire settlements were looted and burned in the Connecticut River Valley, Providence, the Blackstone River Valley, and Rhode Island's South County. Even properties of individuals sympathetic to Native people were destroyed, for instance the trading post at Cocomuscussoc associated either with Roger Williams or Richard Smith. As Philip's forces wintered at Wachusett Mountain, Massachusetts, English forces found and killed small groups of Native people not allied with Philip. For their own protection and to keep them from allying with Philip, most Praying Indians were interned in Deer Island and Long Island in Boston Harbor, where they sat out the war in relative safety but virtual imprisonment and misery. Others who chose not to enter the war fled to Cape Cod, where the sachems remained neutral and escaped attack by English forces.

In August 1676, Philip and his forces returned to his village at Mount Hope, where Philip was killed. While the Indians in southern New England were defeated, conflict continued in northern New England until 1678. Treaties were forged but largely ignored, and many English were forced to abandon their settlements. As a result of King Philip's War, an estimated 1,200 English houses were destroyed, with a loss of 600 English people and 8,000 cattle. Native populations, already decimated by diseases and the earlier Pequot War, lost an estimated 3,000 people (Washburn 1978).

### **New York and New Jersey**

Early Dutch relations with the Indians were relatively peaceful because the actual number of settlers and traders was quite small and they did not infringe on Indian rights and activities (Kraft 1986). This situation changed in 1638 under Governor Willem Kieft, who was unsympathetic to Native concerns and rights on the lower Hudson and whose fears and actions contributed significantly to

problems between the Dutch and the Hudson River Native communities. With their interests in the fur trade, the Dutch had concentrated on trading and maintaining relations with Mahicans and Mohawks in order to protect Fort Orange and had largely ignored Native people of the lower Hudson and angered them by refusing arms sales (Ruttenber 1992). As Dutch settlement increased, destruction of Indian fields by Dutch cattle also increased, and the Dutch usually refused to satisfy any Native claims made against them for these damages. In addition, Kieft unsuccessfully demanded tribute of corn and wampum from the Tappans and other groups in 1639.

Active hostilities broke out in 1640, when Indians wrongly accused of stealing pigs on Staten Island were attacked. The Raritans retaliated by destroying a plantation. As a result, Kieft established a policy of extermination and a bounty on the Raritans. The bounty was taken up by some of the Native groups from western Long Island, creating antagonistic relations between tribes in the area. Later Native attacks on Dutch settlements brought about unsuccessful attempts by Kieft to massacre their villages, and began a continuing cycle of retaliatory violence. Dutch fears escalated with the 1642 meeting of the Narragansett sachem Miantonomi with the Indians of Long Island. It was rumored that the Indians would band together to destroy both the English and the Dutch.

During this time, the tribes on the lower Hudson were subject to attacks by the Mahicans. The Hudson River tribes fled to the Dutch at New Amsterdam, who protected them briefly but then forced them out because of their own fear of the Mahicans, who were important Dutch trading partners and allies at Fort Orange. Kieft sought to solve his problems with the Hudson River tribes by trying to destroy them altogether. Massacres followed, and the Hudson River tribes thought they had been attacked by the Mahicans. Thinking his Indian enemies were destroyed, Kieft sent out parties to collect abandoned corn stores. Realizing their real enemies, the Montauks and lower Hudson groups banded together against the Dutch, and laid waste much of the area north of New Amsterdam. Dutch survivors fled to New Amsterdam. There was a brief peace by treaty in 1643, followed by renewed Indian attacks, the abandonment of Dutch

farms in the Esopus country, and a renewed Dutch retreat to Fort Amsterdam.

Kieft tried unsuccessfully to solicit aid from New England, offering to mortgage New Amsterdam to New England. John Underhill and a small force joined forces with the Dutch and sent out armed parties to attack the Hudson River villages and steal their corn. Underhill's tactics against the Indians—introduced in the Pequot War—included massacring and burning villages, and torturing Native captives. These proved successful, and brought about peace with the Hudson River tribes in 1644. The Dutch planned renewed attacks on the Long Island tribes, and later forged a treaty with them. Between 1640 and 1645, 1,600 Indians of various tribes were said to have died, with most of the outlying Dutch settlements destroyed or burned. These included English households living among the Dutch such as that of Anne Hutchinson (Ruttenber 1992; Trelease 1960; Washburn 1978).

Despite their poor relations with the Dutch, local Indians stayed in the area as traders and also as domestics working in Dutch settlements, but the Dutch took advantage of them in the fur and liquor trade. Swedish traders coming up from the south maintained Native arms in the area by supplying the Minsis with guns and ammunition in exchange for furs (Ruttenber 1992). Because they maintained settlements adjacent to those of the Dutch, Native fields were subject to depredation by Dutch livestock. When Native people killed the offending cattle, the Dutch responded by killing the Indians, and retaliatory Native attacks resulted.

The so-called Esopus Wars began in 1655, when the Wappingers massed and attacked and destroyed outlying plantations on Staten Island, Long Island, and other areas. These attacks were directed strictly against the Dutch, since the English settlements on Long Island were warned not to assist the Dutch and were largely left alone. With the destruction of outlying Dutch settlements, many captives were taken, and others fled to New Amsterdam. Later, Dutch captives were exchanged for powder and lead.

Pieter Stuyvestant had replaced Kieft as governor of New Amsterdam, and tried to smooth over the antagonistic relations with local Native people that had characterized Kieft's tenure as governor. He attempted to deal more fairly with

Native claims against the Dutch, and strengthened the Dutch position by an alliance with the Native people of western Long Island, who were antagonistic to the Wappingers and other Hudson River tribes.

Dutch settlements were resumed at Esopus (Kingston), along with the liquor and other trades, although the example set by Stuyvestant was not followed by the common settlers and traders. Unscrupulous dealings with Native people and unpunished incursions by Dutch cattle on Native fields continued, resulting in retaliatory Native attacks in 1657. Stuyvestant recommended the construction of a palisaded fort/village, and the purchase of surrounding lands to make Native people leave the area and prevent further depredations on Indian fields. The fort was constructed and garrisoned by soldiers, while the Indians were forced to sell local lands as retribution for earlier attacks. Despite these measures, the Dutch continued to fear renewed attacks, but were distracted from their local concerns by requests from the Mohawks at Fort Orange, who requested help in their war with the French, including the cessation of the liquor trade with their warriors as well as supplies of powder and lead and Dutch assistance in building forts against the French. Reluctant to give up the profitable liquor trade and the control it gave them over Native people, the Dutch gave the Mohawks powder and lead as well as new axes with which to cut timber for their forts.

Renewed hostilities broke out in Esopus country, which escalated into total war, the mass destruction of Dutch settlements, and the retreat of survivors to Fort Amsterdam. At the same time, Long Island groups attacked Dutch settlements in their vicinity. In 1660, Stuyvestant made peace with the Wappingers. The Esopus wanted peace as well, but the Dutch destroyed their fort at Wilmeet, and Stuyvestant declared total war on the Esopus, intending their extermination. The Mahicans acted as ambassadors for the Esopus, who offered to surrender all their land and leave the area. The Esopus made a peace with the Dutch, which was enforced by the Mohawks, Mahicans, Senecas, and Minsis in order to protect their trade. In the meantime, Esopus prisoners had been sent to South American Dutch colonies as slaves.

Three years of peace were followed by Native attacks, the burning of the Dutch village at Esopus, and the capture of many Dutch settlers. Since peace with the Esopus was supposed to be enforced by the Mahicans, Mohawks, and others, Stuyvestant sought their aid to put down the Esopus. However, the Mahicans, Mohawks, Senecas, and Minsis were all involved in conflicts with each other and gave no assistance. By themselves, the Dutch destroyed Esopus "castles" at Shawangunk.

In 1664 Stuyvestant was ordered by his superiors in the Netherlands to continue the war against the Indians until they were destroyed. However, he tried to make peace with the Esopus by a treaty which limited contact between Native people and the Dutch to trade at specific places. He was distracted from this effort by the Mahican-Mohawk war, which threatened Fort Orange at the same time the English attacked Fort Amsterdam.

The English took possession of Fort Amsterdam and Fort Orange in 1664 and created a peaceful alliance with the Mohawks, Senecas, Mahicans, the lower Hudson tribes, and those on Long Island, which ensured that Native people would have from the English the same trade they had had with the Dutch, and which guaranteed the Mohawks, Senecas, and Mahicans assistance against the Abenakis, Pennacooks, and Pocumtucks. Authority over relations with Indian tribes was split between New York, Albany, and Kingston, thus splitting existing groups and weakening them, although this was probably inadvertent. Under English governance, purchase of Native lands had to be approved by the governor, and Native people were assured increased protection of their rights and claims in suits for damages. The English also regulated trade in arms and ammunition and forbade the liquor trade, and, to prevent depredation of Indian fields by cattle, colonists assisted in building fences around their fields. To safeguard the lives of colonists, Indians had to disarm themselves when entering settlements to trade (Ruttenber 1992).

Although wars continued between the Mohawks, Mahicans, and Abenakis and between the Senecas and Minsis, the lower Hudson River area was relatively calm under the English. As part of their treaty with the Senecas, the English refused to trade arms to the Senecas' enemies, including the Minsis, who lost their war with the Senecas in 1675. Wars

in other parts of the North Atlantic region also had their effects in the Hudson area; at the end of King Philip's War in 1677, many Pennacooks moved to join kin on the Hudson, probably at Schaghticoke, New York. Many Pequots were also said to have fled west. After 1698, many Pennacooks removed to St. Francis, Quebec (Odanak).

### Changes in Native Life

The defeat of Native forces in the Pequot War, King Philip's War, and the Esopus Wars spelled the end of Native autonomy in southern New England and the greater New York area, and radically transformed the lives of those Native people who remained. By 1676, large numbers of Native people were enslaved or indentured, creating structures of inequality that continued for centuries. Those who were not so controlled, or who later escaped indenture, found it difficult to maintain themselves in obvious Native settlements, and dispersed themselves across the landscape in small communities or left the region. Between these scattered populations, new modes of communication arose that depended on extensive travel—sometimes by itinerant craftspeople (Brasser 1971)—and the creation of regional cultures that bound distant communities together (McMullen 1994b). In general, Native people became part of a disadvantaged underclass with limited social contacts with other segments of society.

With the loss of almost all of their aboriginal land holdings, Native people could seldom sustain earlier patterns of subsistence and land use. Those Native people who maintained contact with European settlers created new relations of production based on craft production and wage labor, sometimes living within White communities or in marginalized hamlets. Those who maintained some land base could practice subsistence farming augmented by hunting and craft production, including the production and sale of woodenware, herbal medicines, and to some extent, splint baskets. Native slaves and indentured servants worked in households as domestics and outdoor workers, and their free relatives might seek the same type of work in European settlements to remain close to their kin. Many men, lacking a land base for hunting or other traditional pursuits, joined whaling

crews or became mercenaries in the Indian wars that continued in other parts of the region (Brasser 1971).

Once subjugated, Indians were no longer feared or considered enemies of the colonists. Rather they were seen as ragged and pitiful remnants whose identity and social position soon became stigmatized (McMullen 1994b). As a result, many Native people sought to downplay their identification as Indian, limiting their contact with Europeans or conforming to colonists' images of pacified and acculturated Indians. In many cases, aspects of Native culture went underground, and visible differences, such as Native dress and Native languages, were abandoned in favor of European dress and English speech. While many Native people deemphasized visible signs of Native identity, aspects of Native culture that were invisible or unrecognizable to European settlers were maintained and perhaps strengthened, for instance oral traditions, kinship, foodways, Native medicines, and the like. Seasonal celebrations, which brought together dispersed populations from distant areas, may also have been important. Everyday life may have thus taken place in different arenas—one visible to Europeans and another that was shared with other Native people. Within households, social relations may have remained relatively constant, to the extent that this was possible. However, the loss of a large proportion of the male population to war, whaling, and mercenary work recast the importance of women within the family; they became increasingly important as carriers of traditional culture, women became increasingly important.

As a result of warfare with Europeans and other Native groups, large population movements occurred during this period. While many Native people dispersed across the landscape, others moved into newly forming urban areas to work as domestics and craftspeople. In response to increasing settlement and European encroachment, some groups moved north and west. For instance, the Squakheags and others moved north, the Pennacooks shifted north into Canada, and the River Indians moved west toward the Hudson River after King Philip's War. Despite these movements, Native people maintained contacts with those who remained in their traditional homelands (Day 1978).

## **Changes in European Life: Ethnic/Racial Relations and Political Trends**

While the defeat of Native forces in the Pequot War and King Philip's War had its most profound effects on Native cultures in the region, the colonies' victories had effects on the lives of settlers as well. Although colonial populations suffered from the wars, in terms of both loss of life and loss of property, the defeat of Native forces assured the success and safety of the young colonies. Since the wars had effectively been fought over property and land, there was no real transformation in the way European colonists thought about their dominion over the region, except perhaps in the sense that English colonial governments had ignored the monarchy's right to deal with Native people as sovereign and had instead taken matters into their own hands.

At the same time, the balance of power in the North Atlantic region shifted. In the 1650s, the Dutch took over Swedish interests in Pennsylvania and Delaware and founded a number of settlements in the Hudson River Valley, in New Jersey, and on Long Island. With its concentration on trade rather than settlement, New Netherland attracted few settlers and the Dutch offered large tracts of land to those who encouraged others to emigrate. New Netherland's population in the 1660s consisted largely of Walloons, Huguenots, Swedes, and Africans. The tight controls of the Dutch West India Company prevented free enterprise, and few prospered or felt any loyalty to New Netherland as a colony. Compared to Dutch enterprises and colonies in other parts of the world, New Netherland was a dismal failure, and the Dutch did not concentrate their attention or energy on making it a success or maintaining possession of it as a colony. As they had supplanted the Swedes in Pennsylvania and Delaware, the Dutch were themselves supplanted by the British in New Netherland in 1664 (Washburn 1978). New Netherland was retaken by the Dutch in 1673 and lost again to the English in 1674. These events left England with only the French as competition in the North Atlantic region. From these beginnings, British settlers spread rapidly, although Dutch colonists maintained cultural influences in the areas they had settled.

Where English colonists resettled new areas inland, they maintained the basic patterns of

theocracy which had characterized the earliest settlements. Roger Williams's Rhode Island colony remained an important exception. As increasing numbers of settlers came from different parts of England and diverse social backgrounds, different sorts of communities arose, with different stresses on communalism versus individual work and ownership. The social problems of Europe sometimes replicated themselves, as in the case of the Salem witch trials, resulting in the fission of older communities and the creation of new settlements.

## **Changes in European Life: Economics, Trade, Production, and the Growth of Inequality**

The regional patterns of growth and expansion continued from earlier periods, with the growth of industry and diversification of economies and regional adaptations. With the enslavement and indenture of Native people in southeastern New England, more plantation-like economies arose to take advantage of ample labor, which also included African slaves. In other locales, adaptations shifted as agriculture proved unsuccessful and communities turned to maritime pursuits or crafting (Cronon 1983; Finch 1985; Kingsolver 1985; Kittredge 1968, Morrison 1921). In areas previously devoted to agriculture, others turned their depleted lands to stockraising, concentrating on pigs and sheep. Industry and local manufacturing continued to grow, and systems of transportation became regularized to distribute products to growing regional markets. In terms of their material culture, ordinary folk relied largely on domestic production, while those with means to do so continued to import fabrics, clothing, and household goods from Europe. Others circumvented lawful patterns of trade between Europe and the colonies by engaging in privateering and smuggling. This often provided profit opportunities to those who lacked contacts and influence on land, since furs and other products could be stolen at sea rather than extracted from Native people themselves.

Within developing urban centers social divisions were accentuated, with status display based on architecture and homelife. New arrivals from England might serve a period of indenture before striking out on their own as craftspeople or settlers of new lands. As non-subsistence economies grew,

colonists could establish themselves without "roughing it," and effectively recreate their former lives.

### **Research Questions**

#### **General**

How did the growing climate of fear and violence affect everyday life, both for Native people and Euroamericans?

#### **Demography, Ethnicity, Territoriality, and Interethnic Relationships**

How do Native patterns of warfare change during this period? Can archaeology further inform the debate on scalping? Historical records also suggest that the torture of captives was routine in some areas, for instance the lower Hudson River Valley and in Iroquoia. Is this visible, and did it exist before contact?

How do Native people regroup, reform, or enter new communities after wars (e.g., Pequots after Pequot War, Narragansetts and Wampanoags after King Philip's War)? How many don't reenter communities at all, but disperse themselves on the landscape? How are contacts maintained between these families? What strategies do Native people employ to survive? What aspects of Native culture are expressed openly; what goes underground; what is lost? What can we see archaeologically that would not have been apparent to contemporary observers (e.g., traditional jewelry and ornaments as grave goods, continuation of foodways, shamanism, household organization, etc.)?

Can we see the development of regional Native culture and the development of new networks to support it (e.g., Pequot contacts with Susquehannocks, etc.)?

Conflicts bring about the indenture or enslavement of many Native people. Is there archaeological evidence of their contacts with free kin nearby?

Can we do archaeologies of war camps, such those King Philip maintained at Assawompsett and Wachusett Mountain?

After the Pequot War, some Pequot communities eventually regrouped? What was life like in these new communities?

Supposedly there were a number of Wampanoag refugees among the Narragansett during King Philip's War. Is their presence reflected in material culture? Similarly, is the entrance of many Pequot refugees into Mohegan and Narragansett communities after the Pequot War reflected in material culture?

Can we do archaeologies of Native fortifications (e.g., Great Swamp, Mystic, Shantok)? Can we see the growth of palisaded villages and/or fortifications? Are these used for wampum production and stockpiling rather than residential life? Did anyone actually live there? How do fortified areas vary and why? Can we learn about Native warfare by locating and examining structures destroyed during conflicts?

The Esopus wars were long and reportedly destructive. Are there archaeological remains associated with them? What were Native and European tactics?

Unlike situations in other parts of the North Atlantic region, Native people on the lower Hudson appear to have remained relatively close to European settlements despite almost constant attacks and abuse. How were their relations with Europeans different from those in other regions? Were their relations of production different? Given the massive losses they suffered in these conflicts, how did their societies change as a result? Did they regroup? Were some settlements abandoned?

Can we see Native movements in terms of territory (not seasonality) for this period? For instance, can we see the Mahicans shifting north and displacing other groups? Can Native population movements be seen archaeologically, even if the destinations are outside the North Atlantic?

If Iroquois aggression was directed to groups outside the League, can we see the development of more fortifications? Can we see Iroquois tribute exactions and relations with others through material

culture analyses? Can we see shifts in their relations with the Dutch and the French, and the movement toward closer alliances with the French to reinforce the Iroquois position?

Historical accounts suggest that many Native people fled to Cape Cod and Martha's Vineyard during King Philip's War: can we see intrusive populations? How numerous were they?

#### **Trade Goods**

Can we see patterns of European exploitation and influence by looking at trade goods, including which areas each European group sought or claimed to control and what mechanisms they used to try to gain control?

What does identifying the country of origin of trade goods really tell us? Are these appropriate ways to look at the real interactions that occurred if Europeans were trading and buying and selling amongst themselves? Are there particular categories of material culture for which this strategy is an appropriate mode of inquiry and ones for which it is not?

Are there real differences in what each European group traded? (this is an archival question that may inform the above idea of determining European spheres of influence in the North Atlantic region)

How does the availability of particular classes of European goods, and their relative "prices," affect what is traded?

What is the impact of the Dutch trade in southern New England? Is there any way to differentiate the Dutch goods traded here from Dutch goods traded by English at same time? If so, what was the sphere of influence of the Dutch trading post?

How prevalent were firearms in Native societies, and what effects did they have? With the rise of laws against arming Native people, how did Natives circumvent these? Were there any revivals of lithic technology?

Can we see the impact of the French in Maine during Native conflicts with the English? Do the

French supply Indians with arms? Do Native people resort to trade with the French or do without? do they raid both the French and the English?

How do Native people react to European efforts to curtail access to firearms and ammunition? How did Native firearms technology (blacksmithing, lead casting) develop? Historical accounts suggest that during the mid to late seventeenth century, Native people in New York and New Jersey were given or traded lead bars rather than shot. How extensive was the production of lead shot among various Native groups?

Can we see a difference archaeologically between Iroquoian men's and women's trade? Under conditions of warfare, is one or the other curtailed? It has been suggested that trade in guns was most prevalent between the Dutch and the Delaware. Is this true? Is it equally true for other Dutch posts? Do the Dutch supply the Iroquois with guns to protect their status as middlemen, or do the Iroquois get guns elsewhere?

The depredation of European cattle on Indian fields is said to have been a major cause of conflicts between Native people and Euroamerican settlers, but during this period, Native people in some areas were adopting the use of livestock as well. How were these controlled to safeguard Indian fields? How extensive were Native livestock holdings?

#### **Changes in Native Cultures**

How did Native life change with the shift to reservations, such as those on Gay Head and at Mashpee?

What was life like in the various Praying Towns? Praying Indians were interned on Deer Island in Boston Harbor during King Philip's War. Can we do an archaeology of their lives there?

As they were confined to smaller parcels of land, Native people developed new relations of production involving production and sale of woodenware and baskets to Euroamericans: are these industries visible archaeologically? how did they augment subsistence gardening, hunting, and wild food gathering?

How does Native confinement to smaller parcels of land affect patterns of land use? Do new relations of production arise for this period that are the result of these confinements? If Native people used fish fertilizer for any period, it would very likely be this one, when soils would have quickly become exhausted. Is there any evidence of this use? To what extent were European domesticates adopted?

What means of subsistence were used by Native people during conflicts? Did they rely on traded foodstuffs rather than subsistence production? What evidence is there of nutritional stress?

How were Native forms of architecture changed by the introduction of metal tools? How late did Native forms of architecture survive?

Following decimation by epidemic or war, how did households regroup? Did new household types develop to compensate for gender and age imbalances?

Can we see examples of instances where Europeans actively manipulated Native people in terms of trade?

Can changes in Native seasonality and production help us determine the extent of the reorganization of Native societies to warfare? Do changes in subsistence and settlement pattern inform this?

Can we see the continued development of the wampum trade and changes in production through archaeology? How are other aspects of culture affected?

We can see the extent of material culture change for this period, to the extent that some trade goods survive archaeologically, but how can archaeologists recognize any other kind of change?

At what point do changes in material culture start to spur other changes? Do changes in material culture indicate other kinds of culture change? How is Native production of food, wampum, and furs affected by material culture change? What falls out of production or use because of European introductions? We know that Native cultures are

materially changed by the late 1600s, but how great are the changes in other aspects of culture?

Do European items replace Native analogs but with attached meanings? Kettles replace Native ceramics rapidly in some areas but not in others. What accounts for this variation? Which categories of European artifacts are adopted during this period?

It has been suggested that there was some Native resistance to the replacement of some categories of material culture, for instance shell hoes and stone axes. Is this true? Does this have to do with gendered ideas about tradition versus progress? How else can it be explained?

Did Europeans take over Native resource areas or adaptations eliminating Native peoples' opportunities to use them? How would this be visible? For instance, when the English took over the Maine coast, was there less emphasis on Native coastal fishing? Did Native people use their time on the coast for trade instead?

Can we see a decrease in Iroquois militarism/raiding 1650-1700 and the rise of middleman trade? At this time, the Iroquois were said to have concentrated their raiding ventures to the south. Is this true? Can we see the introduction of distinctive southern materials, trade goods, etc.? Do these reflect adoptions of people—new spouses—or simply movements of material culture and ideas?

What effects did wars like the one between the Narragansetts and Mohegans have on everyday life?

#### **Status and Gender**

Were Native gender relations changed by the increasing importance of warfare? Did the increased importance of war create changes in status and power within Native communities?

Can we see men leaving for war, or changes in gender balances caused by war deaths? Do households become more female-looking, or matrifocal? How would we know? Can we see women becoming more important?

What might be the relationships between shifts in gender relations, changes in status systems, and what appears to be the rise of patrilineality during the Contact period in southern New England? Is one of these a trigger (cause) and the others resulting effects, or do they feed back on each other?

Are shifts in gender relations for the Iroquois, including the rise of matrilineality, related to trade through a growth in the importance of women in trade?

Are there alterations in generational relationships because of contact, trade, and warfare? If elders gained in status after epidemics, when they may have become important as repositories of traditional knowledge, what was their status during this period?

Seventeenth-century mortuary sites include large amounts of trade goods for younger individuals. How can we explain this pattern? Do younger people gain status as a result of their activities in European trade or warfare?

Does the introduction of new classes of trade goods lead to greater social inequality in Native societies? Status systems may change with the introduction of new goods, but which of these is the primary factor? Does the introduction of new materials breed a new social system, is an existing social system elaborated through the addition of new goods, or is a new system of status marked by new goods?

Does trade in European goods and participation in warfare increase men's status? If so, what happens to women and women's status?

If gender relations become unequal, do subordinate members of society attempt to equalize these situations and reaffirm the roles and status positions of women? If so, how?

Did women become important as wampum producers in southern New England? If so, when and why?

Since we assume that contact brought about conflict between Native groups, can we see an increase in

actual militarism and the symbolic value of war exploits in male artifacts? Are these status related?

Does an emphasis on women's trade in southern New England and the Lenape area make status more individual than gender-based? If status is more individually based in southern New England, is kin trade and partner trade more likely to continue than in northern New England?

Does the rise in status of individual Native traders in Iroquoia affect them politically, or are these changes mediated by existing structures of League politics? Do Iroquoian traders grow more powerful or elevated in status? How can we address this archaeologically?

With the rise of Iroquois warfare bringing about the influx of large numbers of "foreign" male captives, does women's status increase?

#### **European Life**

Can we do archaeologies of garrison architecture (e.g., Isle of Shoals, Cocumscussoc, etc.)?

If Europeans assume control over Native resource areas, what are the reactions and adaptations on both sides?

How are settlements organized? What factors influence this organization? Is the physical organization of outlying settlements different than that of settlements which were presumed safe from Native attack? Is this true for trading posts like Cocumscussoc? What would trading post life have been like?

Can we learn more about patterns of European warfare in archaeological sites associated with King Philip's War?

Can we see abandonment of unsuccessful European settlements? The English were said to have abandoned settlements in Maine at the end of King Philip's War. Are these visible archaeologically?

What was life like for Native slaves and indentured servants? What was is like for African slaves?

Even before the English took over New Netherland, there were English families settled there. Are their households evidently English rather than Dutch from the archaeological evidence? On Long Island and on the lower Hudson, these households may have been quite close together. What were their relations?

Can we see the maintenance of Dutch populations and cultural influences after the English take over New Netherland?

Historical records suggest that the settlement of new towns inland followed the same basic patterns of theocracy that had structured earlier settlements on the coast. Is this pattern visible? What was the impact of religion on the construction of English settlements?

With settlers coming from different kinds of European and Euroamerican backgrounds, did different sorts of communities arise with different stresses on communalism versus individual work?

What social problems of Europe were replicated in Euroamerican settlements? At what point did this cause the fissioning of older communities, such as Salem?

Can we see evidence of the dependence of Europeans in early settlements on Indians? Are European populations constantly at risk in terms of their physical survival, both in terms of subsistence and personal safety?

Can we see European transculturation and Europeans becoming Americans? What effects do European cultural attitudes have on intermarriage and transculturation?

What are the effects of intermarriages, etc. on Europeans? Can we see Europeans gone Native? What about European captives in Native societies?

Can we see gender roles in early settlements?

Are their issues of race, class, gender, and inequality that have been hidden by the rhetoric of accounts of early European settlements? Can these be exposed through archaeology?

What are the differences in production that apply to urban versus rural situations?

Can we see local resource processing in sites related to blacksmiths, potters, millers, etc.?

How are the economic systems of European settlements affected by changes in Native society?

To what extent did Europeans in different regions adopt Native manufactures? Is this a matter of suiting themselves to new environments or is it that things brought from Europe are wearing out and can't be replaced?

Can we see ecological changes as a result of deforestation and soil loss, associated with European practices?

Can we see different European attitudes in trade and settlement practices? The Dutch and French are said to have been more open to Native people than the English. Does the archaeology of Dutch or French settlements show more adoptions of Native material items and practices than for the English?

Can we see European conflict in terms of price gouging and the destruction of other settlements? Can we see the creation of European spheres of influence in the North Atlantic region?

Can we see the genesis of American ways of life, which are less European in pattern?

Can we see the diversification of colonial economies and industries? Can we see the development of urban centers? What would an urban center look like? Can we see developing city patterns as copies of transplanted European ideas?

It has been suggested that poor folk relied on domestic manufactures while more affluent settlers could afford to import European goods to furnish their homes and satisfy their needs. Is this verified by the archaeological record? Were the rich more successful in replicating their earlier European forms of life? How were social divisions shown materially?

## RESETTLEMENT AND ECONOMIC DIVERSIFICATION (CA. 1676-1776)

Ann McMullen

### The Character of the Period and the Overall Setting

With the end of Native military and political autonomy in most of the North Atlantic, this period represents both Euroamerican diversification from agricultural and maritime subsistence to a wider variety of adaptations and shifts in traditional Native lifeways to craft, wage, and service work to supplement subsistence farming and hunting where possible. With these diversifications, many populations—Native and Euroamerican—resettled in new parts of the region. Simultaneously the British attempted to consolidate their political and economic control over the colonies, waging economic and military wars against the French and the Dutch, with Native people serving as allies and mercenaries. In some areas there was little change from earlier agricultural pursuits. However, conflicts with the French brought about shifts in maritime adaptations. By the end of the period, the British dominated the political scene, though other ethnic populations still existed under their control. Intermittent widespread conflict continued, although it was largely between European powers and involved Native Americans as mercenaries and allies.

New patterns of production and life arose for increasingly marginalized and dispersed Native populations. While Native Americans often appeared politically active, they were in many cases essentially powerless to alter their conditions of life, which continued to deteriorate. Populations were decimated by mercenary participation in European wars on the North American continent and many individuals, families, and even large groups left the region.

### The Political Setting and its Relation to Settlement

The settlement of the North Atlantic region was accomplished by diverse populations from Europe—English, French, Dutch, Swedish, and Finnish—none of which were politically, ethnically, or socially homogeneous. The differences within these groups included ideas about settlement,

economics, and social organization, and affected settlement and the characteristics of the developing communities. Existing tensions between groups in Europe were transferred to North America, and had major repercussions on how people interacted in the North Atlantic. For instance, Charles II generally disliked the Puritans and tended to obstruct their efforts, which exacerbated Puritan distrust of other English groups that settled in New England.

The English were composed of mainstream Anglicans loyal to the king, nonloyal Anglicans, Puritans, Quakers, and diverse other Separatists or non-Conformists, who did not see themselves as a single group. Religious differences between all English groups were accompanied by different ideas of lifeways and family organization, which ultimately affected their communities in terms of economics, settlement patterns, family life, and relations with other Europeans and non-Europeans, including Africans and Native people.

The Dutch system of settlement and land holdings was very different. They claimed the territory between the Connecticut and Delaware Rivers, and administered it through the Dutch West India Company. Since their interests were largely trade rather than settlement, they allowed the English to settle coastal areas—for instance, New Haven and Greenwich—and maintained control of interior regions through trading posts on the upper Connecticut and Hudson Rivers, taking on the role of necessary middlemen. They maintained ports like New Amsterdam only to facilitate the transfer of goods in and out of the region. Control of river travel was also important to Dutch control of the region. Around 1624, the Dutch West India Company encouraged settlement in the Hudson River Valley, and transported families from their trading post near Hartford to the Albany area. After that time, they also began to offer vast feudal estates—up to 700,000 acres—to the so-called *patroons*. These individuals were probably not originally landed gentry from the Netherlands, but were merchants and others who were owed favors. The patroons brought others, many of whom were not Dutch, to work these estates. By mid-century, the population of New Netherland was about 8,000, and composed of Walloons, Huguenots, Swedes, Dutch, and African slaves, probably in that order. Other settlers with smaller holdings disliked the

patroon system, both because it tied up prime agricultural land in the Hudson River Valley and because it replicated the systems of social inequality that they had sought to escape by emigration. Since the system tied up so much agricultural land and because it was not very successful in bringing farmers over to actually work the land, agricultural production in the Dutch colonies lagged behind the English colonies of the same period.

Dutch colonies were minimally fortified, and their efforts at protection were concentrated on protecting trade goods, and to a lesser extent the colonists themselves. Fortified blockhouses were placed on the Connecticut, Hudson, and Delaware Rivers, and on Manhattan Island. Not satisfied with their hold on the region's resources, the Dutch seized the lower Delaware Valley from Swedish and Finnish colonists there in 1655, while simultaneously they were being pushed out of Connecticut by the English. This set off a growing tension between the Dutch and the English, resulting in three Anglo-Dutch conflicts, although these were largely seizures rather than large military engagements.

In 1664, the Duke of York (later James II) attempted to create a single political entity, the Dominion of New England, between the Connecticut and Delaware Rivers. This action was assisted by Charles II's revocation of the Puritan's sea-to-sea charter, which had earlier established the Massachusetts colony as a separate corporate entity. The organization of the Dominion, which included New Jersey and New York, abolished colonial assemblies and set up a single, highly unpopular, government administration run by Governor Sir Edmund Andros. The Dominion was later expanded to include Maine and the rest of New England, which only served to anger settlers in the other growing colonies.

Since the establishment of the Dominion threatened the Dutch in New York, tensions escalated between the English and the Dutch. In 1673-1674, an English sea captain captured New Amsterdam but ransomed it back. Ultimately the Dutch lost New Amsterdam and much of their ability to control the area. The Duke of York took over, but maintained the patroon system and continued to grant huge tracts of land to loyal friends. This preserved and expanded the class of

influential landholders along the Hudson but did not increase the area's productivity since its population remained relatively low and the land was not extensively worked. New Jersey was divided in half and given to two cronies of the Duke of York, creating east and west New Jersey. Quakers colonists from Pennsylvania, interested in gaining control of the coast and its resources, moved into the western part while Puritans moved into the eastern part. By the 1680s, William Penn had purchased large parts of eastern New Jersey and established settlements there.

With the Glorious Revolution of 1689, James II was deposed, the Dominion of New England collapsed, and Andros' regime ended, concurrent with Leisler's rebellion in New York. The Massachusetts colony did not regain its charter, but was made a royal colony in 1691. This action gave Maine to Massachusetts but limited the autonomy of the colony by maintaining controls, including taxation (e.g., the Stamp Act tax) and prohibition of colonial minting of currency. After the failure of the Dominion, the Quakers manage to reunite New Jersey in 1702, creating a strong sphere of Quaker influence there.

### Production

As the English increasingly dominated the region, their economy diversified to cover both geographic areas and aspects of production that had been controlled by others. Through their adaptation to different ecological zones, and the failure of some adaptations in particular regions, different groups and communities expanded and contracted, diversifying their local economies to create new relations of production within communities and in relation to other communities within larger economic networks. For instance, the subjugation of Native populations and their loss of land necessitated changes in Native life that depended on smaller parcels of land and different relations of production and relations with Euroamericans, including craft production and sale, barter and wage economies, work as domestics, and indenture.

The diversification of the colonial economy on all levels brought about the need for new means to redistribute, sell, and trade goods, including the growth of markets in "urban" areas and the

appearance of peddlers and cart vendors to serve more dispersed areas. While much of the region functioned on the basis of a barter economy, there was also a rise in the number of general stores and warehouses which functioned to redistribute large amounts of goods. Harvests and cargos from Europe and other colonial ports were controlled, split up, and redistributed via developing centers like stock exchanges, coffeehouse banks, and the like. The growing productivity and self-sufficiency of the region contributed to changes in the relations of production with Europe, and English monarchs sought to control colonial action and to profit by it through taxation and other means.

The diversification of production and the economy also gave rise to growing regional variations, including the development of urban/rural divisions. Rural populations differed according to their ecological settings. For example, colonists on Cape Cod developed a set of adaptations very different from those in the western mountains. With changes in the technology of whaling and other maritime pursuits, men spent increasing amounts of time offshore, which necessitated changes in the lives of women and other community members not directly involved in whaling, and altered their respective relations of production. There were also many areas, such as Pittsfield and the Housatonic Valley, that arose as isolated economies separate from centers of power and commerce like Boston and New York. Closer to the "frontier," these areas developed their own characteristics and "personalities," many of which were strongly affected by the ideas and strengths of the dominant ethnicities in those regions. Regional variations in economies and social relations were also strongly affected by the growing use of African slaves after 1700, especially in plantation economies, service industries, and household domestic work. By the end of the period there were more than 16,000 African slaves in the northern colonies.

#### Armed Conflicts

While Native military actions in the New Jersey area ended with the Esopus Wars (1655-1664) and King Philip's War (1675-78) spelled the end of Native military action in southern New England, conflict between colonists and Native people in

northern New England continued into the eighteenth century. At the end of King Philip's War, Native people had forced the English to abandon some of their settlements, and tensions remained high. The French in Maine encouraged these tensions and enlisted Native people as allies in their own territorial wars with the English. After 1689, war broke out between the French and English, and Native people were drawn into the fray. Members of

### BOX 20: MAJOR MILITARY CONFLICTS

1687	French attack Senecas in defense of Algonquian allies (Leach 1988)
1689	Iroquois attack French Canadian settlements near Montreal (Leach 1988)
1688-97	King William's War between England and France, Abenakis allied with the French (Washburn 1978)
1688	English invasion of Native fisheries on the Saco River, destruction of Saint-Castin's trading post at Penobscot by English angers Penobscots (Washburn 1978)
1688	destruction of Native fields by cattle near Saco, Natives retaliate by killing cattle, 16 Indians seized (Washburn 1978)
1689	Dover, NH attacked by Pennacooks (Washburn 1978)
1702-13	Queen Anne's War between England and France, Indians fight in own interests (Washburn 1978; Leach 1988)
1704	French and Indian attack on Deerfield
1717	hostilities of Dummer's War begin (Washburn 1978)
1722-27	Dummer's War between Western Abenakis and English (not part of a simultaneous European war)
1722	Indians on Kennebec attack Brunswick, Maine
1723	raids, etc. continue to 1727, French cannot protect Indians or match trade prices offered by British (Washburn 1978; Leach 1988)
1745-48	King George's War (Snow 1978)
1755-63	French and Indian War in northern New England and New York (Washburn 1978)

some Native groups fought as mercenaries for the English or French, while others allied themselves with European powers and fought in their own interests. The Seven Years' War (1755-1763), which involved the use of whaling vessels for large scale troop transports, ended Native militarism in northern New England, although New England Indians later fought in the Revolutionary War as individuals or small companies rather than as members of tribal armies. Relations between the Iroquois and settlers in New York remained relatively peaceful until the outbreak of the Revolutionary War, when the Confederacy was split in its allegiance to England and the colonies. However, the Iroquois were involved in conflicts with the French outside the region.

### Changes in Native Life

With the end of Native autonomy brought about by their defeat in colonial wars, the constitution of Native societies changed. What had been very visible and organized confederations of communities headed by sachems and sagamores became increasingly amorphous and acephalous. Survivors of the wars often dispersed themselves across the landscape and joined with members of other groups to create amalgamated communities of mixed Native heritage. These groups were often known by place names rather than tribal names, such as Schaghticoke, Mashpee, and the like. With these population and demographic changes, Native people often emphasized the cultural aspects they shared with the other members of their new groups, creating regional cultures. This process of regionalization was a continuation of the kinds of cultural interactions and links that had existed previously. However, the dispersal of Native families and individuals across the landscape also promoted the formation of new types of regional interactions based on travelling craftworkers, wage laborers, and Indian doctors (Brasser 1971). Links of kinship and tribal affiliation appear to have persisted although tribal members were spatially separated or had joined amalgamated communities. Travel and exchange between new groups and existing small dispersed settlements increased, and intermarriage between members of previously distinct groups promoted sharing and cultural mixing. Seasonal

gatherings, celebrations, and perhaps ceremonies appear to have continued, sponsoring further development of regional culture. In many situations, Native people avoided identification as such, and hid the recognizable surviving characteristics of their culture by appearing, superficially at least, to assimilate to Euroamerican society. Many shifted to European style frame houses, while other furnished their wigwams with American-made chairs, chests, tools, etc. (Sturtevant 1975), or built D-shaped structures that appeared European from the front but maintained the form of traditional wigwams otherwise (McBride 1990). Many aspects of Native dress and material culture were abandoned, although some ornaments that could be hidden under clothing appear to have survived (McBride 1993). However, distinctive worldviews, oral traditions, foodways, and other less outwardly visible cultural characteristics survived. In other situations, Native people simply withdrew to less populated areas, where their distinctive ways of life could escape detection (McMullen 1994b).

At the same time, the character of Native society was also affected by external forces. With the end of King Philip's War, many Narragansetts and Wampanoags were enslaved or indentured. While some remained in New England, others were sent into slavery in the Caribbean. Gender imbalances—resulting from the deaths of men in the Pequot War and King Philip's War, mercenary participation in colonial wars, and increased participation in whaling and other maritime adaptations—forced Native women to seek non-Native husbands, resulting in large-scale Native-African American intermarriage, especially in southern New England, and the creation of a large free-born "colored" underclass. These mixed families, often living on remaining tribally held lands, were strongly matrifocal, and brought up children within households that maintained traditional Native patterns of family, kinship, and work relationships. Despite this continuity of Native traditions, many of these communities were not recognized as Native and thus escaped persecutions that might result from such identification.

Native populations were also affected by the changes in production and the diversification of Euroamerican economies. Within the growing urban centers, Native people could often fit in as

domestics and skilled laborers, although this usually meant that they could not maintain contact with other Native people in distant communities. Those who remained in rural areas often clung to small parcels of land, which seldom allowed them to continue traditional patterns of agriculture, hunting, fishing, and gathering. Instead, many turned to craft production, making baskets and woodenware for sale to non-Natives, or to wage labor. As suggested above, many men turned to whaling and the sea, or to mixed strategies that included subsistence gardening, craft production, masonry, and seasonal wage labor on local farms. Itinerant basket peddlers and Indian "herb doctors" (male and female) remained important, and served as links among dispersed Native communities.

In some areas, for instance northern New England, Native people were sufficiently removed from Euroamerican settlement that they could persist in relatively traditional ways of life, including small-scale agriculture, hunting, and trapping, but their ways of life were also altered by dependence on trade goods. Within such communities, many aspects of life remained essentially traditional, including kinship, family, and political organization. However, as Europeans took over coastal areas, seasonal movements altered, as did material culture, which became increasingly Europeanized. House forms also changed from round wigwams to rectangular, log cabin-like structures with bark roofs as among the Abenakis (Snow 1978). Despite these changes in their culture, Native people in northern New England maintained strong regional political organizations, including the formation of the Wabanaki confederacy between 1763 and 1775, which included the Penobscots, Passamaquoddies, Micmacs, Ottawas, Hurons, and other French allies. This organization was centered at Caughnawaga (Snow 1978), and maintained generally peaceful trade and social interactions among its constituent groups.

### **Religion and Missionary Efforts**

While small dispersed communities of Native people worked to maintain traditional Native religions, those in larger organized communities near Euroamerican settlements were subjected to increasing missionary efforts during this period. Of

the numerous Praying Indian communities that existed before King Philip's War, only four remained in 1684, although there were a number of smaller, less organized Christian Native communities on Nantucket and Martha's Vineyard (Conkey et al. 1978). Many indentured Indian people were encouraged to convert by their residence in Euroamerican households, which often served to assimilate them faster to Euroamerican ways of life and separate them further from their traditional kin in outlying communities.

In northern New England, the French continued their successful efforts at converting the Abenakis. Sebastian Rale maintained a mission near Norridgewock from 1694 until it was attacked and destroyed by the English during Dummer's War in 1724. Many other Abenakis in Vermont were converted to Catholicism through missionaries from Canada.

In western Massachusetts, Mahicans on the upper Housatonic were first contacted by missionaries in 1734. John Sergeant established the mission village of Stockbridge there in 1735, and most of the Indians in the region moved there in the next several years, joined by a number of English families at Stockbridge in an experimental Native-English community (Brasser 1978b). Services were held in the Mahican language, and members of this community managed to maintain many aspects of Native life, although they increasingly turned to English style agriculture and other adaptations (Beaver 1988; Frasier 1992).

Moravian missionaries also began work among Native communities in eastern New York, and somewhat later in northwestern Connecticut. They reached the Mahicans in 1740. Persecution of the Native communities following the Moravian church affected missionization, and soon afterward the missionaries and many of their Native followers withdrew to create new settlements in Pennsylvania among the Munsees (Beaver 1988).

During the 1740s, the Great Awakening (see below) had important effects on Native life in southern New England. While many Native communities had effectively resisted conversion up until this point, the revivalistic character of "New Light" churches appears to have appealed to many Native people. A number of Indian men were trained as ministers, beginning with the Mohegan

Samson Occum, who ordained in 1759 after he had already served as pastor and missionary to the Montauks, Mohegans, and Niantics for ten years. Other New Light churches grew out of this movement, and soon many Native people converted, often creating separate English-style enclaves within what had been traditional Native communities. Such divisions were sometimes spatially apparent and may also be visible archaeologically through the investigation of traditional and English-style farmsteads and communities within Native-held lands during this period, for instance among the Pequots (McBride 1990, 1993). Despite their assimilation to Euroamerican ways of life, these Native people were often still persecuted. This created wide dissatisfaction among Native people in southern New England, which ultimately led to the Brothertown migrations of the 1770s (Love 1899).

#### Native Population Movements

A number of significant population movements were brought about by King Philip's War and the conflicts that followed. Many tribal remnants found themselves fragmented and without appreciable land bases, and moved west and north in order to reach areas unpopulated by Whites. For instance, in the years after 1680, the Housatonic River Valley Indian populations were said to have swelled because of refugees from King Philip's War (Conkey et al. 1978). A number of Narragansetts, Pawtuckets, and Massachusetts were said to have moved to Maine and Martha's Vineyard after King Philip's War, while a number of Pequots had already moved into western Connecticut after the Pequot War of 1636-37.

In Northern New England, Queen Anne's War (1702-1713), forced the Cowasucks and Pigwackets to move north into Canada, although many returned after the cessation of hostilities (Day 1978). After the Seven Years' War ended the political control of the French in northern New England in 1763, Catholic missionaries withdrew into Canada and were followed by many Western Abenaki and Missisquoi families (Washburn 1978).

Many Mahicans also moved within the region, some because of wars with the Iroquois and others in response to missionary efforts. Some moved to Pennsylvania with Moravian missionaries, while

others followed Catholic missionaries to Odanak in Quebec in the early eighteenth century. Others moved to the Mohawk River in New York, and later removed to the Munsee territory on the Susquehanna River and in Pennsylvania in the 1720s (Brasser 1978b). The various Delaware groups also shifted their territories and created new communities during this period, with some moving to Stockbridge (Goddard 1978).

#### BOX 21: EARLY NATIVE RESERVATIONS

1666	lands on Long Island for Poosepatucks
1667	2,000 acres at Mashantucket, CT for Pequots
1683	280 acres in Stonington, CT for Pequots
1693	8,000 acres near Grafton, MA for Hassanimiscos
1700	210 acres on Long Island for Unquachogs
1701	160 acres at Fall River, MA, reservation status in 1709
1709	Ninegret II quitclaims remaining Narragansett land in exchange for 64 square miles near Charlestown for Narragansetts
1711	at least 2,400 acres for Gay Head Indians
1721	4,000-5,000 acres remain to Mohegans
1732	parts of Mashantucket reservation leased to whites
1744	two tracts of land at Schaghticoke, near Kent, CT
1745	George Ninegret sells Narragansett lands
1760	attempted eviction of Paugussetts from three reservations near Bridgeport, CT
1761	land losses at Mashantucket
1769	Mohegan land conflicts, lands divided in 1783, again in 1790
Source: Conkey et al. 1978	

Besides population movements, Native communities also continued to be struck by epidemics during this period, although the effects were usually very closely circumscribed. In the 1750s, disease drastically reduced Native

populations at Little Compton, Rhode Island and Natick, Massachusetts, while about 2/3 of the Native population of Nantucket died in an epidemic in 1763 (Conkey et al. 1978).

#### **Growth of the Reservation System**

Even before King Philip's War, Native people had been settled and confined on small parcels of land away from White settlers. Through the actions of colonial and later state governments, missionary societies, and tribes themselves, lands were reserved for Native communities (Box 21). These populations received little support from local governments, which often considered reservations analogous to poor farms, and meted out small payments and improvements only as necessary. Due to alienation of lands, many of these reservations no longer exist or have been drastically reduced over the years. In other parts of the North Atlantic region, Native reservations were established much later and thus are not discussed for this period.

#### **Euroamerican Life**

During this period in the North Atlantic region, the greatest factors that brought about changes in Euroamerican life were the political changes that resulted from English ascendancy, the resulting economic diversification by settlers, and the changes in society wrought by the Great Awakening. It is during this period that America as an entity, with a matching colonial attitude, first developed.

#### **Political Changes**

Although it technically falls within the previous period, the seizure of New Sweden by the Dutch in 1655 set the stage for the events that followed. Since the Dutch did not maintain a large military presence in North America, it was a relatively peaceful takeover, one that exemplifies a pattern that continued when the English supplanted the Dutch in 1664: Dutch settlers remained in place and retained many of their local organizations and ways of life, but were governed by the English at New Amsterdam. As suggested above, the English takeover of New Netherland by the Duke of York was essentially a non-military takeover, without the destruction of settlements and resources that resulted

from earlier Indian wars such as King Philip's War. Thus settlers' patterns of life were affected mainly in terms of governmental superstructure and the political allegiances of individual settlers.

English relations with the French were a different matter. The antagonisms that began in Europe spread across the Atlantic and were worked out in the theater of the North Atlantic region, with destructive warfare waged by armies, local militias, and Native allies and mercenaries. A series of episodic conflicts and treaties effectively passed control over parts of Maine back and forth between the British and the French, with each trying to influence the actions of Native people through alliances, aid, and competitive trade. At the end of Queen Anne's War in 1713, France had lost Nova Scotia, but managed to retain its control of part of Maine. Engagements on the Kennebec River during Dummer's War—actually an English-Abenaki conflict—weakened the French hold on the Abenakis by destroying the French mission at Norridgewock in 1724 (Snow 1978). During the Seven Years' War, the French continued to use Native people as a buffer between the English and their own territories (Wolf 1982). This escalated Native factionalism and caused pro-French Native families to remove to Canada. By 1762, the English had taken over the lower Penobscot River Valley, and in 1763 the war ended with the expulsion of the French from North America.

#### **Economic Diversification**

Although the economic systems of the North Atlantic colonies had originally been based on resource extraction and subsistence for existing populations, the rapid influx of settlers of diverse skills and backgrounds and the rise of urban centers like New York, Boston, and Newport necessitated a shift to commercial production of foodstuffs and goods for domestic use rather than export. More and more areas which had been devoted to small settlements based on subsistence agriculture and stockraising in support of extraction of furs, timber, and the like shifted to commercial farming, especially grain production. The generally poor soils of New England, whose productivity was exacerbated by poor agricultural practices and limited amounts of manure and other fertilizers,

were quickly depleted, causing the abandonment of some areas and shifts to other adaptations, such as the shift from subsistence agriculture to maritime pursuits on Cape Cod (Finch 1985; Barnard 1975).

In southern New England generally, deforestation and depletion of game species led to increased reliance on grain subsistence. Commercial farming of corn, although a native grain, depleted soils quickly, as did wheat farming, which was attempted in many unsuitable areas. Rye was also cultivated, but largely for subsistence rather than sale. Realizing the failure of commercial grain farming, some tried to shift to other crops, including salt hay, English hay, cherry, apple, and pear orchards, but these were limited in their production. Others turned to fishing, for both subsistence and commercial sale, supplementing their income with cottage industries such as tanning and cobbling, cutting firewood, and harvesting wood for boatbuilding in the growing fishing industry. Some areas shifted from farming to stock raising, taking advantage of the need for draft animals, wool, and dairy products. Even these however, proved unsuccessful in some areas. Realizing that overgrazing and overcutting led to erosion and soil loss, some towns tried to legislate grazing and woodcutting. In areas where grain production was successful and ample waterpower existed, mills sprang up to serve the needs of the growing population.

In coastal areas of the region, increasing numbers of people turned to maritime pursuits. While the coast north of Boston to Maine had long been devoted to fishing, increasing populations and large numbers of immigrants from France, Germany, Ireland, Switzerland, and Scotland drove people into the interior to take over agricultural lands previously held by Native people. There, commercial grain farming was also difficult at times, but sheep raising and dairy farming were more profitable, as was lumbering, and diversified local economies arose from the start. These land resources often became focused on supplying the subsistence and material needs of coastal and urban populations, including wood for shipbuilding and provisions for voyages. Thus people on the coast could focus on shipbuilding, whaling, and both subsistence and commercial fishing.

Within maritime-oriented areas, community members often worked together in a close-knit fashion, since diverse skilled laborers (e.g., carpenters, sailmakers, ropemakers, etc.) and resources were necessary to build and maintain fishing and whaling fleets. Similarly, few families had the resources to provision fishing boats or whaling vessels on their own, and communities shared in bringing together the necessary resources and sharing in the profits. One of the necessary resources was manpower, and many landless individuals went to sea rather than remain paupers on land.

The rise of whaling as an industry in areas like Long Island, Cape Cod, Nantucket, Martha's Vineyard, Fall River, and New Bedford bred communities of skilled laborers to build and maintain boats and to refine the oil afterward. Changes in whaling itself necessitated changes in the technology and business of whaling as well. Where earlier populations, including Native groups on Long Island, had simply harvested beached whales, emphasis changed to shore whaling to take advantage of pods of blackfish and right whales in Cape Cod Bay, Long Island Sound, and Buzzards Bay. Since each town had different laws about who profited from and could share in the proceeds of a beached whale, going after whales became more important. However, depletion of these resources, or changes in the animals' behavior, shifted emphasis to offshore and deepwater whaling, especially after 1730. With this shift, shore whaling stations became somewhat less important, as more of the processing was done on the ships.

Commercial fishing also changed during this period. Although the Grand Banks had been a major draw for European fishing fleets, changes in European society decreased Europe's need for fish. Unlike earlier Catholic monarchies, the Anglican Church did not adhere to the calendar of meatless days, which left the Banks open to American fisheries. With the Treaty of Utrecht in 1713 at the end of Queen Anne's War, the French maintained control of George's Bank, the Bay of Fundy, and the coast of Newfoundland, and excluded American fishermen from those areas. This, along with the decrease in superstitions that had prevented fishermen from exploiting the Grand Banks, increased American commercial fishing on the

banks, for both domestic consumption and trade to Europe. With this shift, more American-built boats were needed for the fleets and other resources were required for their support. Fish from their catches also supported a growing triangle trade; processed fish were sent to the West Indies as food for slaves and traded for sugar or molasses, which was made into rum in New England communities. Thus maritime communities could maintain mixed economies of provisioning, shipbuilding, shipfitting, and distilling. As commercial agriculture, fishing, and industry grew, the need for support and transportation industries also rose. Manufacture of boats, ships, wagons, and other forms of transportation increased substantially, as did the need for draft animals, which grew in importance for both agriculture and transportation. The production of barrels, crates, rope, salt, and brine also expanded to support fishing and transportation. Despite the rapid growth of the economy and the sheer amount of goods being traded, some areas of the region continued to function on the basis of exchanged services and goods rather than a cash economy.

#### **Religion, the Great Awakening, and its Effects on Settlement Pattern**

Before the Great Awakening of the 1740s, the Puritan theocracy maintained strict control over society, including the creation and settlement of new areas. Within the theocracy, the powers of church and state were closely intertwined. The ministry was very powerful, and social elites assured that the ministry was allied to commercial and political interests. Merchants made sure they had sons in both the ministry and the magistracy in order to protect their interests, and church power was inseparable from secular power. This form of organization had a tremendous impact on formal English settlement patterns. Towns were religiously as well as politically defined; a community had to establish a church in order to establish a town, thus people who wanted to establish a town had to find funds and labor to build a church and hire a minister. While there were people and settlement communities that were not strictly towns, these lacked judicial systems for the protection of deeds and contracts and militia for protection of lives and property. Such settlements were risky investments of

labor and resources, exemplified by the case of Provincetown Massachusetts, which began as a churchless community outside of Puritan control. Later, when Puritans began to move into the area, the early settlers were evicted because they lacked the rights that would have been assured them if they had formed a proper church town. In general, the Puritans were intolerant of those who fell outside the boundaries of church influence.

Consistent with this policy, the Puritan church resisted the establishment of New Hampshire and Rhode Island as separate colonies, and saw populations moving west into the Connecticut River Valley as a potential threat to the earlier sea-to-sea charter of the Massachusetts colony. And, since one could reach the interior of Massachusetts only by way of the Connecticut River, these new communities were tied economically and socially to Connecticut rather than Massachusetts. Thus the Puritans declared this area Old Hampshire County of Massachusetts, extending from New Hampshire to the Connecticut border, and perhaps as far as the border with New York, and enlisted members of the local merchant elite to fill the roles of county administration, including county administrator, sheriff, and captain of the militia. The Puritans did not care that local elites profited from the county, only that the people of that region were still part of the claims and future of the Massachusetts colony.

The religious phenomenon known as the Great Awakening changed all this. In 1735, Connecticut Valley residents began to experience a religious fervor, which spread rapidly in the 1740s. This "awakening" challenged the teachings of the Puritan church and the accepted order of the relationship between the ministry and the lay people, asserting the congregation's autonomy from the ministry and calling for a separation of church and state affairs. The Puritan ministry tried to discourage this movement, but it grew in popularity over the next several years in a sporadic and uncoordinated manner.

While the Great Awakening had little effect in the main urban centers, or in New York where the populations were mainly Dutch or Anglicans loyal to the Duke of York, it broke the control of the Puritan ministry over local politics in rural areas all over New England. There was a subsequent explosion in the establishment of new towns because

people were suddenly released of the obligation to build a church before establishing a town. After this point, the Connecticut River Valley filled up very quickly; fifteen new towns were established in the two decades that followed the Great Awakening. Where settlement had been concentrated in large towns like Salem, these began to fission, creating innumerable smaller towns, each with populations demanding services and a need for craftsmen, roadways, transportation, post offices, etc. With these changes came alterations in the framework of local government; town governments grew in importance at the expense of the county governments that had existed previously.

### **The Character of Society**

More important than its impact on settlement patterns, was that the Great Awakening changed the fabric of society itself. After this time, an individual's status was no longer linked to the church. This effectively set free large parts of society to pursue their lives free of church control. As the Great Awakening ended the Puritan order, it instilled in many New Englanders a deeply felt ideal of relative autonomy. Despite these changes, the relations of inequality between subsets of the population were not affected, and racial and class differences still existed but were more secularized. Although it was a social revolution, there arose no redistribution of wealth and no ideology of brotherhood, fraternity, and equality. It did, however, set the stage for an ideology of separation and freedom from autocratic, centralized government of any kind, and cleared the way for the kinds of extreme political behavior that later arose in Massachusetts against British efforts to consolidate control over the colonies.

Because the Great Awakening did not break down ethnic and class barriers, American society began to replicate the broader divisions of European society, included landed elites, landed gentry, landed farmers, a class of craft- and tradespeople, those with barren or marginal lands, and the landless. Incipient class divisions, the urban poor and homeless, and those who practiced ostentatious display, all crosscut ethnic boundaries and ethnic stratification, which brought about the rise of classes that crosscut ethnic divisions. In terms of gender,

we do not yet know enough about the position of women at this time, and whether women as a subset of society benefited from the Great Awakening. In the diverse economies that existed in the North Atlantic region, there may have been situations in which women maintained control over home economies, politics, and kin relations. For instance, in maritime communities where men were absent for long periods of time, women may have held primary roles in land based businesses or participated equally in industries that served whaling and boat building communities.

### **Population Movements**

By 1775, the population of the colonies was close to 2,000,000, but was still largely English in ethnicity. However, as large numbers of immigrants flooded the coastal areas, many New Englanders struck out for other regions, especially New Jersey. Similarly, many Scots, Irish, and Germans who had established themselves in New England early on moved south to the Carolinas. Immigration, as well as the natural growth of the population, led to overcrowding before the Great Awakening. The abandonment of some areas and the opening of new areas to settlement by the subjugation of Native populations encouraged movement to interior areas. Many of the people who began as New Englanders and moved into the mid-Atlantic and midwestern regions, brought their ideas about settlements, towns, and social organization, and influenced the patterns and adaptations of life that arose in those areas, much as the ethnic and social makeup of the early settlers had affected the subsequent growth of society in the North Atlantic region.

### **Research Questions**

#### **Native Demography, Ethnicity, Territoriality, Interethnic Relationships**

How do Native people regroup, reform, or enter new communities after wars (e.g., Pequots after Pequot War, Narragansetts and Wampanoags after King Philip's War)? How many don't reenter communities at all, but disperse themselves on the landscape? How are contacts maintained between these families? What strategies do Native people employ to survive? What aspects of Native culture are expressed openly; what goes underground; what is

lost? What can we see archaeologically that would not have been apparent to contemporary observers (e.g., traditional jewelry and ornaments as grave goods, continuation of foodways, shamanism, household organization, etc.)?

Is there archaeological evidence that may shed light on the exodus of Native people from aboriginal lands after King Philip's War? If Narragansetts, Pawtuckets, and Massachusetts move to Martha's Vineyard, can we see this archaeologically? Can we see movement of Abenakis converted to Catholicism and pro-French Native families after the Seven Years' War? Can we see large scale abandonment? Are shifts in Delaware populations visible during this period?

Can we see the effects of later epidemics on Native communities (e.g., Nantucket) ?

Can Native population movements be seen archaeologically, even if the destinations are outside the North Atlantic region?

What were relationships between Native groups like in this period? How are such relationships visible in the archaeological record?

Can we trace Native alliances with the French through exclusive French trade goods, etc.?

Can we see Native individuals moving out of the area during the Revolutionary War? Do they bring back other influences to their home communities when they return?

The Iroquois have conflicts with others outside the region. Can we see evidence of this (e.g., captives, adoptions) in New York sites?

Are there archaeological remains of conflicts like Dummer's War; the destruction of Rale's mission at Norridgewock? What can such remains tell us about specific battles, military life, etc.

#### **Changes in Native Cultures**

What can archaeology tell us that history cannot about the lives of "invisible" Native people?

Is the movement of Native people into domestic work and small industry visible archaeologically? What was life like for Native domestics and industrial workers?

Is the creation of regional Native culture and the development of extensive kin networks visible archaeologically? How are networks maintained between widely separated groups (e.g., Pequot contacts with Susquehannocks, etc.), or among those in amalgamated communities (e.g., Schaghticoke)? Can we see the cultural mixing that results from contact and intermarriage among diverse groups?

How can archaeology help to understand Native conversions? What can we see archaeologically that would not have been apparent to contemporary chroniclers (e.g., mortuary ritual, hidden jewelry, ornaments, traditional foodways, shamanism, household organization, etc.)? How do the lifeways of Christian Indians vary (e.g., Stockbridge, Natick, Gay Head) and how are they similar or different from non-Christian Indians?

Within Native communities, can we see differentiation in lifestyle between Great Awakening converts and those that maintain closer links to traditional religion? Are new communities of converts created that maintain spatial separations from others (Native or non-Native)?

How do the following factors change the lives and cultures of the region's Native people: new relations of production and creation; emphasis on larger regional networks; decreasing power of sachems and sagamores; intermarriage with non-Natives?

What influences from African or slave culture appear in Native cultures? What influences can be identified in the archaeological record?

Is Native craft production visible archaeologically?

How continuous are Native adaptations and patterns in northern New England for this period? What changes are evident in material culture, settlement structure, architecture, and community life?

Does the formation of the Wabanaki confederacy provide a basis for regional contacts and culture in northern New England? How can this be seen archaeologically?

What were the impacts of different missionaries (e.g., Moravians, Jesuits, Puritans) on Native cultures?

What was life like in the various reservations? How does reservation life compare with life in other Native communities during this period?

#### **Archaeology of Euroamerican Life**

Can we see European transculturation and Europeans becoming Americans?

What was the impact of religion on the construction and patterning of English settlements both before and after the Great Awakening? Can we see the impact of the Great Awakening on other aspects of social organization, community organization, etc.? How can we trace the spread of Great Awakening archaeologically (e.g., gravestones, use of space, household organization, material culture)? How are the many new communities that are founded after the Great Awakening different from what preceded them?

What are the differences in production that apply to urban versus rural situations?

Can we see local resource processing in sites related to blacksmiths, potters, millers, etc.?

Can we see ecological changes as a result of deforestation, environmental degradation, erosion, and soil loss, associated with overgrazing, overcutting, and/or poor agricultural practices?

Can we see the genesis of American ways of life, which are less European in pattern?

Can we see the diversification of colonial economies and industries? Can we see the development of urban centers? What would an urban center look like? Can we see developing city patterns as copies of transplanted European ideas?

What was life like in new interior settlements? What were these settlements like?

Can we see production for export as well as subsistence in the region's economies? How did new patterns of land use associated with commercial farming arise? Where, how, and why did local industries grow in some areas?

What was life like for Native slaves and indentured servants? What was it like for African slaves?

Can we see the maintenance of Dutch populations and cultural influences after the English take over New Netherland?

With settlers coming from different kinds of European and Euroamerican backgrounds, did different sorts of communities arise with different stresses on communalism versus individual work?

What social problems of Europe were replicated in Euroamerican settlements? At what point did this cause the fissioning of older communities, such as Salem?

It has been suggested that poor folk relied on domestic manufactures while more affluent settlers could afford to import European goods to furnish their homes and satisfy their needs. Is this verified by the archaeological record? Were the rich more successful in replicating their earlier European forms of life? How were social divisions shown materially?

What was life like for urban elites? To what extent and in what ways was status expressed by ostentatious display in architecture, material culture, homelife, etc.? Did elites recreate the cultures of European elites in the North Atlantic region?

What can archaeology tell us about women's economic, political, domestic, and social roles?

How does kinship operate among various Euroamerican groups and classes? How might we approach this question archaeologically?

Can we see breakdown of ethnic stratification and the rise of ethnically diverse classes? To what extent are ethnic groups segregated or spatially differentiated? Do the Scots, Irish, French, Swiss, and Germans who enter the country during this period only enter urban areas or are they more widely distributed? What is the range of variation in lifestyle within these groups?

What was life like in rural areas, among poorer folk and non-elites? Can we assess status from archaeological remains (e.g., extensive repair and reuse of manufactured goods or production of homemade substitutes)? Are there differences in material culture, architecture, etc. among Natives, African-Americans, and poor whites?

Can we see the effect of New England ideas about town organization and life in the communities emigrants create in the west?

How does architecture correlate to class and/or ethnic divisions?

What can we learn from shipwreck archaeology for this period? Can we study smuggling, small scale transport, military, colonist vessels, privateers?

How is inequality operationalized (e.g., indenture, slavery)

What is life like in maritime communities? How are maritime means of production owned? How does this vary over time and space? To what extent was work cooperative? Is there evidence of conflict? Do maritime communities differ in ways that arise from their original ethnic constitutions (ideas about settlement, economics, social organization)? With men leaving European maritime communities for extended periods, how do the lives of women and other persons remaining behind change?

What was life like on the large estates of patroons? How were European-style fortifications and blockhouses built and used?

Is there archaeological evidence of Quaker influences in New Jersey? Are Quaker settlements different from other settlements, if so, how?

How is the distribution and sale of local manufactures and European goods effected through markets, peddlers, cart vendors, as well as general stores and warehouses, etc.?

What is the ethnic constitution of frontier communities?

For the period of conflict between England and France over Maine, are there actual changes in the lives of people resident there? Once the French are defeated militarily, do all French residents leave? For those who remain, can they be identified archaeologically as French?

How can we identify and trace shifts from marginal agriculture to maritime pursuits in areas like Cape Cod?

Can we identify crofter households? What might they look like? What was life like in such households?

How are mills built, placed, used, and modified?

What technologies are associated with stock raising and draft animal transportation?

Is there evidence for economic and social links between Connecticut and Central Massachusetts communities on the Connecticut River?

If and when race and class differences are secularized, what does this look like?

## THE REVOLUTIONARY AND FEDERAL PERIODS (CA. 1763-1820)

### Paul Mullins

In the roughly half century between the close of the French and Indian War and 1820, the United States was transformed from colony to republic to emergent industrial power. This transformation was particularly dramatic in the North Atlantic, where patriot ideology flourished and the seeds of some of the nation's most influential industries were planted. During this period Americans fought two wars with the British; in the first, North Atlantic ideologues and armies led the way, but in the second much of the commerce-rich region was reluctant to wage war on its best trading partner. By the end of the Federal Period, internal migration from farms to cities and movement westward had begun, and the basic organization of industries had emerged. Clearly the period of 1763 to 1820 was a significant bridge between the North Atlantic's status as a predominately rural colonial region and its ascendance to urbanized industrial power.

### City and Backcountry

In the decade leading up to the Revolution, the North Atlantic was a predominately rural region. Nevertheless, farmland in eastern Massachusetts and New Hampshire already was overcrowded. Farmholdings were smaller in New England than any other colonial region, and marginal farmers had begun moving west into central Massachusetts and the Berkshires. In farming villages around cities, like Boston satellites Roxbury, Newton, and Dedham, most farmers sold food to the urban market. Many of these farm families had long owned these profitable lands, but new arrivals could not obtain their own tracts. Consequently, marginal farmers either worked for landholders or ventured further west into the hill towns. Modest amounts of cash were exchanged in these inland areas, with extensive communal barter the most common form of exchange. Some farmers simply worked for subsistence, but most sold small quantities of farm goods or craft products to secure enough cash for farm equipment and staple imports like salt and rum. The vast majority of North Atlantic farmers lived precariously and could be ruined by a bad

crop, heavy taxes, or mounting debts.\* There were some large farmholders, particularly in the Hudson and Connecticut River valleys, but in regions like the Berkshires society basically was composed of small farmers and farm laborers.

In coastal port towns north of Boston, fishing and lumbering were the major sources of revenue, with whale products, fish, and lumber providing capital for export trade. These maritime ports supported numerous crafts people and communities of shopkeepers and artisans who maintained town life. Inland, a network of navigable waterways into Long Island Sound and New York Bay, including the Connecticut, Housatonic, and Hudson, was a shipping corridor for food, iron, and lumber to New York City and on to the West Indies. Unlike the predominately English-born Congregationalist New England, New York was distinguished by a substantial Dutch community and numerous religious groups including Quakers and Presbyterians (Baart 1987).

By the 1760s, Boston and New York were the North Atlantic's marketing hub, distributing imported and regional goods to trading ports along the coast and into the backcountry. Goods were sold to numerous shopkeepers who retailed modest supplies of basic goods in virtually every town. Some shops were specialized (e.g., dry goods), but most carried an assortment of cheap goods and were not affluent enterprises. In contrast, the wholesale merchants who controlled shipping were wealthy and influential. Merchants used stores of capital to fund overseas trade, which was a risky venture because little was known about distant ports, ships were routinely lost, and a poor-trading captain might not return with import riches. Ships departed with a supply of goods, particularly food and lumber, and then stopped at various ports in the West Indies, trading goods along the way and building up a supply of desirable commodities to bring back to the colonies. Rum and molasses were the predominant West Indian imports into the North Atlantic. To some extent, traders also ventured to Europe, South America, and Africa. Fortunate merchants made enormous fortunes which they dedicated to better ships, money-lending, land speculation, and diversified mercantile and manufacturing businesses.

Imported English goods, on the other hand, were shipped by English captains on British ships, with

## BOX 22: REVOLUTIONARY AMERICA

1763	French and Indian War ends	1776	Continental Navy defeated at Valcour Island (October)
1764	Sugar Acts levy duties on foods, lumber, molasses, and rum in the colonies		Declaration of Independence signed
	Spinning Jenny invented by James Hargreaves		British abandon Boston to begin Long Island campaign
1765	Stamp Act places duties on publications and documents		Continentalists defeated at White Plains
	Boston mobs attack homes of tax collector and allies		Washington attacks Hessians in Trenton
	Nine colonies sign Declaration of Rights opposing taxation without representation	1777	Cornwallis defeated at Princeton
1766	Stamp Act rescinded by Parliament		Battle of Bennington (August)
1767	Townshend Acts place duties on glass, lead, paint, paper, and tea		Burgoyne defeated at Battles of Saratoga (September-October)
1768	Woolen cloth factory opened in Brookfield, Massachusetts		Danbury destroyed by British
1770	Five colonists killed in Boston Massacre		Siege of Fort Stanwix
	Townshend Acts repealed with exception of tea tax		Circular saw invented by Samuel Miller
1773	Boston Tea Party	1778	French send fleet to aid Continentalists
1774	Parliament passes Intolerable Acts curtailing Massachusetts' self-rule and closing Boston Harbor	1779	New and East Haven Connecticut sacked by British
1775	Battles of Lexington and Concord (April)	1781	Benedict Arnold-led Redcoats destroy New London and Groton, Connecticut
	Ethan Allen captures Fort Ticonderoga (May)		British defeated at Yorktown, Cornwallis surrenders
	Battle of Bunker Hill (June)	1783	Revolutionary War treaty signed
	Arnold leads attack on Quebec (December)		Hot air balloon invented by Montgolfier brothers
		1784	Bifocal glasses invented by Benjamin Franklin
		1785	First American ship returns from China
		1786	Shay's Rebellion begins

most of the profit staying in British coffers. Only a handful of colonial merchants controlled the American distribution of those goods, selling the goods on commission at whatever rate they could obtain. A few American merchants obtained goods themselves in Britain, but the failure to re-sell goods at a healthy markup would render a merchant destitute. Southern traders could exchange tobacco with the British and hope to overcome the huge British trade imbalance, but the North Atlantic

suffered the colonies' most profound trade imbalances. The predominance of imports into the region fueled a rapidly expanding pre-war debt which extended from city merchants to backcountry shopkeepers and their farmer clientele.

### Revolutionary Ideology

Several factors were central to the growth of revolutionary sentiment in the North Atlantic colonies. The most vocal revolutionary agitation and

the war's earliest confrontations occurred in the region's most prominent urban centers, Boston and New York. Changes in urban economic power and demographics were key catalysts of revolutionary sentiment. By 1763, both cities were distinguished by remarkable economic disparity: in the early 1770s, the top 5% of Boston's taxpayers controlled 49% of the city's taxable assets, and the lower half of the taxpayers managed a scant 5% of the city's taxable wealth (Nash 1976:7). The situation was comparable in New York City, where the population grew from 8,600 in 1731 to 21,900 in 1771, eventually rising to 96,400 in 1810 (Rothschild 1990:107). Increasing population demanded that cities grow spatially. One of archeology's most distinctive insights has been the documentation of landscape modification through filling and selective disposal in North Atlantic port cities (e.g., Beaudry and Blosser 1981, Pendery 1978).

Wealth inequality and increasing labor competition hastened the decline of household-based artisan production (cf. Dethlefsen and Deetz 1966, Dickinson 1985, Pendery 1985). The majority of New Yorkers were artisans when the Revolution began, yet increasingly fewer of these crafts people owned their workshop. Almshouses overflowed during the 1760s because of postwar depression, high rents, and periodic unemployment. The seeds of class unrest clearly were emerging in these metropolises in 1763. Rather than level their antagonism at domestic elite, though, the masses eventually were won over by the freedom rhetoric of merchants, lawyers, and affluent Americans who advocated war. Perhaps recognizing the threat of a simmering underclass, these domestic elite became revolutionary agitators, and they would be the nation's first leaders: the first governors of the North Atlantic included prosperous merchants John Hancock of Massachusetts, Jonathan Trumbull of Connecticut, Mesech Ware of New Hampshire, and Nicholas Cooke of Rhode Island (Main 1973:94).

America's entry into world mercantilism was a central factor in Revolutionary sentiment because it fueled radical resistance to English revenue acts in the 1760s. Whether they resisted or embraced the emergent consumer marketplace, the North Atlantic citizenry was actively concerned about that market. By the time of the French and Indian War, imported goods trafficked by the British Empire were readily

available in North Atlantic ports and most inland towns. Textiles, clocks, coffee, ceramics, and tea were among the many imported goods readily available to colonial American consumers, and generous credit was available from many merchants (Breen 1993:488). But facing a monumental debt, Parliament attempted to recoup some of its losses by taxing those goods. In 1764, a Sugar Act revenue was imposed, striking hardest on colonies which relied upon West Indian trade, such as Rhode Island (Maier 1993:145). In 1765 the Stamp Act taxed publications and documents, motivating colonists to convene the Stamp Act Congress in New York, which established a Declaration of Rights opposing taxation without representation. The Stamp Act was rescinded in 1766, only to be replaced in 1767 by the Townshend Acts, which taxed glass, lead, paint, paper, and tea.

Revenue Acts galvanized equivocal American consumer attitudes. On one hand, many conservatives were wary of commercial capitalism and resisted American participation in world economics (Bailyn 1967). For these Puritan-influenced boycotters, the cessation of trade renewed values of hard work and frugality and defused the looming domination of merchants (Morgan 1993). On the other hand, the masses had begun to envision, accept, and even embrace themselves as participants in a worldwide consumer marketplace. For consumers and merchants, nonimportation agreements secured commercial freedom as well as equitably priced goods (Breen 1993:481).

These contradictory consumer ethics cooperated in a series of nonimportation agreements which boycotted British goods in the 1760s and 1770s. Such resistance was perhaps most pronounced in the North Atlantic. In Boston, for instance, over two months in 1765 mobs systematically destroyed the homes of the Stamp tax collector and allied men of wealth (Nash 1976:27). In 1766, a crowd attacked a custom official's house in Falmouth (Portland), Maine and seized impounded sugar and rum (Maier 1993:143). Such incidents continued unabated up until the Revolution. In 1770, one of the most infamous occurred when five members of a Boston crowd rioting against the Townshend Acts were killed by British soldiers. The Acts were repealed by Parliament in 1770, leaving only a tax on tea. In the most renowned resistance to the tea tax, in 1773 a

group of colonists boarded a ship in Boston Harbor and threw its tea cargo overboard. To punish colonists, Parliament imposed the "Intolerable Acts," which curtailed self-rule and barred use of Boston Harbor.

A more enigmatic catalyst on Revolutionary sentiments in the North Atlantic was the Great Awakening. During the 1730s and 1740s, religious revivalists won widespread support for their challenge to predestination and religious formalism. In the 1730s, revivalism spread through the Connecticut River Valley, and in the late 1730s a more widespread movement captured much of New England, spreading from rural areas to large cities. Revivalism rested strongly upon rationalist Renaissance thought that individuals could discover and influence natural laws. The revivalist movement's theological influence ebbed by mid-century, but the Great Awakening impacted civil thought considerably. Many influential proponents of the Revolution linked liberty to salvation, borrowing extensively from the rhetoric of revivalism. Converts who had rejected the image of a repressive, unforgiving God may well have been more ready to reject old civil authority, including the British Empire. Evangelists clearly recognized class tension and played to it: in cities like Boston, ministers attacked economic inequality and material extravagance and won a wide following among poor residents (Nash 1976:17).

### Revolutionary War

Colonial tensions mounted in 1774 and 1775 as a burgeoning number of British soldiers were called to Boston. Local militias began drilling throughout New England, particularly in Massachusetts; eventually half of the Continental Army came from rural New England (Main 1973:4). The North Atlantic saw extensive military action, particularly in the New York City area and the Hudson River Valley, with less extensive yet critical battles around Boston and in western New York. In February, 1775 Massachusetts military Governor Thomas Gage sent troops to Salem, where 19 cannons and an ordnance depot had been set up against his orders. Gage ordered redcoats to confiscate the weapons, but Salem residents detected the plan, and the local militia met them at the North River Bridge. The British turned back and averted a confrontation, but

that confrontation came in April at Lexington and Concord. On April 19, Gage sent troops from Boston to seize weapons and arrest rebel leaders in Concord. But as the 700 British troops approached, the rebels already had prepared because of the famous night ride of Paul Revere and William Dawes. Colonial militia met the British in Lexington, and eight militiamen died. The British pushed westward to Concord, where militiamen and Redcoats again traded fire, killing at least two from each side. As local militia assembled, the British evacuated back to Boston, with numerous skirmishes and fatalities along the return route (Stember 1974:314).

North Atlantic colonies rapidly responded to the war effort. Massachusetts, Rhode Island, New Hampshire, and Connecticut all borrowed heavily, issuing interest notes or tax anticipation warrants or simply levying taxes (Main 1973:223). Loyalists in New York slowed the colony's official entry into the rebel fold. Because of the swell in Continental Army consumption and good export markets in Europe and the West Indies, the war initially improved farmers' financial conditions. Nonconsumption agreements forbade sale of British imports, and this stimulated domestic manufacture of goods such as shoes, arms, and clothing. Fortunate privateers also made great profits, and their fortunes lifted the prosperity of many coastal towns. Inflation emerged, though, as desirable import goods like salt became less common, paper currency's value depreciated, and acquisitive farmers drove agricultural prices excessively high. Many shopkeepers and farmers keen to profit from the war stockpiled scarce goods, and in New York, Pennsylvania, Rhode Island, Massachusetts, and Connecticut such profiteering set off consumer riots. In 1776, for instance, a mob assembled at a Longmeadow, Massachusetts store to contest the prices of rum, molasses, and sugar, and two crowds stormed shops and seized goods (Smith 1994:6). In 1777, similar riots occurred in Salem, Boston, Poughkeepsie, East Hartford and New York, with mobs seizing tea, coffee, sugar, and bread, and in several instances mobs even carted monopolizers out of town (Smith 1994:35-36).

In June, 1775 the British and Continental armies again met at Bunker Hill. Gage had placed troops on Dorchester Heights, a strategic high point in

South Boston. Colonials decided to fortify a series of hills in Charlestown, on the north side of Boston, overlooking Boston Harbor and the Charles River. On the night of June 16, local colonial militia placed redoubts on two of these hills, Bunker and Breed's, and the following morning the British shelled the position from ships and artillery batteries on Boston's Copp's Hill. The British landed about 1,500 troops on Charlestown peninsula and attacked the American position on Breed's Hill. After two unsuccessful charges upon American redoubts, the British captured the position, but they reportedly lost 1,150 men (Stember 1974:301). The British retained control of Boston until March, 1776, when they abandoned the city to join the New York City campaign.

The Hudson River saw extensive military action. The river system connecting New York City and Canada was a critical conduit for troops and supplies, and the British believed control of the Valley would sever New England from colonials to the south. The region also had a predominately Tory population sympathetic to the British and Indians who the British hoped to sway to their side. When the war began, militiamen commanded by Ethan Allen and Benedict Arnold captured the lightly manned Fort Ticonderoga, near Lake George. Colonials loaded an enormous cache of weaponry onto oxen teams and took them to Boston, where two cannons were placed on Dorchester Heights. In 1775 the British assembled in Canada for a campaign to seize the Hudson Valley, take New York City by sea, and invade the Tory-hotbed Carolinas. In response, the Continentals launched an attack on Quebec which failed miserably; commander Benedict Arnold had poor maps and got lost on his way, allowing sufficient British preparation. Returning to Ticonderoga, a Continental fleet was assembled at the southern end of Lake Champlain under Arnold, the first American naval force. The attacking British met this force at Valcour Island, near Plattsburgh, in October, and the Continental navy lost 11 of its 15 vessels.

In the summer of 1776 a massive assemblage of British troops occupied Staten Island. From there they launched an attack on Long Island in August, and in a battle in Flatbush about 1,300 Americans were killed or wounded. George Washington and the Continental Army withdrew across the East River at

night. The British assembled a huge naval force in New York Harbor, and in September the Continental Army abandoned the city. Six days later much of the city burned, denying the British comfortable winter quarters. Washington's depleted and wounded forces retreated to White Plains, New York, where they were defeated by pursuing redcoats, but the British missed an opportunity to destroy the Continental Army when they decided to return to New York. Nearly broken, Washington's weary troops retreated into New Jersey, and on Christmas Eve he led his forces across the Delaware on a daring attack of Hessians camping in Trenton. The army followed with a success at Princeton and then settled in winter quarters in Morristown, New Jersey.

In 1777 the British launched a two-pronged campaign in the Hudson from both the north and south. John Burgoyne led redcoats southward from Canada in June, 1777 with a total army of 10,500 British and German troops and some Indians, Tories, and Canadians. The first major battle was at Bennington in August, where a British force was defeated. In September the armies again met at Saratoga for two crucial battles. In the first, a 1000-man Burgoyne force held their advancing position but lost 600 men in the process. Burgoyne decided to wait for redcoats who were pushing north to join him. He and the Continental militia each waited three weeks. On October 7 an impatient Burgoyne sent 2,100 men on a reconnaissance and triggered a massive British loss in which 1,200 redcoats (including many of their best officers) and much of their artillery were lost. The retreating British were surrounded, and they eventually surrendered on October 17. The Continental victory was one of the turning points of the war. Five months after the surrender the sympathetic French officially joined the war on the Continental side.

Like New York City, Newport was occupied by the British from 1776 until 1779, crippling the trade of neighboring Providence. In 1778 the Continentals unsuccessfully attempted to retake Newport, but in 1779 the redcoats abandoned the Rhode Island position. After the British left, a French fleet stayed in the city until 1781. Connecticut was a major supplier of Continental Army clothing, food, and munitions, so it was subject to several British campaigns. In 1777 Danbury was destroyed in an

attack on a supply depot. In 1779 New and East Haven were sacked in retaliation for rebel privateering along the Connecticut coast. In 1781 Connecticut-born turncoat Benedict Arnold raided the privateering stronghold of New London and Groton. In the last major northern battle of the war, Arnold leveled New London in an effort to destroy the privateering base, recapture British goods, and distract Continentals advancing on Cornwallis.

Western New York saw relatively little action. In 1777 a British force of redcoats, Mohawks, and Tories laid siege to Fort Stanwix, a garrison along the colonial-Indian frontier which defended Mohawk Valley settlers against Indian raids. The British abandoned the siege when they were informed that reinforcements were arriving for the fort's defenders. The defense of the fort denied the British a foothold in western New York, where they hoped to sow dissension among both the Iroquois and Tories.

Archeologists have been excavating Revolutionary War sites for at least 40 years, and interest in their material remains goes back even further. In the 1920s, a series of papers were written by Reginald Pelham Bolton on material goods from military sites around Manhattan (e.g., Bolton 1919, 1929), and William L. Calver studied material culture from New York military campsites (Calver 1921, 1926). Sections of early French occupations were excavated at both Fort Crown Point (Huey 1959) and Fort Ticonderoga (Campbell 1958) in the 1950s, in 1958 Fort Independence was excavated (Lopez 1978), and archeologists made their first attempts to examine the underwater remains of the Continental fleet in Lake Champlain (Huey 1986:7). In 1960, extensive excavations began at Saratoga Battlefield (Starbuck 1986), and military archeology boomed afterward at, among other sites, Fort Plain (Lenig 1972), Fort Stanwix (NPS 1967, Hsu 1972, Hanson and Hsu 1975), Crown Point (Feister 1984), Minute Man (Baker 1980), Bunker Hill (Mahlstedt 1981), New Windsor Cantonment (Mead 1980, Fischer 1987), Fort Niagara (Scott 1979), and Morristown (Rutsch and Peters 1977, Seidel 1983). Archeologists have closely studied campsites and the everyday life of soldiers as well as battle movements and redoubt construction. Rapidly improving technology has advanced underwater archeology, most of which has focused on warships

(e.g., Fischer 1985, Crisman 1986, Bayreuther 1985).

### Revolutionary Recovery

After Cornwallis surrendered in 1781, North Atlantic states began to devalue currency to repay war debts, and other regions soon followed. For small farmers and marginalized artisans especially, deflated currency ruined their hopes to turn modest wartime profits into an improved standard of living. In Massachusetts, rising taxes and pro-creditor courts touched off Shay's Rebellion, a 1786 uprising of farmers who attempted to take the Springfield Arsenal and prevent the courts from sitting. In 1794 settlers west of the Alleghenies also rose up in the Whiskey Rebellion protesting whiskey taxes levied in 1791. In 1782 British goods began to flood the American market, despite decreasing ability to pay for those goods, and credit debt expanded. The effect on small farmers was worsened by the decline in agricultural profits. The renewed importation of goods and currency deflation reduced American manufacturers to their pre-war languor. The British Navy had destroyed the whaling and fishing fleet as well, and it would take a decade to rebuild.

The region's prospects were not without hope. A few North Atlantic states profited from the confiscation of loyalist and British property. New Hampshire, for example, seized 10% of the state's wealth from loyalists and turned over the spoils to creditors and high bidders. New York confiscated enormous Tory tracts and resold or granted them in small parcels, opening areas like the Mohawk Valley to settlers who could not afford farmland in the east. The conveyance of Britain's western territories, particularly Ohio, also opened those regions to settlement. Some farmers moved to the cities as well. Between about 1780 and 1810 increasingly more rural crafts people moved to Boston; in the 1790s journeyman artisans outnumbered master crafts people by at least three to one (Laurie 1989:36). The trades they went to were not yet mechanized, but the new arrivals became cheap labor in expanding urban workshops. While slavery never had been widespread in the North Atlantic, Revolutionary ideology paved the way for manumissions. Some slaves gained freedom through military service, but only Rhode Island and Vermont passed any sort of abolition legislation

(Main 1973:337). Most slaves simply hoped that masters willingly would manumit them, and because there were so few slaves in the North Atlantic Whites were far less apprehensive about manumission than their Southern counterparts. While the North Atlantic had a small African-American community, it has been well-studied archeologically in, among other places, Boston (Bower 1978) and eastern Massachusetts (Deetz 1977).

Freed from imperial constraints, some merchants explored new import possibilities. In 1784, the first American ship set sail to China, and it returned over a year later with so much cargo that the captain rented a second ship. The Chinese trade was fraught with enormous financial and physical risks, but it harbored great profits for wise and fortunate investors. Americans most commonly sold silver and furs, and early captains also exchanged ginseng before saturating the market; in return they obtained tea, cloth, spices, porcelain, and various decorative craft goods. By the turn of the century, Boston, New York, Salem, and Providence were sending vessels to Canton. Providence, for example, sent at least 79 vessels to China between 1785 and 1844, with most before 1821 (Howard 1984:27). Ships from Salem enjoyed great success in China as well as the East Indies for about 20 years, and prior to 1820 Boston probably had the largest and greatest quantity of ships to the Orient (Howard 1984:27). Several archeological studies have focussed on various aspects of life and commerce in port towns including Salem (Moran 1976, Moran et al. 1982) or synthesized archeological data from several urban ports (Mrozowski 1991).

The movement of people, farm products, imported goods, and industrial supplies and products demanded an improved transportation system. Federal period roadways were administered by state-chartered private turnpike companies which charged tolls along the road system. In 1797 New York's first turnpike company, the Albany and Schenectady Turnpike, was incorporated, and in 1800 the Mohawk Turnpike and Bridge Company was chartered to maintain a road from Schenectady to Utica (Langdon 1941:27). By 1807, New York had 234 miles of continuous hard-surfaced road between Lebanon Springs and Canandaigua, and a dense network of roads emanated from Albany (Langdon

1941:28). Between 1799<sup>+</sup> and 1820 at least ten companies built turnpikes in western Massachusetts. Almost all traveled east-west, and many blazed direct routes westward through rugged terrain, rather than following natural topography (Krim 1984:96).

The improved road system and a revived economy during the 1790s improved the fortunes of some farmers selling to other markets. In central Massachusetts, for instance, various farmers sold flaxseed for export to Ireland, dairy products were sold in Boston, and Vermont and New Hampshire cattle sometimes were fattened in the area before being taken to slaughter in Boston (Stachiw 1985:280). Ultimately, though, the roadways contributed more to subsequent industrial domination of regional economics than broader markets for farmers. A few canals were built at the turn of the century. Unlike the heavily traveled canals of the industrial period, though, these early canals simply bypassed falls and problematic waterways, like Massachusetts' Turner's Falls (built in 1792-1798) and the Connecticut River falls at South Hadley, Massachusetts (1795; Krim 1984:95).

In the wake of the Revolution, a few manufacturers began to produce standardized goods for a mass market. By the turn of the century, for instance, shoemakers were producing shoes for the mass market, a break from the craft production of shoes for particular individuals. The expansion of their trade was encouraged by federal tariffs imposed on imported footwear in 1789 (Stachiw 1985:308). The new market included southern slaveholders and increasing numbers of urbanites, particularly women. Shoemakers began to "out-work" manufacture, having household-based producers assemble various elements of footwear, and many producers throughout the region would participate in this industry well into the nineteenth century. Brandon's (1977) archeological study of a Middlesex, Massachusetts farm documented shoe industry out-work, but the ephemeral nature of such out-work has stymied archeological analysis. In 1812, the first of the shoe factories in Lynn, Massachusetts was built, signalling the ascendance of the industry.

## BOX 23: FEDERAL PERIOD CHRONOLOGY

1787	Constitutional Convention meets Power loom invented by Edmund Cartwright	1807	Embargo outlaws all international trade to and from American ports Steamboat invented by Robert Fulton
1788	New Hampshire ratifies Constitution	1808	Embargo extended to inland waters and land commerce with Canada Importation of slaves outlawed
1789	George Washington elected first President Cotton spinning and weaving machine patented in US by William Pollard Tarrifs placed on imported footwear	1812	War of 1812 begins Americans defeated on Niagara front
1790	Water-powered spinning frames introduced in cotton manufacture		First shoe factory in Lynn, Massachusetts constructed
1791	Vermont enters the Union as 14th state Bill of Rights enacted		First canned food produced by Bryan Doukin
1792	Canal begun at Turner's Falls, Massachusetts (completed 1798)	1813	Americans under Oliver Perry secure lake Erie British capture control of Lake Champlain
1793	English and French declare war		British attack American cities along Niagara Valley, capture Fort Niagara
1794	Cotton gin invented by Eli Whimey Whiskey Rebellion Federal Armory established in Springfield, Massachusetts		Boston Manufacturing Company (the "Boston Associates") secures charter Gun cartridge invented by Samuel Pauly
1796	Lithography invented by Alois Sennefelder	1814	Battles at Chippewa, Lundy's Lane, and Fort Erie on Niagara front British capture Bangor, Maine
1797	Incorporation of New York's first turnpike company, the Albany-Schenectady Turnpike Company		British Navy defeated on Lake Champlain British capture Wahington, D.C.
1798	Eli Whitney begins first mass production using interchangeable parts		Napoleon defeated by British Boston Associates open textile mill at Waltham, Massachusetts
1803	United States purchases Louisiana Territory from France	1815	British defeated at New Orleans Treaty of Ghent ending War of 1812 ratified by Congress
1804	Lewis and Clark expedition explores northwest Steam locomotive invented by Richard Trevithick	1816	Nation's first savings bank, the Provident Institute for Savings, opened in Boston
1805	Mechanical silk loom invented by Joseph Marie Jacquard		

Textile manufacture dominated the region after the 1820s, but a few Federal Period entrepreneurs saw the potential of factory cloth production. In 1768, for instance, a group of investors in

Brookfield, Massachusetts built a factory to manufacture woolen cloth (Stachiw 1985:321). Water-powered spinning frames were introduced to cotton manufacture in 1790, and in the 1790s

carding machines were developed for the woolen industry. The spinning frames had a rapid impact, with the first used in Rhode Island's Old Pawtucket Mill. The Pawtucket mills divided manufacture among several sets of laborers, an organization known as the Rhode Island system. Families living in company housing did basic cleaning, carding, and spinning, and the thread they produced was sold or woven into cloth by women who worked at home. The Pawtucket example was reproduced at a series of mills in the Providence area and eastern Massachusetts (Laurie 1989:29). When the Jeffersonian embargo began in 1807, the industry expanded anew, and by the close of the war the Providence area alone had 169 mills (Laurie 1989:30). In 1813 the Boston Manufacturing Company secured a charter, and the following year they opened a mill at Waltham. Known as the Boston Associates, the group eventually opened the mills in Lowell in 1823 and dominated the regional textile business.

A handful of somewhat less influential industries were in production during the period between the wars. In rural Temple, New Hampshire, for instance, the New England Glassworks was in operation from 1780 to 1782. The glasshouse and workers' housing have been examined archeologically (Starbuck 1984). Several pottery sites have been excavated as well (e.g., Warner 1985, Turnbaugh 1985). These industries often had important local impact, but they never rivalled the broad economic prominence of the shoe and textile trades.

### **War of 1812**

In the years leading up to the War of 1812, the North Atlantic remained ambivalent to war sentiments, particularly New England. The Federal Party had strong support in New England because of the party's encouragement of domestic industry, protection of mercantilism, and centralized civil and banking authority. During the 1790s Federalists backed military improvements which benefitted New Englanders, including rebuilding the Revolutionary navy, fortifying coastal cities, and constructing a Federal Armory at Springfield in 1794 (Hickey 1989:6). The French and English were at war between 1793 and 1815, and the Federalists supported the British, which ensured Anglo-American commerce. Yet Federalist elitism and

Anglophobia led to national losses for the party in the 1800 election. Newly installed Republicans were less amicable toward the British, and they trimmed defense spending, dismantled the national bank, and checked rising taxes. Tensions with the British grew because of violations of American waters, blockades, and especially impressment; i.e., British captains would board American ships and seize British sailors (who composed a quarter of America's seamen) for war duty (Hickey 1989:11). In 1806 a non-importation act was passed, but it was ineffectual because it excluded textiles and metal. A year later a powerful non-exportation law was passed barring American ships and goods from leaving for any foreign port. Farmers and merchants were driven into a deep depression, and smuggling became common along the coast and on the Canadian border. In 1809 the embargo was redefined to eliminate trade with France and Britain alone, but in 1811 a non-importation agreement was again placed on the British. Nowhere were these embargoes more fiercely contested than New England.

In 1812 a war bill narrowly passed Congress, with most of the opposition from the Northeast. Taxes on imported goods immediately were doubled, which significantly wounded coastal merchants in the North Atlantic, the region that had most opposed the war. The sea war crippled the North Atlantic fishing industry. A third of the nation's shipping tonnage was in Massachusetts alone, but insurance became excessively expensive, and some ships simply rotted in port, further devastating the regional economy. Federal control of the New England militia became a pivotal conflict. Militias in the region were probably the nation's best organized and most prepared, and when war was declared, Massachusetts, Connecticut, and Rhode Island militias were called to the northern frontier. But because the militias were to be commanded by federal regulars (i.e., not state militia commanders) the states refused to send their forces. Eventually militiamen fought in other theaters alongside and under federal troops. However militias which resisted orders or abandoned posts were a recurring problem throughout the war.

Wartime contracts provided new profit for some manufacturers. For instance Eli Whitney sold cannons and small arms from his Connecticut

factory (Starbuck 1975), farmers peddled food to the American military, and British prisoners were held in city jails like that in Worcester (Hickey 1989:178). The market was not limited to the American military: for instance, the British army in Spain was dependent upon American flour. New Yorkers made enormous profits provisioning both armies along the New York City to Albany route which led into the North Atlantic frontier (Hickey 1989:228). Americans also could ship with the British if they held special British licenses, and the English favored New Englanders. In 1813 the British blockaded mid-Atlantic and southern ports but left New England ports open, prompting angry Congress members from other regions to ban the licenses (Hickey 1989:118). A healthy smuggling trade along the coast and waterways from Canada continued to bring some imports into the country. However by late 1813, the blockade had tremendous impact on the price of goods usually transported by domestic ships, such as rice and flour, particularly in the North Atlantic. As during the Revolution, merchants and entrepreneurs hoarded scarce goods and drove prices up still more. Import goods like coffee, sugar, and spices became particularly costly, doubling and tripling in cost in most North Atlantic markets (Hickey 1989:153).

The earliest North Atlantic military action was on the Canadian border at the Niagara River. The campaign was part of a plan to capture Canada, but half the American militia refused to cross to the Canadian side and reinforce Americans who had already crossed. In Canadian territory, 950 troops were taken prisoner, aborting the short campaign on the Niagara front. The small American navy fared somewhat better. The USS *Constitution*, 750 miles east of Boston, captured the HMS *Guerriere* in one of the war's first naval engagements. Even more damage was done by privateers like the *Yankee*, a Bristol, Rhode Island-based ship which captured eight British vessels in 1812 (Hickey 1989:96). The Congress encouraged privateering as an unofficial arm of the navy, paying bounties equal to half a destroyed vessel's value and creating a pension fund for privateers wounded in action.

In 1813 the Americans began an offensive against British naval strongholds in Lake Ontario and Lake Erie and defense positions on the Canadian side of the Niagara River. In May, the

Americans took one of the most important of those defense positions, Fort George, and the remaining British garrisons were abandoned. In September, a victory under Oliver Perry secured Lake Erie for the Americans. Along with Indian allies, though, the British regrouped in July and attacked along the Niagara Valley frontier. They penetrated several American towns including Lewiston, where Indians killed many of the inhabitants. In December Americans abandoned Fort George, burning the town of Newark as they left. Angered by the fire, the British struck into American territory, taking Fort Niagara and killing 80 Americans sleeping in the fort. They then went south and burnt the neighboring towns of Black Rock and Buffalo, retaking control of the Niagara Valley. The British would hold Fort Niagara for the remainder of the war. In mid-1813, the British established naval control of Lake Champlain as well, capturing one of the most significant north-south supply routes along the North Atlantic frontier.

Emboldened by victory both in America and France (where Napoleon was defeated in March 1814), the British seized the offensive. Grisly and decisive battles took place along the Niagara River. At Chippewa, on the Canadian side of the river, the British had 500 men killed or wounded on July 3. At the end of the month, the Americans withdrew from Lundy's Lane, near the falls, but they first claimed 875 British troops and lost nearly as many Americans (Hickey 1989:188). In August the British turned to Fort Erie, the American-held fort directly across from Buffalo. They suffered heavy losses, bombarded the fort for a month, and mounted a bloody, but unsuccessful assault. Strategically, neither army gained from the campaign, and in November the Americans destroyed and abandoned Fort Erie.

The only major British offensive into the North Atlantic frontier began in August, 1814, when about 10,000 British troops marched west of Lake Champlain toward Plattsburgh. North of Plattsburgh they stopped to wait for naval reinforcements on Lake Champlain. As they waited and American militia numbers swelled, British naval forces were defeated, and the British infantry fled back to Canada. The British were more successful in northern Maine, where British troops advanced to Bangor in July and gained control of 100 miles of

the coast. They seized all public and some private property, and locals were forced to take an oath of loyalty to the crown or leave. The town of Castine became a prosperous British port for the remainder of the war. From Castine, Swedish vessels also departed for Hampden, from which British goods were transported into New England, and even more goods, including cattle and grain, were moved overland from Castine (Hickey 1989:226).

The British Navy became more aggressive in predatory raids along the North Atlantic coast, and on Cape Cod inhabitants paid the British to avoid attacks. One ship even sailed up the Connecticut River and destroyed 27 vessels (Hickey 1989:215). In August, the British won their most decisive victory of the war when they captured Washington, but in January, 1815 they suffered the most lopsided defeat of the war at New Orleans. Depression deepened, and the cost of defending the southern New England coast was ruining the southern New England states. By the winter of 1814, the War Department could no longer afford to run the Springfield Armory, and public credit had been stretched beyond its limits. In the fall, New England Federalists held a convention in Hartford to air their wartime grievances against the Madison government; among other things, they pressed the federal government to repay their militia costs, but the convention won little support outside Connecticut and Massachusetts. In December 1814, the Treaty of Ghent was drafted to end the war, and it went to Congress for review. The British were prepared to offer a separate peace treaty to New England if the Ghent accord was not ratified, but it passed unanimously in February, 1815 (Hickey 1989:298). Militarily, the war was at best a draw. Economically, the war contributed to the growth of North Atlantic manufacturing, but that gain was far offset by enormous losses in fishing and shipping (Hickey 1989:305). One of the most interesting effects of the war was a glut of post-war trade with the British. English manufacturers had continued to produce goods throughout the war in anticipation of peacetime commerce, and when the war ended they immediately flooded the market with goods which quickly decreased in cost. Consequently, the volume of goods in many American homes increased significantly in the wake of the war.

## Research Questions

### General

What sorts of distinctive data are available to Revolutionary and Federal Period researchers? For instance, federal and state war records, tax court records, contemporary historiographies, traveler's accounts, etc. What sort of resources are available to archeologists? These could include early twentieth century collectors' literature, early historic preservation research and records, excavated but unanalyzed material assemblages, local historical society artifact collections, architectural analyses, "grey" literature, regional historical newsletters, and antique and collectors' literature.

How are research questions about the Revolutionary period shaped by Revolutionary historiography? What questions are the focus of Revolutionary history? For instance, how is "patriotism" defined and studied?; how much does scholarship focus on "great men" and ignore mass actions (e.g., mob protests)?

How is the Revolutionary period romanticized by researchers and popular history? What subjects are valorized most? How can that be defused?

How has research on the North Atlantic been regionalized for this period? That is, what areas are focused upon, and which areas have received little or no consistent interpretation? How can the relationship between areas within the North Atlantic be emphasized?

### City and Backcountry

How did population distribution and settlement patterns change throughout the region during this period? How did the size of farmholdings change? Are boom and bust economic cycles visible in land use and speculation? What impact did roadway changes have on settlement patterns?

What was the difference in the material life of farm laborers, small farmholders, and large farmholders? How was their farm organization different (e.g., crops, landholdings size, amount of crops produced for household consumption, amount of land under cultivation, primary market, etc)?

In what regions did cash purchase become common most quickly? How much cash was used? What was it used to purchase, and who was involved in the transaction? What regions or groups resisted cash transaction? How much barter was conducted in these resistant populations? What sorts of goods and services were exchanged in the place of cash?

How did urban port cities develop during this period? What were the material changes in ports' landscapes, consumer marketplaces and goods, and everyday living conditions? What was the relationship between these ports and backcountry marketers and consumers? What sorts of craftspeople were needed to maintain a port community? Did ports in the southern North Atlantic differ from those along the northern coast?

What areas had the greatest degree of economic and material differentiation? What was the effect of such class differences on attitudes toward the Revolution?

From where did merchants obtain their capital (e.g., family income, shipping, land speculation, savings, etc)? How did they add to their holdings?

What goods did a typical urban shopkeeper sell? Did the range of goods differ in rural shops? Did urban and rural shopkeepers organize their businesses differently (e.g., varying credit practices, approaching shopkeeping as supplementary income source or source of profit for larger ventures, etc)?

Did redistribution of Tory and British lands after the Revolution change settlement patterns? What areas were most affected by such seizures? Who obtained seized lands, and how were they obtained (e.g., purchase, grant, etc)? Were such lands turned to farming?; industry?; urban space?

What sorts of domestically produced material goods were available in cities? Where were they produced? How did they get to urban consumers (i.e., how were they transported, who was needed to bring goods to market, were jobbers involved, etc)? How did urban merchants and shopkeepers extend their debt to backcountry shopkeepers and consumers?

What sorts of British-produced goods were available in American shops?

What non-agricultural employment was available in rural communities? How did such employment possibilities change during this period? In what areas did they change most radically?

#### **Revolutionary Ideology**

Can the emergence of class unrest prior to the Revolution be studied archeologically? For instance, in relation to the material world of the elite, was there a decline in the material conditions of the masses who formed urban mobs in the 1770s? Or were material assemblages instead relatively consistent across classes? What are the implications of either conclusion?

Is there archeological evidence for the success or failure of non-importation agreements? For example, are there increased quantities of domestically produced goods in assemblages after the mid-1760s? How do the quantities of British goods in circa 1765-1782 assemblages differ from earlier assemblages? Is there more persuasive evidence for rejection of British goods in certain regions, classes, or social groups? Do British goods appear in increased amounts after resumption of trade in 1782?

Did Great Awakening theology and social thought effect consumption patterns? For example, is there a difference in the material assemblages of revival-influenced thinkers and households versus Puritans or Calvinists? What is the significance of such material consumption differences on Revolutionary thinking? For instance, were revivalists less likely to support non-importation agreements because they were committed consumers? Or, instead, were they more likely to support such boycotts because they espoused personal freedom ideologies? Was there any relationship between marketing patterns and the distribution of religious affiliations in particular areas? For instance, did revivalist-dominated communities have more shops?

#### **Revolutionary War**

How did domestic material culture change during the war? Did household production increase? If so, what goods were more commonly produced by the

household or in the community? What goods were still imported? How did the production of women change during the war?

In what regions were consumer riots staged? In those communities, do archeological assemblages from the period reflect privation of essential goods? What sorts of goods were hoarded? What goods were most demanded by wartime consumers?

What merchants, farmers, and producers profited from provisioning the Continental Army? What goods did they supply? Was there a post-war impact to their increased wealth?

In the Continental Army, was there a difference in the material goods carried by small militia divisions and members of large army units? What sorts of goods were carried most commonly by all troops? How did these assemblages differ from those of permanent or long-occupied forts? Were there regional differences in provisioning (e.g., western New York versus Long Island)? Did the provisioning of North Atlantic troops differ from that in the South? What sorts of goods were carried on board Continental Navy vessels?

What sorts of craftspeople were employed in the Continental Army plying their craft? Is there archeological evidence of their presence?

Was there a difference in the provisioning of Continentals and British forces? Were there differences within British ranks (e.g., officers versus troops, infantry versus cavalry, British versus Hessians, etc.)?

Did troop movements and campaigns impact regional landscapes? For example, were roadways improved (or even obstructed) to move (or impede) troops? Did fortifications significantly impact the landscape? Did military devastation change settlement patterns in post-war cities (e.g., New York City, New London, etc.)?

What archeological evidence is there for privateering along the coast? For example, this could include port bases and ships as well as changes in material consumption in port cities. Is

there evidence that privateering improved the economic condition of certain cities? Was there any long-term economic impact of privateering (e.g., profits turned to land speculation, industrial production, or shipping)?

Did the material assemblages of sympathizers and Tories differ from those of their Continental neighbors? Were there regional differences in Tory material fortunes (such as between the large community of sympathizers in the Hudson Valley and those in Boston)?

How did the presence of British troops impact occupied cities such as Boston and Newport? Were there changes in material consumption?; settlement patterns?; occupations?; architecture or landscape?

What was the impact of the war on small-scale crafts, particularly agrarian-based trades (such as ceramic production)?

#### **Revolutionary Recovery**

What was the effect of increasing post-war inflation in different areas? Were the impacts different on rural versus urban communities? Did certain farmers weather inflation better than others? Is post-war inflation evident in archeological assemblages?

Where did uprisings occur after the war? What groups revolted? What were they upset about (e.g., impoverishment, federal power, occupational immobility, etc.)? What form did their resistance take (e.g., armed uprisings, spontaneous mob actions, public discourses such as newspapers or town meetings, etc.)?

Did the material life of those groups who most strenuously resisted currency devaluation, court changes, and increased taxes significantly differ from more prosperous groups? For instance, what was the financial circumstance of the people who participated in Shay's Rebellion? Do archeology and material culture indicate that these rebels were considerably more impoverished than other groups? To what extent was the rebellion (and less dramatic uprisings) shaped by ideological resistance to federal power?

Where were Tory and British sympathizers' lands and properties confiscated? What was the impact of these confiscations on local economies? Did particular groups profit more than others?

How did the African-American community change in the wake of the war? Did manumissions significantly change the community? What range of social and economic fortunes were evident in the African-American community? Were African-American material assemblages significantly different from those of other community members along ethnic lines? Were there commonalities between Whites and Blacks of comparable class standing?

Did other ethnically distinctive communities emerge in the years following the Revolution?

What was the impact of turnpike system on rural communities? How were different roadways most commonly used (e.g., migration routes, transportation of farm goods, shipment of supplies to and from emergent industries, etc)?

What goods were farmers in various regions selling to markets outside their communities? What regions' farmers were most involved in marketing outside their community? What regional farm goods were exported?

How did the Oriental export trade change port cities such as Providence and Salem? What goods were most commonly traded in these ports? Where were goods shipped to once they reached these ports? What groups became most affluent in this trade? Why were they successful? Were there changes in the goods carried by backcountry merchants when the Chinese trade increased (i.e., did Chinese goods appear in inland shops and/or were other imports or domestic goods more commonly marketed in backcountry shops)?

To what markets outside the Orient were regional shippers trading?

What goods were merchants exchanging in markets outside the region and country? Where were these goods produced? How were they acquired by

merchants going on overseas trading expeditions? Did the goods exchanged in certain markets change over time (i.e., as one good saturated the market another replaced it)?

In what areas were women performing shoe manufacturing outwork during the Federal Period? What archeological evidence is there for outwork on farm sites? Can the increase in outwork production be analyzed using the shoe assemblages from the assemblages of consumers (rather than the production sites)? That is, is there archeological evidence of increasing consumption of standardized shoes in the period between the wars?

How were sites chosen for new industries (e.g., waterpower, local labor force, transportation routes, etc.)?

What industries attempted in the region during this period were not successful? Why not? Where were such industries tried?

#### **War of 1812**

Do archeological assemblages and/or material culture reflect the impact of the 1807 embargo? What was the financial impact of the embargo on various regions (e.g., port cities) and groups (e.g., merchants)? Was the embargo experienced differently in urban and rural areas?

What goods were limited or eliminated by the embargo? How did the embargo impact the trade of other countries into the North Atlantic?

How did everyday material culture change over the 15 years between the end of Federalist domination in 1800 to the 1807 embargo and subsequent wartime trading impact to the glut of British goods which flooded the American market after the war? Are these dramatic changes reflected in archeological assemblages?

Do wartime New England material assemblages differ from those in other regions because of the British favor of New England traders? What was the impact of such favor on the goods available to consumers in New England markets (i.e., were there more goods than other regions, different types of goods, etc)?

What sort of goods were smuggled? Where were they smuggled to and from (e.g., British goods along waterways from Canada, etc)? Who was involved in smuggling operations? What archeological evidence is there of smuggling?

How widespread was privateering along the North Atlantic coast? What areas were bases to privateers? What sorts of ships did they command? What did they steal, and who did they steal it from? How did they envision their privateering in relation to the overall war effort (i.e., did they consider their activities a part of the war or primarily a quest for personal profit, etc)? How did privateering effect the local economies of port towns which were home to privateers? How many of these communities were subject to British attacks during the war as a result of privateering?

What material goods did militias carry? How did their provisioning differ from that of the Federal Army?

What industries profited from the war? Did any industries or farmers profit from trade with the British? What goods were sold to the British?

How did new industries impact local communities (e.g., the Federal Arsenal's impact on Springfield, etc.)?

How did material consumption change in rural communities during the war? What goods were most commonly in short supply? Did rural shopkeepers and farmers store some goods to elevate prices? Were there any consumer riots against such accumulations intended to fuel demand and increase prices?

Is there archeological evidence of the postwar flood of British goods imported into America? What sorts of goods were most extensively consumed? How did the over-supply effect commodity prices in the following decade?

## THE INDUSTRIAL PERIOD (CA. 1820-1870)

**Paul Mullins**

Between 1820 and 1870, the North Atlantic industrialized more rapidly than any region in the country. In the process, social, labor, and manufacturing trends began that persisted for the next century. Before 1820, the region's industrial complex was simply a handful of dispersed manufacturing sites which were vastly outnumbered by myriad household and community producers. Yet in the ensuing half century, the region's industrial manufacturing mushroomed, fostering several huge industrial cities with worldwide economic impact and numerous more modest industries. A new industrial work force emerged which drew upon rural communities, accelerating a flow of laborers from field to factory and changing agrarian life irrevocably. These laborers were introduced to material opportunities they had never known in the countryside, yet they also confronted unpleasant workplace regimentation, often disorienting social diversity, and a breakdown in traditional kin relations. For the first time, women became an integral element of the labor force both in factories and through home based out-work. Alongside these rural women stood a new element of the American work force—European immigrants. New North Atlantic industries hastened the development of new transportation technologies, such as canals and railroads, and these pathways for raw materials and finished goods quickly became pathways for people as well. The abolitionist movement flourished in the North Atlantic during this period, and the region became the center of the movement's increasingly influential press. The period was punctuated by the nation's bloodiest war. Although the Civil War was fought outside the North Atlantic, the conflict had considerable impact on the region's industries and population.

### **Change in Rural Life**

During the first quarter of the nineteenth century, the North Atlantic remained predominately agricultural and rural. Mass-produced goods had been available in the rural North Atlantic since the eighteenth century and were part of virtually every

household. Those goods that were imported were primarily items that could not be produced locally, such as sugar or fine tablewares. The bulk of the region's goods were produced and consumed locally. Most of these goods were food staples, such as wheat and beef. In addition, farming craftspeople produced functional items including pottery, furniture, and farm implements. As late as 1820, only 25% of the Connecticut River valley's local farm output was exported outside the region (Clark 1979:171). Many goods and services were bartered between neighbors and community members in transactions that did not involve cash.

In rural areas, a significant degree of self-sufficiency endured into the nineteenth century, although some agrarian communities (e.g., Western Massachusetts) changed more rapidly than others (e.g., New Hampshire). Regardless of the extent of such transformation, though, virtually every North Atlantic community's self-sufficiency diminished rapidly between 1820 and 1870. By the mid-eighteenth century, farmers around densely populated areas like New York City and eastern New England already were selling their goods at market and purchasing imported goods (Kulikoff 1989:127). Their neighbors in rural communities soon would transform their labor, consumption, and marketing as well.

One reason for the change in the rural North Atlantic was that marketed goods became cheaper and more widely desired by consumers. Some of those goods came from emergent North Atlantic industries. By the 1820s, for instance, flour milled in Rochester could be purchased cheaply in any rural grocery. Likewise, home-produced cloth rapidly disappeared in favor of mass-produced textiles after about 1820 (Clark 1979:171). Some cloth came from regional producers, but it also came from British manufacturers who flooded America with goods after the War of 1812. During the war's embargo, British producers continued to manufacture goods in anticipation of peacetime trade, and they accumulated significant stockpiles of goods including textiles and ceramics. Because of the volume of reserved goods, British products sold quite cheaply after the war. The availability of these imports speeded both the decline of household manufacture and the expansion of cash exchange. Beyond mere availability of mass-produced

## BOX 24: INDUSTRIAL PERIOD CHRONOLOGY

1820	Missouri Compromise passed; Maine becomes a state	1857	Supreme Court Dred Scott decision invalidates Missouri Compromise and upholds slavery
1823	Boston Associates select East Chelmsford, Massachusetts for new textile factory; town renamed Lowell		McKay shoe stitching machine invented by Lymna R. Blake
1825	Erie Canal opened	1859	Abolitionist John Brown raids federal armory in Harper's Ferry, West Virginia; is captured and executed
1826	Railway completed between Boston Harbor and Quincy  Gas stove invented by James Sharp  White rioters attack African-American homes on Boston's Beacon Hill		Charles Darwin's <i>Origin of Species</i> published
1827	<i>Freedom's Journal</i> , first African-American newspaper, begins publication	1860	Shoemakers' strike  Linoleum invented by Frederick Walton
1828	Andrew Jackson elected	1861	Confederate troops capture Fort Sumter, South Carolina, beginning Civil War  First federal income tax levied
1830	First commercial American railway, Baltimore and Ohio, begins operation  Lawn mower invented by Edwin Beard Budding	1862	Homestead Act grants Western land to settlers  Machine gun invented by Richard Gatling
1831	Reaping machine invented by Cyrus McCormick	1863	Battle of Gettysburg  Emancipation Proclamation  Draft riots in New York City
1832	New England Anti-Slavery Society founded by William Lloyd Garrison in Boston	1865	Army of Northern Virginia surrenders at Appomattox, Virginia  Massachusetts passes first state civil rights law  Thirteenth Amendment abolishes slavery  Lincoln assassinated
1833	American Anti-Slavery Society founded in New York City	1867	Barbed wire invented by Lucien Smith
1835	William Lloyd Garrison beaten in Boston Automatic revolver invented by Samuel Colt  Telegraph invented by Samuel Morse	1868	Fourteenth Amendment grants due process to all except native Americans
1837	Louis Daguerre produces first daguerreotype photo	1869	Transatlantic railroad completed  First color photography  Vacuum cleaner invented by Ives W. McGaffey
1840	Vulcanization invented by Charles Goodyear		
1843	Race riot in Boston  Bronson Alcott founds Fruitlands community near Boston		
1846	Sewing machine invented by Elias Howe		
1847	New Hampshire passes ten-hour law  First postage stamp issued		
1848	Gold discovered in California		
1852	Lynn, Massachusetts shoemakers use sewing machines for first time  Harriet Beecher Stowe's <i>Uncle Tom's Cabin</i> published		

amenities, many farm families' desire for mass-produced goods was also fueled by their recognition of the genteel symbolism associated with these goods. Their desire to acquire mass-produced items demanded cash income and willing education in new social rules (e.g., table etiquette). Consumption of such goods significantly decreased the once-vast distance between rural agrarian and urban bourgeois societies.

A second reason for the change in rural life was the growth of local markets. The increasing quantity of mass-produced goods was marketed by an emergent merchant elite, some of whom had amassed family monies in late eighteenth-century land speculation, and others who accumulated cash from country store businesses. Local merchants purchased or traded goods for farmers' surplus, then resold it at a profit to other markets. Based on that profit, local networks of merchants settled in small towns like Northampton, Massachusetts and transformed the commercial face of such communities with new banks, stores, and small factories. Nearly three-quarters of Northampton's merchants in 1860 had credit listings in New York, indicating the increasing scope of their trade during the antebellum period (Clark 1979:171). Many of these merchants financed new industries during this period. In Amherst, Massachusetts, for example, a merchant began the first palm-leaf hat business in 1829, selling hats made by local women, and by the 1840s ten Amherst storekeepers were in the business.

A third reason for the transformation in rural life was a shortage of land through much of the rural North Atlantic. The Connecticut River valley, for example, had been completely settled and its landholdings exhausted by 1800. Landholdings became subdivided into increasingly smaller parcels, and the amount of unimproved land rapidly decreased. This meant that more people were farming a greater amount of land, yet in smaller plots; consequently, there was more farm produce at the same time as there were more economically marginal farmers. Increasingly, North Atlantic farmers turned to new marketplaces, such as Boston and eastern Massachusetts. More farm families also sold their craft goods and labor to supplement farm income.

A fourth reason for the change in rural life, was the emergence of factory production. Some marginalized farm families began to take in "out-work" from local industries. In Western Massachusetts, for example, women often did work for local rug and carpet makers, and Shrewsbury, Massachusetts' textile manufacturers put out cloth for assembly into slaves' clothing (Stachiw 1985:292). From the mid-1820s until about 1850, many farm households sent family members, primarily young women, to work in factories. Some women worked in some small local factories, like those around Springfield and Chicopee, Massachusetts, and others flocked to emerging mill towns in eastern Massachusetts and Rhode Island. In addition to draining away farm laborers, eroding kin relations, and impacting community structure, factories also sold cheap goods which increased rural consumers' link to the national economy, implicated them in broad social trends, and ensured increasing revenue for industry.

A fifth reason for the decline in rural production was increasing competition from other regions. Western grain, for instance, was so cheap that New England farmers could not compete (Kulikoff 1989:136). Some farmers turned to new specializations; in Worcester County, Massachusetts, for instance, dairying gained in economic significance, and in 1845 the county's dairy industry produced more cheese and butter than that of any Massachusetts county (Stachiw 1985:280). An untold number of farmers migrated west, many in search of cheap or even free farmland which was promised by local governments in the new territories. By one estimate, in 1820, 800,000 former New Englanders were residents of New York state. The flow westward through Pennsylvania and into the frontier gained momentum throughout the period (Laurie 1989:19).

Those farmers who did attempt to compete with Western farmers were hampered by poor transportation routes, as were emerging industrialists and merchants. This was not a new dilemma: the region's farmers had complained about poor road transport since at least the War of 1812, when they began to ship goods consistently to eastern cities including New York and Boston. Farmers in distant western New York markets like Buffalo pressed hard for new roadways, and they were joined in the

campaign by storekeepers and industrialists. Their appeals were successful; New York chartered over 300 turnpike companies and about 5,000 miles of roadway in the 1820s alone (Laurie 1989:22). In 1825 the Erie Canal was completed between Lake Erie and the Hudson River, and in seven years tolls had paid for construction. The canal carried a million tons of eastbound wheat and flour in 1840 alone, and that figure increased four-fold in 1860 (Laurie 1989:23). The canal's success stimulated canal construction throughout the region and country. Yet perhaps the most glaring absence in the archeology of industrialization may be neglect of the canal system (Cleland and Stone 1967).

Canals were not the only new transportation for farm goods and industrial products. In 1826, a two-mile stretch of railway was completed between Quincy, Massachusetts to Boston Harbor, and the modest shipping route immediately was reproduced elsewhere. The nation's first commercial railway, the Baltimore and Ohio, opened in 1830, and in 1835 three lines were opened from Boston to Lowell, Worcester, and Providence (Laurie 1989:22). In southeastern Massachusetts, the presence of the whale oil industry (e.g., New Bedford), textile factories (e.g., Fall River), and boot and shoe manufacturers (Bristol County) encouraged the establishment of 15 new rail lines between 1835 and 1869 (Paoli and Farkas 1982:94). Along with grain and industrially produced freight, on these rail lines were increasing numbers of people, many of whom followed the rails west. However, as with the canal system, archeologists have done little study of railroads (Palmer 1974).

The impact of roadway, canal, and rail transport routes was immense, but farmers who had seen hope in that expansion were ultimately disappointed. Canals and railroads permitted competition from Pennsylvania and Ohio Valley farmers, and those farmers came to dominate eastern markets.

Many archeological projects have examined North Atlantic farm sites, but these studies have produced no consistent research questions (cf Poinot 1980, Waldbauer 1986, Mires 1993, Wurst 1991). North Atlantic archeologists have produced a stronger urban literature which at least implicitly links changes in cities with the transformation of the countryside. Modification of urban space, particularly the filling of harbors, has been

examined in several cities including Boston, New York City (Rockman and Rothschild 1980), Portsmouth (Penderly 1978), and Providence (Rubertone 1982). Many of these cities were urban seaports, so archeology has produced distinctive research on pier construction and the link between the fortunes of shipping and seaport communities (e.g., Moran et al. 1982). Work on industrial era urban domestic sites has ranged across myriad other subjects as well, including gender relations (Agnew 1995), sanitation (Geismar and Janowitz 1983), and settlement patterns (Wall 1987).

### Industry

Two sorts of industrial production emerged in the North Atlantic between 1820 and 1870. One was capital-intensive factory production which, in just a couple of decades, moved home production techniques into factories where such work was performed largely by machinery. The textile industry developed in this way, beginning a remarkably rapid growth in the 1820s. The second industrial organization was the sweating system, in which available technologies could not replace skilled handcraft. To increase yield, industrialists simplified production techniques by breaking them into tasks; wages were often based on piece rates. The shoe industry used these organizational techniques.

Perhaps no industry had a greater socioeconomic impact on the North Atlantic than textile manufacturing. In the late eighteenth century, several entrepreneurs explored the notion of developing factories based on English production techniques. By 1810 textile mills in Rhode Island and Massachusetts were producing yarn and thread which was made into clothing by home producers. The War of 1812 embargo fueled the growth of this textile industry, but the absence of mechanized hand looms hindered the industry's production capacity. Such technology existed in England, so merchant Francis Lowell toured factories in Britain in the first decade of the century, memorizing the intricacies of the machinery and recording details about factory organization. In Boston, Lowell developed a water-powered hand loom that improved upon its English models. Armed with the technology, Lowell chartered the Boston Manufacturing Company, which became known as the Boston Associates. In 1814 the company opened a mill on the Charles

River in Waltham, Massachusetts, and they immediately began plans to expand. Because of the scale of the operation—it was ten times larger than any Rhode Island mill—the company was compelled to secure a substantial waterpower source, but none existed in an established city with existing housing. In 1823 the company chose East Chelmsford, a town of about 200 people, renamed it Lowell, and constructed a large textile mill.

The company was dramatically different from former management organizations; it was a huge incorporated entity which commanded immense capital and was directed by an intricate bureaucracy that resided away from the mills. During the 1830s and 1840s, it built mills in Dover, New Hampshire, Saco, Maine, and a handful of other locations in New England (Laurie 1989:31). In Lowell, its example was immediately followed by other companies, including the Hamilton corporation (1825), the Appleton and Lowell corporations (1828), and the Suffolk, Tremont, and Lawrence corporations (1831) (Dublin 1979:20). By 1839, all of Lowell's waterpower sites were occupied, and in 1850 the city was the nation's leading textile producer and second largest Massachusetts city. While conditions eventually eroded in Lowell, the concept of a city structured by management would remain popular for some time; smaller planned cities like Lowell also were attempted in places like Holyoke, Massachusetts in 1850 and Turners Falls, Massachusetts in 1868.

One of the Boston Associates' most radical innovations was its reliance upon the labor of young farm women. In Lowell there was not existing housing to accommodate the huge new work force, so the company built its own housing. The firm regulated the social behavior of boarding employees and imposed older female housekeepers as supervisors. The inexpensive, orderly, and strictly disciplined boarding houses helped convince many farm families to send their daughters to the mills, but they also gave the company an instrument of control that reached into the everyday minutiae of mill girls' lives. Various mills demanded church attendance, forbade alcohol consumption, and enforced strict curfews (Dublin 1979:78). On the other hand, southern New England mills in Rhode Island and Connecticut did not develop this boardinghouse system (Dublin 1979:75). Initially,

southern New England textile manufacture, informally known as the Rhode Island system, was considerably smaller in production capacity, available capital, and workforce size, and was usually locally owned. By 1860, though, the makeup of the work force in both regions was nearly identical, and the southern operations clearly borrowed heavily from Lowell's examples (Dublin 1979:277).

The Boston Associates envisioned that their factories would avoid the problems of English factories, but in the 1830s conditions in Lowell deteriorated, just as they did among other North Atlantic industries. In 1834 management of all the major Lowell mills proposed a reduction in piece wages, and women in different mills circulated petitions opposing the reduction. About 800 women refused to work, but the strike was unsuccessful. Two years later, mill women struck again, this time in response to an increase in boarding rates. About 1,500 to 2,000 women joined this strike for several months, and several mills rescinded the increases; others at least modified their board increases (Dublin 1979:102).

Archeologists have analyzed industrial history questions including workplace discipline (Handsman and Leone 1989), corporate paternalism (Mrozowski 1991), and the role of women laborers (Beaudry and Mrozowski 1987). Many such issues have been examined by the extensive project in Lowell (e.g., Keslo 1993, Landon 1987). The Lowell project's focus on laborers' households integrates extensive excavation and analysis of a wide range of material goods, emphasizing the insight of archaeology and expanding on many basic historical analyses of everyday workers' lives. However the influential textile industry has received relatively little other extensive archeological study (cf Vogel 1967).

Worker-management tension clearly began to surface in other workplaces as well. Long workdays had drawn the ire of laborers in the 1820s. Boston construction workers, for instance, had struck unsuccessfully against ten hour days in 1825 and 1830 (Laurie 1989:79). In 1847 New Hampshire passed a ten-hour law, but it allowed employees to contract for overtime. Unions grew rapidly; by the mid-1830s, Buffalo had a dozen unions. Beginning in the 1840s, employers' efforts to attract immigrant labor bolstered union loyalties, but unions assumed

a distinct nativist partiality. By 1850, rising prices, glutted labor markets, aggressive employer strikebreaking, and increasing immigrant hiring led to more labor unrest. The peak came in 1853-1854, when roughly 400 strikes occurred in the northern United States (Fogel 1989:362).

The less mechanized "sweating system" of factory production was followed by the clothing and shoe industries, both of which were well established in the North Atlantic. The manufacture of ready-made clothing demanded skilled labor, and until Elias Howe's invention of the sewing machine in 1846 no machinery was available for the task. By the 1820s, much clothing production was being done in subcontracted "sweat shops" which sold finished garments to a supplier. Located in attics, barns, or any cheap space, these shops maximized profit by extracting rapid production. The remainder of this production was done by out-workers. In 1854, for instance, the New Haven (Connecticut) Shirt Manufacturing Company employed 3,700 outworkers, nearly all of them women (Laurie 1989:40). Piece rates were the most common wage system. The industry continually divided tasks into smaller units, and some mechanized equipment entered the industry in the 1850s, but clothing and shoe manufacture (unlike textiles) used little industrial technology until the Civil War.

Like the clothing industry, shoe and boot manufacturing grew out of handcraft production and relied heavily on out-work. Shoe manufacture became well established in Lynn, Haverhill, and Natick, Massachusetts by the late eighteenth century, and the trade grew rapidly after the War of 1812 (Dawley 1976:29). Craftspeople working at home prepared and assembled various elements of footwear; the labor pool included thousands of families throughout rural New England. From the 1830s until the Civil War, no Massachusetts industry employed more people than the shoe industry, and in 1837 Lynn sold one pair of shoes for every 2.5 White women in the country (White women composed most of the market [Dawley 1976:26]). No other American industry had such an extensive and profitable outwork system, but by 1850 the network of outwork laborers was so spread out across New England that manufacturers pressed for technological changes that would allow them to centralize. In 1852, three Lynn manufacturers tried

sewing machines for the first time, and by 1860 the industry's output had doubled. In 1875, only a fifth of the women doing out-work in 1850 were still working at home. Shoemakers recognized the threat of the sewing machine and centralized factories, and when the depression of 1857 moved producers to lay off laborers the trade quickly unionized. In 1860, at least 20,000 shoemakers (most in eastern Massachusetts) quit work in one of the nation's largest antebellum strikes (Dawley 1976:89). However, the shoemakers' union was hampered by its inability to enlist the legion of outworkers, and male unionists crippled their own cause by refusing to include women among their number (Laurie 1989:110). The strike soon ended, and between 1860 and 1870 the shoe industry rapidly mechanized and centralized production in factories, effectively ending the vestiges of handcraft production which had survived among shoemakers so long. Unfortunately, perhaps due to the decentralization of outworkers, the mammoth shoe industry has received no sustained archeological study.

A handful of other North Atlantic industries borrowed from elements of sweat shop production. Carpenters and furniture makers, for example, each began making their wares in unmechanized assembly line shops by the second quarter of the nineteenth century. Carpenters would assemble elements of houses, such as windows and, in the 1830s, balloon frames, which would be assembled on the construction site. Furniture makers also began to divide labor on a single object among several laborers, and steam-powered saws decreased manufacture time.

By the eve of the Civil War, the multi-skilled North Atlantic craftsman was rapidly disappearing. The gradual disappearance of craft production and rise of industry has been examined by many North Atlantic archeologists. Some of the richest industrialization research of the New England countryside has been conducted in central Massachusetts by Old Sturbridge Village (e.g., Worrell 1985). Excavations of farms and craft production (particularly potteries and water power) provides suggestive dating for material, technological, and spatial changes among the area's farm households. The ceramic industry has received a great deal of archeological study focusing on individual craft producers undergoing

industrialization. Several studies have surveyed potteries in a community and examined how various potters adapted their trade from the mid-eighteenth century to the Civil War (e.g., Pendery 1985; Starbuck and Dupre 1985). Iron industries also have been examined by archeologists. The Boston central artery project, for instance, identified a stove foundry (Bower and Charles 1988), in the Connecticut River Valley cutlery manufacture has been examined (Nassaney and McArdle 1989), and furnaces have been excavated in New York (Seely 1981).

### Social Structure

American population swelled dramatically between 1820 and 1860, and a steady flow of farmers left the field for the cities. On the eve of the Civil War, over 30 million people were living in the United States, three times the 1820 population. Most of these people were native born; only 4 million Americans in 1860 were immigrants, although the advent of industrial production promised jobs which would lure many more Europeans in the subsequent half century. Immigration began in earnest in the 1840s and reached its antebellum peak in 1851, when 267,000 Europeans came to the country (Laurie 1989:26).

Boston reflected all of these trends in urbanization, movement from rural areas, and impending immigration expansion. In 1845, for instance, about 40% of the community was born in New England villages, 36% were born in the city, and 23% were European born, among whom the Irish were most numerous (Laurie 1989:26). Other North Atlantic cities including Hartford, Albany, and New York City also became home to concentrations of newly arrived Europeans, mirroring the basic trends identified in Boston.

A small free Black community emerged in the North Atlantic during this period. Virtually all African Americans in the North Atlantic were free by 1830; only 17 slaves were tallied in the 1830 New York City census, and they were the last ever recorded in the city. Between 1800 and 1850, New York City's Black population rose 151%, to just short of 11,000 (Curry 1981:244-245). Buffalo's rivaled that growth, swelling 129% to 22,973, making the city the North Atlantic's largest concentration of free Blacks at midcentury. Despite

the growth of the African-American community in Buffalo, Blacks comprised a very small percentage of the city's total population (1.60% in 1850). This low percentage of total population was typical of the North Atlantic. In Providence, for instance, the Black community expanded by 128% in 1800-1850 (to 1,499), but in 1850 Blacks comprised but 3.61% of the city's population.

African-American movement to North Atlantic cities from other regions had begun by 1850; over three-quarters of Buffalo's Black population in 1850 was born outside the state, and over 58% of Boston's Blacks came from outside Massachusetts. People of color came to the North Atlantic for freedom, not job opportunities (cf. Baker 1980, Bower and Rushing 1980). Blacks were systematically consigned to the most menial jobs, including laundresses, chimney sweeps, draymen, and stewards. In North Atlantic cities along rail lines (particularly Boston, Providence, and Albany), many Black men worked as porters. Boston and Buffalo included a few Black entrepreneurs. In Boston, 7.36% of all Blacks were engaged in some sort of business in 1850; in Buffalo, the figure was 6.04% (Curry 1981:24). Most of these entrepreneurs were hucksters who sold goods from wagons. Racism in the region could be as virulent as anywhere else. In 1826, for instance, a White mob invaded a Black community on Boston's Beacon Hill, destroying several homes, and in 1843 a White mob attacked Blacks near North Square in retaliation for a fight between White sailors and four Blacks (Curry 1981:100). Providence also had several race riots, including violent confrontations in the Hardscrabble neighborhood in 1824 and in Snowtown in 1831.

The Victorian reform movement had its roots in the industrial age, and some of its most articulate adherents came from the North Atlantic because of both the decline of republicanism and the rise of the Second Great Awakening. The republicanism that characterized early America had been a loosely ranked society in which gentry superiors and commoner inferiors were related by commoners' obligations and adherence to authority. Yet the 1828 election of the provincial, uncouth Andrew Jackson signalled the ascendance of a quite contrasting democratic vulgarity which unsettled the elite. The socioeconomic transformations of emergent

industrialization (e.g., increased class stratification, newly moneyed families, and increasing cultural diversity) simply fanned their apprehensions. A second force emerged by about 1830, when established yet sedate temperance, Sabbatarian, and abolition campaigns were energized by the evangelical zeal of the Second Great Awakening (Fogel 1989:254). Protestant evangelism (and doses of orthodox Calvinism and liberal Unitarianism) infused fledgling reform movements with zealous surety. That zeal spawned other benevolent movements (e.g., care for the mentally ill) which aggressively attacked and approached social problems as religious dilemmas for which redemption was available; slaveholding, for instance, became perhaps the most abhorrent social sin, but it could be absolved through manumission. Many reformers turned their attention to etiquette and social behavior, as well. For example Catherine Stowe, the sister of *Uncle Tom's Cabin* author Harriet Beecher Stowe, wrote a series of cookbooks and household manuals. Their father Lyman Beecher was a New Haven, Connecticut Presbyterian minister who was a prominent advocate of temperance, abolition, and women's suffrage. Reformers typically were involved in such a diversity of crusades; for instance, New York's American Anti-Slavery Society formed in 1833 included members who were active in benevolent charities and temperance societies. Reformers' spiritual zeal provided a climate in which several utopian religious communities flourished in the region. In 1843, Transcendentalist Bronson Alcott founded a vegetarian community known as Fruitlands near Boston, the Shakers expanded in the late 1830s (only to decline again in the 1860s; Savulis 1992:196), and Universalists formed a community in Milford, Massachusetts. One of archeology's distinctive regional contributions has been the extensive archeology conducted on Shaker Villages in Hancock, Massachusetts (Dos Santos 1987, Falk 1985) and Canterbury, New Hampshire (Starbuck 1986). Archeological research has devoted particular attention to craft technologies and Shaker consumption patterns (cf. Savulis 1992).

No industrial-era reform project had a greater sociopolitical impact than abolition. The most influential of the abolitionist organizations was William Lloyd Garrison's Boston-based New

England Anti-Slavery Society, which was founded in 1832 and had the newspaper the *Liberator* as its prominent mouthpiece (Fogel 1989:265). Abolitionists affected by evangelism wanted to bring enslaved souls to religion, but they also wanted to reach out to complicitous slaveholders and Northerners who tacitly supported slavery. Virtually no abolitionists had any ambition to produce racial equality: their mission was to eradicate the institution of slavery. There always was widespread hostility to abolition, even in its New England bastion: in 1835 Garrison himself was almost beaten to death after being dragged through Boston streets at the end of a rope. Fierce southern antagonism to abolitionism in the 1830s turned many Northerners to abolition because they were alarmed by proslavery violence and attributed it to slavery's social influence. Some North Atlantic churches joined the abolitionist's fold in the 1830s and 1840s, but the majority of regional clergy rejected abolitionist rhetoric and favored a variety of moderate compromises over slavery (Fogel 1989:275). Consequently, several churches split, including the Methodists in 1844, Presbyterians in 1837, and Baptists in 1845 (Fogel 1989:274).

Some abolitionists were part of the celebrated "Underground Railroad" which clandestinely ferried escaped slaves northward into New England and Canada. The Underground Railroad's leaders were based in Boston, and in the 1850s there were several prominent cases of escaped slaves being traced to Boston by masters determined to retrieve their property (McPherson 1988:81). Masters seeking their fugitive slaves drew the outrage of abolitionists and formerly disinterested Northerners. Ultimately, Southerners exaggerated the Underground Railroad's genuine demographic impact—only a few hundred slaves actually made it to the North or Canada each year—and Northerners distorted their advocacy of the network; most abolitionists opposed legal servitude but remained resolutely racist. Nevertheless, the widespread interest in the Underground Railroad contributed significantly to passions on both sides.

#### **Civil War**

No Civil War battles were fought in the North Atlantic, but the war was fueled by regional changes

between 1820 and 1860, and the conflict had a clear socioeconomic impact on the region. One of the central seeds of the war was laid in 1819 when Missouri applied for statehood as a slave territory. The prospect of admitting Missouri threatened the balance of Congressional power between slaveholding and free states, and no agreement could be reached. In 1820, the Missouri Compromise was struck, allowing Maine to enter as a free state and Missouri as a slave state, with all slavery prohibited north of Missouri's southern border. Many Southerners were disillusioned with the agreement (which was overturned by the Dred Scott decision in 1857), and changes in the North Atlantic further inflamed that disenchantment. The 1825 completion of the Erie Canal fanned Southern anger, because it and subsequent canals became migratory routes for hundreds of thousands of New Englanders and New Yorkers who moved into areas which became Chicago, Detroit, and Cleveland (Fogel 1989:304). Those cities became political strongholds for antislavery forces, and they were economic competitors with the South. By the middle of the century, midwestern markets formerly supplied almost solely from New Orleans were being supplied by canal- and rail-transported goods from the East. On the eve of the Civil War, the major rail and canal routes in the country went north-west, with few routes traveling north-south. Canals shifted commercial relations between North and South, affected the balance of voting power, and gave midwestern farmers new eastern markets to augment their former Mississippi River markets to the south.

In April 1861, Confederates captured Fort Sumter, and Southerners rapidly flocked to their new army. Most of the 16,000-man federal military was in frontier posts, and one-third of its commanders resigned to join the Confederate cause. Yet the superior Northern transportation network, far greater industrial capacity, and 2.5 to 1 manpower advantage enabled the Union Army to mobilize and prepare rapidly. A few North Atlantic communities became homes to wartime bases; for instance, the worst Union prisoner of war camp was in Elmira, New York, where 24% of its 9,600 captured rebels died (McPherson 1988:796). For the most part, though, the war's greatest North Atlantic impact was on regional industries. The North Atlantic, for instance, was the seat of a naval industry that far

outproduced Southern capabilities, and the vast majority of the nation's locomotives were manufactured in the region. Economic depression and the loss of laborers compelled industries to accelerate mechanization. For instance, the Blake-McKay machine for sewing shoe uppers to soles radically decreased manufacture time of Union footwear, and sewing machines were tried on a wide scale to make clothes for the Union Army (McPherson 1988:449). Some industries profited rapidly; textile and shoe manufacturers contracted with the military, and railroads charged the government exorbitant rates to move soldiers and supplies. Among the North Atlantic's wartime industries was the armory in Springfield, Massachusetts, and its products had a profound effect on the war. The .58 caliber Springfield rifled musket was the main infantry firearm of the war (McPherson 1988:474). Initially the South relied on imported weaponry and their own arms, but most Union regiments received Springfield weapons in 1862; most Confederates had such Springfield (or equivalent British Enfield) rifles in 1863. Warfare had never known such a lethal weapon: rifles dramatically expanded casualties, diminished traditional close-formation assaults, dissuaded cavalry offensives (horses and riders were easy targets), and converted judicious field generals to defensive combat, which eventually contributed to a lengthy war of attrition. For commanders who clung to traditional offensive assault tactics, like Confederate Commander Robert E. Lee, these firearms could produce impressive victories, but they came at the cost of devastating mortality rates on both sides.

Conscription of Union soldiers was organized locally, and local militias composed of soldiers from the same or neighboring towns throughout the North Atlantic rapidly went off to fight. These regiments included Germans, Highland Scots, and African Americans (McPherson 1988:326). At the beginning of the war, a single battle could wipe out half the men in a community, and some did. By 1862, many of these ethnically and culturally uniform regiments had deteriorated and were replaced by regiments dominated by new recruits. The Army of the Potomac, which experienced some of the Union's most brutal combat, drew most of its men from the Northeast. These inexperienced soldiers faced the

Army of Northern Virginia, which waged the Confederates' most aggressive field campaigns; more men died in the Army of the Potomac than in all other Union armies combined.

In 1861 and 1862, loans for the Union cause threatened to bankrupt the North, the first federal income tax was levied as a remedy in 1861, and the Internal Revenue Act of 1862 taxed virtually everything. That depression eased in 1863 and immigration increased, with newly arrived Europeans filling the workplace void of departed soldiers. Not all the new arrivals found America to their liking. In New York City most of all, immigrants crowded into the world's worst living conditions, worked at poor paying jobs, and competed with Blacks for many of the same jobs (McPherson 1988:609). Immigrants were particularly hostile to the war because they believed it was waged by the working class on behalf of elite Yankee Protestants whose Republican power base was interested only in the rights of Blacks. In July, 1863 the effort of draft officers to enlist New Yorkers set off four days of violent rioting. Attacks on draft offices quickly moved on to elite Republican homes and Black neighborhoods, and 105 people eventually died. The federal government was forced to bring 20,000 troops from Gettysburg to quell the riots, the worst in the nation's history.

In April, 1865 Robert E. Lee surrendered the Confederate Army of Northern Virginia, effectively ending the war. Ultimately, the war brought unprecedented prosperity to the regional economy, but real income of the masses of unskilled laborers declined considerably (Foner 1988:18). Manufacturers who enjoyed prime wartime contracts reaped enormous profits, and the remarkable wealth of this new industrial bourgeois fueled the monopolies of the late-nineteenth century. Perhaps the greatest North Atlantic impact of the war was the emergence of this industrial elite. By 1867, for instance, they possessed the power by persuasion or bribery to push through the Massachusetts legislature a \$3 million state grant to the Boston, Hartford, and Erie Railroad (Foner 1988:465). Rampant corruption in post-war state and federal governments fueled the influence of this manufacturing elite into the Victorian period. The ambitious Reconstruction programs of the South were considerably more modest in the North,

although New York did establish teacher training colleges, a Board of Charities, and set minimum housing standards in New York City. In the war's wake the lot of most laborers grew increasingly worse, and manufacturers entered the Victorian period emboldened by their new wealth and eager for ever-increasing profits. That increasing class inequality would characterize the early Victorian North Atlantic.

## Research Questions

### General

What distinctive textual resources are available to researchers for this period? For example, travelers' diaries, manufacturers' records, workers' newspapers, labor unions' papers, reformers' publications, church records, and so on.

Who are the contemporary groups who are most interested in analysis of the industrial period? Why are they interested? How can archeological analysis expand their interest in the period? How do archeologists communicate their interpretations to these constituencies (e.g., site tours, brochures, community lectures, newspaper articles, professional literature, etc)? Are there other communication techniques or strategies which could be better utilized?

Does the historical romanticization of pro-abolition sentiment in the region shape archeological analysis? Would archeological analysis shift if we emphasized the widespread hostility to abolition or virtually universal antagonism to racial equality? Would analysis of the Civil War change if it was emphasized that northerners generally supported the war because they wanted to preserve the nation (i.e., the war was not waged primarily to end slavery)? On the other hand, if analysis emphasized northern desire to end slavery, does this impact archeological analysis?

What is the impact of our fundamental analytical categories, such as ethnicity, class standing, race, urban/rural, North/South, or craft/industrial? How can analysts emphasize the flexibility of such categories? For instance, what is the overlap between farm-based craft production and industrial

factory manufacture? How did elements of each impact the other?

What is the effect of illuminating the prominent role of women in farm and factory labor? Does attention to the roles of women change analysis of the period? What types of material culture from this period can be used to interpret gender?

Besides English ceramics, which are analyzed using scaling indices, what archeological goods can be used to examine social and economic status during this period? How can artifact quantity (as opposed to quality and cost) be incorporated into material analysis? How can archeologists develop more fluid definitions of "status"?

What sorts of material goods are ethnic "markers"? For example, are there objects which clearly indicate African identity (i.e., "Africanisms")? What are the problems with focusing upon such "markers"? Are there mass-produced objects which reflect comparable cultural distinctiveness? How can archeologists use both rare, unique cultural markers and common, mass-produced goods to illuminate distinctive cultural identities?

#### Rural life

What types of household goods were present in most rural households in 1820? How did this range of goods change by 1870? What goods radically decreased or disappeared by 1870? What new goods appeared by that time?

Where were these household goods manufactured? Were they locally produced?; mass-produced in the region?; mass-produced nationally?; mass-produced outside the country? What degree of rural self-sufficiency is reflected in archeological assemblages?

What types of goods were household produced? Are they primarily functional staple goods? What sort of decorative change is there in these goods during this period (e.g., painted ceramic motifs)? What evidence is there for where these goods were produced (such as marked pottery)?; i.e., were they made by the household itself?; by neighbors in the community?; by craftspeople in the region? What sorts of craft

products are not evident in archeological assemblages?

Where were household goods exchanged? Were there differences in various rural markets (e.g., Vermont versus New Hampshire, or rural agrarian areas versus rural areas less firmly attached to farming)? What sorts of consumer venues were available to rural families (e.g., local general stores, traveling sales people, trips to urban markets)? How did the rural marketplace change during this period? Are changes in the rural marketplace reflected in archeological assemblages?

What archeological evidence reflects the work of women and children on farms?

Is there material evidence for decreasing amounts of farmland during this period (e.g., shifting stone field boundaries, new farm plots, expansion of space being actively farmed)? How did increasing competition from producers in other regions affect the farms and material culture of North Atlantic farmers?

Particularly in communities surrounding sweat shops, can archeological evidence of out-work be identified? What evidence is there for the decline of out-work?

Did rural architecture change during this period? If so, how? Are there differences in elite versus marginal farmholders' homes and farm buildings? What architectural differences suggest ethnic or cultural distinctions? What regional differences are there in rural architecture?

Do rurally produced goods, such as craft products, appear in urban assemblages? Is it possible to examine rural/urban relations during this period using craft and mass-produced goods as indicators of affinities as well as contrasts?

How is the movement of rural laborers from field to factory reflected in the archeological record of the towns and farms from which these laborers came (and to which they often returned)?

How did the growth of a road system and subsequent canal and rail transport affect farmers? Did they change shipping routes?; begin to sell goods to new markets?; produce new goods?; give up farming?; continue their previous strategies?

#### Industry

How did the everyday material culture of workers outside company housing differ from that of workers in company housing? How did the material world of laborers working for firms without company housing differ from those with such residences? How did company housing differ from one industry to another? Were there regional differences as well?

How did the material culture of laborers in the boardinghouse system differ from those in the Rhode Island system?

What sort of material evidence is there that company imposed discipline was successful in the workplace and home? What sort of evidence argues that other discipline failed? Why did certain regulations succeed and others fail? Did some rules appear to have success among certain portions of the workforce but not others (e.g., immigrant as opposed to native laborers, or women as opposed to men)? What was the effect of resistance to company rules?

How did changes in transportation networks impact various industries?

What was the relationship between factories and the communities in which they were located? What was the relationship between factory laborers and members of the community? How could such relations be examined archeologically?

What was the impact of female laborers on workplace and domestic material culture? Do the material assemblages of women's residences differ from those of families or single men? How did the presence of female laborers impact institutions in factory cities, such as clubs, stores, or libraries?

How did material assemblages change as the factories became increasingly more oppressive and

housing conditions eroded? Did the decline in living conditions differ in separate industries or between different companies in the same industry? In what regions did conditions decline most rapidly? How did the decline of laboring conditions impact the material world of industrial cities? Is the material deterioration of laborers' domestic conditions reflected in documented working class unrest?

What archeological evidence is there of emergent factories which failed? How did they differ from manufacturers who flourished?: e.g., were there differences in timing?; location?; technology?; available capital?

What sorts of material goods were found in assemblages of laborers employed in the sweating system (e.g., shoemakers)? Did these goods differ from those of laborers in factories? If so, how did they differ, and why would they contrast? Do the material assemblages of rural and urban sweat shop laborers differ?

Where were sweat shops located? Is there patterning to the location of sweat shops? What sorts of buildings were built or used most commonly? Who worked in these shops? What were working conditions of laborers in sweat shops? Can archeological evidence date the length of time sweat shops operated? Do archeological materials indicate the technologies employed in sweat shops? Is there material evidence for reorganization of the workplace, increasing segmentation of labor, or introduction of new technologies?

How did the architecture, workplace organization, and material goods in sweat shops differ between industries? Were there regional differences in such shops?

#### Social structure

Did the material assemblages of new urbanites differ from those of cities dwellers born in the city? How were differences related to class?; culture?; rural versus urban upbringing? Did newly arrived urbanites acquire goods in the same venues as other city residents? How did they decide to patronize particular consumer venues?

How did the material assemblages of, for instance, African Americans, Irish immigrants, and native-born Americans differ *within* each group? What class, occupational, or cultural variation can be identified within these communities? Did these groups clearly contrast from one to the next? If so, how did such differences reflect class distinctions?; occupation?; cultural background?; racism? What similarities can be identified between typically polarized groups, such as Irish immigrants and African Americans? Why didn't contemporaries pay more attention to such affinities?

Were there regional differences in the material culture of immigrants (e.g., Irish immigrants in Boston versus those in Buffalo)? Did immigrants tend to retain traditional cultural practices (e.g., foodways)? If so, what practices were most resistant to change? What practices appeared to change quickest? How long did it take for such change to occur? Were some immigrant groups more rapidly "assimilated" to American mass culture than others? Why?

How do the material assemblages of different groups in the same occupation parallel and contrast to each other? For instance, did German and African-American hucksters with comparable standards of living have similar material assemblages?

Nativism swelled during this period, but how can archeologists examine the growth of ethnic prejudice and racism? For instance, how do market access to goods, purchase power, or out-dated material styles (e.g., previous season's ceramics) reflect the positioning of immigrants and African Americans in the marketplace and American society? Do material assemblages suggest shifts in that position during this period? For example, did first-generation immigrants or free African Americans born in the region have a different experience than later arrivals?

What archeological evidence is there for the retention of African cultural practices? What distinctive African-American cultural traditions are reflected in material culture? What were the differences in the experiences of free African

Americans in rural areas versus urban communities? How did the lives of free African Americans in the North Atlantic differ from that in the Mid-Atlantic or the South?

How did the material culture of the rising White middle class change during this period?

How do the domestic material assemblages of reformers compare to their tenets? For example, did abolitionists have sparse assemblages reflecting their puritanical ideological roots, or did they instead embrace consumer goods which reflected their genteel socioeconomic standing?

#### Civil War

What types of Civil War sites can be identified in the North Atlantic? These could include prisoner of war camps, temporary staging areas for troops, or equipment storage buildings. Where were such sites located? What was their significance in the war?

How did the North Atlantic transportation system change during the Civil War? Were rail lines added?; roads improved?; canals upgraded? Where was such work done, and why was it done there? Did such changes benefit industries?

What industries benefited from the war? How did their factories and organization change during and after the war?

How did the everyday material world of the masses change during the war? Are economic depressions, erosion of wages, and decreased availability of goods evident in archeological assemblages? Are such changes most clear in factory communities?; urban settings?; rural sites?

How did domestic material assemblages change in homes where household members went to war? Do such assemblages differ from those of neighbors? Is the shifting labor responsibilities of women left at home evident in the archeological record?

## THE VICTORIAN PERIOD (CA. 1870-1914)

Paul Mullins

### Introduction

In 1870, with the Civil War still fresh in the public consciousness, Americans might well have chosen a conservative social, economic, and material path toward recovery; the nation could have underscored familiar values, encouraged gradual economic rejuvenation, and focused upon Americans' cultural similarities. Instead, by 1914 American society would be radically transformed by migration, urbanization, industrialization, and new consumption patterns. Some people did advocate conservative recovery, but by circumstance and choice American society would change irrevocably.

Perhaps more than any single region in the country, the North Atlantic confronted all the pivotal transformations that occurred between 1870 and the beginning of World War I: immigration from Europe and migration from the American South; the decline of agriculture and ascendance of industrial labor; vastly increased industrial production; an abundance of inexpensive goods marketed in a new range of sales outlets; transportation transformations that changed urban geography and the movement of goods and people; and persistent efforts by the propertied class to analyze and reform the masses. Whether depicted as a transformative or a transitional period, the cultural, social, and material changes of Victorian America truly rival those of any other period in the country's history.

### Immigration and Migration

During the late-nineteenth century, immigration from Europe and migration from the American South radically changed the demographic, economic, and cultural face of the North Atlantic. Between 1890 and 1900, New York and Massachusetts had the first and fourth largest increases in population in the country, and most of the new citizenry came from abroad. Immigrants tended to stay in the North Atlantic at the turn of the century. For instance, the percentages of foreign-born residents who arrived between 1890 and 1900 and settled in New Hampshire (34.7%), Massachusetts (32.3%), Rhode

Island (32.1%), Connecticut (32.0%), and New York (28.8%) were among the highest in the country.

### BOX 25: VICTORIAN AMERICA

1873	Panic of 1873
1874	Tompkins Square Riot
1881	Garfield assassinated
1883	Civil Rights Act of 1875 invalidated by Supreme Court
	Standard railway time introduced
1886	American Federation of Labor founded
1889	Beginning of Oklahoma Indian Territory settlement
1892	Ellis Island becomes port of entry for European immigration
1893	Anti-Saloon League formed
1896	Plessy vs. Ferguson codifies separate but equal
	Nationwide rural free delivery (RFD) introduced
1898	United States declares war on Spain
1901	McKinley assassinated
1911	Triangle Shirt Waist factory fire in New York City
	Watertown (MA) Arsenal strike against factory division of labor and standard time
1912	American Woolen Company strike, a.k.a., "Bread and Roses," Lawrence, MA
1913	Sixteenth Amendment passed introducing income tax

Before 1880, most immigrants to America were artisans and farmers from northern and western Europe; they were not impoverished, but mass production and commercial farming were eroding their socioeconomic status. A considerably larger, more diverse, and poorer exodus of "new immigrants" to the United States began around 1880. This later wave of immigrants included Germans, Italians, and Poles whose religions ranged from Roman Catholic to Jewish to Greek Orthodox.

Along with European immigrants, newly arrived French and English Canadians and Irish swelled the region's population. The bulk of New York's 1.9 million immigrants in 1900 were German (480,026), followed by Irish (425,553) and Italians (182,248). Of Massachusetts' 846,324 immigrant arrivals, Irish (249,916) were most numerous, followed by English-speaking Canadians (158,753), French Canadians (134,416), and English (82,346). This later immigrant wave moved primarily in response to overwhelming population pressure and decreasing economic possibilities for marginalized laborers. They included a disproportionate number of single males who hoped to make money and return to Europe. Many of them ultimately did; somewhere between a quarter and a third of these immigrants eventually did return to Europe (Schlereth 1992:11).

Some immigration was fueled by cultural inequalities. The immigration of Russian Jews, for instance, increased exponentially after the 1881 assassination of Tsar Alexander II, when newly installed, anti-Semitic officials began widespread persecution of Jews (Heinze 1990:38-39). About two million Jews left Eastern Europe for America between 1881 and 1914. The impact of European immigration on American labor was considerable; by 1910, one of every three employees in northern industries was European born (Rodgers 1978:170).

Most migrants from the South were African Americans escaping tenant farming and Jim Crow racism. The collapse of Reconstruction in 1877 returned southern political power to the Democratic party, and legal and informal racism quickly regained its antebellum power over the lives of people of color. In Emancipation's wake, many Blacks initially moved from rural areas to Southern cities, but by the late-nineteenth century numerous African Americans continued north. Of Massachusetts' African-American population in 1900, 58.2% were born outside the state. The percentage of Black residents originally from outside the state was similar throughout the region (55.2% in Rhode Island, 52.8% in New York, and 49.4% in Connecticut). However the sheer number of European immigrants in the North Atlantic was far higher than African American migrants. Over 1.9 million New Yorkers and 846,000 Massachusetts residents were foreign born, compared to 95,680 and

28,499 Blacks in New York and Massachusetts respectively (United States Census 1900:55-56).

### Urban Geography

The face of the urban North Atlantic changed radically, and not only in the major metropolises. The population densities in 1900 Rhode Island and Massachusetts were the highest in the country, and Connecticut and New York ranked close behind (United States Census 1900:32). No state in the union had a smaller percentage of its population living in "country" districts (less than 2,500 population) than Rhode Island (5.0%) and Massachusetts (8.5%; United States Census 1900:38). Faced with overcrowding and alien cultures in their midst, wealthy city dwellers began to move from urban centers to emerging suburbs in virtually every American city. The movement of bourgeois Whites to the urban periphery was fueled by a complex blend of xenophobia, transportation improvements, new housing, and romanticism about rural life. Between 1800 and 1875, most major cities had developed peripheral "walking" communities which had lower population densities than the core and were peopled primarily by affluent homeowners (Jackson 1985:20-33). These suburbs swelled when commuting by railroad and streetcars became common in the 1870s, but initially they remained affluent because of the steep cost of housing and commuting. Yet as streetcar service rapidly became cheaper and more extensively available, many suburbs crept farther from the core. For instance Medford, Massachusetts became a wealthy Boston suburb with impressive estates in the 1850s, but after a streetcar line was extended into the area late in the century, its wealthy residents relocated, their estates were subdivided into smaller parcels, and the population doubled between 1890 and 1905 (Jackson 1985:118-119).

Streetcars and suburban expansion helped make home ownership possible for many people in a new "middle class" who could not hope to own a home in an urban center. Their quest for homeowner status was fueled by their increasing prosperity as managers, entrepreneurs, professionals, and sales staff. Between 1870 and 1910, the number of people in these positions rose from about 750,000 to 4,420,000, and much of their disposable income went to home ownership (Schlereth 1992:29). By

1890, the modern "American Dream" of single-family home ownership in a detached, semirural dwelling had taken a firm hold in the American consciousness. As wages rose, suburban property became increasingly accessible for the working classes as well, and many municipalities championed streetcar suburbanization because population densities in city centers were as high as they had ever been in history. Some suburbs maintained their prosperous air even as concentrations of working-class housing emerged in the community. Brookline, Massachusetts, for example, was home to some of the wealthiest late-nineteenth century Bostonians, yet 40% of the population were working-class, first-generation Irish Catholics who lived in modest homes around the train station (Jackson 1985:100-101). These Irish immigrants worked in Brookline maintaining elite homes and city property. Consequently, over this period suburbs gradually evolved from sparsely populated areas whose residents were affluent and native born, to socioeconomically stable, more densely peopled, ethnically diverse neighborhoods.

Inner-city populations were highly mobile and poor and included increasingly larger numbers of European immigrants and African Americans. Many lodged in "flop house" lofts, cubicles, basements, or open warehouses without heat or furnishings; in 1906, 1 in 10 Bostonians lived in such accommodations (Schlereth 1992:105; cf. Riis 1971 [1890]). Others obtained more permanent housing in alley tenements (i.e., rental units enclosed on block interiors or behind street fronts). Alley tenement housing existed in many large cities well before the Civil War. However, it became increasingly widespread with immigration and urban population pressure, and landlords who overcrowded the already well-packed units often made enormous profits. Physical design of alley structures was quite variable, but such dwellings almost universally lacked plumbing, proper ventilation, or public spaces; consequently, they were enormous sanitation problems prone to fire. Alley communities were primarily a phenomenon of the most densely populated cities, but in urban areas multi-family dwellings were the norm for all working-class households.

For both homeownership and renting families who remained in the city, boarding was a common

practice. In 1910, somewhere between a third and one half of all urban dwellers were either boarders or lived with boarders at some time in their lives (Schlereth 1992:104). Mill towns also relied upon boardinghouses, with cities like Lowell, Massachusetts placing thousands of female laborers in an extensive network of boarding houses. Taking in boarders was a common vocation for women. Boarding houses typically attempted to maintain genteel Victorian morals in the face of economic hardship and America's increasingly complex and often bewildering cultural diversity (Kasson 1990).

### Agriculture

As cities became larger, more densely populated, and culturally diverse, the countrysides underwent considerable change as well. Not until 1920 did even a slight majority of America's populace live in urban areas, so there was no mass national exodus from the farm to the city. Instead, there was a slow but steady shift from rural to urban life. Before the 1870 census, farming always had been the most common occupation in America, but in 1870 only 47% of the national population was farming, and that figure would decline in every following census. Although the percentage of people farming decreased, agriculture itself was relatively stable. In the last quarter of the nineteenth century, agriculture expanded as more land was cultivated in the Midwest and West, crop production escalated, and agricultural employment increased. In 1900, staple cotton, wheat, and corn production alone increased 150% over that of 1870 (Schlereth 1992:34-35). Yet prices continually declined throughout this period until the eve of World War I, and mechanization demanded greater investment in farm equipment. While farm laborers did increase in number, the growth of occupations outside farms grew at an exponentially faster rate of 300%. The lure of fast profits outside the fields attracted many potential farmers.

Nevertheless, as farming grew more competitive and difficult through most of the country, North Atlantic farming remained remarkably stable. The region's farmers had been routinely exchanging goods in commodity markets since the Revolution and paying laborers wage rates, so many changes in Victorian-era farming simply intensified familiar agricultural practices. Farmland in the North

Atlantic had reached its carrying capacity long before 1870, so farms typically were modest in size, and yield across the region was unlikely to dramatically increase. The vast commercialized agricultural operations of the Midwest and West were not the norm in the North Atlantic, and sharecrop relations, which dominated Southern postbellum agriculture, were even more rare. Yet there was still profit to be made. In 1890, the gross value of New York's agricultural products ranked second in the country, and ten years later the state was fourth (United States Census 1900:384). Even though some of the region thoroughly urbanized, northern New England remained rural. At the turn of the century rural areas still were home to a majority of Vermont's (73.3%) and Maine's (56.2%) populations and to a near majority in New Hampshire (45.5%). Some people did leave the family farm, but they tended to stay in the same area, rather than flee to the city. In 1880 Chelsea, Vermont, for instance, about 75% of all men in their thirties married someone in the immediate community and settled there. Consequently, kinship remained much the same stabilizing mechanism it had been before 1870.

### Industrialization

Full-blown industrial production had come to the New England countryside by the 1820s, when Lowell's water-powered textile mills began operation. The "mill town" of Lowell, in which the company owned banks, saloons, and boarding houses, became the archetype for mill towns throughout the region. By 1900, two-thirds of America's industrial work force was employed in comparable mills and plants (Schlereth 1992:54). In 1900, the North Atlantic's principal industries included: textiles in Fall River, Lawrence, and Lowell, Massachusetts; boots and shoes in Brockton and Lynn, Massachusetts; brass and plate ware in Waterbury, Connecticut; jewelry and silverware in Providence, Rhode Island; corsets in Bridgeport, Connecticut; collars and cuffs in Troy, New York; fur hats in Danbury, Connecticut; and armaments in Springfield, Massachusetts, where the federal armory was located (United States Census 1900:340, 382). All of these cities grew between 1880 and 1900. Waterbury, for instance, increased in population 60.9% during that period, and Bridgeport

increased 76.8%, making them the nation's 81st and 54th largest cities respectively. Even Lowell, which was already well established, increased in population by 30.6%, making it the nation's 39th largest city.

Water power had long been the common source of energy in these factories, but its use declined in the late nineteenth century. In 1880, over 30,000 of 112,680 establishments in the North Atlantic had water wheels, but by 1900 that number had declined to just less than 20,000 industries of 204,265 in the region (United States Census 1900:343; the census' definition of the North Atlantic included Pennsylvania and New Jersey). Throughout the period, New York had more water wheels than any state in the country (368,456 in 1900), followed by Massachusetts (187,848) and Maine (167,264). However, over 106,000 industrial establishments in the North Atlantic were renting electrical power by 1900, and electricity would eventually win out over water power and gas in both the factory and the home.

These working places harbored genuine physical dangers, and the labor was arduous. A ten-hour workday was the norm in Massachusetts in the 1870s and 1880s, and that was considered more lenient than the previous 11- or 12-hour day (Rosenzweig 1988:39). Machinery routinely injured, maimed, and even killed workers. One of the most infamous workplace incidents occurred in 1911, when a New York City loft for the Triangle Shirtwaist Factory caught fire, killing 146 employees who were trapped in the building (Paradis 1972:191). Culturally, factory administrators attempted to stifle ethnic lifeways that ran counter to the ideologies of genteel mill owners who sought to produce a self-disciplined worker. Mechanization and standardized time determined the pace of work in mills, and many laborers resisted such change. In 1911, workers at the Watertown, Massachusetts arsenal struck after management introduced scientific management techniques that divided labor tasks and dictated the amount of time which could be spent on any given task (Rodgers 1979:166). Most machines could be operated by relatively unskilled workers, and machines periodically replaced skilled laborers.

Women and children were enlisted because they came cheaply and were often needed for a household's income. In the textile industry, which

was centered in New England, women were a central element of the work force. In the last three decades of the nineteenth century, the census recorded more women working in Massachusetts than any state except New York. Unlike the earlier work force of married "mill girls," though, the post-1870 female labor force was overwhelming young and single; in 1875, only 600 married women were included among 3,167 female employees in a census of 71,000 Massachusetts employees (Dawley 1976:156-158). Many of these women had done periodical out-work (i.e., contracted labor in their homes) before the 1870s, but a decline in out-work compelled many single women to strike out on their own, which ensured that they would not be an economic burden to their families. In towns where sons had once worked at home alongside their fathers, like the shoe manufacturing hub of Lynn, Massachusetts, single men also were leaving home earlier. Consequently, while individual income of laborers generally rose, the number of sources of family income decreased.

Not surprisingly, worker unrest erupted repeatedly in the region's factories, and the region was a hotbed of union activity. On January 13, 1874, an assemblage German and Irish laborers gathered in New York City's Tompkins Square to meet the mayor and discuss the effects of the Panic of 1873. The mayor, however, skipped the meeting and sent police to disband the assemblage, which they did with great violence, establishing a trend in police-labor relations that persisted well into the twentieth century. The most famous North Atlantic strike was the Lawrence, Massachusetts Textile strike in 1912, a seminal victory for organized labor. Roughly 20,000, predominately immigrant employees from the Industrial Workers of the World (IWW), the United Textile Workers, and sympathetic non-unionized laborers struck the American Woolen Company in January. When the company forcefully attempted to disband strikers and reopen the mill with a new workforce, a woman was killed. Martial law was declared, but the IWW stressed passive resistance to the company's violence. The IWW played on public sympathy with the starving children of striking workers and public exposure of the company's violence against workers and their families. The company capitulated in

March, indirectly securing improved wages for many New England laborers.

Before 1870, native-born women often worked as live-in domestic servants, and in 1870 half of all employed women had worked at some time as servants. However increasing numbers of these women turned to factory labor and, eventually, retail employment, office work, and teaching; in 1920 only 16% of the female work force was engaged in domestic service (Katzman 1981:271). Victorian domestic labor was predominately conducted by live-out laborers, almost all of whom were newly arrived immigrants and, after about 1890, African-American women. It was not feasible for most households to hire a full-time domestic, but even families with modest incomes could afford a part-time domestic (Cowan 1983:119). Most women considered domestic service undesirable, but they often were economically compelled to do it and hoped it would be short-term. For some women it was; in 1900, 60.5% of Irish-born wage earning women were servants, but only 18.9% of the children of Irish parents performed domestic labor (Cowan 1983:126). Nevertheless, for many poor women, especially African Americans, domestic work could be a lifetime occupation served out in numerous different homes. Many domestic positions only provided work a few days a week or seasonally, so it was not uncommon for day laborers to "take in" work, doing laundry, sewing, and food preparation at home for hire.

### **Social Reform**

Many Victorians believed that rising standards of living, cultural diversity, and mass consumption were eroding genteel morals and social order. That bourgeois anxiety spawned extensive social reform efforts. Reformers penned a rich etiquette literature on how to behave in every imaginable context, and other manuals were written to instruct middle-class women in good housekeeping, frugal shopping, and supervising servants (Kasson 1990). Supported by industrialists determined to mold an orderly work force, reformers spearheaded temperance sentiment beginning in the 1870s (Burnham 1993). A temperance movement had won modest support in the 1820s, but Victorian reformers were considerably more aggressive and effective. Their target was what they considered to be the

fundamental source of immorality, the corner saloon; in 1900, 10,000 such establishments were in business in New York City alone, with one on virtually every street corner. Ubiquitous in working class cities like Worcester and Fall River, Massachusetts, saloons were overwhelmingly blue collar, often ethnically insular venues, where men (and some women) gambled, listened to music, borrowed money, boxed, and organized unions (Rosenzweig 1988). In Buffalo, for instance, 63 of the city's 69 unions in 1900 convened in saloons (Schlereth 1992:226). At the turn of the century, temperance advocates championed many successful "local option" laws which outlawed alcohol consumption in communities, and they eventually won national Prohibition when the Eighteenth Amendment passed in 1919.

Progressive-era reformers reached into all regions, but they flourished in the North Atlantic, where dense communities of immigrants, labor unrest, and population pressure inspired considerable genteel apprehension. A central tool reformers popularized to analyze and remedy the apparent decline of social standards was systematic statistical studies. In 1875, Carroll Wright of the Massachusetts Bureau of Statistics of Labor conducted the first such study of working class budgets (Horowitz 1985). Between then and the mid-1930s, the government, academics, and avocational scholars conducted a flood of detailed statistical studies which reported the particulars American income, labor, expenses, home life, demographics, and material possessions. These studies concentrated on the perceived profligacy of the working classes, immigrants, and African Americans. Despite wide variation in wages, most studies confirmed that laborers' real buying power was increasing, because the cost of mass-produced goods and housing was dropping continually. Inequities in wealth, though, clearly were growing; generally, unskilled laborers grew poorer throughout this period, and on the eve of World War I one reformer reported that the bulk of manual laborers' income was exhausted on food, clothing, and shelter (cf. Horowitz 1985:51-58).

#### Patterns of Consumption

Despite the economic difficulties of many families, material goods rapidly declined in price,

the range of commodities mushroomed, and a new breadth of consumer venues appeared. The increased productive capacity of industry was the key to burgeoning material consumption, but changes in marketing were equally crucial. Department stores modeled on grander European venues emerged in the United States in the late 1870s. Early American department stores typically had 10 to 15 departments of standard goods, such as fabric, clothing, and furnishings, and by 1910 many stores had 125 departments (Leach 1993:20-23). Spectacular displays of vast amounts of goods organized by type were a dramatic break from the sparsely supplied general store, and shopping among great crowds made consumption a new mass experience. Stores were also architectural wonders intended to inspire awe. Using huge, plate-glass-enclosed compartments on building exteriors, stores mounted spectacular window displays, and equally dramatic interior aisle presentations featured impressive arrays of goods.

"Five-and-ten" stores supplied more common consumer goods ranging from candy to liquor to decorative knickknacks. Chain stores also emerged during this period; the Atlantic and Pacific Tea Company (A&P) opened its first store in 1869 and followed with 67 stores by 1876 (Schlereth 1992:151-152). F.W. Woolworth's popularized the notion of encouraging customers to simply browse, believing they would feel persuaded to buy the store's goods simply because they were so cheap. Chains could offer goods at very low cost because they purchased huge quantities of mass-produced products, minimized retail mark-up, and pioneered mass advertising. Such stores also provided new employment opportunities for thousands of women.

Mail order sales offered still another new way to obtain goods, particularly in rural areas. Established in 1872, Montgomery Ward targeted rural consumers with hugely profitable "wish book" catalogs which carried everything from patent medicines to farm equipment to houses. Mail consumption was further fueled by improvements in rail transport, the introduction of postal money orders (which eliminated apprehension about putting cash in the mail), and the 1896 expansion of rural free delivery (RFD) to all homes in the country. By 1910, 10 million Americans consumed goods via mail order (Schlereth 1992:154).

## BOX 21: VICTORIAN MATERIAL CULTURE

1872	First Montgomery Ward catalog	1893	Charles and Frank Duryea build first American automobile in Springfield, MA.
1873	Postcard introduced	1895	First public exhibition of motion pictures
1876	Alexander Graham Bell invents telephone		Opening of Sea Lion Park, Coney Island's first separate amusement park
1877	Thomas Alva Edison invents phonograph	1896	Nation's first commercial nickelodeons open in New York City
1878	New York City's Central Park completed	1897	Boston subway opened
	New Haven, Connecticut starts first telephone system in nation	1899	Toilet tissue introduced by Edward and Clarence Scott
1879	F.W. Woolworth introduces "five-and-ten-cent" counter	1903	Wilbur and Orville Wright fly first airplane
	Edison invents incandescent light bulb	1907	Henry Ford introduces interchangeable, standardized parts to automobile production
1883	Introduction of five-cent nickel	1908	Hoover introduces electric vacuum cleaner
1884	John Kemp introduces "safety" bicycle with uniform size tires		Sears, Roebuck introduces mail-order home construction kits
1886	Coca-Cola introduced	1913	Ford introduces moving assembly line
	Statue of Liberty constructed		
1887	Richmond, Virginia opens nation's first electric streetcar system		
1888	George Eastman sells first mass-produced camera		

Country stores did not disappear. If anything, they adapted to consumer changes by offering more goods, organizing their stock, adding "five-and-ten-cent" counters, encouraging consumers to browse and inspect goods, and, by the 1890s, adding displays. Like their urban counterparts, most country store keepers advertised in local newspapers, and at the turn of the century many merchants began bulk mailings of postcards, calendars, and handbills which hawked their venue.

Increasingly, more marketers in all settings began to honor some form of credit. During the 1880s, furniture producers pioneered installment payment plans, and credit would continue to extend to other goods in the twentieth century.

The flood of new marketers revolutionized advertising with a range of new sales techniques. Patent medicine producers in particular led the way in the development of new sales strategies, and the

pervasive consumption of mass-produced elixirs reflects advertising's impact. The efficacy of Victorian advertisements relied on printed visual impact, repetition, trademarks, and the association of a name or illustration with the product; advertisements occupied increasing amounts of newspaper space, as well as streetcar placards, billboards, barns, store displays, and magazines.

Goods themselves were transformed as well. Victorian consumer goods were a significant symbolic break from previous mass-merchandised objects because of their sheer volume, rapidity of stylistic changes, and fascinating yet alien symbolism. Victorian goods were symbolically ambiguous combinations of the familiar aesthetic (e.g., classical design), known function, and exotic or imagined designs; that ambiguity allowed many consumers to find something meaningful in bizarre mass-produced baubles. Increasingly, goods were

sold in bottle, box, or tin can packaging after the mid-nineteenth century, quickly leading to the florescence of "brand name" goods such as Quaker Oats, Gold Medal flour, and Uneeda Biscuits. By the late-nineteenth century, brands had supplanted loose, bulk goods and generically boxed products because of brands' predictable quality, consumers' familiarity with the product, and advertisers' persuasiveness. For marginalized consumers, such as African Americans or immigrants, the purchase of brand name products also circumvented the inferior quality, under-weighted, or adulterated goods racist and classist merchants often unloaded on them.

The abundance of mass-produced goods included a flood of inexpensive, new household material culture. Mass-produced furniture, carpets, curtains, wallpaper, dining equipment, and decorative bric-a-brac were avidly consumed by working-class families. Even relatively impoverished families could outfit their home with ornate, yet relatively inexpensive goods. The standardization of consumables throughout the American marketplace ensured that many rural families and urban dwellers could and often did have quite similar household assemblages. In the 1870s, parlors emerged as the showcase space in which a household displayed many of these material goods. Parlors typically were decorated densely, with pillows, tapestries, pictures, and draperies, and most parlors also housed rich, idiosyncratic collections of sea shells, plants, heirlooms, and mass-produced bric-a-brac including statues, match holders, and wall vases. For some struggling families keen to demonstrate their obedience to Victorian style, the parlor sometimes had to double as a bedroom as well. Because styles changed extremely rapidly, it was not financially feasible for most households to maintain the most up-to-date parlor furnishings. Consequently, working-class and ethnic families often modified dominant consumption patterns and arranged assemblages distinctively. Such modifications distressed reformers who often considered working class assemblages garish, overly ornamental, and stylistically incompatible. The chaos of Victorian interior aesthetics was criticized by reformers, aesthetes, and architects; by the turn of the century, they popularized a less flamboyant aesthetic. The new "living room" was more sparsely decorated, a reflection of both the frugality advocated by the

domestic science movement and a disillusion with industrialism. Plush textiles and crowded goods were eliminated because they began to be seen as unsanitary germ collectors. A scientific concern over germs was reflected in increasing concern for bodily hygiene and household cleanliness, as well, but outdoor privies were still the norm for the Victorian masses.

Mass amusement achieved remarkable popularity with Victorians of all classes. In the 1880s, the seeds of vaudeville were planted when a handful of saloon variety shows moved to separate theaters (Schlereth 1992:230). These dry theaters took standard saloon dancing and music and added the exoticism of circuses, the technological wizardry of amusement parks, and a less chaotic atmosphere appropriate for families. In the mid-1890s, amusement parks captured some of the most fundamental elements of mass leisure by borrowing the fantasy of theater showmanship, technological spectacle such as mass illumination and machine rides, and the physical impressiveness of department stores and expositions. For more relaxing leisure, public gardens were constructed throughout the country, of which New York City's Central Park was the prototype. Many smaller communities, such as Worcester, Massachusetts, constructed public spaces so urban dwellers could relax in a natural setting.

Perhaps the most influential new leisure venue was the moving picture theater. In the late 1890s, several storefront nickelodeons opened in New York, and by 1910 the United States had 20,000 movie theaters (Schlereth 1992:203). Movies were a technological sensation, attendance was inexpensive, theaters sprang up throughout the country, and films profoundly emphasized emotion and imagination. Most early theaters thrived on working-class and immigrant audiences, and some cinemas even had exits into saloons (Burnham 1993:247). Early movies embraced distinctly non-genteel values in their fascination with violence, the underworld, and drinking; consequently, they were extensively disparaged (Burnham 1993:37).

## Research questions

### General

How is local material illuminated by primary textual resources (e.g., local newspapers, national magazines, household budget studies, probate inventories, etiquette books, domestic manuals, novels, census schedules)?

How do various disciplines and academic specializations differ in their research on the Victorian North Atlantic (e.g., American Studies, decorative arts, social history, archeology)?

What sort of things can the testimony of living people disclose about the Victorian material world?

How are our assumptions about the period shaped by the impact of reformers' ideology on issues including temperance, personal etiquette, domesticity, and self-discipline? How do our own assumptions about race and immigration shape our interpretations? How can archeology highlight the diversity within ethnic categories?

Since the Victorian period, many observers have focused on "assimilation" and the Victorian "melting pot" as the central research question for the period. How is the notion of assimilation problematic? To what are immigrants, migrants, and other marginalized people expected to assimilate? How can archeology emphasize a more flexible definition of assimilation that concedes variation?

Many researchers believe the Victorian period witnessed the birth of modern consumerism. What were the fundamental elements of Victorian consumer culture? How did that Victorian consumerism build on earlier consumption? How did Victorian consumer institutions subsequently change?

### Immigration and Migration

There is good evidence that immigrants and migrants used material culture to reflect their entry into American society. Were there differences in consumption between ethnic groups? Did some groups rapidly embrace mass consumption? Did others resist it?

Among groups and households who consumed mass-produced goods, what goods were most common? Were some goods rejected? Are these patterns different from those advocated in etiquette books and household manuals? If so, how and why?

What sorts of material goods were most common in the homes of immigrants? Were some goods particularly highly valued? Did traditional European material goods continue to be consumed or even produced by immigrants?

Where did immigrants shop? Did they most commonly frequent corner groceries, chain stores, street markets and peddlers, or mail order? Did they shop with business people from their own ethnic background? Was ethnic patronage more important among some immigrant groups than others? How did the consumer experiences of people of color differ from those of native-born Americans and White immigrants?

Food is usually considered more resistant to change and culturally distinctive than any other class of material goods. Do archeological assemblages reflect the persistence of culturally specific foodways among immigrants or migrants?

Among groups who immigrated from the same country or region, did class differences develop in America that can be examined using material culture? Are occupational differences within and between various immigrants groups reflected in material consumption?

Was there a difference in the material consumption of newly arrived immigrants as opposed to second-generation or earlier immigrants from the same countries or regions?

Was there a relationship between religion and material consumption among immigrants? That is, rather than seeking for consistent consumption patterns along nationalist lines (e.g., Irish versus German, etc), do consumption similarities tend to be greater along religious lines (e.g., Roman Catholic versus Jewish, etc.)?

Why were reformers so concerned with consumption by immigrants and migrant African Americans? Does archeological material culture suggest that immigrant assemblages contrasted radically to "middle class" ideals? Were they so similar to dominant standards that genteel Victorians were alarmed? Were reformers genuinely concerned about the lives of immigrants, or were reformers just xenophobic and racist?

Immigrants clearly consumed many of the same material goods as other Americans, but in the consumption of standardized mass-produced goods can we see the persistence of culturally distinctive practices among immigrants? For example, were some mass-produced ceramics used in European cuisine and dining organization, or were preserving jars used to store traditional foods?

Was there a difference in consumption by immigrants in urban versus rural settings? What sorts of employment did immigrants find in the rural North Atlantic? Were their lives significantly different from immigrants in cities?

#### **Rural life**

What sorts of mass-produced goods were consumed by rural households? What goods continued to be produced in the home? Were there material objects that exhibit both mass-produced materials and household-based modification or construction (e.g., clothing, architecture, etc)? In comparison to urban communities, did rural consumers develop distinctive consumption patterns?

Where did rural shoppers obtain their goods (e.g., general stores, nearby urban markets, peddlers, producers in the community, mail order, household production)? The norm probably was a mix of any or all such venues, but how did the mix change over time and from place to place? That is, for example, did mail order increase in importance while household production declined? Did some rural communities maintain more conservative consumer patterns than other rural communities elsewhere in the region?

To what extent were dominant urban consumption ideologies absorbed by rural households? For instance, did rural consumers adhere to dominant

household decorative norms, such as parlors with densely packed furnishings? Did they partially subscribe to such norms? If so, how did they modify the ideals in household magazines and popular literature? What sorts of Victorian domestic technologies did various rural households consume (e.g., stoves, washers, etc.)?

How common was household based production? Did many households market crafts in their local community? Was barter of locally made goods part of rural consumption in some communities?

Were rural consumers "behind the times" of urban consumption (i.e., did styles tend to arrive late in rural homes)? Do material assemblages seem to be dominated by older styles or combinations of goods from numerous seasons? Or do rural assemblages instead reflect recognition of dominant styles and prompt marketing to rural purchasers?

Were there class differences within rural communities which were reflected in material culture? For example, was there a relationship between size of farm holdings and material consumption? Did farmers in marginal regions or on inferior lands have different consumption patterns than those on prime farmland?

Was there a relationship between consumption patterns and the crops farmers cultivated? That is, could cultivators of certain crops have been distinguished from other farmers?

Did the material assemblages of rural nonfarming families differ from those of rural farming households? If so, how and why?

Was the emergence of consumer culture mirrored by changes in farming itself? Did increased consumption by farm families compel farmers to change farming organization? Or was their consumption so modest that most farmers continued along as they had? Did decreases in farm profits impact farmers' consumption or farm practices?

Among rural reformers, what material lures of urban consumer society appeared most alarming?

## **Industry**

Myriad reformers believed working class consumption was distinctive if not unique. Does the archaeological record reflect such distinctiveness? Were there material consumption patterns among laborers which distinguish them from other consumers? Are there certain goods or services which laborers more commonly purchased?

What basic material differences can archeology document between laborers in different industries? For instance, what was the difference in the material lot of textile workers versus brass workers versus shoe makers? Were there ethnic or class differences among industries that were reflected in different material culture?

Where did laborers shop (e.g., plant-owned shops, local stores, urban stores, etc.)? Was that marketplace distinctive from that of other urban or rural consumers?

Some Victorians believed the working class was addicted to material impracticalities, such as fancy clothing, decorative knickknacks, and ornate furniture. Does archeology support or contradict this? Were some work forces in different regions or industries more frequent consumers of such goods? Were there differences in consumption by women laborers and men laborers? For instance, did they frequent different consumer venues? Did they buy different sorts of goods? Did married women and single women have different consumption patterns?

Many Victorians believed the working class was universally addicted to alcohol. Does archeology reflect unusually high consumption of alcohol among laborers? What sorts of alcohol were being consumed (e.g., liquors, beer, patent medicines, etc)? Did alcohol consumption decline as temperance support built over the late-nineteenth century? Were some industries more prone to alcohol consumption among their work forces? Can we compare alcohol consumption archaeologically among low-level laborers versus middle-level managers versus factory owners and see clear differences? What measures did various industrialists take to curb alcohol consumption? Did those measures work?

How did household organization change during the Victorian period? For instance, what sorts of homes did laborers live in? How many families lived in such dwellings? Did some dwellings become homes to multiple families, extended kin, or groups of unrelated workers? Were they rental units? If so, how did rental costs change during the period? What was the relationship between factory owners and landlords? For example, did factory owners attempt to manage laborers' home lives, or were they disinterested?

How did the material culture of laborers differ from those of neighbors who did not work in factories? For example, in towns that had work forces in other industries or white collar work, did their material worlds differ significantly from those of factory laborers?

Is there archeological evidence of out-work in laborers' homes? For example, concentrations of shoe parts could reflect home construction, or substantial quantities of buttons might reflect laundering.

What were the power sources for various industries? Did those power sources changes during the late nineteenth and early twentieth centuries? Who owned the power sources? For example, corporations sometimes rented rights to waterpower, gas companies sold natural gas, and businesses generated and sold electricity by the turn of the century.

Was the social life and material world of labor-intensive industries with large work forces different from that of industries with smaller work forces?

Did the material culture of communities with persistent labor unrest differ considerably from those of more stable areas?

## **Urbanization**

Were there material differences in neighborhoods before and after streetcar service was extended to them? Did household material culture change with the arrival of suburban communities? Did density of housing change? Did class or ethnicity of neighborhoods shift?

Did the prevalence of home ownership shift during the period? Did new home owners have distinctive material assemblages? Were some forced to endure privation to afford a home?

How common were new municipal technologies? For instance, which communities offered electricity, and which households were wired for it? Which families acquired new sanitation technologies, such as indoor plumbing? Which homes retained outdoor privies? When did homes make such changes? Which municipalities initiated privy laws to decrease contamination and disease? When did they introduce these decrees? How commonly did households adhere to such laws? When were different communities' roads given stone or brick surfacing?

How common was the consumption of new domestic technologies, such as stoves, washing machines, and refrigerators?

How did the introduction of department stores change urban consumption? Who shopped in such stores? What did they buy? What was purchased from chain and smaller stores? How common was credit?

Were urban stores run by immigrants or African Americans different from those of native White merchants? For example, did they carry a different amount or volume of goods? Did they price goods differently? Were there more of these stores in the North Atlantic? Did they have employees from their community? Was their clientele exclusively ethnic? How successful were these businesses? Did some such merchants expand their operations to larger stores?

How did urban leisure change in the North Atlantic during the Victorian period? For example, did the number of saloons change? Were urban parks constructed? Did movie theaters emerge around the turn of the century? Who frequented these venues? Were they ethnic or class insular, or did some mix ethnic groups and classes?

## THE EARLY MODERN PERIOD (CA. 1914-1940)

## BOX 22: EARLY MODERN CHRONOLOGY

### Paul Mullins

Between 1914 and 1940 the North Atlantic region witnessed the extremes of American prosperity and hardship. Between the two world wars the region experienced an ineffective prohibition experiment, a dramatic expansion in mass production and consumption, profound economic depression, and the federal government's far-reaching New Deal effort to revive a struggling economy and national identity. In the wake of World War I, many Victorian material innovations like the automobile and motion pictures were put to new sophisticated uses. These and other goods were made more readily available through decreased cost, mass marketing, and expanding credit. National prosperity fostered extensive construction, and the region's road system grew considerably. The 1920s are often romanticized for their incongruous moral hedonism in the face of Prohibition repression, but the decade's material and moral indulgences belied thriving racist, cultural, and class intolerance. The 1920s' abundance was starkly dissolved by the Depression, and many Americans simply struggled to maintain subsistence in the 1930s. During this decade, New Deal programs and decreasing ethnic insularity propelled the nation toward a core of more conservative, nationalist values. That conservative nationalism spawned a new interest in "American" traditions, and it contributed to fervent isolationist sentiments preceding World War II. The Depression and the New Deal focused organized labor's agenda, compelling workers to develop a broad national agenda after struggling with internal conflict in the 1920s. The New Deal also changed the material face of the country with extensive public construction projects.

### World War I

The United States resisted involvement in the war, which broke out in Europe in 1914, but the conflict had a clear impact on the nation, both as a neutral and as a participant. Before joining the Allied cause, it was apparent that the war could pay dividends to American industry. America's favorable

- 1915 Henry Ford introduces installment payment on automobiles
- 1917 United States declares war on Germany  
New Hampshire adopts state alcohol prohibition  
First United States air mail service
- 1918 Germany surrenders  
Sedition Act passed
- 1919 Boston police strike
- 1920 Eighteenth Amendment passed outlawing alcohol manufacture and sale  
Nineteenth Amendment passed granting women voting privileges  
"Palmer raids" on suspected radicals  
Sacco and Vanzetti arrested  
First radio station, KDKA, begins broadcasting
- 1921 Federal government imposes immigration quotas
- 1926 National Broadcasting Company formed
- 1927 Talking movies introduced  
Sacco and Vanzetti executed  
Construction begins on Quabbin Reservoir, Western Massachusetts
- 1928 Ford ends Model T production
- 1929 Stock Market crashes
- 1933 Franklin D. Roosevelt elected, begins 100 Days recovery program  
National Industrial Relations Act passed  
Twenty-first Amendment repeals Prohibition
- 1935 New Deal programs passed including Works Progress Administration, National Labor Relations Act, Social Security, and Rural Electrification Act
- 1938 Orson Wells' "War of the Worlds" broadcast
- 1939 Germany invades Poland

trade balance with Europe increased sevenfold between 1913 and 1918 (Barck and Blake 1969:185), and American banks lent heavily to the Allies. North Atlantic industries did not universally thrive, because corporate taxes were stiff, and many of the region's industries did not profit enough from the war to stop their decline. In 1918, for instance, the War Department took over the Smith and Wesson plant in Springfield, Massachusetts after profit-hungry managers ignored National War Labor Board rulings (Barck and Blake 1969:228). The region's labor force rejected most wartime strikes, largely because the federal government generally supported wartime wage increases. However, wartime cost of living offset such increases; the war machine was fueled by heavy excises on virtually every commodity as well as income.

During the war, prohibitionists and suffragists gained critical momentum toward Constitutional changes. Women's widespread support of the war undermined detractors of women's suffrage, and in August 1920 the Nineteenth Amendment extended the right to vote to women. Prohibitionists had already won wide gains, but during the war they attacked the brewing industry for its German-American domination and criticized the influence of alcohol on soldiers' morals. The use of grain spirits was prohibited in 1917, and the President extended the ban to beer, ale, and wine in October, 1918. The Eighteenth Amendment, which forbade all manufacture, sale, and transportation of intoxicants, was ratified in 1919.

### **Labor and Industry**

After the war employers attempted to check the wartime gains of workers and defuse the power of labor unions, while labor attempted to gain new concessions. The North Atlantic emerged as a central battleground between labor and management, with strikes in 1919 among textile laborers and telegraph operators in New England and harbor workers in New York (Barck and Blake 1969:272). New England textile manufacturers cut wages by a fifth in 1921 and attempted to cut wages and raise hours again the following year, triggering a series of strikes which restored previous wages (Link and Catton 1973:25). Despite some success, though, public sentiment began to swing against organized labor. In September 1919, 1,117 of 1,544 members

of the Boston police force went on strike after 19 officers were suspended for applying for an American Federation of Labor charter (Paradis 1972:25). Mobs ravaged the city, and the state guard was called out. The police decided to return to work, but Governor Calvin Coolidge supported the commissioner's refusal to take back any strikers. Hailed as a hero, Coolidge was propelled to national prominence, indicating the changing mood toward unions.

Anti-union sentiment was fanned by soaring apprehension of Communist radicalism, intensified anti-Semitism and anti-Catholicism, and reproach of immigration. Deportation laws were developed for revolutionaries of all stripes. The government conducted deportation raids in search of suspected Communist and alien radicals, and in January, 1920 Attorney General A. Mitchell Palmer had 3,000 warrants served across the country in one night. The most famous anti-Radicalism case came in 1920, when two Italian anarchists, Nicola Sacco and Bartolomeo Vanzetti, were arrested for a murder in South Braintree, Massachusetts. The state neglected the specifics of the case and made Sacco's and Vanzetti's radicalism the focus, securing a guilty plea and their 1927 execution. Communist paranoia was paralleled by increasingly xenophobic legislative efforts to decrease immigration. In 1921 a bill was passed to fix immigration quotas, and in 1922 immigration decreased by half (Barck and Blake 1969:297). Southern and eastern European immigration was further curtailed by 1924 legislation. When the Depression began, the government attempted to end all immigration, but by then it was an unnecessary step, because potential emigres recognized that America did not harbor boundless opportunities.

A few regional industries prospered in the 1920s. For instance, in Gardner, Massachusetts wooden chair making flourished because European competition had been devastated by the war. Likewise, the collapse of the German toy industry fortuitously made the central Massachusetts community of Winchendon the world's largest toy producer (Stachiw 1985:301-302). Technological innovations bore some new regional industries. Bicycle production, for instance, emerged in the late nineteenth century in Western Massachusetts, and in 1915 the nation's leading bicycle manufacturer was

in Westfield. Bicycle manufacturers Charles and Frank Duryea of Springfield built one of the nation's first automobiles in about 1893, and a few emerging automobile producers were based in Springfield at the turn of the century. Rolls Royce's only American plant remained in the city until the 1920s (Stott 1984:233). Throughout the period, Springfield also was home to the Indian Motorcycle Company, which was established in 1902. First introduced in the late nineteenth century, celluloid and plastic manufacture expanded in Leominster, Massachusetts around the time of the war for use as combs, toys, and decorative objects (Stachiw 1985:348-349). While the picture for textile production was almost universally bad, Salem, Massachusetts' Pequot factory managed to remain relatively stable by producing only sheets and pillow cases (Adamic 1971:265).

Many of the region's major industries, though, eroded in the 1920s. The number of active cotton spindles in Massachusetts in 1920 was 11,560,720; in 1926 it had fallen to 9,488, 374, and by 1940 it was just 2,900,704 (DOC 1920:43, 1926:28, 1942:27). By 1940, Virginia, Tennessee, North Carolina, and South Carolina each had double Massachusetts' number of active spindles. Textile production was energized by World War I, but in the 1920s New England textile manufacturers in Lowell and Fall River, Massachusetts and Rhode Island's Blackstone Valley were among those who began an exodus to the South in search of cheaper, nonunion labor. Businesses that had served industrial workers failed along with industries. In 1931 Lowell, for instance, local stores sold goods for a third of what they cost elsewhere, but even then the stores could not stay solvent (Adamic 1971:257). Mills that did not move were forced to compete with southern factories, where laborers reportedly worked 54-hour weeks for a quarter less pay than northern workers (Hodson 1971:246). In New Bedford and later Fall River, Massachusetts, decline was checked by diversifying into fine linen goods, increasing earnings six-fold between 1914 and 1920 (Stott 1984:229). By the mid-1920s, though, these mills joined the remainder of the region's collapsing textile plants. North Atlantic textile unions attempted to unionize southern plants, recognizing the benefit in eliminating regional wage and working condition differences. Southern

manufacturers, though, met such efforts with some of labor's most violent confrontations (Link and Catton 1973:25). Ultimately, labor did not effectively organize southern textile workers. The industry did not completely cease; Bristol County, Massachusetts had slightly more spindles in operation in 1940 than any single county in the union. Nevertheless, North Atlantic regional domination of the textile industry ended in the Depression.

### Prohibition

No post-World War I change was as widely hailed and vilified as Prohibition. During the mid-nineteenth century and early Victorian periods, New England had been a hotbed of abolitionism and reform, but it and the North Atlantic masses remained cool to Prohibition. The most notable exception was Maine, which in 1851 enacted the nation's first statewide alcohol restriction, allowing import for personal consumption only (Cashman 1981:9). New Hampshire followed with a comparable law in 1855, but it was repealed (Cashman 1981:243). Renewed temperance energy came to the region in the early twentieth century. In the decade leading up to World War I, "local option" laws regulating liquor consumption and saloons were passed in many communities or voting precincts. The influential Anti-Saloon League championed these measures, since their target was not alcohol consumption, per se, but saloons and public alcohol consumption. Local option clearly was effective; on the eve of World War I, 47% of the nation's populace was dry by local or state laws (Cashman 1981:7). Support for total prohibition grew fevered during World War I. Twenty-seven states had statewide prohibition in 1917, but in the North Atlantic those included only Maine and New Hampshire (which enacted a prohibition law that year). The vote of immigrants who had gained citizenship could swing the popular vote in the North Atlantic against most prohibition laws; in Boston, for instance, local option legislation was rejected at the end of the war because of immigrant and working-class opposition (Cashman 1981:51). Cities with large immigrant communities clung to public drinking. For instance, in 1915 Niagara Falls, New York had a saloon for every 171 people, the nation's highest rate, and neighboring Buffalo had

one for every 277 people; New York City, in contrast, had one for every 515, and Boston had one for every 1,028 (DOC 1916:37). Between 1912 and 1914 prohibition votes failed in 13 Massachusetts cities including Worcester, Fall River, Lowell, Springfield, and Lawrence (DOC 1916:33). Nevertheless, in that same period Cambridge, Brockton, and Salem were among the eight Massachusetts cities which adopted local prohibition; Lynn prohibited alcohol in 1912, but repealed the law the next year (DOC 1916:33). Between 1905 and 1915, the number of liquor dealers in Lowell and Waterbury, Connecticut decreased by more than half; the greatest increase in dealers during that period was in Springfield, but the city still had a modest number of 77 dealers in 1915 (DOC 1916:36). The Eighteenth Amendment was passed by the necessary 36 states in January, 1919, and Connecticut and Rhode Island were the only two states in the union that did not eventually ratify the amendment. The law went into effect in January 1920.

The popular sentiments of the region were staunchly wet throughout Prohibition. In the wake of Prohibition, Massachusetts, New York, and New Jersey were among five states which immediately passed "light beer" laws permitting consumption of low-alcohol beer. Massachusetts' law allowing 2.75% alcohol content was vetoed by Governor Coolidge, despite statewide victories by wet candidates. New York was aggressively anti-dry; its Governor Alfred E. Smith was an early national advocate of repeal. In 1923 the state repealed its enforcement law, encouraging Prohibition opponents to organize.

Although it was eventually scrapped, Prohibition was in many senses successful; it did eliminate the saloon and dramatically curtail working-class alcohol consumption, and untold income once invested in alcohol was instead put into commodities like automobiles (Burnham 1993:28). However, contrary to its intentions, Prohibition fueled a whole new body of vices. Many ethnic neighborhoods, for instance, were never effectively dry because of longstanding drinking attitudes and police bribes. Speakeasies introduced to drinking establishments a more cosmopolitan, less insular, cabaret sociability, which would persist after Prohibition. Speakeasies were commonly frequented

by women, as well, a dramatic change from the predominately male saloon. Bourgeois home drinking continued unabated and even increased during Prohibition, since home production and consumption remained legal, and the introduction of martinis gave such drinking a new respectability. Trains took affluent Northerners to Canada for weekend drinking in cities like Montreal.

Enforcement of Prohibition was often disinterested, and underpaid police and federal agents typically welcomed bribes. The 1919 Boston police strike was actually stimulated by the loss of wartime saloon bribes. The underworld expanded dramatically; its regional impact outside New York City is unclear, but underworld drink probably flowed through much of the North Atlantic region. Rum runners smuggled along the coast of Long Island, Boston, and New Jersey. Northern New York towns like Plattsburgh were havens for Canadian smugglers; the amount of territory to be patrolled was immense, and rivers like those along the border and into New York contained numerous islands on which smugglers could hide from agents. Between Plattsburgh and Albany lay a string of related smugglers' dens which eventually were raided in 1925 (Cashman 1981:48). Enforcement, though, was futile, and the thirsty masses were increasingly disillusioned by the contradictions between blue-blooded, bigoted Prohibitionists and an urbane, sophisticated, morally uninhibited society capable of monitoring itself. The Depression delivered the ultimate blow to Prohibition. In 1933 the states ratified the amendment repealing Prohibition.

#### **The Automobile and Related Material Culture**

Perhaps no other commodity had the social and material impact of the automobile. Germany's Carl Benz constructed the first gasoline-powered vehicle in 1884, and Springfield, Massachusetts' Duryea brothers and Henry Ford built the first American versions in 1892-1893. Ford began producing cars in 1899, but interchangeable parts and standardization did not come until 1907, when he designed the standard Model T. In 1914 Ford introduced the moving assembly line, and in 1920 a Model T emerged from the line every minute. When Ford finally ended Model T production in 1927, there was one car for every five Americans (Jackson 1985:162). In addition to its revolutionary impact on

the national road system, tourism, and settlement patterns, the car became one of America's central status symbols, fanned the demand for attached garages, and moved courtship out of the chaperoned parlor and into unaccompanied public spaces. Automobile sales also popularized installment purchase in about 1915, and 11 years later about 15 percent of all goods were purchased on installment (Cohen 1990:103).

The automobile was the archetypal private possession, yet it demanded dense public roadway systems throughout the region. Most road construction came from gasoline tax revenues. Even during the Depression, roadway construction continued steadily, particularly because it employed many workers. Most of New England's road system extended either between major cities, such as the Springfield, Massachusetts to Albany, New York route, or to leisure centers, such as the numerous routes toward Cape Cod. Few new roads were built for farmers to get to markets. By 1930, though, most people in the North Atlantic lived in urban areas; only Maine (40.3% urban) and Vermont (33.0% urban) remained predominately rural (DOC 1939:5).

Newly improved streets were no longer hospitable places for leisure, and horses and mules became increasingly less common in automobile-dominated areas. The increase in automobile travel also came at the expense of streetcars. In the 1890s, Boston streetcar companies had struck what were at the time lucrative franchise agreements which prohibited fare increases. This was a common arrangement, but in the midst of wartime cost of living increases and deteriorating equipment, the city denied a fare increase, and the largest company folded in 1918 (Jackson 1985:168-169). Between 1907 and 1917 the number of streetcar companies in Massachusetts dropped from 63 to 39; other states had less precipitous drops (e.g., New Hampshire's fell from 16 to 13), and over that period the miles of track increased in some states (Maine's increased from 418 miles to 571) (DOC 1920b:26). Nevertheless, the streetcar business soon was replaced by private cars, buses, and subways.

These roads and the automobiles traveling along them demanded a service network of gas stations, diners, and motels. Simple cinder block gas stations sprung up along well-traveled roads, as did

numerous Colonial Revival style motels and detached overnight-stay cottages. Expanding suburbs began to be home to strips of contiguous stores and homes which catered to automobile-transported consumers. Some stores had been built in early twentieth-century suburbs, but concentrations of neighboring stores increased rapidly after the war and were not restricted to streetcar routes. In some areas such as Western Massachusetts, emerging middle-class suburbs included many newly built homes influenced by the Colonial Revival style.

The automobile dramatically expanded touring and historic preservation. Many roads were intended to have this effect. The Bronx River Parkway, for example, was completed in 1923 from New York City to northern suburbs like New Rochelle. The Parkway provided a carefully landscaped route which funneled commuters to and from work and sent vacationing urbanites on toward New England. Both leisure vacationing and interest in American history had emerged around the turn of the century, but cars and a road system made vacationing more accessible to the masses. Eastern New England urbanites, for instance, traveled west along Massachusetts' Route 2 to vacation in the Berkshires. Ski facilities in Vermont and Adirondack resorts profited from northbound roadways as well. In 1931, Vermont had 250 summer resort hotels, and many private homes were rented to travelers who wished to experience "rural life" (THV 1931:119).

The flow of auto vacationers contributed to the emergence of a wide range of historic attractions such as Massachusetts' Plymouth Rock, Salem Maritime Park, and the numerous colonial house museums sprinkled through the region. In the midst of increasing technological modernization and dizzying social diversity, these venues borrowed Colonial Williamsburg's recollection of a time that apparently had more lucid morals, clear patriotism, and coherent national identity. Eventually the 1935 Historic Sites Act would legally establish that it was the nation's responsibility to preserve that heritage.

In 1923, Henry Ford was introduced to preservation when he bought and opened to the public a 1723 inn in Sudbury, Massachusetts; in 1929 he unveiled his Michigan paean to rural America, Greenfield Village (Wallace 1986:143). A conservative New England counterpart to Greenfield

Village was businessman Albert Wells' Old Sturbridge Village. Conceived in 1936 and eventually opened in 1946, Sturbridge was a recreated 1830s agricultural village which celebrated the forsaken Yankee values of manual craft labor, thrift, and the Common Man (Wallace 1986:151). Curiously enough, the very producers directing the transformation of American society, such as Ford, led the celebration of traditional values in these historic venues. Societies dedicated to preservation often followed similarly industrial patrician lines: the Society for the Preservation of New England Antiquities, for instance, was formed in 1910 by the grandson of one of the region's first textile industrialists (Wallace 1986:141). The threat of Bolshevism and immigrant radicalism, Depression pessimism, and the pressing need for deindustrializing communities to create new revenue sources also generated support for these ventures.

#### **Media and Utilities**

Nickelodeons had seized mass imagination early in the century, but around World War I the movie palace emerged. Virtually every 1920s city had both stylish theaters and relatively makeshift screening spaces similar to early nickelodeons. Reformers lobbied aggressively for control of the movie business, advocating moral standards for the generally violent, emotional movies whose audiences typically were rowdy, single, and lower class. The emergence of an urban middle class around 1910 contributed to theater owners' belief that refined films presented in stylish settings could attract a higher class, family clientele willing to spend more money than working-class crowds. These venues came to metropolises like New York and Boston earliest, but by the 1920s smaller cities like Buffalo and Springfield had comparable theaters. The advent of the talking picture in 1927 increased the lure of theaters. During the Depression, many small, independently owned community theaters folded and were replaced by theater chains which showed the same films to audiences across the country.

In 1920, the first radio station went on the air in Pittsburgh, and 500 stations were broadcasting two years later. Radio components were available through catalogs and most "five and ten" stores, but initially they were not cheap, and they demanded

modest electrical knowledge (Schiffer 1991:55-58). Nevertheless, listening to the radio became a common recreational activity during the 1920s. By the late 1920s and early 1930s, radios became attractive pieces of living room furniture, and by 1930 several national networks were producing serialized programming and sportscasts. Radios became a common part of every household assemblage in the 1930s.

Municipal utilities reached virtually all urban areas during this period. Most cities began limited water service in the mid-nineteenth century, and many municipalities took over private water businesses around the turn of the century. Portland, Maine, for example, purchased the city's water system from a private company in 1908, and in 1914 the city had one of the nation's most valuable systems (DOC 1916:144-145). By 1914, most systems serviced between 85 and 100 percent of the population, although New England's per capita consumption of water was the lowest in the nation (DOC 1916:47). In western Massachusetts, numerous reservoirs were built to serve the region and the rapidly expanding Boston area. The most prominent was the massive Quabbin reservoir near Ware, which engulfed several towns including Enfield and Prescott between 1927 and 1939. The electric industry consolidated significantly during the 1920s, appropriating electricity delivery from municipalities. In Vermont, for instance, the Central Vermont Public Service Corporation was organized in 1929, consolidating eight utility companies (Merrill 1975:150). In the 1930s the government entered power production by beginning mammoth New Deal projects like the Tennessee Valley Authority. The biggest such project in the North Atlantic, the United States' and Canada's planned St. Lawrence Seaway linking the Great Lakes with the Atlantic, was delayed until the 1950s by resistance from American railroads and eastern seaports (Barck and Blake 1969:796). About nine million American homes had electricity in 1928, and another six million had telephones (Barck and Blake 1969:377). Air travel also emerged during the years between the wars, and airports ranging from grass strips to modern Art Deco facilities were built throughout the region.

## Depression and New Deal

The prosperity of the 1920s came to a grinding halt in 1929. Gross national income and per capita income both had increased steadily after a depression in 1921. However that 1920s prosperity concealed the increasing impoverishment of the masses as wealth became concentrated in fewer hands. Some major industries, including North Atlantic textile manufacture, struggled through the 1920s, and agricultural prices remained low. Increasingly, workers were replaced by industrial machinery, so burgeoning production was undermined by decreased consumer demand. Business itself consolidated significantly in the wake of the war, and the decrease in price competition kept the price of many consumer goods inflated. Consequently, while industry gained healthy profits through the decade, those profits did not go to workers; they instead went to managers, and the rich got richer at the expense of workers (cf. Barck and Black 1969:399). With decreasing purchase power, many consumers and small businesses purchased more goods, property, and stock on credit, and overextended credit placed many consumers and banks in what was ultimately a disastrous position.

When the New York stock market crashed in October 1929, American industry collapsed almost universally, many families lost life savings, and millions of Americans lost homes, farms, and property. Numerous banks failed, particularly regional and ethnic banks. Agricultural prices fell twice as far as the cost of manufactured goods, so farmers were very hard hit. In hard times before the Depression, many working-class people had turned to community and ethnic networks for temporary work or material assistance, but these networks were seriously undermined by the severity of the Depression. Independent local merchants often struggled, and with the simultaneous fall in real estate costs, chain stores actually expanded during the Depression (cf. Cohen 1990:235). The average sales of chain stores tripled between 1920 and 1927. Some small marketers appealed to state legislatures to impose fair trade price regulation on underpricing chains, and federal fair trade legislation eventually was passed in 1937.

Increasingly, Americans began to look to the federal government for support, and they found it in Franklin D. Roosevelt's presidential election in

1932. Incumbent Herbert Hoover, retaining only business and middle class votes, carried the electoral vote in only six states, including Connecticut, Maine, New Hampshire, and Vermont (four years later, Vermont and Maine were the only states in the union to provide Alf Landon electoral votes). In Roosevelt's first hundred days in office, the former New York governor passed a flurry of legislation which laid the foundation for the socioeconomic recovery program known as the New Deal. Far-reaching New Deal programs stabilized the banking system, established new industrial and marketing regulations, instituted Social Security, and organized programs that employed thousands of people in federal construction projects.

These programs had myriad effects. Perhaps the New Deal's most comprehensive legislation was the National Industrial Recovery Act, a body of codes regulating industrial working conditions and marketing. In effect from 1933 to 1935 and policed by the National Recovery Administration (NRA), the act included critical gains for organized labor, including minimum wages and a decrease in the work week. The climate for union growth already was prime; the Depression had eroded once insular ethnic and working-class communities, and laborers were disillusioned with federal welfare programs. Federal legislation further contributed to rejuvenated unions which stressed national rather than local interests.

Some employers fought these changes. In 1934, for instance, textile manufacturers resolved to ignore NRA codes regulating working hours and minimum wage, and the United Textile Workers called a strike of a million workers in the South and New England (Paradis 1972:186-187). This, the largest national strike ever, was accompanied by widespread violence. The union ended the strike after just three weeks when Roosevelt, sympathetic to labor, formed a committee to study labor's demands; many strikers, though, were not rehired. Other manufacturers resisted the Act by forming company unions, so a National Labor Relations Board (NLRB) separate from the NRA, was created to compel manufacturers to bargain in good faith with unions. The fatal flaw of the NRA was that it depended upon cooperation between big business and government and the self-regulation of trade associations, inevitably wounding small producers.

Many consumers also blamed price increases on the NRA, and the Supreme Court declared it unconstitutional in 1935.

One of the most significant forces for material change in the Depression was the Works Progress Administration. Created in May 1935, the WPA employed 2.7 million Americans by December. Better than three-quarters of WPA funding went to public construction and conservation, including the development of highways and utilities and the construction of public buildings throughout the country. The Rural Electrification Agency was set up in 1935 to extend electrical service to rural consumers. Because of extensive industrial development, much of New England was already electrified by the mid-1930s. Nearly all of Rhode Island's 4,178 farms in 1937 had power, although 24,000 Maine farms and 18,000 Vermont farms remained without electricity (REA 1937:131). The REA also loaned money to electrical cooperatives that marketed electrical appliances; two cooperatives were formed in Vermont in 1938 and 1939 (Merrill 1975). One of the Depression's most severely wounded industries was house construction, and in 1934 the Federal Housing Administration (FHA) was created to insure long-term loans for construction and maintenance. Most of this money was spent on middle-income housing, and low-income housing remained a pressing problem into the late 1930s. In 1937 the United States Housing Authority was created to manage loans for low-cost public housing, creating many municipal housing projects beginning in the late 1930s.

The seeds of World War II emerged in the 1930s, but the American people were fiercely isolationist. However when the Munich Pact surrendered Czechoslovakia's Sudetenland to Germany in 1938, Roosevelt abandoned the creation of New Deal reforms and turned to rearmament. Military budgets increased by two-thirds in late 1938, although the Congress resisted officially lifting American neutrality. The Japanese, meanwhile, were waging war on the Chinese, and Japanese relations with the Allies and the United States eroded as well. By the end of the period, America stood on the brink of war and would turn attention away from the New Deal and lingering Depression instability.

## Research Questions

### General

What sort of textual resources (e.g., newspapers, mail order wish books, photographs, advertising, period histories, federal and municipal records, censuses) are available for research on the early modern period, and what are the strengths of each? How do such texts differ from those used to study earlier contexts?

What about new sources of information that emerged during the period, such as radio broadcasts, movies, and popular music? How did such sources shape material symbolism and consumer choices? Did such sources shape or reflect changes in material culture?

How can oral history be used to study the material world of the early modern period? What are living people interested in about the material world between the world wars?

### The Depression

What ethnic groups, classes, and regions were most destabilized by the Depression? For instance, how did the Depression change working-class cities, like Lowell, versus more economically diversified cities, like Springfield? What are the material reflections of those effects (e.g., architecture, decreased consumer goods)?

What industries and businesses were most stable during the Depression? Why were they able to weather the Depression when other businesses could not?

Is the 1920s decline of unions reflected in the working-class material world? For example, do 1920s assemblages contain smaller quantities of household goods? Are dwellings smaller? How did union activity change in different industries during the 1930s?

### Prohibition

Does material evidence indicate that Prohibition was successful in eliminating saloons? Did it eliminate household drinking? If it did not end household drinking, did it affect such consumption? Were

to gas ovens, use electric appliances, move their privy indoors?

How did the construction of reservoir projects like Quabbin change regional settlement patterns? How did it impact regional relations within states (e.g., in the case of Quabbin, relations between Boston area and western Massachusetts)? Did smaller projects have comparable effects?

When were movie theaters built in different cities? What sort of theaters were built (e.g., palaces, makeshift spaces, etc)? Was attendance divided along class or ethnic lines? Did different theaters show different kinds of movies?

When were radio stations established in different communities? Did some areas receive stations from other cities? Were stations with specialized audiences established (e.g., ethnic or working class audiences)? What was their programming?

How did household leisure change during this period? For instance, did families purchase radios or phonographs? Did Prohibition impact how household leisure time was spent?

When did auto vacationing venues emerge? Were they in existence before the automobile? If so, how did automobile vacationing change their business? What sorts of activities were conducted at auto vacation destinations? Who went to such places? What archeological remains would such vacationing have left?

Which areas were the sites of New Deal projects? What sort of projects were undertaken (e.g., public buildings, park improvement, or construction, roadways, airports, electrification, etc.) Which agency funded these projects (e.g., WPA, REA, FHA, etc.)?

How did New Deal projects change communities? For example, how did New Deal airports impact local tourism and transportation? How did new bridges change relationships between communities? How did the establishment of large state forests impact local communities?

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