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Searching for Sub-cultural Systems during the Terminal Archaic: An Examination of Burial Rituals and Socio-economic Networks in Southern New England

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Broad-tool cultural activities and ritual behaviors, across southern New England, have characteristically been examined as attributes of a mono-cultural system, which expressed little cultural variation throughout the region during the Terminal Archaic Period (3,700–2,700 BP). Much of this stems from discussions dating back to the 1960s and 1970s, which generalized Narrow-Stemmed and Broad-tool cultures to ascertain whether the two existed side-by-side within a multi-cultural neighborhood 3,700 years ago. The idea that smaller, sub-cultural populations may have existed within the broader tradition has been largely ignored or overlooked by archaeologists. Concentrating on Broad-tool socio-economic exchange systems, lithic selection and deposit and the ritual burial of the dead, this research illustrates the existence of Broad-tool sub-cultural systems inhabiting Connecticut during the period.

Diagnostic Broad-tool bifaces were collected from multiple burial and non-burial sites in Connecticut to gain a generalized understanding of which lithics were routinely selected by Broad-tool populations. The distribution of lithic materials across the state demonstrates that all Broad-tool populations were not participants within the same lithic exchange networks nor did they exhibit identical preferences for lithic raw materials. Additionally, the inconsistencies witnessed in the size of Broad-tool cemeteries, the number of dead buried/cremated and the distribution of Broad-tool bifaces within burials suggests that cremations were not always large, communal events enacted to affirm cultural harmony.

Supported by data from the Moorehead Burial Tradition and the Meadowood Interaction Sphere in northern New England, the control of lithic resources may have provided certain Broad-tool families/populations with a socio-economic boost over less prestigious groups. This likely resulted in the formation of sub-cultural units within the Broad-tool tradition that participated in varying interpretations of what, in this paper, has been identified as the Broad-tool Interaction Sphere.

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An Examination of Burial Rituals and Socio-economic Networks in Southern New England

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An Examination of Burial Rituals and Socio-economic Networks in Southern New England

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TABLE OF CONTENTS

LIST OF CHARTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER I: BROAD-TOOL SUB-CULTURES

INTRODUCTION

All human communities participate in forms of social communication in order to gain resources to fulfill their cultural and biological needs. Social communication encompasses exchange and trade, transfer of ritual or religious behavior, and technological and/or cultural borrowing. The resulting unequal distribution of material goods and cultural/spiritual powers may result in real disparities in wealth and social status between communities. The goal of this dissertation is to reconstruct regional networks of social communication that defined associations between and among ancient Native American populations in Connecticut and to determine whether smaller, sub-cultural systems existed during the Terminal Archaic Period (3,700–2,700 BP).

The Terminal Archaic in southern New England marks a transitional period from mobile populations and seasonal hunting/gathering/fishing of the Archaic to increased populations, established encampments, pottery production and plant domestication of the Woodland Periods. Three distinct cultural phases are currently recognized by most archaeologists, each with its own settlement pattern, diagnostic toolkit and lithic preference: the Narrow-Stemmed, Broad-tool and Orient complexes. This research is centered in the Broad-tool tradition.

Variants of the Broad-tool tradition spanned the Atlantic Coast from Florida to Canada. Broad-tool sites are chiefly recognized by the multifunctional broad, blade-like projectile point form that has become the tradition's diagnostic identifier. In addition, Broad-tool communities commonly lived along river systems, utilized similar ground stone tools, manufactured soapstone bowls (especially towards the end of the tradition) and retained a lithic preference for cherts, rhyolites and felsites. Broad-tool point technologies seem to have originated in the southeast

with the Savannah River Point complex, which was local to populations inhabiting the Savannah River Valley in parts of Georgia and South Carolina (Bourque 1976; Coe 1964; Pagoulatos 2010; Sassaman 2005), and then spread mainly north either via the exchange of technology or the migration of people (Kinsey 1972).

While populations in southern New England are believed to have been participants in this far-reaching technological tradition, they are considered distinct from other regions due to their uncommonly elaborate cremation burial rituals. Because of this, past research has traditionally evaluated Broad-tool populations in southern New England as a single cultural unit.

This dissertation examines the caliber of uniformity in Connecticut's Broad-tool populations and challenges the concept of a single, homogenous Broad-tool culture in southern New England. While investigations, especially of the last 40 years, have generated a wealth of knowledge about the period, documentation of regional diversity remains under-explored. The objective of this study is to identify sub-cultural systems of the Broad-tool tradition in Connecticut by examining community-level access to non-local lithic resources through social exchange networks and the manner in which these resources were deposited and/or discarded in burial and non-burial sites.

Before moving into the culture-history of the southern New England's Broad-tool tradition, the level of political organization exercised during this period will be delineated. Networks of social communication are dependent upon a culture's level of socio-political complexity and where the lines of autonomy are drawn (Renfrew1986; Taché 2008). Smaller band societies that are bound together by kinship express a more equitable socio-political status and usually participate in social communication at an individual level, whereas citizens of a modern state experience varied levels of autonomy and witness their government competing for

goods and power on a regional or global scale. Levels of communication between individuals and communities are thus enhanced by socio-political constraints that control the expression of economic networks and social relationships.

In her dissertation, Karine Taché (2008) tested socio-political, ritual and economic factors to identify which element most influenced the formation and stabilization of the Meadowood Interaction Sphere of the Early Woodland Period (3,000–2,400 BP). This period in time immediately follows the Terminal Archaic and extends into southern New England. Taché (2008:iv) found that socio-economic inequalities were a consequence of individuals or corporate (larger, structured) kinship groups attempting to enhance their socio-political prestige by gaining privileged access to rare or exotic goods through trade and exchange systems. The level of rising socio-political control documented during the Early Woodland Period suggests that Broad-tool communities may not have been politically egalitarian, where all members retain equal access to resources and power. At some point in Native history, the appearance of individual "salient identities" (i.e., Schortman 1989) reflect increased opportunities for prestige enhancement within communities linked by a framework of "peer-polity interaction" (Renfrew 1986).

Exchange and trade provide important resources around which one's individual (and possibly group) identity forms because the associated socio-economic interactions present opportunities for the *few* to gain access to limited goods, increasing their prestige over the *many*. Trade and exchange are closely linked as Taché (2008:3) explained:

> While 'trade' refers to the exchange of material goods, the concept of 'exchange' encompasses a much wider range of phenomena, including the flow of ideas, information, and individuals. Trade and all other forms of exchange are usually closely linked to the exchange of material goods depends on, at the same time that it structures the flow of information and people in a network.

This research offers a discussion of such exchange networks. The trade of goods is here considered merely one type of interaction between people or groups.

Peer-polity interaction operates on multiple structures within societies and "designates the full range of interchanges taking place…between autonomous…socio-political units which are situated beside or close to each other within a single geographical region, or in some cases more widely" (Renfrew 1986:1). Renfrew's definition is not confined solely to larger political entities with defined territories (e.g., politically structured statehoods), but also incorporates smaller polities joined by kinship systems (egalitarian bands), which frequently share a common language, symbolic systems and belief systems. The concept of peer-polity interaction does not rank one polity as dominant over another, but instead stresses social interaction among groups.

Schortman's (1989:52) concept of salient identities is applicable to discussions of interaction spheres, trade studies, world systems analyses, cluster interaction and peer-polity models. The premise is centered in the idea that societies are not isolated from each other. Therefore, developments within one society cannot be fully understood without referencing activities occurring with their interaction partners (Schortman 1989:52). Social identities are "[c]ulturally defined and accepted categories that guide interpersonal behaviors and are symbolized by distinct cues" (Schortman 1989:54), and build the framework for interpreting salient identities. Individuals are composed of a number of social identities, but a few of these will shine brighter than others. One's salient identities, like tribal or national affiliations, socio-economic status or one's political standing, are tied to affiliations that "are used more commonly than others and whose members…share a strong feeling of common purpose and support" (Schortman 1989:54). Schortman (1989:55) stated that salient affiliations:

> …develop where people recognize that their own interests are served best by repeatedly uniting with holders of the same identity in opposition to members of other social identities at the same level of generalization (Handelman 1977:196-197; Shibutani and Kwan 1965:208-210; Worsley 1984:247). Usually this situation arises where a premium is placed on securing control of crucial, scarce resources (Cohen 1978:395-397; Despres 1975a:2-3; Hodder 1979, 1982a:193-194; Shibutani and Kwan 1965:50). Salient identities then serve as the basis for unified groups who act in concert to obtain resources and maintain control of them by limiting access to their members (Rapoport 1982:191-192; Worsley 1984:249).

According to Schortman (1989:54), the most generally recognized salient identities that construct intra/inter-social interactions are class and ethnicity. Taché's (2008) study of the Early Woodland suggests that differences in class and ethnicity may have developed during the Terminal Archaic Period.

The rest of this chapter outlines the scope of my research and defines key points that will be visited throughout this thesis. Connecticut is considered the main area of study since archaeology tends to address past cultures by site, state and then region. I acknowledge that state boundaries did not exist 4,000 years ago, but studies such as these have to have geographical parameters. You have to define where you are drawing the line for data inclusion. First, the Broad-tool tradition in Connecticut is situated within its cultural and historical context, and the two main theories of the Broad-tool origins in southern New England are introduced. This is followed by a brief summary of my research objectives and methodologies and an outline of the three-scale approach utilized to analyze and compare intra/inter-social communication among Broad-tool communities in Connecticut. Finally, social exchange and interaction spheres are defined as they relate to social communication and political organization and the structure of the thesis is presented.

BROAD-TOOL CULTURE HISTORY

The Terminal Archaic Period (3,700–2,700 BP) marked a pivotal shift in southern New England from nomadic foraging bands to larger sedentary systems connected by social prestige, political control and highly developed exchange systems. Numerous Broad-tool sites (e.g., Griffin, Mansion Inn, Rye Hill, Timothy Stevens, Lewis-Walpole, Watertown Arsenal, etc.) have been identified throughout southern New England (Dincauze 1968, 1975; Pagoulatos 1986; Pfeiffer 1980; Pfeiffer and Stuckenrath 1989; Starbuck 1980; Thompson 1989; Ziac and Pfeiffer 1989) and display the full range of site types for logistically organized "collector" populations, as defined by Binford (1980).

Comparing subsistence-settlement systems of the Nunamiut Inuit of north-central Alaska to the foraging San of Africa, Binford (1980) created methods for both explaining differences in "collector" (Nunamiut Inuit) and "forager" (San) subsistence-settlement systems and recognizing the patterning they would produce within the archaeological record. He defined a spectrum of site types for both strategies noting that "we are not talking about two polar types of subsistence-settlement systems; instead we are discussing a graded series from simple to complex. Logistically organized systems have all the properties of a forager system and then some" (Binford 1980:12). Pagoulatos (1986) demonstrated the full range of site types for the Broad-tool phase in Connecticut: *residential* camps, *locations* of specific resource procurement, *field camps* used as temporary organizational centers while away from residential camps, and cemeteries, which are known to include *caches* of "blades, vessels and food offerings" (Pagoulatos 1986:83) (italicized terms represent Binford's (1980) site typology for collectors).

Settlement

In Pagoulatos' 1986 analysis of the Connecticut River Valley, only 31.6% of Broad-tool sites included within his research represented residential camps. Such camps are primarily located near the river on the terrace edge, an area offering a high potential for agricultural and wetland resources (1986:249–251). The percentage of field camps was higher (57.9%) while locations accounted for only 10.5% of overall sites. Both field camps and locations were distributed across all ecozones (e.g., uplands, terraces, floodplains and tidal marshes/estuaries), but there was a preference for upland zones that yielded a high capacity for woodland and mast forest resources (Pagoulatos 1986:249–253). The occurrence and proportions of these site types suggested to Pagoulatos that Binford's 'collector' economic model was a good fit for the Terminal Archaic Period of the lower Connecticut River Valley.

Toolkit and Chronology

Broad-tool assemblages are comprised of groundstone tools, early forms of tempered ceramics or carved steatite bowls (increasing in the latter half of the period), flaked stone drills, scrapers, and a series of projectile point types. Broad-tool projectile points in Connecticut were primarily manufactured from cherts/flints, felsites, argillites, and quartzites (McBride 1984b). Despite the short temporal duration of the Terminal Archaic (approximately1000 years), a chronological sequence has been established for the Broad-tool phase in Connecticut and surrounding areas: Snook Kill (ca. 3,700–3,400 BP), Perkiomen (ca. 3,600–3,500 BP), Wayland Notched/Susquehanna (ca. 3,400–3,000 BP), and Coburn (ca. 3,000–2,700 BP) projectile points (Dincauze 1968, 1975; Kinsey 1972; McBride 1984b; Snow 1980). Each of these points has at some time been referenced by alternate names depending on the location of their recovery.

Before proceeding, I should note that the early portion of the Terminal Archaic in southern New England has been discussed in the literature under different names: Susquehanna, Broadblade, Broadspear, Atlantic and Broadpoint. These terms can cause much confusion. The term Susquehanna implies the unlikely scenario that the heart of the tradition resided solely in or around the Susquehanna River and radiated outward. Rather, similar diagnostics are seen south of the Susquehanna River in Virginia, West Virginia, Delaware, Maryland, New Jersey, Georgia, and the Carolinas. The remaining monikers insinuate intended functions of the point forms (blade, spear or point), but the broadened bifaces discussed throughout this thesis appear to have held multifunctional roles within the toolkit. They functioned as blades, spears, points, scrapers and were also worked into awls or drills. In order to avoid confusion, I have opted for a more suitable term that acknowledges both the diagnostic similarities shared between Connecticut and its neighbors to the south, west and north and the multifunctionality of the tools. This phase of the Terminal Archaic Period that consists of the broadened bifacial tools, a groundstone assemblages and cremation burials in southern New England is referred to in this research as the Broad-tool tradition.

Burial Ritual

Slight variations in settlement patterns and toolkits (including point forms) have been recorded across New England, New York and south along the Atlantic shelf for cultures of the Broad-tool tradition. However, the elaborate Broad-tool burial rituals of southern New England have posed of an enigma to researchers because they typically include cremated human (most of the time) remains, occasional botanical or faunal offerings and an array of discarded tools not observed elsewhere (see chapter five). Siding with Dincauze (1975) and Robinson (1996a,

2001), I use the term burial loosely and in a broadened sense because not every "burial" feature of this tradition contains evidence of human remains. Some were comprised solely of cremation residue (a black, thick substance often described as "greasy"), while others presented human cremation remains associated with botanical (a variety of species) and/or faunal (mostly bird, wolf, or dog) remnants. Also, cremations vary in size with some being simple pits in the ground, while others demonstrate more formal, repetitive usage. However, the characteristic that endured throughout many of these burials is the inclusion of lithic tools. They appear in many forms within the burials (intentionally broken, intentionally unbroken, burnt, unburnt, mixed within the cremation residue, and/or layered beneath the cremation residue), which allows for multiple interpretations of the associated ritual behavior (see chapter five).

Broad-tool cremation burials are not as common as habitation sites, but when located, they continue to produce a bevy of cultural information regarding community interaction and group ritualized activities. In southern New England, cremating and then burying the dead was not the typical method of interment prior to the Terminal Archaic (see Robinson 1996a), but it was an occasional practice during the Early, Middle and Late Archaic Periods (Doucette 2003; Robinson 1992; Pfeiffer 1984). However, the ritualized treatment of artifacts, some of which were intentionally broken before being burnt and then buried with group members, appears to be unique to the Broad-tool inhabitants of southern New England. Only one other burial in the region displayed similar attributes, and that is the Bliss site, a Late Archaic Laurentian burial in Old Lyme, Connecticut. Because the region's occupants displayed relatively unique burial practices, they are considered distinct from surrounding Broad-tool groups, spurring archaeologists to discuss Broad-tool populations from southern New England as a single, functioning cultural unit.

Broad-tool cremations are of particular interest to archaeologists because: (1) the ritual occurs mainly in southern New England and does not stretch out to encompass all locations where Broad-tool sites have been located, (2) the remains tend to be secondary cremation burials (removal of cremated remains to a secondary location after cremation), yet the locations of primary cremation pyres continue to allude archaeologists, (3) many artifacts (including points, awls, hammerstones, axes, pestles, blades, etc.) located within the cremation residue appear to be intentionally broken or 'sacrificed' before being placed into the fire and (4) the choice of lithic materials used to manufacture both functional and exaggerated ("hypertrophic") tools varies across the region.

Many ritual components are visible within the burial process (killed artifacts, cremated remains, secondary burials, etc.), but I disagree with Leveillee (1999) and believe that none should immediately be interpreted as religious or as carrying an elevated importance over others. In this author's opinion, we are unable to determine the significance of the rituals and whether they were enacted for the benefit of the living or the dead (see chapter five). Some of the questions that stem from these Broad-tool ritual behaviors are: (1) Which individuals were chosen over others for cremation and why? (2) Were artifacts broken to assist the deceased after death or to safeguard the living? (3) Were the living more concerned about the ritual of burying their dead (sometimes in multiple pits) or the social gain of hosting a multi-community affair (feasts that accompanied the burial)?

Origin of Broad-tool Tradition

Discussions in the literature regarding Broad-tool populations concentrate not only on defining who these people were, culturally speaking, but also identifying their place of origin.

During the late 1960s and early 1970s, culture-oriented and normative theoretical approaches had, in the view of some archaeologists, become particularly antiquated (e.g., Binford 1964). These theoretical positions viewed artifacts as the defining elements of culture and diffusion as the connecting power that influenced otherwise static cultural systems. This perspective was followed by a rejection of the earlier culture-historical approach and a movement towards increasingly scientific and anthropological methodologies, or Processual Archaeology. A more 'scientific' archaeology would incorporate testing hypotheses and producing testable models of culture change, while the anthropological perspective highlighted the individual's active role as a culture producer.

Advocates of Processual Archaeology were attracted to concepts that linked cultural systems and underlying pathways of communication and associated economic systems. One such approach was Wallerstein's World-Systems Theory, which interconnected peoples, innovations and inventions via an inter-regional approach and helped set the stage for an increased appreciation of cultural relatedness and social interaction (Johnson 2007; Taché 2008). Wallerstein's perspective was founded in the attempts to define modern capitalism and trisected nations of the world based on their division of labor into Core, Semi-periphery and Periphery. He produced a systematical model that broadened our consciousness of society, economics and politics on a global scale and shifted the discussion away from individual political units, such as the nation-state (Johnson 2007).

Although Wallerstein's approach was only one of many studies adopted and analyzed during this theoretical shift, interests regarding cultural communication and change were also reflected in the literature. It was during this same time, the 1960s and 1970s, that Ritchie (1969) and Dincauze (1968), among others, initiated a discussion about Broad-tool populations in parts

of New England and New York that has been carried through the literature ever since (see Bourque 1976; Cook 1976; Dincauze 1968, 1974; McBride 1984a; Pagoulatos 1986; Robinson 1996a; Sanger 1975; Snow 1980; Taché 2008; Turnbaugh 1975). Much of the literature concerning Broad-tool discussions pivots around the emergence of the Broad-tool cultural system in the region. The two most widely accepted hypotheses question whether Broad-tool communities migrated into the region from elsewhere (most likely the southeast) and displaced the existing Narrow-Stemmed populations or whether the new tool technologies, lithic preferences and ritualized burial practices passed via cultural diffusion along the eastern seaboard as groups communicated through growing exchange systems.

Hypotheses

The full cultural scope of the Terminal Archaic has remained an enigma to archaeologists through the years because of lingering uncertainties concerning the true function of Broad-tools and the identity and origin of their manufacturers. Turnbaugh (1975) and Cook (1976) authored the two most cited hypotheses: the complete cultural system hypothesis and the technological subsystem hypothesis, respectively. Turnbaugh (1975) argued that the Broad-tool cultures originated in the southeast and trekked northward along the Atlantic Slope, following migrating anadromous fish that were moving along the warming coastal shores. These 'southerners' carried their own distinct lithic technologies, lithic preferences, settlement patterns and ritualized cremation techniques. As they moved throughout portions of New England, they quickly displaced the existing Narrow-Stemmed cultures in riverine settings, which created a region consisting of multiple cultural systems.

Cook (1976), in response to this hypothesis, detailed the events that must occur in order for archaeologists to have the ability to see cultural migration in the archaeological record. He disputed the migration hypothesis and argued that if large numbers of people were migrating in an attempt to follow food, then archaeologically we would see a time-transgressive, chronological pattern of sites along the East Coast. Cook also simplified the debate somewhat by claiming that the broadened tool forms did not necessarily indicate the arrival of a new, migrating culture but could instead just demonstrate a cultural invention or acquisition of a newer technology. Broad-tools had a multifunctional role within the toolkit and could have been utilized as knives, blades, points, scrapers or even re-tooled into drills. He believed that Narrow-Stemmed populations adopted a new tool type to aid in their fishing subsistence, and the hypothesized migration of a foreign culture into the region had no real foundation.

RESEARCH AND METHODOLOGY

The concepts of intrusion, diffusion and migration often lay at the forefront of Terminal Archaic discussions. To better understand the period, perhaps we need to shed the concept of an overarching Broad-tool population occupying the region, and instead, closely examine how populations across the region functioned as *participants* within a larger cultural tradition. Focusing specifically on the movement of lithic materials into/across Connecticut, my goal is to identify traces of socio-economic exchange in the hopes of detecting variations within the Broad-tool culture at the local community level.

The more knowledge we can gain about the social environment that circumscribed Terminal Archaic communities, the better equipped we will be to tackle the overarching debate

concerning who these people were. If lithic selection can be shown to vary across the state, then I would expect that sub-cultures might have existed and would utilize and deposit their materials differently. This should be reflected in the Broad-tool point forms that were discarded at habitation sites and broken, burnt and buried with the dead. If Broad-tool sub-cultures existed in Connecticut, then the ritual cremations could display each sub-culture's local 'flavor'.

Non-local lithic materials for use by individuals during this period provide a non-perishable tracer through which patterns of ancient social exchange may be identified (Hammond 1971). This project first examines which raw materials were selected to manufacture diagnostic Broad-tool forms commonly seen in Connecticut, where the lithics were deposited, and the type of site in which they were found (burial/non-burial) (chapter three). The spatial distribution of local and non-local lithic materials may provide insight into possible exchange routes and vectors of social communication. Observing how diagnostic lithics were deposited could then indicate (1) which lithics were reserved, if any, above others for ritual burial, (2) whether cremation practices and lithic interment patterns vary across the state, and (3) whether sub-regional populations can be identified based on lithic selection, variation in the degree of participation in social exchange and the manner in which lithics were deposited in burial/non-burial locations. Given the general conformity of the Broad-tool tradition across space, I hope to determine how peoples within Connecticut were bound together via socio-economic exchange networks. Did all Broad-tool communities 'practice' a similar mode of *Broad-toolness*, meaning, are there any noticeable differences that separate how communities participated and/or practiced the Broad-tool tradition in Connecticut?

To clarify the picture of lithic movement between communities in Connecticut, some constraints of the data were required. Without these, every known Broad-tool site in Connecticut

(residential camps, locations, field camps and burials) would require inclusion in this study. Five study areas, spanning the state, from which to view lithic selection and burial practices were selected. These five areas are anchored in geographical space by five relatively well-documented cremation burial sites (Rye Hill, Schwartz, Carrier, Griffin and Rogers), and define units of spatial analysis from which all subsequent research is derived (chapter six). Irwin-Williams' (1977) three scale approach (anchored, zonal, global) was modified to fit the parameters of this research. In Irwin-Williams' work, the anchored approach hones in on one cultural aspect, ego in kinship or one settlement as it exists in the larger universe (Irwin-Williams 1977). The zonal approach expands the research area to question broader aspects like group interaction and social networks, while the global approach views the whole network and discusses an overall picture of a specific network, culture or relationship. For this work, these approaches were altered in order to demonstrate the progression of the research from an anchored (viewing burials only) perspective to a zonal (creating a zone of study around each burial) approach to a regional (comparing the zones of study in Connecticut) analysis.

Three-Scale Approach

Irwin-Williams' (1977) three-tiered approach was modified here in order to account for the varying scales of geographic data: anchored, zonal and regional. In archaeology, the matter of geographic scale is significant because discussions could encapsulate a single site (anchored), a grouping of culturally or temporally associated or adjacent sites (zonal), or even related regional sites. Below, the three approaches are defined as they pertain to the changing scale within this research.

Anchored Approach

Five Broad-tool cremation cemeteries (Rye Hill, Schwartz, Carrier, Griffin and Rogers) center the research in space and provide a geographical starting point from which to analyze burial rituals and levels of lithic exchange. This thesis provides a full analysis of each burial site including a site overview, an index of Broad-tool point forms located within the cremation pits, recovered local and non-local lithic materials, and a comprehensive review of parallels and disparities among the five cremation burials.

Zonal Approach (intra-cluster)

The burial locations were then buffered by a 10 kilometer radius, and non-burial locations were selected from within or near this bounded zone. Here, I make the assumption that all sites contained within a zone, or cluster system, were able to procure the same local lithics and had similar access to non-local lithics via some type of social exchange system. Non-burial sites within the five cluster systems (bounded zones) are first recorded as single sites within each cluster system in order to record Broad-tool point form counts and lithic materials located within each site and then each cluster system. Burial sites are then added to their respective cluster systems and examinations shift to the level of cluster systems (counts of Broad-tool point forms, lithic materials, comparison of lithics between burial and non-burial within each cluster system). For example, a 10km buffer was placed around the Rye Hill cremation site in Woodbury, CT. A total of nine temporally-related non-burial sites fall within or near these bounded parameters. After Broad-tool point forms (including counts and lithic material) were recorded for each of these non-burial locations, data from the Rye Hill burial were included so that the complete Rye Hill cluster system could be examined.

Regional Approach (inter-cluster)

The five cluster systems are then compared on a regional scale (spanning across Connecticut) and establish the areas from which all data concerning social communication and exchange were acquired. It is at this level that evidence of Broad-tool sub-cultural systems is assessed.

SOCIAL INTERACTION

"Expanding social networks" are often discussed in regional literature as one of the many developing social attributes of the Terminal Archaic and are typically associated with the development of increasing sedentism and territorialism (Dincauze 1968, 1974, 1975). As sedentism increases, the number of communities and resources people encounter via mobility decreases, which spurs a greater dependence on social exchange systems for raw materials, social commodities and food items (Hantman and Plog 1982). The research area should not necessarily be considered a strictly circumscribed territory, but one with loosely defined boundaries that waver based on fluctuating seasonal resources, population size and degree of mobility. Snow (1980) and Cassedy (1998) associated the development of heavy, difficult to transport steatite bowl technology during the latter half of the Terminal Archaic with a reduction of mobility. At this time, Broad-tool populations invented/acquired technologies necessary to manufacture heavy, often large vessels that could withstand lengthy and exceedingly hot cooking processes (Snow 1980). Due to the amount of time and caloric energy invested in steatite bowl production, these vessels were likely reused and stored, suggesting a degree of sedentism. Pfeiffer (1984, 1992) believes that sedentism during the Terminal Archaic was directly

correlated to rising water levels, which inundated land and restricted group movement. As a result, groups became increasingly territorial and developed elaborate burial practices, a heightened sense of group identity and more sophisticated food storage technologies. These led to an increased potential for political power and group-manipulated exchange opportunities (Pfeiffer 1984).

However, caution should be taken when defining ancient concepts of territory. They could be based in language, technology, alliance and/or kinship and cannot be neatly drawn on a map. Our present-day enculturation physically places us in a world where cultures represent natural divisions of space and rooted systems that bind people together via cultural likenesses (Gupta and Ferguson 1992). For example, a map of Europe would, no doubt, include a linear separator between Portugal and Spain and maybe even further disjoin them by indicating the respective spaces with separate colors. We would then recognize that these two spaces *contain* separate cultures with differing ethnic identities that define what it means to be Portuguese or Spanish, even though many cultural attributes are shared between the two populations (Barth 1970). Compartmentalizing cultures in this manner denotes that people can travel across boundary lines, but cultures must remain rooted to a bounded area (Gupta and Ferguson 1992). Chapter Four demonstrates that pathways of communication from the southeast stretching north along the Atlantic Coast were quite fluid, which suggests that territories were as well.

Michels (1968:66) utilized the concept of a 'contact network', which he defined as "multiple interaction links that bind together a number of local groups and make possible culture element diffusion." We can trace contact networks by looking at the sum of the networks which, in total, account for cultural and technological resemblances between groups. The contact network might be a more appropriate term to define the *local* interaction between Broad-tool

communities. However, the mere expanse of the Broad-tool tradition, from Florida to Canada, is more suggestive of an interaction sphere, which incorporates interactions stemming from otherwise independent cultures (Taché 2008:4; see also Caldwell 1964 cited in Taché 2008). Smaller contact networks can spread across large expanses to form a larger interaction sphere where information, goods and people are exchanged via social interactions.

Stewart (1994) investigated exchange methods throughout the Mid-Atlantic region during the Late Archaic Period (6,000–3,700 BP) and found that goods were exchanged by manner of a hand-to-hand system. Although this period mostly predates the appearance of the Broad-tool tradition in New England, broadened points stemming from the Savannah River technologies date to the latter part of the Late Archaic Period in the Mid-Atlantic region. Defining the mechanics of ancient exchange systems is difficult because the character of an exchange system is defined by culturally dynamic variables specific to the members participating in its transactions. Exchange systems can be as simple as the exchange of goods between two people or multifaceted enough to include thousands of people working to produce, move, store, market and distribute products. Stewart's (1994) research suggests that Mid-Atlantic populations participated in exchange systems that promoted the formation of positive relationships between individuals/families. At this time in history, it is unlikely that large-scale, complex exchange occurred without accompanying records to track product movement, sale or owed debt.

Ancient exchange should instead be considered a socio-economic system that was rooted in kinship, status/prestige and relationship-forming transactions that encouraged the demand for individual and/or social need. Polanyi (1957:266) defined exchange as "the mutual appropriative movement of goods between hands." Earle (1982:2) considered it "the spatial distribution of materials from hand to hand and from social group to social group." Both definitions

acknowledge the role of human interaction within these systems because it was through individuals that people and groups obtained the goods they required to survive and thrive within their social, political and economic contexts. Hodder (1982) labeled this type of individual-based transaction, where participants attempt to maximize relationships and status, *social exchange*.

Socio-economic Exchange

I acknowledge that the term social exchange in archaeology, when discussed in an economic context, is weighted heavily with concepts of exchanging social commodities like information or people. However, I want to stress that in this research the phrase 'socio-economic exchange' is correlated with the formation of relationships which occurred on both an individual and group level in order to establish networking systems through which commodities were passed. The commodities of interest for this research are lithic materials, but the demand for these products was initiated by individuals participating within a social/political/economic network rooted in hand-to-hand transactions.

This type of exchange created and reinforced social relationships, or networks, that linked individuals and groups together, in ways possibly similar to those of the *Kula* exchange (Malinowski 1920). Malinowski (1920:98) described men who participated in the *Kula* as *karayta'u*, or partners, who established lifelong relationships. The men were "under mutual obligations to exchange with each other, to offer protection, hospitality and assistance whenever needed" (Malinowski 1920:98). The social exchange relations practiced by Broad-tool populations in southern New England were perhaps less stringent or well-formalized than those

seen in the *Kula*, but the *Kula* illustrates the type of social rapport that is meant by my use of the term socio-economic exchange.

STRUCTURE OF THIS THESIS

During this period, cultural boundaries were not as linear as we might conceptualize them being today. Information likely flowed across social boundaries, and communities in Connecticut would have been aware of occurrences outside of their local areas; one group's interpretation of the Broad-tool tradition slowly faded into another's. Neighboring groups could not be defined as any less a member of the overarching Broad-tool tradition. They simply represented alternate expressions of the same tradition with slight variations in cultural practices and social communication. The analysis of Broad-tool sites in Connecticut presents a rare opportunity to investigate: (1) which raw materials were selected by groups for ritual interment, (2) which lithics remained as strictly domestic use materials, (3) why cultural groups practicing the same burial traditions selected different raw materials for ritual and domestic use, (4) what role social networking played in raw material selection and distribution with respect to ritual and domestic use, and (5) whether Broad-tool sub-regional populations can be identified based on raw material selection and mode of discard.

Background information to the period, including a description of the populations that resided within the current boundaries of Connecticut during the Terminal Archaic is presented in Chapter Two. A synopsis of the two broadly cited hypotheses explaining the relationships linking these cultures is expanded upon in order to demonstrate that Broad-tool populations did not exist separately from other cultures; they communicated with surrounding groups. Chapter

Three examines sources of raw materials exchanged, a history of Late and Terminal Archaic cultures in southern New England and the criteria used to obtain the data for this research. A look into the roots of the Broad-tool tradition in the southeastern United States and the level of social exchange that may have been emerging along the Atlantic seaboard is then presented in Chapter Four. Next, a detailed discussion of burial ritual and historic accounts of local Native religion (chapter five) preludes the presentation of the selected cremation burials (chapter six), which anchor all other site locations in space. Non-burial locales are then introduced and intra-cluster dynamics (chapter seven) are examined to gain an understanding of lithic selection within each cluster system. Inter-cluster dynamics are approached from a regional approach (chapter eight) and concluding remarks are presented for the existence of Broad-tool sub-cultural systems in Connecticut.

CHAPTER II: ENVIRONMENTAL CONTEXT AND CULTURE-HISTORY OF THE TERMINAL ARCHAIC

INTRODUCTION

Connecticut's shifting environment during the Terminal Archaic contributed to changes in social, settlement, subsistence and possibly ceremonial patterning (Custer 1984; Lavin 1988; Pfeiffer 1984, 1986; Turnbaugh 1975). Lavin (1988) and Pfeiffer (1984, 1986) argue that climatic alterations created rising population pressures during the period, resulting in inter-group conflict and an invigoration of intra-group ceremonialism. This chapter outlines the environmental contexts for this temporal period and situates the Broad-tool tradition within a larger cultural and historical framework.

ENVIRONMENTAL CONTEXT

Connecticut is nestled at the base of southern New England and exhibits an array of landscapes that are home to varied floral and faunal habitats. The distance from the shores of Long Island Sound at Connecticut's southern rim to the high elevations (700+ meters) in the northwest highlands is roughly 100 kilometers. However, the trek from one zone to the next illustrates a variety of topographic, climatic and vegetational systems (Dowhan and Craig 1976). Broadly speaking, Connecticut's biotic community houses a northern temperate deciduous forest with broad-leaved trees that shed their leaves each autumn. These provided a canopy over an understory of smaller deciduous tree and shrub species (Shelford 1963). Deer and wild turkey inhabit the landscape and represent the primary subsistence resources within this forest

environment but were supplemented by a tremendous array of small mammal, bird, fish and plant species.

The four main pollen zones cataloged for southern New England are T, A, B, and C (Davis 1958, 1969). The youngest of these pollen zones, C, dates roughly from 9,700 BP to present (Newby et al. 2000), which completely envelopes the entire Archaic Period and will consequently be the only zone focused upon for this research.

The C zone is generally broken into three sub-zones (C-1, C-2 and C-3) (Davis 1958, 1969; Newby et al. 2000; Shuman et al. 2004). However, there are some like Davis (1969) whose research has further scrutinized each zone (C-1a, C-1b, etc.), enabling scientists to focus on slighter climatic events. Zone C-1 dates roughly from 8,200–5,400 BP (Shuman et al. 2004) and correlates to the Middle and early Late Archaic Periods in southern New England. It marks the transition from the drier early Holocene (ca. 11,200–8,000 BP) to a cooler but possibly wetter environment (Shuman et al. 2001; Shuman et al. 2004). Due to this climatic shift, the zonal pollen sequence expresses a predominately deciduous canopy, mainly of oak (*Quercus*) and hemlock (*Tsuga*), but also including basswood (*Tilia*), hackberry (*Celtis*) and black walnut (*Juglans nigra*) (Beetham and Niering 1961; Davis 1958; Shuman et al. 2004).

The warming episode witnessed in zone C-1 initiated a glacial release of northern latitude ice dammed lakes, creating a rapid submersion of major river mouths, floodplains and portions of the continental shelf, which subsequently initiated the development of salt marshes in the region (Custer 1984; Lavin 1988; McBride 1984b). Rising sea levels tended to flood major river mouths globally until approximately around 7,000 BP resulting in the onset of new meandering rivers systems like those of modern times (Thorson, Forrest and Jones 2014).

The C-2 zone represents a 1400-year period from 5,400–3,000 BP (calibrated into calendar years) (Shuman et al. 2004) and largely encompasses the Late and Terminal Archaic Periods in southern New England. Pollen records reveal that a warm, dry phase blanketed the region, and there was a floral shift to a hickory (*Carya*), oak, pine (*Pinus*) maximum (Beetham and Niering 1961; Connally and Sirkin 1970; Custer 1984; Davis 1958, 1969; McWeeney 1999; Shuman et al. 2004). Chestnut (*Castanea*), beech (*Fagus*), and hemlock receded as temperatures in "New England were at least as warm as today" (Shuman et al. 2004:1304). Hemlock rapidly declined around 5,700–5,500 (Foster et al. 2006; Shuman et al. 2001; Shuman et al. 2004) at the onset of the C-2 level and did not regain growth again until 3000 years BP (Yu et al. 1997). Paleoclimate evidence indicates that the loss of hemlock species in the region coincided with a dry climate interval that induced regional to continental changes in vegetation and water levels (Foster et al. 2006; Yu et al. 1997). The drop in hemlock populations was initially attributed to an infestation of an ancient moth or pathogen (Davis 1981), but recent studies demonstrate that dry air moving east from the continental northwest may have blocked moist, warm air progressing north from the Gulf of Mexico (Foster et al. 2006; Yu et al. 1997). The dry environment could have weakened hemlock populations to a point where they became more susceptible to other elements (Yu et al. 1997). Reports of ragweed in the Rogers Lake deposit from this period (Davis 1958; Newby et al. 2000) further support the influx of drier air, which Davis (1958) hypothesized would have been blown from the west, over prairie-like conditions, across the region.

The disappearance of moist-weather species coincided with a thermal maximum, resulting in decreased wetland environments across southern New England and the redistribution of animal, plant and human populations (Custer 1984; Lavin 1988; Shuman et al. 2004; Viau et.

al. 2002). The paleoenvironmental data suggest that areas most affected by the shifting climate were interior wetlands, not river systems (Lavin 1999), which had been previously thought by Turnbaugh (1975) and Pfeiffer (1984). However, it appears that all ecosystems did not react identically during this period. Cores taken from Cedar Swamp in southeastern Connecticut and Makepeace Cedar Swamp in southeastern Massachusetts demonstrate that peat began to re-accumulate after very dry conditions had existed for thousands of years as water tables slowly began to rise after about 4700 BP (Newby et al. 2000; Thorson and Webb 1991).

Custer (1984) argued that instead of depleting resources throughout the region, the climate caused a redistribution of plant, animal and other resources of use to human populations during this time. Ranges where foraged resources would be located likely began to shrink, but "the major effect would be a change in species distributions rather than a reduction in productivity" (Custer 1984:37). A vertical foraging movement from riverine to productive upland settings may not have happened, as earlier suspected, during this warm, arid phase. Instead, it is possible that human populations were forced to concentrate on more specific types of food resources, which were dependent upon their geographical location, ecosystem, internal and external population pressures and simple individual choice. For example, Lavin (2013) suggested that cultural groups residing within southern New England during this period followed this type of settlement pattern, with one group (Narrow-Stemmed) focusing mostly on upland resources while the other (Broad-tool) communities took advantage of aquatic resources along the rivers.

The C-3 zone dates to the last three millennia and exhibits evidence of human manipulation of plant species due to intentional fires or forest clearing (Davis 1969; Foster et al. 2006). The climate shifted to a wet/cool environment (Shuman et al. 2004), and the relative sea-

level curve remained steady (Törnquist et al. 2004). Chestnut and spruce (*Picea*) began to intensify (Shuman et al. 2004), and hemlock again increased (Foster et al. 2006). Davis (1969) speculated that if ancient populations were clearing lands via intentional burns, then more xerophytic species would have been naturally selected for over hemlock, which requires little rain to survive (Fagan 1978). The C-3 zone also contains traces of oak, hickory, birch (*Betula*) and pine (Connally and Sirkin 1970; Davis 1958, 1969).

These data suggest that three very different environments existed during the Archaic Periods. From a culture-ecological perspective, evidence of regional shifts in vegetation over such an extended period of time is likely reflected in aspects of the populations' cultural adaptions, like settlement patterns and technologies.

Ecoregions

Dowhan and Craig (1976) employed biota models, landscape patterning and climate as a research base to define ecoregions for Connecticut. The map below (Figure 2.1) is a copy of Dowhan and Craig's (1976:26) compartmentalization of these ecoregions. The discussions that follow are confined to the four ecoregions that encompass the five burial sites and a majority of the non-burial locations selected for this research. A handful of non-burial sites fall into neighboring ecozones, but their locations are not so far removed from the ecoregions reviewed below as to require addition discussions.

North-Central Lowland Ecoregion (III-B)

The North-Central Lowlands ecoregion corresponds largely to the modern-day limits of Hartford County and is characterized as a broad, interior lowland with extensive floodplains and

lowland terraces banking Connecticut's northern portion of the Connecticut River. This area contains two (Schwartz and Carrier) of the five burial systems discussed in this thesis and many of their associated non-burial affiliates. The region rests 40–80 meters from the coast and elevations range widely from 80–400 kilometers above sea level (Dowhan and Craig 1976:32). The trap-rock bedrock ridges of Connecticut run in a north-south direction throughout the central valley and were formed by erosion resistant rock protruding above the valley surface. The western ridge is a non-continuous line of intrusive (coarse-grained) basalt while the eastern ridge is an uninterrupted chain of extrusive (fined grained) basalt running from central Massachusetts to Long Island Sound (Dowhan and Craig 1976).

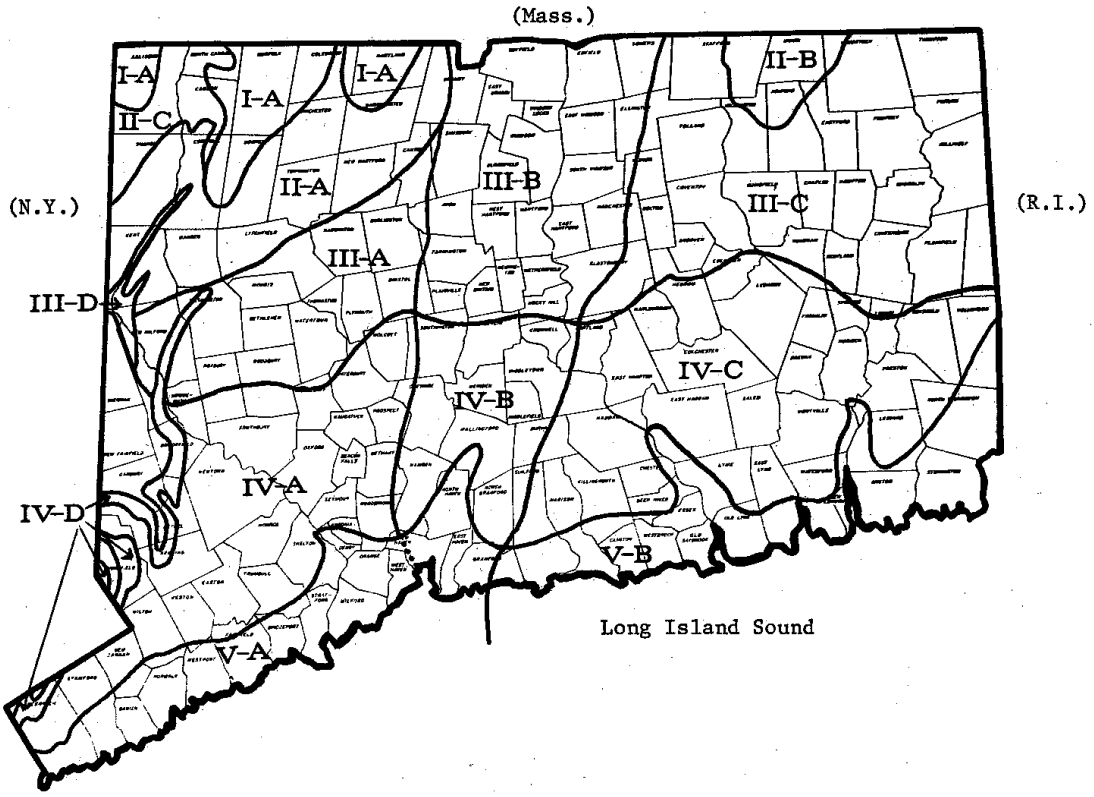


Figure 2.1 Ecoregions of Connecticut based on landscape patterning, climate and biota models. Copied from Dowhan and Craig (1976:26).

The average annual temperature is 10˚C (50˚F), which is bracketed by the mean winter and summer temperatures of -2˚C and 22C (28˚F and 71˚F) respectively. Annual precipitation levels are approximately one meter; however, there is much variation across the region (Dowhan and Craig 1976). The prominent regional forest developing from the well-drained soils are Central Hardwoods-Hemlock-White Pine. The prevailing tree species include Red, Black, and White Oaks (*Quercus rubra, Q. velutina,* and *Q. alba*), and Shagbark, Pignut and Bitternut Hickories (*Carya ovat, C. glabra*, and *C. cordiformis*). Chestnut (*Castanea dentate*) overshadowed other species until the Chestnut Blight (*Endothia parasitica*) left it almost exterminated in the 1920s, reducing it only to sprouts today (Dowhan and Craig 1976). Floodplains within the central valley range from .25 to 1.0 km in width, and a number of swamp and marsh systems stretch throughout the terraces (McBride 1984b). McBride (1984a:13) radiocarbon dated the peat of one marsh, which is adjacent to the Woodchuck Knoll Site in South Windsor, to 3690±80 BP (QC #305) (1.25 meters below surface) and 3220± BP (QC #360) (1.50 meters below surface). Woodchuck Knoll has fascinated archaeologists of the period due to the discovery of possible storage pits where goosefoot (*Chenopodium*) seeds and carbonized weevils (*Sitophilous*) were unearthed (McBride 1978). This site is also classified as a Narrow-Stemmed cultural episode that exploited both upland and floodplain environments at a time when Narrow-Stemmed populations were thought restricted to upland settings because Broad-tool peoples occupied the lower riverine environments (Lavin 2013).

Southeast Hills Ecoregion (IV-C)

The southeast hills region is a near-coastal upland centered in New London County and lies less than 50 kilometers from Long Island Sound (Dowhan and Craig 1975). It is

characterized by rolling hills, which translates into broad valleys and uplands occurring between rugged terrains of steep hills that climax in some areas at 250 meters. The Rogers burial in Lisbon was nestled close to the Quinebaug River in the northeastern portion of the ecoregion on the border of the Southeast and Northeast Hills ecoregions. The Connecticut and Thames Rivers express considerable topographic relief with the maximum elevations peeking along the western border of the ecoregion, just east of the Connecticut River valley. The mean annual temperature within the region is 49˚ F, with winters averaging out at -1.6˚C (29˚ F) and summers at 21˚C (69˚ F) (Dowhan and Craig 1976:33). Annual precipitation amounts tend to exceed one meter. The major forest vegetation is composed of Central Hardwoods-Hemlock typified by White, Red and Black Oaks (*Quercus alba, Q. rubra,* and *Q. velutina*), an array of Hickories (*Carya ovate, C. cordiformis, C. tomentosa,* and *C. glabra/ovalis* complex), Yellow Poplar (*Liriodendron tulipifera*), Black Birch (*Betula lenta*), White Ash (*Fraxinus americana*), and Hemlock (*Tsuga canadensis*) (Dowhan and Craig 1976).

Eastern Coastal Ecoregion (V-B)

Usually within eleven kilometers of eastern Long Island Sound, the eastern coastal ecoregion is a seaboard region characterized by extensive tidal marshes, sandy beaches and estuary areas. Elevations range from sea level to about 122 meters due to rocky uplands and the inland valleys of the Thames and Connecticut Rivers. The Griffin burial site was positioned at a low elevation near the mouth of the Connecticut River. Annual regional temperatures approximate 11˚C (51º F) and the mean winter (0º C) and summer (21º C) vary from this by about 20 degrees. The annual precipitation averages 115 centimeters but tends to vary widely across the rolling topography (Dowhan and Craig 1976:40). The well-drained soils support

regional vegetation of Coastal Hardwoods exemplified by the dominance of Red, White and especially Black, Oaks (*Quercus rubra, Q. alba,* and *Q. velutina*), Hickories, mostly Mockernut (*Carya tomentosa*), Black Cherry (*Prunus serotina*), Sassafras (*Sassafras albidum*), and Hemlock (*Tsuga canadensis*) (Dowhan and Craig 1976).

Northwest Hills Ecoregion (III-A)

The Northwest Hills ecoregion is set north (40–65 kilometers) of the southern coast of Connecticut in Litchfield County and represents a hilly and somewhat rugged topography (Dowhan and Craig 1976) where the Rye Hill burial complex is located. Flat terraces are not available along the Shepaug River, which runs through Washington, as its gradient is the steepest in the state (Brook 2012). In this region, valleys are narrowed, with the lowest relief occurring in the west near the transition into the Central (III-D) and Southern (IV-D) Marble Valleys, and elevations peek just over 300 meters. The average summer temperatures are mild (21º C) but still provide some relief from the chill of the mean annual (9º C) and average winter (-3º C) temperatures (Dowhan and Craig 1976:29–30). Although snowfall and rainfall averages each crest at just over a meter, there is much variation across the region. Dominant forest vegetation mimics those seen in the previously discussed North-Central Lowlands but also include White Pine (*Pinus strobus*), Hemlock (*Tsuga canadensis*), Red Cedar (*Juniperus virginiana*) and Gray Birch (*Betula populifolia*) (Dowhan and Craig 1976).

CULTURE HISTORY

Native populations maintained a long history of occupation in southern New England prior to European contact. People first moved into the region on the heels of the retreating glaciers around 15,000 years ago. However, the derivation of a 'local' community, where generations constricted their mobility and directed their focus towards a local (quartz) lithic industry, was not until the Late Archaic Period (Dincauze 1971). An attempt to understand the relationship between the Broad-tool making communities and a specific phase of the Late Archaic (Narrow-Stemmed) is what initially spurred inquiries regarding the identity and origin of Broad-tool populations. The Late Archaic Period is well-documented in southern New England and establishes a well-defined baseline from which to address the Terminal Archaic. Below, the Broad-tool tradition is situated within its cultural and historical background.

For this research, such concepts of phase and tradition mimic Snow's (1980) interpretations. A period is an expanse of time in which many traditions may have occurred. A tradition is "a continuous record of a prehistoric culture, complex, or artifact type as evidenced by a sequence of phases, components, or individual specimens" (Snow 1980:366). Phases are roughly equivalent to an ethnologist's concept of culture (Snow 1980:20). These terms will be used throughout this study.

Late Archaic Period (6,000–3,700 BP)

The Late Archaic Period in southern New England roughly dates between 6,000 and 3,700 years ago and is characterized by growing populations and an increasing number of habitation sites across the landscape (McBride 1984a; Snow 1980). Studies of the Late Archaic

in southern New England demonstrate the establishment of two main cultural traditions, which possibly coexisted: Laurentian and Narrow-Stemmed. The groups belonging to the Narrow-Stemmed tradition, which Dincauze (1971) and McBride (1984b) believe to be the descendants of Middle Archaic (Neville) communities, continued to exploit a localized lithic industry, specifically one based on quartz cobble reduction (McBride 1984a, 1984b). Snow (1980:223) terms this adaptation Mast Forest, which spans from the Merrimack drainage of New England to the Great Lakes and south to North Carolina. His concept linked all other traditions used for the Atlantic drainage (Piedmont, Boreal, Taconic, Atlantic Slope, Coastal and Appalachian) and acknowledged a common technology and adaptation. The Laurentian tradition, or Lake Forest, is a northern adaptation that stretches from Maine to the Great Lakes (Snow 1980; Tuck 1978) but is partially visible in southern New England.

Laurentian (5,500–4,200 BP)

The Laurentian tradition was initially defined by Ritchie (1971) and consisted of variations of Brewerton, Vosburg and Otter Creek projectile points manufactured from quality flints and a relatively consistent supporting ground stone assemblage (Pagoulatos 2010). There are opposing opinions as to whether or not Ritchie's Laurentian, as initially defined in the New York region, actually occurred in southern New England (Dincauze 1975; Lavin and Russell 1985; Pfeiffer 1984; Snow 1980). It can be argued that the Laurentian tradition spread into the region from the west and successfully transitioned into northern New England, but then it simply 'spilled over' into southern New England, creating the diffusion of traditional Laurentian characteristics in a hinterland-like phase. Laurentian sites located greater distances from the core tradition of the New York region exhibit fewer classical Laurentian characteristics (Pfeiffer

1984). Funk (1988) argued that projectile point styles (Brewerton Eared-Notched, Brewerton Eared-Triangle, Vosburg and Otter Creek) reached an even greater distribution than the standard Laurentian assemblage. McBride (1984b:99–100) termed the Connecticut variant of the Laurentian tradition the Golet Phase (5,500–4,200 BP) due to the paucity of Otter Creek points and the local alterations to the traditional Laurentian assemblage.

McBride (1984b) demonstrated that Laurentian sites signify a relatively equal distribution between riverine and non-riverine settings within the Connecticut River Valley, but local excavations have not yet yielded concrete evidence that densely populated seasonal aggregations existed in the area. The few sites that have been recorded have not surrendered tremendous amounts of knowledge, as many of them contain both Laurentian and Narrow-Stemmed cultural remains with no definitive stratigraphic separation between the two. Traditional Laurentian assemblages contain winged atlatl weights, plummets, ground-stone adzes and gouges, and chipped or ground slate ulus in addition to many rhyolite, quartzite, chert or slate stemmed projectile points (Dincauze 1971, 1975; Pfeiffer 1984; Ritchie 1965).

One of the best documented Laurentian sites in Connecticut is the Bliss cremation site in Old Lyme. Diagnostic artifacts (Brewerton Eared-Triangle points) and supporting absolute dates (4535 ± 95 to 4775 ± 120 BP) establish the site as a Late Archaic Laurentian burial (Pfeiffer 1984:75). The Bliss site has been labeled the "oldest ritual cremation burial in the Northeast" and likely depicts a single event in time (Ziac and Pfeiffer 1989:55). Osteological evidence estimated that as few as five individuals could have been laid to rest across the 21 separate features, which characteristically exhibit black greasy soils, ceremonial and 'killed' artifacts, dried human remains (as opposed to freshly deceased) and occasional faunal remains (Ziac and Pfeiffer 1989).

The Bliss site also lies immediately adjacent to a well-established habitation site known as the Howard site (Pfeiffer 1984), which are termed the Bliss-Howard site when discussed together. The two sites are often considered together due to Pfeiffer's ability to demonstrate a direct cultural link between the two. He managed to refit artifacts from the habitation site to those within the burial, thus proving that Bliss' deceased were somehow affiliated with the inhabitants of the Howard site, most likely their kin. Excavations at the Howard site demonstrated evidence of three separate pole-framed structures, which are interpreted as oblong longhouses (Pfeiffer 1992). Although McBride (personal communication sited in Lavin 2013) regards the structures as features of a later Woodland occupational component, the interaction between the Howard habitation and Bliss burial sites remains significant.

Based on his findings at the Bliss-Howard site and later research in southern Connecticut, Pfeiffer (1984, 1992) argued that the later Broad-tool tradition was based in Laurentian roots. Many similarities are obvious (i.e., assemblages, lithic selection, settlement distribution and ritualized burial observations [see also Lavin 2013 for similarities regarding Native spirituality). Some argue that the Laurentian inhabitants co-existed with the Narrow-Stemmed populations in Connecticut (Dincauze 1974, 1975; Ritchie 1971; Snow 1980), but this remains a point of debate.

Narrow-Stemmed Phase (4,500–3,300 BP)

Ritchie (1969) first defined the Narrow-Stemmed tradition at the Hornblower II site on Martha's Vineyard. It consisted of small stemmed and triangular shaped projectile points fashioned mostly from local quartz and quartzite cobbles and a bipolar manufacturing method (Dincauze 1974, 1976, McBride 1984b). The trademark manufacture of the Narrow-Stemmed

culture is witnessed on the basal portion of the projectiles where the rounded rind of the cobble often remains visible (McBride 1984a). The Narrow-Stemmed tradition in southern New England is first witnessed between 4,500 BP (Ives 2012) and 4,200 BP (McBride 1984a; Pfeiffer 1984). The tradition's termination date ranges from 3,800 BP (Brian Jones, personal communication 2014) and 2,900 BP (Ives 2010; McBride 1984a); however, the temporal range was extended by Snow (1980) to 6,000–1,500 BP. Dates for this research lean more toward a conservative range and are 4,500–3,300 BP. Evidence from the Dill Farm site in East Haddam (Pfeiffer 1986) and the Neville site in New Hampshire (Dincauze 1976), strongly support the possibility of the Narrow-Stemmed tradition representing a local manifestation stemming from prior Middle Archaic technologies (McBride 1984b).

The Narrow-Stemmed tradition in southern New England is characterized by: (1) small stemmed or triangular formed projectile points, (2) a local quartz cobble lithic industry, (3) a supporting assemblage consisting of gouges, plummets, pestles and/or adzes, (4) an exploitation of a variety of ecosystems and upland wetland and riverine habitations, and (5) both flexed and cremations burials (Dincauze 1975; Pagoulatos 1986; Pfeiffer 1992; Robbins 1980; Robinson 1996a; Snow 1980). A small number of flexed (fetal position) burials dating to this period in Massachusetts and Connecticut have been found interred beneath shell heaps (Dincauze 1975; Pfeiffer 1992). Few cremations are dated to the period prior to the Broad-tool phase (see Doucette 2003; Robinson 1996a, 1996b) even though Snow (1980) argues that Narrow-Stemmed burial practices favored cremation. The duality of burial choices could demonstrate yet another, and earlier, occurrence where groups participated within a larger technological tradition (Narrow-Stemmed point technology) but maintain separate rituals (seen here in burials) rooted in customs defined at the community level (see also chapter five).

McBride's (1984a) dissertation work within the Connecticut River Valley affords additional views of the Narrow-Stemmed tradition and associated tool assemblages. Based on dissimilarities in settlement patterns and stylistic variations in projectile point form, he was able to discriminate between two distinct cultural phases: the Vibert and Tinkham phases.

Vibert Phase (ca. 4,000 BP)

The Vibert phase appears to have only lasted a relatively short span of time, although the exact temporal length remains unknown (McBride 1984a). McBride (1984a) dated the period to ca. 4,000 BP. Habitation sites are dispersed across a variety of environments and tend to be represented by small, temporary encampments (less than 500m) that are situated mainly in the interior away from riverine environments. Vibert phase lithic projectiles are small and triangular in form and were manufactured from a local quartz cobble industry (McBride 1984a, 1984b). The Squibnocket Triangle point is diagnostic of the Vibert Phase in southern New England. Although the Vibert and Tinkham phases represent two separate point forms and derive from separate temporal periods, the cultures appear to share some degree of similarity because in a stratified context, when Vibert phase assemblages are recovered, they always underlie Tinkham phase cultural remains (McBride 1984a).

Tinkham Phase (4,200–2,900 BP)

The Tinkham phase in southern New England has been dated from 4,200–2,900 BP (McBride 1984a) and is characterized by an almost exclusive quartz cobble industry, as witnessed in the Vibert phase. However, lithic point forms are the Wading River and possibly Lamoka points, which display small stems and narrow blades (Dincauze 1971; McBride 1984a;

Pagoulatos 1986, 2010). Although the inhabitants continued to exploit a wide range of ecosystems during this cultural phase, their settlement patterns portray a population that dwelled in large base camps positioned along the river in floodplains and terrace zones. These less mobile camps were supported by task specific locations, which would have been utilized on a daily basis in order to take advantage of upland resources (McBride 1984a). The Woodchuck Knoll Site in South Windsor possibly demonstrates early evidence of increased sedentism with the discovery of granary weevils directly associated with goosefoot (*Chenopodium* sp.), interpreted as food storage (McBride 1978). This is further supported by indirect evidence in greater Boston and at Bashan Lake, which indicate the construction of permanent fishing weirs by the local Narrow-Stemmed population, suggesting increased sedentary behavior (Dincauze 1973; Pfeiffer 1983).

Stratigraphic layering of the multiple Late Archaic phases in the Connecticut River Valley has been witnessed at numerous sites, including Long Knoll in Glastonbury, Ames Rockshelter in Old Lyme and the Woodchuck Knoll Site. McBride (1978, 1984a) discussed the stratigraphic breakdown of the Late Archaic Period at the Woodchuck Knoll Site in order to exemplify the three components: a Tinkham phase component was visible from 1.25 to 1.4 meters below surface (mbs), a very thin Vibert phase component was present from 1.45 to 1.5 mbs and an underlying Golet phase component existed between 1.75 and 1.85 mbs. This preserved stratigraphic layering establishes a well-defined baseline from which to address the Terminal Archaic.

Terminal Archaic (3,700–2,700 BP)

The Terminal Archaic in southern New England marks the transitional period from the (semi) mobile hunter/gatherer/fisherman of the earlier Archaic to an existence consisting of higher populations, large established encampments, pottery production and plant domestication of the Woodland Period. The Terminal Archaic embodied three culture systems: the Narrow-Stemmed, Broad-tool and Orient complexes. The Narrow-Stemmed populations are believed by many to have continued into the Terminal Archaic Period, but experienced shifts in their settlement patterns, possibly in response to the emergence of the Broad-tool communities.

In southern New England, the Broad-tool phase dates mainly to the first half of the Terminal Archaic and is further broken into four shorter temporal episodes as defined by variations in point styles and the introduction of a soapstone bowl industry during the latter half of the phase: (1) the Snook Kill point (eastern New York and western New England), which is also termed the Koens-Crispin in the Delaware drainage, the Lehigh in Pennsylvania and the Atlantic point in eastern New England. Snook Kill (ca. 3,700–3,400 BP) points appeared in the region without any known antecedents and are believed to be directly related to Savannah River points of the southeast (Dincauze 1975; Snow 1980; see also Coe 1964). (2) These are then followed in time by Perkiomen points (3,600–3,400 BP), which are typically found in the Delaware and (less often) the Hudson, Housatonic and Connecticut River drainages (Snow 1980). (3) The third diagnostic point type is the Wayland Notched point (ca. 3,400–3,000 BP), as it is termed in eastern New England, and is analogous to the Susquehanna point of the Susquehanna drainage. Dincauze (1975:27) considered this phase a time of "cultural and social consolidation, establishment of exchange networks and of central-based territoriality." There remains a propensity for Piedmont-like lithic resources (cherts, felsites and rhyolites), but the

steatite industry begins to grow at this time and will continue into the Early Woodland in southern New England. (4) Finally, the Coburn point (3,000–2,700 BP) of eastern New England, whose equivalent is the Dry Brook point in the Susquehanna River drainage, marks what is possibly a cultural amalgamation that later forms the Orient complex (Dincauze 1968, 1975; Snow 1980) or simply a typological intermediate form between the Wayland Notched and Orient.

Broad-tool Phase

Specific aspects of the Broad-tool tradition have been recorded in Connecticut, which McBride (1984a) termed the Salmon Cove phase. Typically this phase is defined by: (1) a multitude of broad bladed styles including Snook Kill, Perkiomen, Wayland Notched, Dudley (smaller and crudely made Wayland Notched points) and Coburn forms, (2) lithic selections that closely mimic those of the previous Golet Phase, such as flints, cherts, argillites, felsites and quartzites (McBride 1984a), (3) assemblages containing steatite bowls, (4) settlement patterns that are more focused on riverine settings, possibly more for transportation and exchange rather than subsistence needs and (5) the appearance of cremation burials.

Dincauze (1968) was one of the first to illustrate the characteristics of Broad-tool cremations during her summary of excavations in eastern Massachusetts. Since then, her findings have been supported and expanded upon by additional researchers. Broad-tool cremations in southern New England are characterized by a black, greasy fill of human and sometimes animal remains (Dincauze 1968, 1975; Leveillee 1999; Pfeiffer 1984). The cremations can contain either burned and/or unburned tools, some of which were created specifically for the ceremonial ritual while others were worn, ‘dead’ tools saved specifically for

future burials (Dincauze 1968, 1975; Leveillee 1999; Pagoulatos 1986; Pfeiffer 1984). Despite the amount of wear a tool exhibited, many burials were comprised of ritually destroyed tools that were 'killed' before interment (Dincauze 1968, 1975). The use of non-local raw materials for the manufacture of projectile point forms is evident throughout the region.

Burials have yielded primary and secondary cremation deposits and have demonstrated evidence of both individual and multi-person interments (Dincauze 1968; Leveillee 1999); however, primary contexts are rare. Primary contexts involve the cremation and burial of an individual(s) in place, or *in situ*, while secondary contexts occur when cremated remains (human and any offerings) are removed from their primary locations (such as a pyre) and buried elsewhere. Evidence from secondary Broad-tool cremations suggests that multiple individuals and offerings may have been cremated together and then deposited in one or more burial pits. Pagoulatos (1986:298) argued that a person's remains could be distributed among a number of pits in order "to renew social ties with other kin groups" and "build social prestige of the deceased kinsmen."

Narrow-Stemmed Phase

With the emergence of Broad-tool points in southern New England, Narrow-Stemmed settlements curiously seem to shift from riverine and upland settings during the Late Archaic to a concentrated exploitation of upland, wetland locations, like swamps, marshes and lakes (Pagoulatos 1986; McBride 1984a, 1984b; Pfeiffer 1984 1990, 1992). Dincauze (1975), Ritchie (1969) and Turnbaugh (1975) among others attribute this cultural displacement to the intrusive coastal migration of southern populations who, in their opinion, essentially pushed existing Narrow-Stemmed populations into non-riverine niches.

Dincauze (1975) proposed that the two cultural traditions co-existed by exploiting separate ecosystems to support their populations. Glacial retreat and warmer northern waters opened the entire eastern coast from Maine to Florida for shad and alewife annual migration (Turnbaugh 1975). As migrating Broad-tool bands exploited coastal and riverine ecozones, Narrow-Stemmed communities hunted larger game, like white-tailed deer, in the uplands, creating a manageable and adaptable co-existence for both (Dincauze 1975; Turnbaugh 1975). According to Turnbaugh (1975), climatic conditions favoring the northward movement of anadromous fish along the Atlantic Coast initially spurred a cultural migration.

An alternate view casts doubt on migration and instead supports an *in situ* development of a Narrow-Stemmed subsystem focused on specific aspects of subsistence procurement (Cook 1976; Custer 1984, 1994; Snow 1980). Cook examined seven dimensions of the northern Broad-tool culture (stylistic, technological, adaptational, trade, mortuary and socio-cultural dimensions) and argued that there was insufficient evidence to claim that a cultural migration occurred and instead suggested that cultural (or trait) diffusion was responsible for the advancement of a southeastern technology into the Northeast. He concluded that Turnbaugh's interpretation was incorrect and that Broad-tool bifaces were in fact knives adopted to aid in the exploitation of marine resources (Cook 1976). Cook (1976) argued that Narrow-Stemmed populations did not 'scatter to the hills' but supported their growing numbers by utilizing an even broader range of resources throughout the environment by adopting this new toolkit. This suggests that two populations were not sharing a landscape, but we see one culture that adopted a new technological tradition.

Orient Phase

The Orient complex exemplifies the latter half of the Terminal Archaic Period and is believed by some to be a local fusion of the Broad-tool phase and Narrow-Stemmed tradition, just an evolutionary variant of the Narrow-Stemmed tradition or perhaps the stylistic end point of the Watertown-Coburn-Orient trajectory (Dincauze 1972; Brian Jones, personal communication 2013; Leveillee and Waller 1999; Snow 1980). The principle diagnostic from the Orient complex is the Orient Fishtail point made from quartz, quartzite or siltstone and finished off to a narrow point (Snow 1980).

Pagoulatos (2009) evaluated regional mortuary practices during the Late and Terminal Archaic Periods and observed divergent burial preferences between the Broad-tool and Orient cultural phases. Orient mortuary deposits contained fewer grave goods, are found in a wider range of resource zones and represent mostly secondary burials in ossuaries (Pagoulatos 2009:250). Late and Terminal Archaic burial practices are further evaluated in Chapter Four.

DISCUSSION

There has been much debate surrounding the actual relationship between Narrow-Stemmed populations of the Terminal Archaic in southern New England and the peoples of the Broad-tool phase (Cook 1976; Dincauze 1975; McBride 1984a; McBride and Dewar 1981; Pagoulatos 1983, 1986; Pfeiffer 1984; Turnbaugh 1980). The shifting climate during the Terminal Archaic Period altered the distribution of resources across the landscape and created a challenging environment for foraging populations (Custer 1984). This resulted in social-cultural changes to subsistence procurement, settlement patterning, concept of socio-political status and

ideological activities. Populations utilizing Broad-tool lithic technologies appeared in the region around 3,700 BP and concentrated their sites near larger river systems. Local Broad-tool assemblages contain many adzes and gouges (canoe making tools) but lack fishing tools. This could simply be the result of poor preservation condition or it could imply that populations were attracted to the rivers as transportation routes and not as food sources. This stands in direct contrast to the preceding Narrow-Stemmed cultures of the Late Archaic whose sites produced an array of fishing plummets and evidence of complex fish weirs.

The emergence of Broad-tool bifaces in southern New England was shadowed by a ritualized burial practice blanketing the area and extending into northern New England, New Jersey and Delaware. Although cremation burials likely predated Broad-tool rituals within the region (see Doucette 2003), Middle and Late Archaic cremations appear to lack the level of ritualization and repetition exhibited by Broad-tool communities. Unfortunately, debates concerning the origin of northern Broad-tool populations only work to reinforce the either-or argument regarding trait diffusion and population migration and fail to consider the holistic nature of cultural systems during this period.

The Bliss site in southern Connecticut mimics many of the Broad-tool ritual characteristics, but no evidence suggests that a continued, ritualized cremation practice existed for the Laurentian in southern New England. Many archaeologists search for reasons why Broad-tool populations practiced such detailed burial rituals, even though the archaeological record demonstrates that cremation rituals were known and practiced by some regional inhabitants. Perhaps we should inquire as to why these specialized cremation rituals are contained within the study area and do not appear to expand beyond the Broad-tool populations of southern New England, New Jersey and Delaware. If the Bliss site was a Laurentian burial, a

tradition that historically has roots in the west, then we would expect to have evidence of similar burials techniques outside the region.

CHAPTER III: RESEARCH AND METHDOLOGICAL APPROACH

INTRODUCTION

It has been said that research is organized curiosity. Curiosity is best satisfied by approaching inquiries from a structured and organized posture. This chapter first demonstrates the triumphs and pitfalls that haunted this research but, in hindsight, eventually led to the current research questions. It also addresses the methodological approaches employed to achieve this organized curiosity.

While collecting data for this research, an unfortunate archaeological loss was brought to light. For many years, the Office of State Archaeology (OSA) of Connecticut stored the boxed lithic remains of an unknown number of sites in the attic of Beach Hall, located at the University of Connecticut campus in Storrs. Three-to-four years ago, the items were moved without the consent of the OSA when the building's roof was replaced. Some materials could not be immediately located after the move and were unavailable for study. This unfortunate lack of data forced alterations in my research focus and subsequent methodological approach. Luckily, new questions arose while analyzing Broad-tool burials, which led to the foundation of this research.

RESEARCH

The objective of my research is to analyze socio-economic relations in Connecticut spanning 3,700–2,700 years ago and to determine whether sub-cultural Broad-tool populations may have existed. The procurement and deposit of formed Broad-tool projectile points coupled

with Broad-tool burial rituals are compared across the state in order to achieve this goal. Data acquisition includes information obtained from published site reports, private collections, and academic collections housed at the Glastonbury Historical Society (GHS), University of Connecticut (UCONN), Archaeological and Historical Services, Inc. (AHS) and the Connecticut Office of State Archaeology (OSA). All data was collected from existing sources, and no new excavations occurred.

My original questions were centered solely in Broad-tool social relationships and whether exchange routes could be extracted from the archaeological record by analyzing whole lithic assemblages at selected sites. Broad-tool burials were still considered sites that anchored the research to specific locations. However, to address additional questions, data from adjacent habitations sites were also going to be collected. The goal was to weigh each site's lithic assemblages, measure each artifact and then identify the materials archaeometrically, when possible. The end result would have produced a breadth of information for five groups consisting of burial and non-burial sites that were related in space. The objective was to generate information concerning Broad-tool exchange routes, social exchange and relationships, the commoditization of certain goods, etc., by evaluating the correlation between a number of attributes such as: distance between a lithic's presumed origin and place of deposit, total amount of raw material deposited per site (measured in weight), distance to water (transportation), and how the lithics were utilized and deposited. Due to the misplacement of many archaeological remains, this approach became impossible.

Therefore, a portion of this research transitioned into a lesson in maneuvering through the mechanics of multi-sited research, what Gagnon called 'a lesson in navigating reality' (Blaire Gagnon, personal communication 2013). When this research began, I naïvely assumed that

most, if not all, archaeological sites within Connecticut would be recorded at the OSA. My lesson in navigating reality not only led to the sad discovery that boxes of information had been moved without the approval of the OSA, but in addition, (1) a small number of sites still lacked paperwork from excavation teams (most of which consisted of amateur archaeologists), (2) some sites were excavated but never reported to the OSA, and (3) certain assemblages were borrowed from and then eventually absorbed into personal or 'teaching' collections, causing documented assemblages or artifacts to go missing or to lose their archaeological context entirely.

Preliminary proposals are written with the conceptualization that your selected research sites are available and will produce data that you seek. Hannerz (2003) explored the uncertainties associated with multi-site ethnographic research, situations which easily translate over to the archaeological analyses of curated collections. He emphasized that when dealing with multiple site locations, you cannot possibly extract the same amount of data as the seasoned ethnographer whose research is full, holistic and complete, who Hannerz (2003) terms Evans-Pritchard's anthropologist. Your initial research begins with a list of sites and data that you intend to extract, but then life and reality happen. The anthropologist is forced to make changes based on site availability and chance opportunities. Hannerz's (2003) 'art of the process' cannot fully be appreciated until one's masterpiece is in fully planned and you decide, or are forced, to choose new colors to add to the canvas. Due to these choices or opportunities, your final artwork is an alternate form of analysis, but as Hannerz (2003) points out, not a less valid contribution. As the researcher fumbles to find a workable path through a maze of dead ends, she is compelled to explore opportunities that were not under consideration during the initial research proposal. This dissertation represents my 'art of the process' and the methodological selections and

opportunities utilized in order to research social dynamics in Connecticut during the Terminal Archaic Period.

Research Questions

The research rests on the following concepts drawn from previous studies on exchange systems, lithic technology, burial ritual and the Broad-tool tradition of southern New England: 1) non-local raw materials were transported across southern New England via some level of socio-economic exchange network or through direct procurement, 2) preferences for exotic raw materials used for lithic tool manufacture may reflect group identity and/or individual levels of prestige, ritualistic value or relationships to external groups, 3) Broad-tool cultures of southern New England were not yet characterized as complex (i.e., chiefdom-level) political organizations with intensive socio-economic redistribution practices or static political hierarchies. The research will address the following questions:

1. Which lithics were selected for Broad-tool point manufacture in Connecticut and were then integrated into the burial ritual? Does this burial ritual remain consistent throughout Connecticut?

2. Are there recognizable differences between the deposition of exotic raw materials found in burial sites and those associated with non-burial sites?

3. Did cultural groups practicing the same burial traditions and belonging to the same socio-economic networks select different raw materials for Broad-tool point manufacture/use?

4. What do the visible exchange systems and burial practices portray about Broad-tool socio-economic dynamics and social communication in Connecticut? Are Broad-tool sub-cultural communities visible in Connecticut?

METHODS

The research methods adopted for this study are an amalgam of published methods but have been modified in order to conform to the needs and inquiries of this thesis. Defining the geographic scale of one's research is paramount in archaeology because the examiner could be working with a single archaeological site, a small grouping of adjacent sites, or even a number of sites spanning a larger geographical region, like southern New England. The previously stated research questions require that the acquisition and examination of site materials progress through a series of geographical scales. Lithic materials can only be collected at the level of a single site. Comparative investigations can then examine correlates between two or more sites, but the initial collection of materials occurs at a single site. For this reason, Irwin-Williams' three-scale process was modified in order to allow discussions to flow efficiently from the scale of single site (anchored), to a number of neighboring sites (zonal), and then to multiple areas across Connecticut (regional).

This thesis also incorporates a strategy that compares local and non-local lithic materials at the site level in order to identify the presence of ancient exchange systems (Earle 1982). Earle (1982) proposed his three-step process: (1) source commodities of exchange, (2) describe spatial patterning of commodities and (3) reconstruct the organization of ancient exchange. He recommended that commodities of any type first be sourced back to their initial place of origin. Next, interpreting the spatial patterning of commodities provides a broader understanding of how far a commodity traveled via exchange systems before it was consumed. Based on this information, an attempt can be made to reconstruct the ancient exchange system responsible for transporting the desired commodities (Earle 1982).

The transport of these lithic goods across the landscape and through social systems fits within Earle's (1982) definition of exchange, as previously discussed, therefore allowing the attachment of the term commodity to these lithic goods. It must be noted that I am not making the argument that these populations necessarily conceptualized non-local lithics as commodities of an exchange network, nor am I claiming that one's acquisition of non-local materials in turn symbolized social prestige within a population (Tripcevich 2010). It is through the demand of an object/material/resource that value is ascribed, and this value can only be determined by those consuming said goods. There is not an absolute value for these items, and they are only valuable while a consumer exists (Appaduai1986; Rowlands 1971). It is in this realm that lithic materials will be discussed, as commodities of socio-economic systems that transported them across the landscape due to some level of consumer demand.

The three-part geographical scale approach (Irwin-Williams 1977) is fused with Earle's (1982) techniques to define ancient exchange networks. Because lithic materials are defined at the site level, Earle's sourcing of commodities is managed under the anchored approach. In order to conduct this level of study, given the great loss of information, complete assemblages had to be abandoned and the lithic focus switched to diagnostic tools; in this case formed Broad-tool projectile point forms. Site reports and published articles rarely contain a full account of the lithic materials recovered from archaeological site; however, they generally do reference any diagnostic artifacts such as formed projectile points. Earle's (1982) second stage, the description of spatial patterning, is then observed on a zonal scale. At this point, the analysis has expanded to encompass groupings of adjacent sites and the spatial patterning of commodities is more visible. Finally, the reconstruction of ancient exchange networks is attempted at the regional level after all other stages of research are completed.

Anchored Approach

As mentioned, this analysis commences from a single site concept and then expands to incorporate many Broad-tool locations across Connecticut, which posed somewhat of an organizational challenge. In addition, Broad-tool social dynamics are examined from a bilateral perspective where data is obtained from both lithic materials and burial rituals. In order to unite the dual aspects of comparison (lithic exchange and burial rituals) and solve the question of organization, five Broad-tool burials were selected as 'points' on the landscape that anchor this research in geographical space (Figure 3.1).

The number of reported Broad-tool cremation sites in Connecticut is growing, but only five were selected for analysis due to assemblage and/or site information availability: the Rye Hill, Schwartz, Carrier, Griffin and Rogers sites. The anchored aspect requires that each cremation be analyzed as a separate entity, which can later be compared to additional data. Unfortunately, not all assemblages were available to the author, and, for some burial and non-burial sites, certain site information is restricted to what was presented in the site report or published material. When available, the recorded information for burials includes the quantity of point forms present, their lithic materials, their diagnostic style, and how they were interred (e.g., broken, burnt, etc.). Any additional information pertaining to the burial is also including when available, such as the number of pits, presumed number of cremated individuals, and appearance of non-lithic offerings.

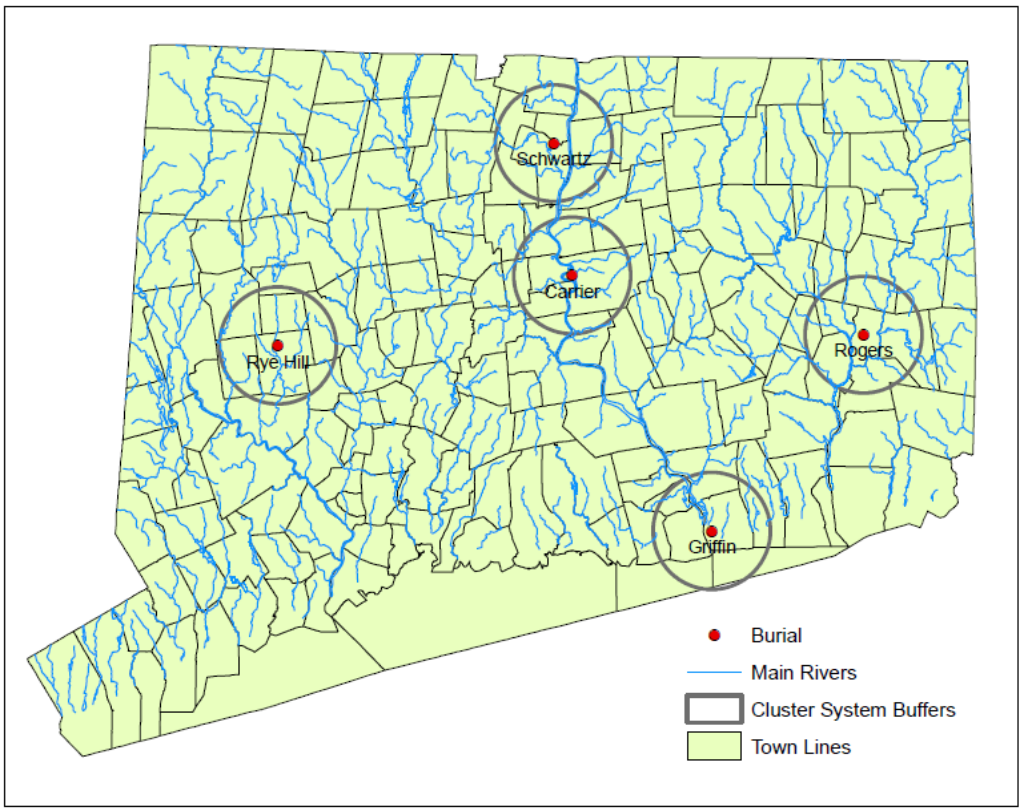


Figure 3.1 Map of Connecticut displaying Broad-tool burials. Red dots are the individual burials, and the outer circles represent 10km buffered zone.

All lithic materials then pass through a process of sorting where a presumed place of origin is ascribed. Lithic sourcing can be both expensive and problematic because the process is not always scientifically accurate. Lithic sourcing is commonly accomplished via one of three methods: archaeometric, petrographic and stylistic sourcing.

Archaeometric

Archaeometrical analyses examine the chemical characterization of lithic artifacts and are an accepted method of determining a raw material's origin. Familiar archaeometrical instruments are x-ray fluorescence spectrometry (XRF), neutron activation analysis (NAA) and

mass spectrometry (MS). These vary in cost, availability, recommended sample size and degree of artifact damage (Harbottle 1982). Many lithics that were used for chipped stone tool production form over long periods of time and "have as much variation within a source location as between source locations" (Andrefsky 1998:41). For this reason, Shackley (2008) cautions archaeologists when using the word 'sourcing' because materials are sourced by percentage and exact 'sources' are rarely matched. The best information archaeometrists can provide is "a chemical characterization and a probable fit to known source data" (Shackley 2008:196–197). Despite these drawbacks, Shackley (2008) considers chemical sourcing a more accurate raw material locator than any method of macroscopic characterization.

Ideally, this should have been done for this thesis, but I am not sure how many burial items are still available for analysis. Whole assemblages could no longer be the basis of this thesis; therefore, the focus had to be redirected to the diagnostic pieces (projectile point forms) of each assemblage because this produced a singular tool type for comparing the site information. Regrettably, this tactic ignores numerous amounts of chipping debris that could, in fact, exemplify raw materials that are not represented in projectile point form. There really is no benefit to accruing the added expense and time of using archaeometry to source selected diagnostics at this time. Once we are able to collect additional Broad-tool sites with completed assemblages, then a more unbiased type of methodology, possibly like the full-assemblage method that I had initially attempted, would benefit from archaeometric sourcing techniques.

Petrographic

Petrographic investigations are more affordable but fall prey to researchers' knowledge of intra/inter-regional geologic deposits and their capacity for distinguishing between identifiable

mineral characteristics (Earle 1982). Knowledge of regional lithic deposits and geologic diagenesis is needed to identify lithics macroscopically or microscopically. Diagnostic artifacts included in this study were sourced via a macro/microscopic means. Many of the artifacts examined here were previously examined by Barbara Calogero and were either included in her dissertation work or documented in an unpublished binder prepared years ago. She accomplished an amazing task by drawing and then recording the lithic materials for all formed tools at a number of sites, three of which are included in this research (e.g., Carrier, Schwartz and Griffin).

Because many artifacts that appear in this thesis were sourced macroscopically, an overall, general sourcing method was constructed. Materials were linked back to known regional locations but not to exact sources. For example, rhyolite artifacts and debitage recovered in Connecticut are routinely associated with rhyolite deposits in eastern Massachusetts, even though known sources of rhyolite exist further north and southwest of Connecticut (Calogero 1991; Dincauze 1975; Pfeiffer 1992). In her dissertation, Calogero (1991) analyzed a series of lithic materials exposed at ancient sites within central Connecticut in order to examine lithic selection and stone tool manufacture in pre-contact Connecticut. Each material was categorized as local or non-local to the region (Table 3.1). Calogero's (1991) table is utilized here as a base model, but then expanded upon in order to incorporate all lithic materials reported for the sites examined in this research (Table 3.2).

Local Lithics	Non-local Lithics
Basalt	Argillite
Chalcedony	Jasper
Garnet	Other cherts
Gneiss	Rhyolite
Hornfels	Welded ash flow tuff
Pegmatite	
Quartz	
Quartzite	
Sandstone	
Schist	
Shale	
Siltstone	
Slate	
Steatite	
Talcott basalt	

Table 3.1 Lithic materials considered local and non-local to central Connecticut (compiled from Calogero 1991).

LOCAL (heavily represented in CTRV)	LOCAL (represented in many parts of CT)	NON-LOCAL (exotics)
Basalt	Quartz	Flint
Talcott basalt	Quartzite	Other cherts
Hornfels	Gneiss	Rhyolite
Slate	Copper	Argillite
Shale	Schist	Jasper
Siltstone	Silicified Mud	
Sandstone		
Steatite		

Table 3.2 Compiled list of lithic materials found within burial and non-burial sites in Connecticut sectioned into local and non-local (CTRV=Connecticut River valley; CT=Connecticut).

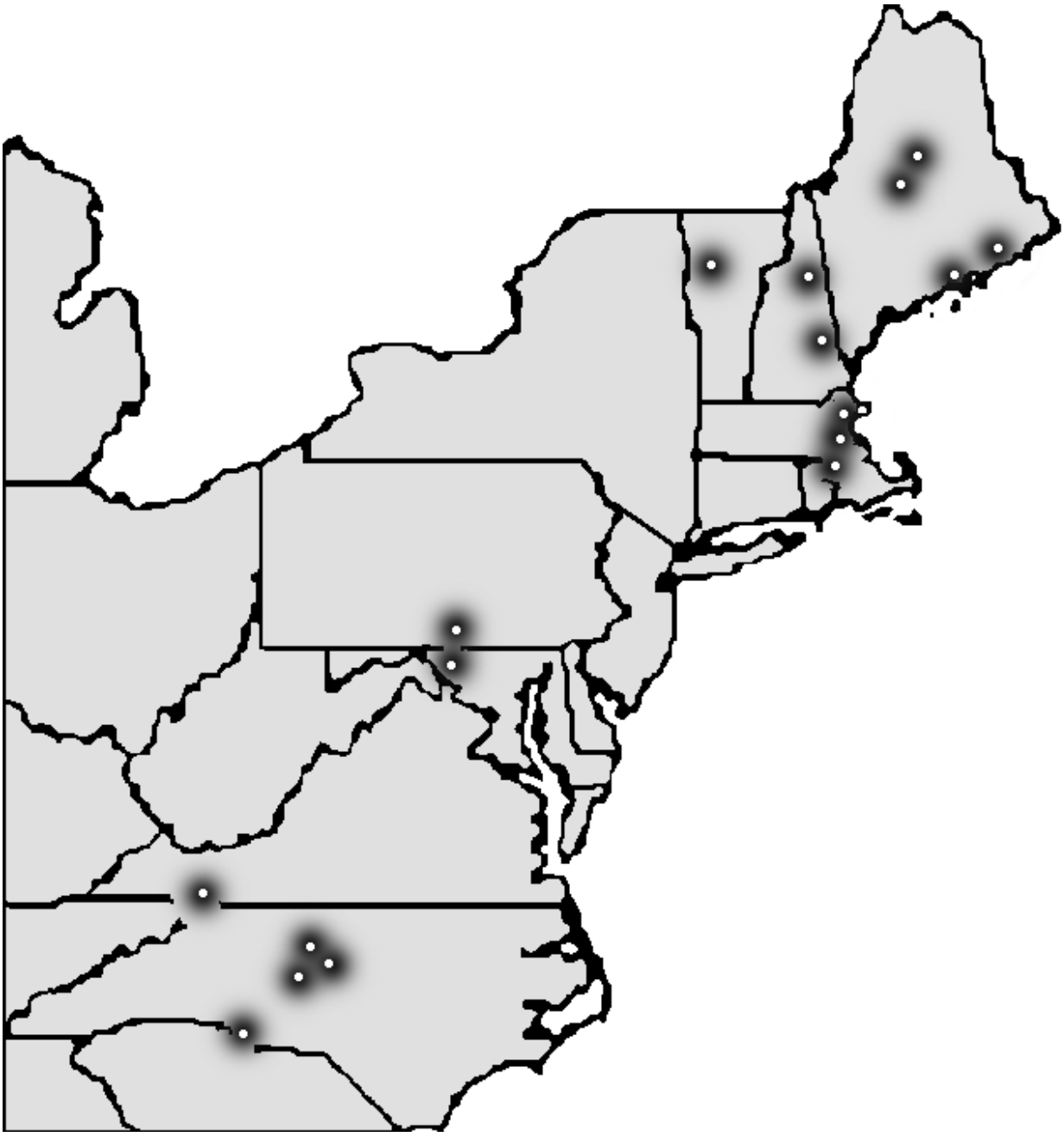


Figure 3.2 Metarhyolite Sources in the eastern United States. Adapted from Bondar (2001).

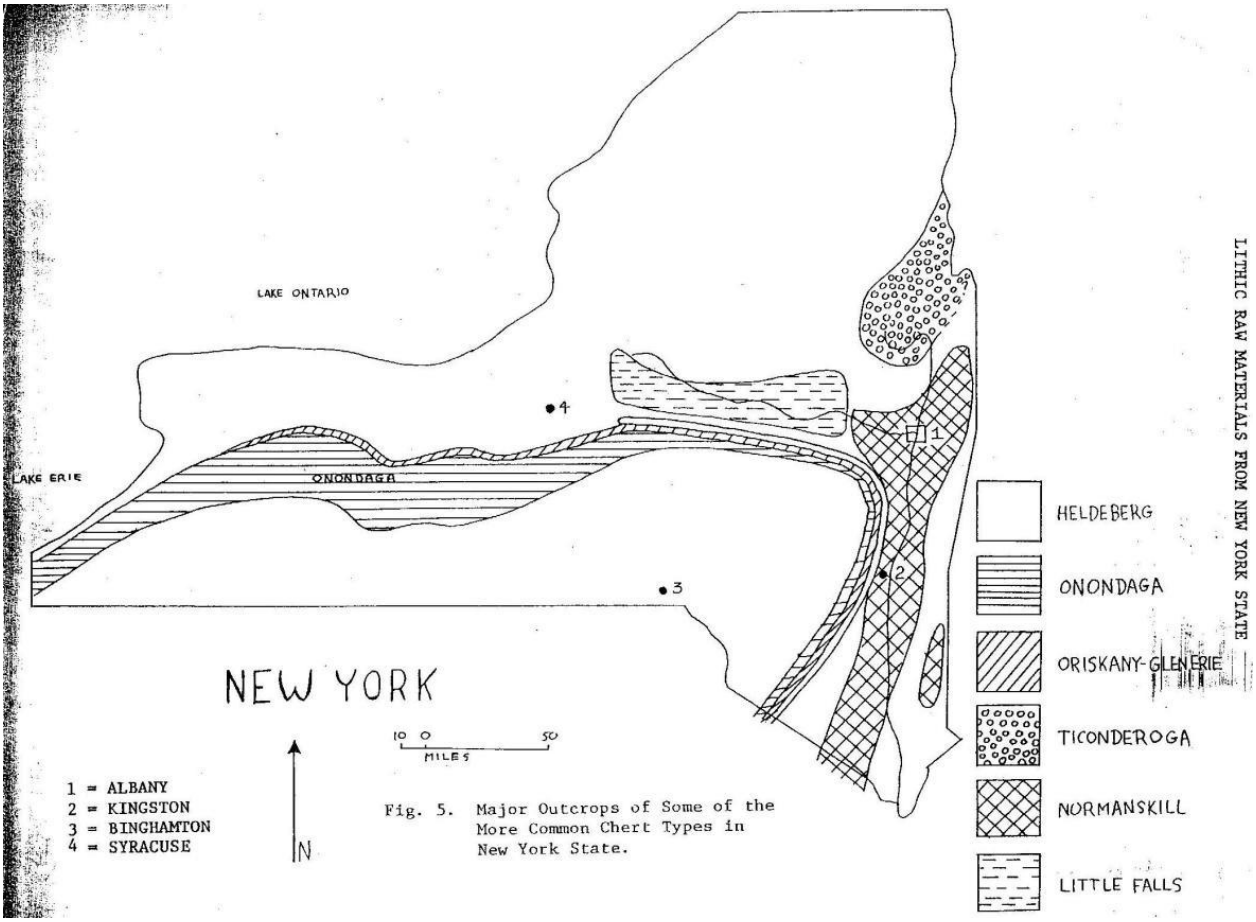


Fig. 5. Major Outcrops of Some of the More Common Chert Types in New York State.

Figure 3.3 Variations of chert local to New York. Adapted from Hammer (1976).

The main lithics selected for Broad-tool point forms in Connecticut were predominately quartz, quartzite, chert, rhyolite, hornfels and argillite. Of the non-local materials, rhyolites are heavily associated with deposits in Massachusetts (mainly) (Figure 3.2), cherts are linked to parts of New York (Figure 3.3) and argillites stem from Rhode Island (Pagoulatos 1986; Strauss 1989). It must be stated that defining materials as local or non-local to a state is tricky to say the least and may not correlate to a person's perspective of what is local and available to them. A resource that is local to the eastern portion of a state may be considered non-local to residents

living in the western half of the state, but the line between local and non-local must be drawn somewhere. For this research, the lines follow the current state boundaries. As stated earlier, archaeometric sourcing techniques are more precise than macroscopic, but that would require complete, intact assemblages, which are no longer unavailable.

Stylistic

Finally, artifacts can also be diagnostically sourced to a particular region or sub-region based on their stylistic make-up. The actual raw material is of less concern when tracing artifact stylization because it is the *style* that is considered the import from a secondary location. Wobst's (1977) functional information-exchange model used stylistic messages as accurate determinates of social boundaries and markers of the diffusion of social information. Although archaeologists may not be able translate an artifact's stylistic meaning, they may be able to track the artifact's stylistic origins.

Stylistic sourcing is discussed briefly in Chapter Four because Broad-tool points resemble Savannah River points, which is likely a result of cultural migration or technological diffusion from the southeast. This type of 'cultural' sourcing is outside of what Earle (1982) had intended for tracing socio-economic systems and should not be considered part of the sourcing process. I merely intend to express the similarities between the northern and southern cultural systems and imply that much more than technology could have spread along the Eastern seaboard.

Zonal Approach

The selected cremation sites were then buffered by a ten-kilometer buffer, generating a bounded space from which to analyze social dynamics. The buffered distance was selected based on the Optimal Foraging Theory and concepts of range and territory (see Cashdan 1983; Dyson-Hudson and Smith 1978; Kelly 1983, 1994; MacDonell 1995; Sampson 1988; Thomas 1986). Also, a wider radius would create overlapping zones. Each zone, or cluster system, is the product of only one burial and a selection of non-burial sites falling geographically within the cluster system. In order to hone in on burial/non-burial lithic relationships, each non-burial site can only be associated with one burial, thus giving each cluster system its name (e.g., Rye Hill cluster system). Additionally, while non-burial information was collected from multiple resources, certain sites fit all necessary criteria set forth by this research, except they were located just outside the buffered zone. This occurs with all but the Carrier cluster system. For the remaining cluster systems, the bounded area will be examined first (cluster system) and then the additional sites will be added to form the complete cluster system. The zonal approach will only compare lithic materials within a completed cluster system, or intra-zonally (chapter seven).

As discussed in Chapter One, the assumption is made that all Broad-tool communities contained within a cluster system were able to procure the same local lithics and had similar access to non-local lithics via some type of socio-economic exchange system. Due to the scarcity of existing habitation assemblages available to the author, the concept of habitation/domestic site was expanded to include any location where Broad-tool point forms were located, without concern for site size, excavation technique (i.e., surface find, amateur find, CRM project, etc.) or level of disturbance. All site information was welcomed from the buffered zone as long as projectile point forms diagnostically fit within the period and lithic raw materials

could be determined. Therefore, site types are simply labeled burial and non-burial because non-burial sites do not necessarily represent domestic locations.

Spatial Patterning of Commodities

The second phase of identifying ancient exchange is to describe and/or map the spatial patterning of exchanged materials, which has traditionally been presented in point scatters or regression analyses (e.g., Earle 1982; Renfrew 1975). However, modern-day archaeology is benefitting from the adoption of Geographic Information Systems (GIS), which are constructed to work *with* map data (Price 2010). For archaeologists, this translates into a database that can plot site locations on the landscape and is also equipped to diagram spatial patterning within and between these archaeological sites (Lock and Harris 1992). Once each site location is plotted within a cluster system with the GIS, then specific attributes are appended to these site locations based on a series of elements designed to run queries within the GIS: site name/number, site type (burial/non-burial), cluster system, lithic material, origin of lithic source, tool/point type and town.

Regional Approach

The regional approach is aimed at comparing complete cluster systems to each other, or using an inter-cluster method. It is at this level of the research that questions regarding raw material selection, socio-economic exchange, and variations in burial ritual will be addressed as factors cultivating Broad-tool socio-economic dynamics in Connecticut. It is possible that cluster systems participated in different degrees of socio-economic exchange due to their geographical location, kinship system, population size, etc., and therefore amassed differing

sums of lithic materials or even separate types of rocks altogether. The goal of the regional approach is to reconstruct socio-economic exchange in Connecticut, identify the importance of non-local goods and define the social relationships associated with the movement of lithic commodities.

Reconstruction of Socio-economic Exchange

Reconstructing social exchange routes during the Broad-tool phase in Connecticut encompasses more than establishing the movement of commodities and directionality of exchange. The cluster systems afford a unique opportunity to examine not only the distribution of local and non-local lithics within fixed locations, but also offer an additional glimpse into patterns of lithic deposit and discard between adjacent cremation and non-burial sites. Current technology makes reconstructing exchange routes and pathways a much simpler task than in past years, but these reconstructions are virtually meaningless if the mechanics of socio-economic exchange are ignored. Therefore, the research emphasis here is two-fold: (1) macroscopically source non-local lithics back to the most probable place of origin for the site and cluster system levels and (2) then identify which lithics and diagnostic bifaces were selected as ritual goods for deposit in Broad-tool cremations. The former ascertains whether all Broad-tool populations in the study area selected or had access to similar non-local materials, while the latter highlights lithic differences in cremation and adjacent non-burial assemblages. This allows for the reconstruction of the physical movement of non-local goods and analyses of the social mechanics driving the selection and use of non-local lithics.

Reconstruction

Hodder (1982) proposed a process for reconstructing social exchange, which again was altered in order to fit within this research: (1) Identify a single artifact type within the region and compare burials to non-burials while paying close attention to aspects such as the number of artifacts per site, sex and age of people buried with said artifacts, where these items are deposited, etc. (2) Compare and contrast local areas within the region in order to detect boundary lines by examining the distribution of local and non-local materials. (3) Finally, inspect the shape and form of these artifacts as they appear across the region to identify whether "knock-off" styles developed, which suggests the desire by a non-elite class to mimic more elite groups. The first two stages of Hodder's reconstruction are attainable within this current research approach; however, the third would require a closer concentration on the Broad-tool point forms. Many of the point forms applied to the overlays in the GIS were compiled from literature reviews and were not available for stylistic analyses. Hodder's third stage will not be addressed here. Most stylistic variation probably reflects chronological rather than regional variation, anyway.

Artifact Identification

The main Broad-tool forms utilized within the region for the period were previously identified: Snook Kill, Perkiomen, Wayland Notched and Coburn (see chapter two). Unfortunately, a comparison between the content deposited in burials versus non-burials cannot rise to the degree that Hodder (1982) envisioned because the Broad-tool burials discussed here are cremations. Any analyses centered on sex or age studies are virtually impossible given the nature of the human remains. There was an attempt to categorize each tool type in order to determine what correlations could be detected between point type, location, and lithic material,

but not all point forms were labeled correctly in the literature and some were loosely termed Broad-blade or Broad-spear.

Detecting Boundaries

The comparison of local areas falls within the zonal approach. The initial goal was to trace the movement of non-local lithics across the region by recording raw material types and weights for each site, and then track lithic volume as the distance from its source increased. The movement of goods over any distance translates into the movement of a desired commodity across internal and/or external boundaries (Renfrew 1984). From a substantivist's perspective, rebuilding ancient exchange opens a window to discussions regarding ancient social organization because economic behavior for these populations was embedded within larger socio-political institutions (Earle 1982). Therefore, the distribution of an exchanged raw material within a population will in turn demonstrate group boundaries (Earle 1982). Unfortunately, given the scarcity of archaeological sites available for the period, producing such information was not possible.

Boundaries potentially serve a dual purpose. They define a center bounded by an edge but can also create a liminal 'zone' along the edged perimeter where exchange and levels of acculturation occur (Alverez 2005). Sampson (1988) defined three concentric rings of a territorial foraging zone that hunter-gatherers would travel within while searching for resources: Core Area, Annual Range and Lifetime Range. The innermost ring, or Core Area, was comprised of land and resources that were defended and considered 'owned' by the group. The Annual and Lifetime Ranges extended outward from the Core Area and were exploited by group members but not defended (Sampson 1988). Those individuals that frequented the boundary

zone, or Lifetime Range, may eventually perceive this space as a core within itself where exchanged goods, information and technology were bartered for and relationships established (Savage 1990).

Working on the assumption that "virtually all human behavior results in patterning in the physical, cultural or cognitive landscapes," Savage (1990:330) mapped Late Archaic social boundaries in the Savannah River Valley of Georgia and South Carolina in a GIS. Demarcating base camps as central points, he plotted these Late Archaic sites by type and divided them into bounded territories using the Theissen Polygons approach. He was able to section sites into boundary zones where varieties of site types support home bases, but these zones posed dual functionality as both edge and centers. Two groupings of short term encampments clustered around the edge zone suggesting they doubled as information and exchange areas. This type of approach enabled Savage (1990) to reach past subsistence-based inquiries and expand our understanding of multi-cultural development within the Savannah River Valley.

Because this study's sample was restricted to include only obtainable points within the cluster boundaries, with no regard for site condition or excavation technique, defining site types was not possible. The techniques offered by Sampson (1988) and Savage (1990) demonstrate two different approaches to locating boundary zones. Because the Terminal Archaic predates the development to statehoods in Connecticut, we must consider the techniques offered by Sampson (1988) and Savage (1990) and appreciate that boundaries were flexible zones during this period and not defined by a sharp linear divide.

Non-local Goods and Transportation

McCallum (2010:75) defined exotics, or non-local goods, as those items "that in some way possess characteristics deemed unusual, rare, or unique, and thereby are often highly desirable." A large portion of the exotic's prestige and value is derived from the distance the item travels before reaching the consumer (Appadurai 1986; Irwin-Williams 1977; Renfrew 1984) and can influence whether the goods are utilized in the technomic (functional), sociotechnic (social/prestigious) or ideotechnic (ideological) realm (e.g., Binford 1962). Stewart (1994) analyzed Late Archaic exchange methods throughout the mid-Atlantic region and ascertained that technomic artifacts on average were exchanged via a broad-based system. Broad-based exchange involves a hand-to-hand movement of goods and is similar to Renfrew's (1977) down-the-line process. Many of the technomic artifacts used in Stewart's study were finished projectile points and bifaces, which carried utilitarian functions. However, for these Late Archaic inhabitants, Stewart (1994:81) observed that broad-base exchanged items were rarely deposited in specialized contexts such as burials.

Items catalogued in the archaeological record do not necessarily symbolize goods that were in the midst of being exchanged, but instead represent a point of deposition and are seen in middens, burials or locations of accidental discard (Welinder 1988). Site types are defined archaeologically by the activity areas present and the types of tools located within the site parameters. Therefore, the rate at which non-local goods are distributed across site types and within assemblages as tools, coupled with the number of exotics present per site and their distance from the source will provide some inference as to their desirability as a commodity and their role in the exchange system. Technomic artifacts, due to their utilitarian function, will

presumable be discarded in a different manner and context than sociotechnic and ideotechnic goods (Custer 1984).

The weight and quantity of an exchanged good is directly correlated to the distance it travels from its source and its social/economic worth; lower valued items will move less distance than higher valued items (Irwin-Williams 1977; Renfrew 1984). Extensive river systems present in southern New England provide a non-terrestrial mode of transport allowing for the movement of an increased weight and quantity of exchanged lithic materials. Allen (1990) used GIS to model trade between Native Americans and Europeans from 1550 to 1750 AD in the Great Lakes region. Her model was built on the premise that hydrologic networks were the most important communication and transportation routes available to Natives and early European settlers. By monitoring escalating European populations and trade good demands, which were represented in the GIS by the swelling number of European forts, Allen was able to identify spatial patterning that gave rise to new queries and avenues of research pertaining to Native American and European trade networks and the displacement of Natives by European settlements.

Identifying how Broad-tool cremations are spatially patterned across the landscape and whether their distribution could be related to modes of easy transport, like waterways, could provide another route of study. Robinson (1992:106, 2001, 2003, 2006) reasoned that the location of Moorehead Tradition "cemetery concentrations (not of every cemetery) corresponds to a zone of interior lake and riverine locations that are easily accessible from the coast," and are linked to critical resources and boundary maintenance. If cremations were in fact considered seasonal gatherings where groups congregated to celebrate and identify group affiliation, then they could have also been employed as a location of non-local lithic dispersal (Pfeiffer 1992). If

so, then it would be expected that these locations were adjacent to waterways to allow for ease of transport of lithic materials and, possibly, deceased individuals.

Defining Social Relationships

Normally, in an exchange system, items are moving into a location while alternate goods are being taken out, hence an exchange. Although southern New England has numerous resources available for inhabitants, it remain unknown exactly which goods were utilized as outgoing commodities. Broad-tool assemblages do not portray a heavy focus on fishing, which would provide a rich exchange good due to the extensive water systems available. Even though we cannot directly trace which items were considered commodities and traded for with non-local groups, we can ask why communities chose to participate within social exchange systems during the Terminal Archaic in Connecticut.

Dillian and White (2010:7) addressed five benefits for cultural participation within social exchange systems that are seen throughout history: (1) resource buffering, (2) redistribution of goods, (3) prestige, (4) connective force between groups and (5) information sharing. Ancient exchange acted as both a social and economic exchange system where social dynamics often carried more meaning than exchanged material itself (Dillian and White 2010). Given the presumed level of political control, mobility and population numbers, not all fit well with the Terminal Archaic Period.

Resource Buffering

Exchange can be used to supplement group resources during seasons of low production. O'Shea (1981) found that perishable foods were often cached using indirect storage, which is a

process that converts food into more stable, non-perishable forms, like beads, gold, or jewelry that can be re-exchanged for fresh foods in the future. He classified this type of exchange, where food was 'banked' in non-perishable form, social storage. It is possible that exotic lithics played some role as a means of social storage; however, this is unlikely since these lithics tended to be utilized and would not retain their economic worth through time. Many lithics selected for the manufacture of Broad-tool point forms are local to southern New England as a region but not local to their places of deposit. Because the procurement and transportation of lithic material expends a large number of calories, it would be more efficient for populations to increase mobility and access food resources directly instead of initiating an exchange system if population density allows. However, reasons do exist for internal exchange to occur. Connecticut could be considered multi-cultural during this temporal period, if Narrow-Stemmed and Broad-tool populations co-existed, and establishing social networks with others of your own culture could be a way of acknowledging ties to a larger, allied population.

Redistribution

According to Sahlins (1972:188), redistribution indicates pooling of resources and the socially "collective action of a group" to benefit those members within the population. Pooling resources requires a social center and a social boundary defining where goods will be pooled from and redistributed to. The practice of redistribution requires that a sophisticated political system is in place with at least a Chief or Big Man responsible for resource collection and re-dispersal. If this were in practice during the Terminal Archaic, archaeologically we would expect to see a directional movement of certain resources moving towards the social center and then a scattered mixture of these resources utilized throughout the socially bounded area (Irwin-

Williams 1977; Plog 1977; Sahlins 1972). Currently, the archaeological record does not support this type of movement during the Terminal Archaic in New England.

Prestige

As previously stated, Broad-tool cremation rituals may have acted as a group-bonding element where the deceased were interred in singular or group burials. If merely possessing non-local lithics gave individuals prestige, then we would not expect to see them broken, possibly burned and then scattered across multiple cremation plots unless the act itself enhanced their prestige. Prestige goods are considered commodities that hold value to the consumer and are rarely destroyed (Appadurai 1986). They were typically kept as items of social status, re-entered the exchange market as commodities or were banked with other groups as social storage (see O'Shea 1981). It is unknown as to whether presenting a prestigious burial good for interment with the dead in turned socially benefitted the gifter. We have seen, throughout history, situations where deceased members of a community are lavishly buried due to the generosity of the living relatives or friends, but the prestige associated with the burial is carried by the living who provided for the burial and not the dead (Pearson 1999). This marks an ideal moment for the living to display their wealth by giving to the dead in front of the group.

Social Connectivity

Dillian and White (2010) found evidence of populations utilizing exchange as a mechanism to force positive relationships with surrounding groups. Gregor (1990) witnessed this type of behavior with ten Xingu villages in Central Brazil. Each group within the social system monopolized a trade or product, which they would then provide to additional members of

the exchange network. Peace and non-violence was woven into the cultural standards and practiced with their exchange partners. Each village was capable of subsisting independently if necessary during times of stress, but participating groups chose to establish outside relationships and rely on neighboring villages for resources; thus establishing positive inter-group relations. This type of behavior possibly existed during the Terminal Archaic, but it remains difficult to determine the role Broad-tool point forms and non-local materials within this cycle.

Information Sharing

The sharing of information is almost impossible to trace archaeologically due to its perishable nature, but must have been an essential exchange commodity for ancient populations including Terminal Archaic occupants. Information sharing was a necessary survival strategy for many ancient people because it not only provided information regarding animal migrations, lithic outcroppings, plant resources or the location of rival communities, but it also generated positive relationships between members of the social exchange network. We see this type of behavior during the Paleoindian period (12,000–10,000 BP) in New England when populations were low and group mobility was elevated in order to access multiple food resources and procure lithic materials (Meltzer 1989). Large social networks enabled groups to exchange information regarding resource locations, promote alliances for food exchange/sharing when large animals were killed, and create possible mobility options for smaller family groups (Meltzer 1989).

CONCLUSION

The methodological approach outlined above allows for investigations to identify patterns of lithic deposit based on a three-scale system: anchored, zonal and regional. Anchored systems represent a point or singular place on a map (Irwin-Williams 1977). These are easily defined in my analysis as site locations or find spots mapped in the GIS and linked directly to one burial within the cluster system. Zonal systems specify zones of study that typically produce information regarding group interaction and social boundaries (Irwin-Williams 1977). Here, each zone consists of a cluster system constructed from a 10 km buffer around individual anchored sites, so that a quantitative approach can determine which, if any, lithic preferences existed for the communities contained within a cluster system. The final approach incorporates all sites discussed from a regional perspective in order to observe any broader relationships that may exist. Here, my application shifts to Broad-tool socio-economic systems across Connecticut during the Terminal Archaic. Using this approach, the goal is to identify which lithics were typically selected at the anchored, zonal and regional levels and then determine whether patterns of deposition can be detected, by asking whether specific lithic materials were reserved for burials or non-burials. This three-scale system will enable me to detect (1) which local and non-local lithics were deposited at a single location, (2) how these materials compare to temporally similar, neighboring locations, (3) whether discernible differences exist between burial and non-burial lithic deposits and (4) simply, what patterns can be extracted from the data once it is spatially mapped within a GIS.

CHAPTER IV: DEFINING SOCIAL EXCHANGE ALONG THE ATLANTIC SEABOARD

INTRODUCTION

The archaeological record indicates that various Broad-tool characteristics were shared among cultures inhabiting the Atlantic Coast. In the 1970's, Turnbaugh (1975) argued that a population advancement occurred along the Atlantic seaboard by Broad-tool bands pursuing a northern migration of preferred aquatic resources. Figure 4.1 replicates his map displaying the distribution of some Broad-tool sites stretching along the coast from northern Florida to central Maine (Turnbaugh 1975:55). Turnbaugh, however, was only one of a growing number of archaeologists to comment on the technological similarities stretching along the Atlantic Coast. A decade earlier, Coe (1964) identified numerous parallels during his excavations of the Doerschuk, Hardaway and Gaston sites along the Carolina Piedmont in North Carolina. He observed an obvious likeness of projectile point forms, which spanned throughout the Archaic. It is evident that some level of communication, diffusion or migration bolstered the reproduction of these traditions/styles along the coast. This chapter introduces the possible existence of an expanding social network stretching thousands of miles that would have fostered growing opportunities for social communication for Broad-tool populations in Connecticut.

Early forms of ancient trade were most likely based in gift exchange where goods were considered valuable based on the civil relationships they created and sustained (Meltzer 1989). Occasionally, the relationships were even more prestigious than the services or goods moving through the exchange networks (Dillian and White 2010). Populations transitioning to a more sedentary lifestyle typically encounter fewer resources, thereby stimulating a greater dependence

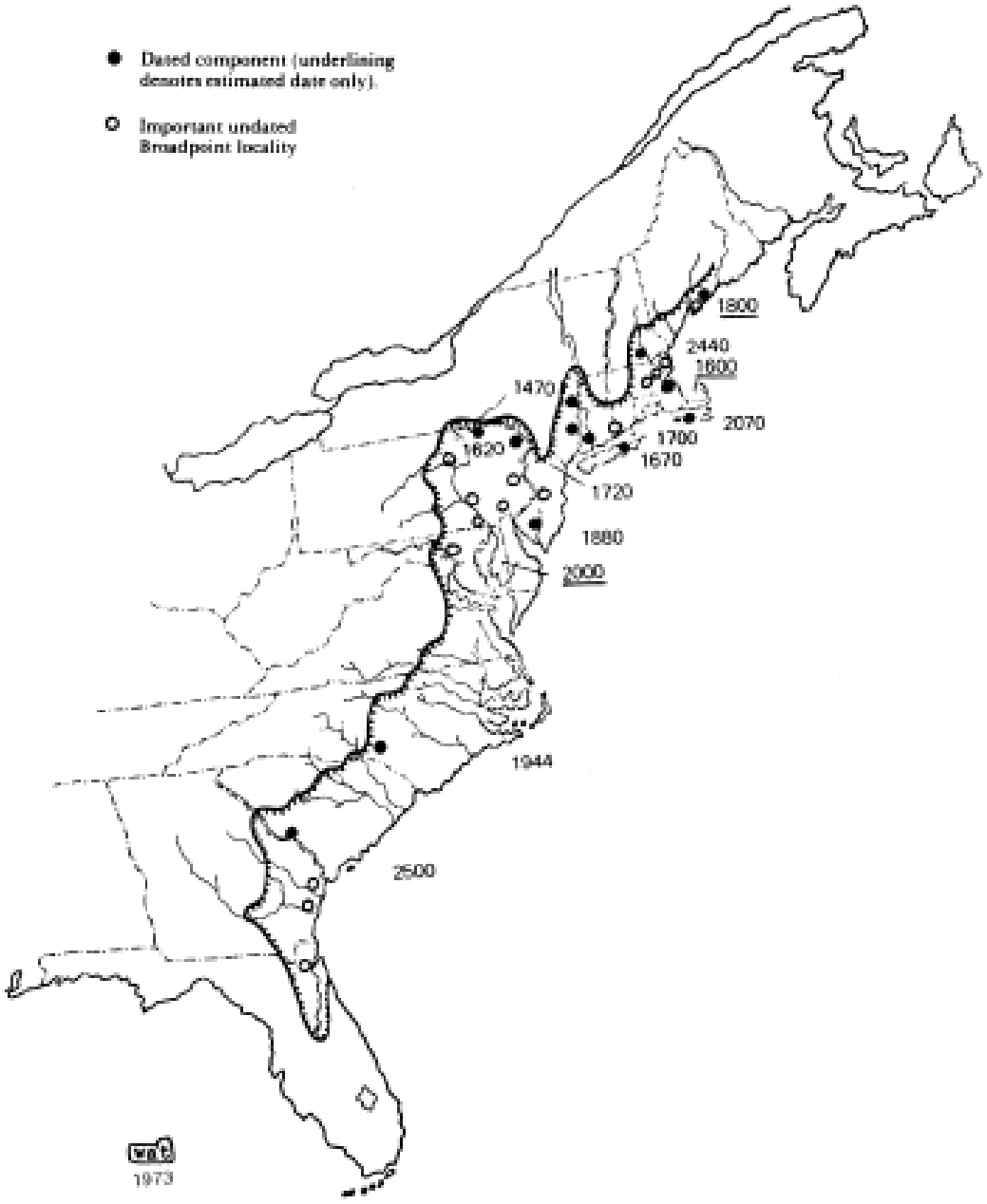


Figure 4.1 Dates of some noted Broad-tool sites along the Atlantic Coast (dates were given as BC). Adapted from Turnbaugh (1975:55).

on social exchange networks for certain resources (Hantman and Plog 1982). If a longstanding relationship existed among eastern populations for possibly thousands of years, then it seems reasonable to argue that information sharing within these socio-economic networks would not be restricted solely to a subsistence-based interchange. Informal 'chitchat' and gossip would likely spread information regarding social gatherings, trade opportunities or even cultural conflicts.

Due to the far-reaching 'social' aspects of socio-economic exchange, the research environment, for this chapter, was extended outside of Connecticut to better appreciate how exchange networks were established, cultivated and/or integrated into local societies. Cultural adaptation is a response to one's environment, an environment that contains natural (plants, animals, climate, etc.) and human elements (marriage partners, alliances, war, tradition, gossip, trade, etc.). The following pages are dedicated to the human elements that appear connected to the advent of Broad-tool technologies in southern New England.

The Atlantic Coast is trisected below into the Savannah River Valley, the Middle Atlantic region and Connecticut to discuss the spread of the broadened tool technologies that were transported, in some manner, through these regions. Growing unrest was building in the Savannah River Valley between neighboring cultures, one of which manufactured the Savannah River point, the presumed parent form to the Broad-tool points of southern New England. The archaeological record suggests that the tension ended when the Savannah River point communities, better identified as the Mill Branch populations, uprooted and left the valley. Coincidentally, there appears to be a synchronic movement of their projectile point and steatite bowl technologies north along river and coastal systems (Kinsey 1972). Whether this marks a stream of technological diffusion, a migration of people, or both, remains difficult to define archaeologically. Despite the method of transfer, a degree of similarity spread from culture to

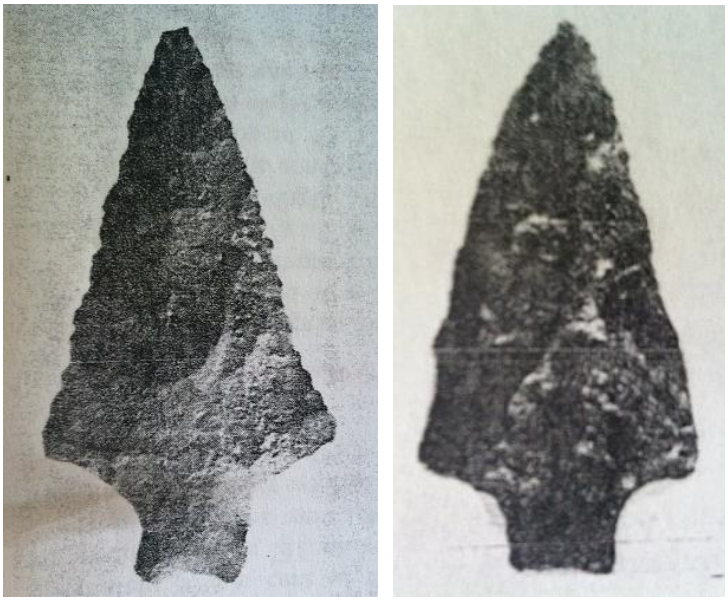
culture along these routes creating what should be considered a long-distance social exchange system.

SAVANNAH RIVER VALLEY

The naissance of Broad-tool technologies likely lies along the border of South Carolina and Georgia in the Savannah River Valley, with the Savannah River point (Sassaman 2005, 2006). Coe (1964) explored the probability that a larger sharing of technologies was locally born from the earlier Stanley complex, which is analogues to the Middle Archaic Neville complex of southern New England (see Dincauze 1976). Coe (1964:35) even stated that larger Stanley points at the Doerschuk site "tend to blend with the smaller points of the Savannah River type, and it may well be that they are related." Figure 4.2 demonstrates just how similar the two point types were even though 2,500–3,000 years separate the technologies.

Savannah River bifaces are well-documented in southeastern Late Archaic assemblages dating between 4,200 and 3,400 BP and are accepted by many as the predecessors to the Broad-tool technologies in the northeast (Coe 1964; Pagoulatos 2010; Sassaman 2006). Dating well into the Archaic, stylistic traits of the southeast are echoed in the northeast after only short lapses of time. It is hard to argue that communication along the eastern coastal and piedmont regions was nonexistent. In fact, given all of the similarities, it is reasonable to assert an uninterrupted affiliation throughout the Archaic Periods via northward cultural or human migrations from the southeast. Stallings Island, which is located in the middle Savannah River region between Georgia and South Carolina, yielded important data concerning cultural traits and stylistic traditions that temporally precede and overlap the Late and Terminal Archaic populations of

southern New England (Figure 4.3). Three phases appear to have existed in the middle Savannah River region as evidenced by Stallings Island and surrounding locations: Paris Island (4,600–4,200 BP), Mill Branch (4,200–3,800 BP), and Stallings Island (3,800–3,400 BP) (Table 4.1).



A. B.

Figure 4.2 Displaying the similarities between the larger Stanley Stemmed of the Middle Archaic (A) and the smaller Savannah River types of the Late Archaic (B) as seen at the Doerschuk site in North Carolina. Artifact A is specimen *H.* from FIG. 31 (Coe 1964:36) and artifact B. is specimen *A.* from FIG. 38 (Coe 1964:44). Not actual size.

The Stallings culture along the coastal zone can also be divided into three temporal phases based on the presence/absence of pottery, later pottery styles, and steatite bowls throughout the Savannah River Valley (Table 4.2). Stallings I represented a pre-pottery Coastal Plain phase that utilized steatite (also referred to as soapstone) vessels imported from the uphill and upriver Piedmont areas and manufactured lanceolate Allendale blades from local chert sources. Stallings II sites (around 4,500 BP), or Early Stallings, yield evidence of the first pottery of the Southeast. These tend to be flat-bottomed and shallow vessels; however,

soapstone bowls continue to be transported down the Savannah River from the interior Piedmont zone. Stallings III (after 3,800 BP), usually termed Classic Stallings in the literature, developed the classic drag-and-jab punctuated pottery and maintained their manufacture of broad point forms. It was during this final stage of the Stallings periods that archaeologists have tracked a shift of settlement patterns leading towards permanent intrusion upriver towards the Atlantic Seaboard fall line (Sassaman et al 2006). This marks the transitional area between the upland Piedmont geologic zone and the lower coastal plains.

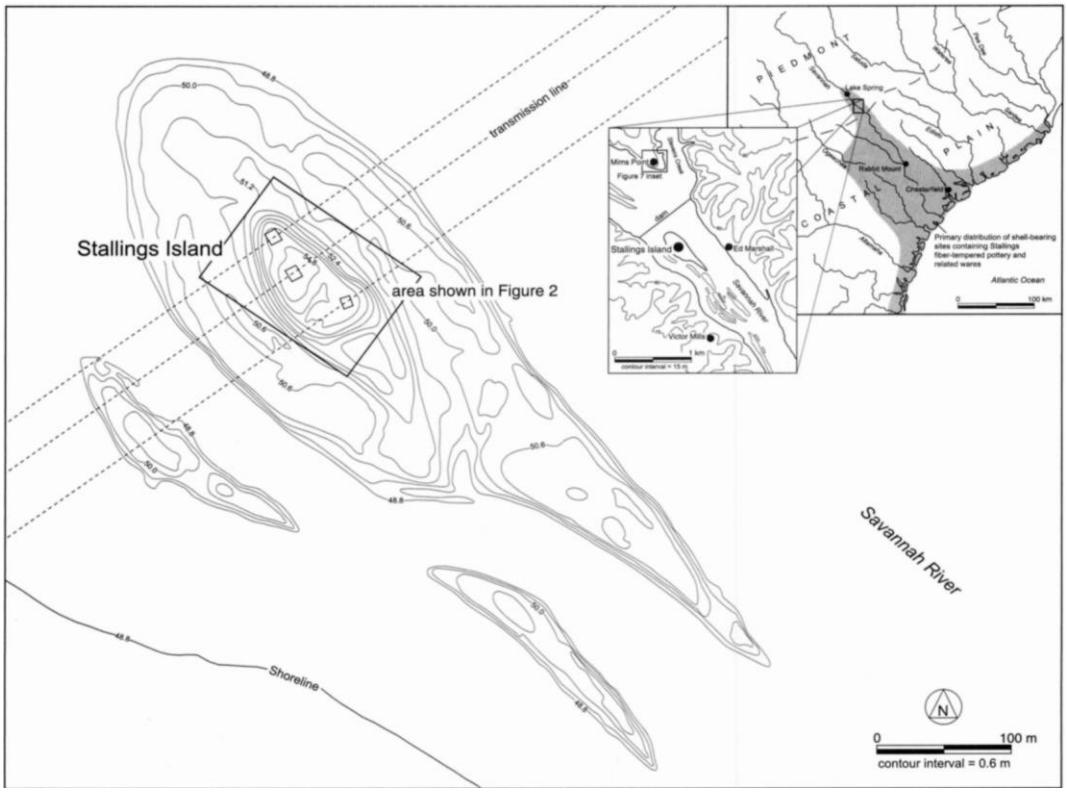


Figure 4.3 Map depicting location of Stallings Island located along the Savannah River, which borders South Carolina and Georgia. The Ed Marshall site is also referenced on the inset map and is positioned just to the east of Stallings Island. Adapted from Sassaman et.al. (2006:540).

Stallings Island Components	
Paris Island	4,600 – 4,200 BP
Mill Branch	4,200 – 3,800 BP
Stallings III	3,800 – 3,400 B.P

Table 4.1 Components of Stallings Island. (Based on research by Sassaman 2006 and Sassaman et al. 2006).

Coastal Stallings Components	
Stallings I	pre-4,500 BP
Stallings II (Early Stallings)	ca. 4,500 BP
Stallings III (Classic Stallings)	post-3,800 BP

Table 4.2 Coastal Stalling Components. (Based on research by Sassaman 2006 and Sassaman et al. 2006).

Stallings Island represented the zone of convergence for what Sassaman (2006) christened a 'multiethnic neighborhood.' Along the Savannah River during the Late Archaic, there was mobility across cultural lines not witnessed in many regions. Stallings sites slowly begin to creep up the river where their communities exchanged beads and coastal goods for soapstone bowls with the Piedmont inhabitants (Sassaman 2006; Sassaman et al. 2006). However, according to Sassaman (2006) and Coe (1964), this may have also spurred the development of separate, recognizable social identities between the two communities. Archaeologically, we see "the coexistence of groups whose material culture and lifestyles signal distinct historical lineages, notably the coastal-oriented Stallings culture, makers and users of the

oldest pottery in the Southeast, and their Piedmont-oriented contemporaries who never adopted pottery" (Sassaman *et al*. 2006:551).

Paris Island and Mill Branch

The Paris Island culture gained its name from a Piedmont site in the upper Savannah River Valley. The site is well-documented for the ample number of soapstone cooking slabs manufactured and transported from a quarry approximately three kilometers away (Sassaman 2006). The culture's principal diagnostic artifact is the Paris Island Stemmed point, which is stylistically classified as a small triangular blade, with sloping shoulders, and sits atop a slightly convex base (Sassaman 2006). These small blades were manufactured from quartz, a ubiquitous Piedmont raw material, and resemble earlier Morrow Mountain points from the Middle Archaic Period, although a direct relationship has yet to be made. Paris Island cultural remains mark the dawn of the Late Archaic in the Southeast and allude to deep cultural roots embedded in the Piedmont region. In addition to small-stemmed points, numerous perforated soapstone vessels and highly specialized bannerstones are standard in Paris Island assemblages (Sassaman 2006; Sassaman et al. 2006).

Mill Branch and Stallings

Remains of the Paris Island phase and the subsequent Mill Branch Phase on Stallings Island indicate seasonal riverine and inter-riverine settlement preferences, extensive shell fishing (especially during the later Mill Branch phase), and burial rituals reflected in scores of human interments (Sassaman et al. 2006). Mill Branch (4,200–3,800 BP) cultural remains intensified approximately 4,200 years ago on Stallings Island and are represented by cruciform drills,

imported soapstone cooking vessels, and large, broad metarhyolite bifaces that are the local expression of Coe's (1964) Savannah River Stemmed point. Notched winged bannerstones are also apparent at many of these sites with some even appearing hypertrophic, or abnormally large, in scale (Sassaman 2006; Sassaman et al. 2006).

Trade between the Coastal Plain and the Piedmont populations is evidenced by soapstone vessels unearthed with Stallings cultural deposits and the marine shell beads that were found deposited in Paris Island and Mill Branch burials (Sassaman 2001). When two coeval cultures participate in a profitable exchange system, some intermarriage is expected to occur in order to further strengthen existing social and economic relationships (Sassaman 2006). Upriver Stallings sites like Ed Marshall, which rests adjacent to Stallings Island, substantiate the assertion that Early Stallings groups were traveling up the Savannah River valley, possibly for the purpose of exchange, and over time became familiar with the landscape and surrounding ecosystems. These forays eventually matured into long-term occupations. As the Early Stallings populations penetrated the middle Savannah River, the Mill Branch populations abandon the region, as evidenced by Stallings Island, which apparently remained uninhabited for two centuries until the Classic Stallings groups descended heavily with their unmistakable cultural goods.

Mill Branch sites reflect an abandonment of Stallings Island after two centuries of occupation, after which they reappear in northern Georgia and other locales outside the middle Savannah River Valley. The emergence of the Mill Branch culture, possibly from the roots of the Paris Island culture, is coterminous "with the sustained presence of a 'foreign' people in their traditional land" (Sassaman 2006:77). This suggests that the Mill Branch desertion of Stallings

Island was a direct consequence of the migration of the Early Stallings interlopers into the middle Savannah River Valley (Sassaman 2006; Sassaman et. al. 2006).

Discussion of the Southeast Region

With multiple cultures inhabiting the Savannah River Valley, expressions of cultural identity developed and are well represented in the archaeological record (Sassaman 2006). Diagnostic Mill Branch bannerstones, or atlatl weights, with forms represented by the recessed spines, thinly tapered edges, and extreme raised detail, have been located at numerous sites along the river valley (Sassaman 2006). The actual size and weight of the bannerstones suggest a non-utilitarian function, since their hypertrophic form would have "confounded the mechanics of spearthrowing" (Sassaman 2006:60). Sassaman (2006) interprets the manufacture of hypertrophic bannerstones as the expression of Mill Branch populations asserting their cultural identity against the coastal interlopers. Interestingly, the appearance of these bannerstones ceases once Mill Branch populations withdraw from lands that were co-inhabited by Early Stallings peoples (Sassaman 2006). Only with contact is diversity important and often stressed (Blaire Gagnon, personal communication 2014).

Stallings communities, especially Classic Stallings, also maintained their own exaggerated stylistic tradition, evident in their elaborate pottery styles, and carved bone pins (Sassaman 2006). Sassaman (2006) anticipated that members of this culture would have looked 'Stallings' to outside groups and could be identified by their garments, hairstyle/headdress, and accessories. Conveying one's cultural identity to outsiders appears to have intensified as cultures of the Savannah River Valley began to converge upon one another, and suggests that populations "were actively creating symbolic boundaries of inclusion as a means of self-identity and

integration, and boundaries of exclusion to distinguish themselves from their neighbors" (Sassaman 2006:78).

The northern movement of Broad-tool technologies could have opened the door for other cultures to peer into the Southeastern region and witness developing concepts of cultural identity and territorialism. This discussion does not claim that cultures of the southeast were the forbearers and creators of cultural identity or its associated expressions. However, as the Broad-tool form moved into new cultural settings, trailing stories of cultural co-existence (multi-ethnic neighborhoods), rejection of cultural assimilation, and the manufacture of hypertrophic tools solely created as a means of identity could have given birth to new concepts within certain social circles.

Sassaman (2006) claimed that the abandonment of Mill Branch sites as the Early Stallings bands moved up the river denotes the Mill Branch people's rejection of assimilation. Mill Branch populations knew of Early Stallings pottery through exchange and communication but never adopted the technology. This either signals a discord between the two populations, which eventually forced the Mill Branch groups to retreat from their lands, or it was merely a complete rejection of outside customs by the Mill Branch culture.

If southern populations migrated north along the Atlantic Coast, they would no doubt carry with them a cultural 'residue' (customs, experiences, contact with foreign populations) that would affect how they interacted with unknown peoples and the types of information that they chose to communicate with outsiders, but to what extent we may never know. They may have lost portions of their culture while attempting to assimilate and blend with the local peoples. Or, these were merely just forgotten as mobile populations congregated and/or separated as seasonal resources fluctuated, which is known as population fission/fusion.

EXCHANGE IN THE MIDDLE ATLANTIC REGION

The Mid-Atlantic region is the link between the early broadened biface technologies of the southeast and their introduction/adoption in southern New England. Once Mill Branch communities abandoned places like Stallings Island, many of them opted for resettlement outside of the Savannah River Valley but still within the modern boundaries of South Carolina and Georgia (Sassaman 2006). These findings counter Turnbaugh's (1976) hypothesis that complete cultural systems migrated along the coast to the north. Turnbaugh's (1976) map (Figure 4.1, pg. 73) suggests that more of a multi-wave migration occurred, which would necessitate a large number of communities continually choosing to migrate. This remains unsupported as of yet. It is possible that factions of the Mill Branch populations may have chosen to travel north, but this would have been the exception, not the rule, based on the literature. As seen in the archaeological record, many Mill Branch peoples did not initiate a far-reaching migration but remained somewhat local to the Savannah River Valley.

Social connections by way of contact networks, however, could have provided enough motivation to adopt the Savannah River technologies and pass them through the local exchange systems. Contact networks (defined in chapter one; see also Michels 1968) relay goods, information, tools, etc. (i.e., commodities) through a series of local networks to groups that are connected to any specific contact network. Although specific contact networks are not documented in the Mid-Atlantic, they are visible. This section aims to demonstrate that the existence of contact networks along the Mid-Atlantic Coast is supported by the literature. These local social systems could have laid the foundation for a larger interaction sphere of social

communication that spanned from Florida to the Labrador region in Canada, which I have termed the Savannah River Technological Complex (SRTC).

Contact Networks

The contact networks in operation at this time are both visible and implied within the literature for the Middle Atlantic region. Stewart (1994) portrayed Mid-Atlantic inhabitants as social communities where exchange passed by way of a hand-to-hand system based in web-like relationships (see previous chapters one and three for more information). He used the term broad-based exchange to define Mid-Atlantic exchange systems postdating 4,500–4,000 BP. Lithic commodities were transported as finished projectile points or bifaces and were rarely deposited in specialized settings like burials. However, caching of lithic goods appears to be widespread throughout the region and may have been associated with exchange sites or ceremonial/ritual behaviors (Stewart 1994). Caching may have also been correlated with increasing levels of prestige. Exchanged goods could have held value for those who possessed them. If one cached their goods for a later day, possibly when these goods were in short supply, then they could manipulate the exchange systems and gain prestige over others (Stewart 1994). Stewart (1994:90) claimed that the exchange of goods was a cog within the larger cultural system that promoted inter-group communication, decreased conflict, and publicized a family's (or individual's) access to resources or other contact networks outside their territory. This very social aspect of broad-based exchange supplied people with the most valuable commodity of their time, economic and political security and insurance during a period of growing populations and shrinking resources (Stewart 1994; see also Custer 1984b).

Works by Bondar (2001) and Truncer (2004) exhibit a more economic aspect of contact networks by considering two local commodities of social exchange and/or trade. Specific metarhyolites were selected for broad bifaces in the Mid-Atlantic region. Diagnostic broad-like forms manufactured in North Carolina were recovered in Virginia, and Pennsylvania lithics were recorded along the Delmarva Peninsula. The metarhyolites were heavily utilized in their local settings but were also transported via exchange systems to outside locales as finished Savannah River-like forms (Bondar 2001).

The demand for good quality soapstone exceeded the importance of metarhyolite for some consumers. Truncer (2004), explored steatite selection, procurement, utilization, and deposit from Louisiana to northern New England. Soapstone, like all rocks, differs in how it formed along the eastern slope of the Appalachian Mountains. Certain quarries produced better grade soapstone for the manufacture of cooking vessels than others. Vessels harvested from these superior quarries were transported along river systems and exchanged. Evidence exists that soapstone bowls from the Southeast even made their way to Poverty Point in northern Louisiana (Truncer 2004).

Additional proof of continuous contact networks can be seen merely by comparing coastal projectile point styles through time. Coe (1964) recorded likenesses between the Kanawha Stemmed during the Early Archaic (Figure 4.4), the Stanley Stemmed and Morrow Mountain I of the Middle Archaic (Neville Stemmed and Stark points of southern New England, respectively; Figures 4.5 and 4.6), and, of course, the Savannah River cluster of the Terminal Archaic (Figure 4.7). The only point styles that differ fall within southern New England's Late Archaic Period. The small Narrow-Stemmed points draw more similarities from the Lamoka Cluster, which reached west into eastern Iowa and only as far south as northern Virginia (Justice

1995; Figure 4.8). The question may not be so much why social networks emerged with the southeast during the Terminal Archaic but instead why they were broken during the Late Archaic. After at least four thousand years of technological sharing throughout the Early and Middle Archaic Periods, biface technologies suddenly take on a western influence. Is it possible that the Terminal Archaic populations re-established a level of communication with the southeast that had been lost? If so, this scenario paints the Late Archaic Period as an era of 'intruders,' not the Terminal Archaic.

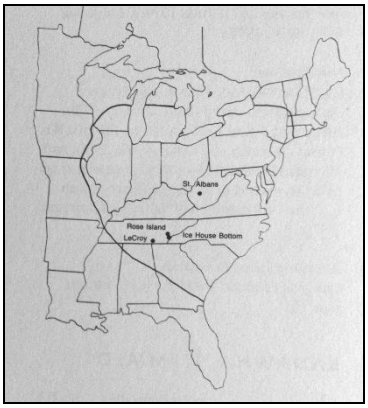


Figure 4.4 Distribution and important sites of the Kanawha Stemmed (adapted from Justice 1987:96).

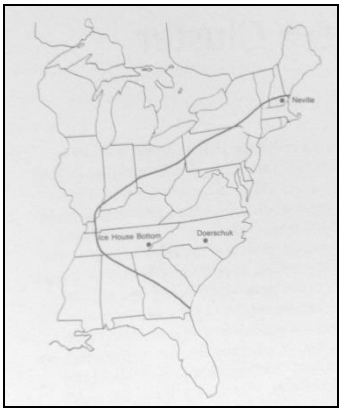


Figure 4.5 Distribution and important sites of the Stanley Stemmed (adapted from Justice 1987:99).

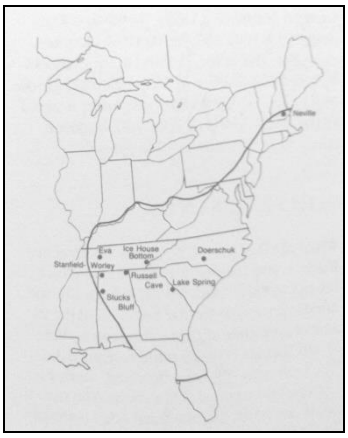


Figure 4.6 Distribution and important sites of the Morrow Mountain I and II (adapted from Justice 1987:107).

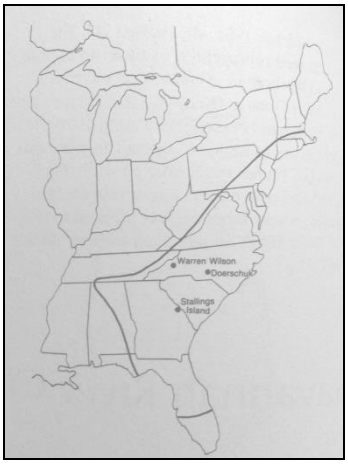


Figure 4.7 Distribution and important sites of the Savannah Stemmed (adapted from Justice 1987:164).

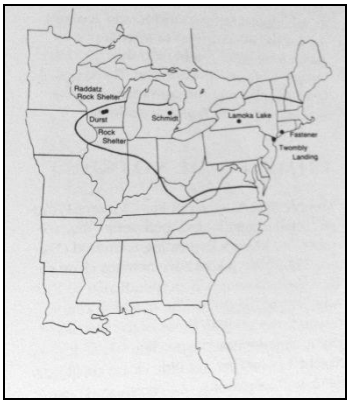


Figure 4.8 Distribution and important sites of the Lamoka complex (adapted from Justice 1987:129).

Based on these arguments, the Mid-Atlantic region acted as a far-reaching compilation of extended contact networks via the SRTC (Savannah River Technological Complex). Even though further research of the SRTC is warranted, one cannot escape the following inarguable similarities: (1) Savannah River-like or broadened projectile point forms, (2) the multifunctionality of these bifaces, (3) the manufacture and use of soapstone vessels, (4) the manufacture and use of groundstone tools including atlatl weights, (5) the preference for metarhyolites, rhyolites and cherts when available and (6) the manufacture of hypertrophic tools that may be rendered non-functional in a technomic sense. This widespread acceptance and display of SRTC attributes mimics cult behavior.

Cults

In the contemporary sense, a cult depicts a "system of religious worship or ritual" (American 1994:209). Anthropologists have investigated cult behaviors as they are woven into concepts of sickness (Young 1975), acquiring cargo (Stephen 1997) and the worship of ancestors (Weissner and Tumu 1998), to name a few. For the Enga of Papua New Guinea, "cults for the ancestors were the anchors of society" (Weissner and Tumu 1998:174). Cult activities assured that central cultural norms were reaffirmed, internal and external kinship relations were maintained, and boundaries were opened to outside clans carrying with them provisions for feasting (Weissner and Tumu 1998:175). Cults matured alongside economic developments and were regularly imported and exported across boundaries and languages. They provided a level of 'sameness' between unknown communities and promoted unity, identity and welfare, which opened the possibilities for the development of new, external economic partners and provided alliance opportunities (Weissner and Tumu 1998:195).

Many cults exist among the Enga and offer benefits of success and prestige for the 'owners'. Prosperity, for the Enga, stems from distributing goods rather than retaining them, and cults are considered sellable commodities that blanket large populations with shared beliefs and ideologies. Big-men, political leaders with persuasive or moderately coercive power, could import new cults in order to steer a new course of cultural change, more effectively communicate with spirits, or to emulate the previous owners of the cult who appeared more successful (Weissner and Tumu 1998:196). These Big-men could then resell the cults once they have purchased them, which in turn provide them with a degree of prestige over the potential buyers, hence continually spreading cult behaviors.

Reasons motivating the acceptance/adoption (I do not yet consider this a system where goods were 'purchased') of the SRTC by Mid-Atlantic and northeastern cultures are difficult to imagine from a modern perspective. Perhaps it was related to the spread of Sassaman's 'multi-ethnic neighborhoods,' constricted mobility due to population increase, or growing family/individual salient identities. First defined in Chapter One, salient identities are less focused on "culture" and one's social identities and are more related to "networks of interaction maintained by significant social categories" (Schortman 1989:56). The unity obtained from participation in a cult-like family would have provided protection from outsiders, increased contact networks, and offered growing prestige for members. Once purchased, Enga cult owners could alter any activities as they pleased to better suit their culture (Weissner and Tumu 1998). Similar alterations may have been acceptable for the SRTC, which would account for the variety of multiple Savannah River-like points witnessed along the coast. Most importantly, this could help explain the identity of Broad-tool populations. If cult-like membership was developing along the coast and were shared or exchanged as commodities bearing protection, success and

prestige, some existing Narrow-Stemmed populations of the Late Archaic may have seen them as an attractive bargain.

Miller Field Site

The Miller Field site is a Mid-Atlantic site that demonstrates the combination of Savannah River lithic technologies and Broad-tool burial rituals. The site is located along the New Jersey side of the Delaware River near the Flatbrook Peninsula (Kraft 1970). Kraft interpreted a specific Broad-tool chronology within the Miller Field assemblages that exhibited a continuum from the Savannah River point to the Orient Fishtail (Figure 4.9), and he discussed the slight modifications that could have shifted point technologies and stylistic morphologies through time and space (Kraft 1970:72).

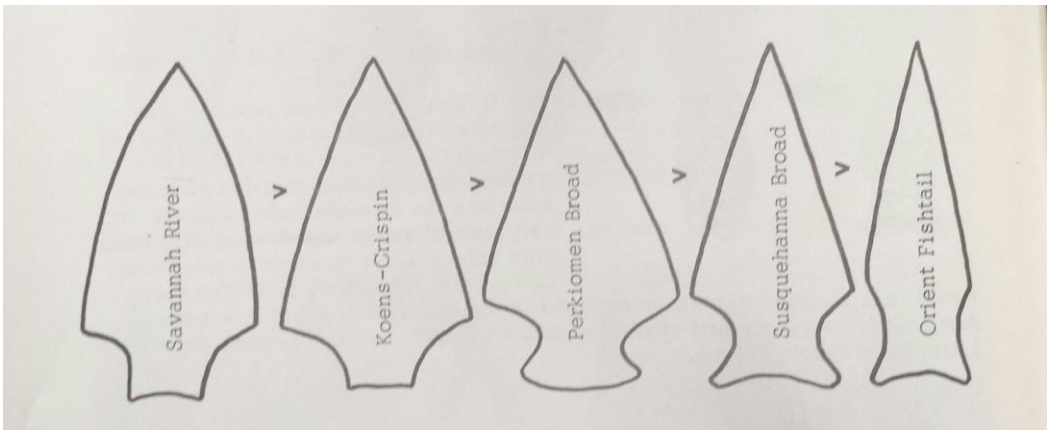


Figure 4.9 Kraft's suspected chronology from the Savannah River point to the Orient Fishtail as seen at the Miller Field site in New Jersey. Adapted from Kraft (1970:72).

At the time of excavation, the archaeological record for New Jersey and the surrounding regions continued to display a correlation between specific Broad-tool point forms and the presence/absence of a steatite bowl industry. Based on suggested claims by Witthoff (1953) and

Ritchie (1965) that this industry originated in the southeast, Kraft (1970) sectioned the Broad-tool tradition into two parts with the latter correlated to steatite bowl production: Terminal Archaic and Transitional. Terminal Archaic projectiles consisted of the Koens-Crispin, Lehigh and Snook Kill forms while the later Transitional stage was exemplified by the Perkiomen, Susquehanna and Orient Fishtail points.

The Koens-Crispin Savannah River variant was locally defined from a site bearing its name in Burlington, New Jersey, where 75% of the total assemblage consisted of this point type (Cross 1941:86; cited in Kraft 1970). The Miller Field site provided 13 more specimens along with numerous additional Broad-tool forms, leading Kraft (1970) to consider the Koens-Crispin type as the provincial interpretation of the Savannah River point. Kraft (1970:56) postulated three scenarios to explain the similarities between northern and southern Broad-tool traditions and the association of steatite technologies including some tools and not others: (1) the Savannah River/Koens-Crispin people share a lithic point tradition along the Atlantic Slope, but steatite bowl production was invented and retained in the south, (2) the Savannah River/Koens-Crispin phase of the Broad-tool tradition originated in south-central New Jersey, Delaware or eastern Pennsylvania and then radiated outwards in a north/south progression, with southern groups creating a steatite technology unbeknownst to their northern cousins or (3) steatite technologies do indeed exist in this centrally located region surrounding the Koens-Crispin and Miller Field sites, but have yet to be exposed.

Most of the preferred lithic materials used to manufacture these bifaces were cryptocrystalline (jasper, chalcedony, flint or chert), which were likely chosen due to their great malleability. The alternate raw materials that were represented at the Miller Field site (argillite, quartzites, shales and slates) do not break as uniformly and must be more roughly battered and

shaped into intended Broad-tool forms (Kraft 1970). All of the Koens-Crispin point forms unearthed at the Miller Field site were manufactured from argillite, while the two other Broad-tool forms categorized within his Terminal Archaic, Lehigh and Snook Kill, were made from flint or jasper (Kraft 1970). When describing the three forms, Kraft (1970:58–59) noted that the "configuration of these three point types is essentially the same" and that the Lehigh and Snook Kill points were "really nothing more than slight variations of, or translations of, Koens-Crispin points into jasper or flint."

CONNECTICUT CULTUAL PARTICIPATION

The Miller Field site demonstrated that certain lithic technologies remained constant as the SRTC spread throughout the Mid-Atlantic. Slight regional morphological alterations occurred as 'daughter' traditions splintered and broke from their core predecessor; this is demonstrated by the Broad-tool sequence seen at the Miller Field site and other Broad-tool sites. Interlacing the concept of cult-like behavior with the two main hypotheses explaining the identity of Broad-tool populations in southern New England, we see that the spread of a cult could in fact support either. As goods, technologies and information spread through the SRTC, conditions were ripe for kin-groups and/or individuals to display their salient identities to surrounding polities and cement their influence within their contact networks or even within the overarching cult.

The assumption that a cult-like spread of the SRTC occurred along the coast does not negate the validity of the hypotheses describing Broad-tool cultural origins. If Broad-tool populations entered southern New England as a stream of cult-carrying migrants intruding upon

existing Narrow-Stemmed cultures, then we could be looking at cultural rejection by the Narrow-Stemmed peoples. Similar to the rejection of the Stallings culture by the Mill Branch, Narrow-Stemmed communities may have been attempting to assert and solidify their separate social identity by moving away from those geographical areas occupied by Broad-tool cultures. Broad-tool peoples migrating into the region could have sought protection from local inhabitants by remaining socially connected to other 'like' populations through cult relationships.

On the other hand, if Broad-tool cultures were in fact a local interpretation of a cult spreading through a series of contact networks, then the appearance of both Broad-tool and Narrow-Stemmed sites could be the result of some adopting the cult while others did not. The archaeological record would depict pockets of local residents participating in cult behavior. Inter/intra-social bonding would work to reinforce the adoption of the cult and give rise to the cultural system (settlement patterns, lithic selection, soapstone technology, etc.) that encompassed it. Either scenario could potentially create circumstances where intra/inter-social bonding became necessary and would greater spur the growth and complexity of social exchange networks in Connecticut and surrounding regions. Alternatively, the spread of a Broad-tool tradition may reflect non-cult participation in a very broad pattern of underlying cultural/stylistic change that was time-transgressive from the Southeast to the Northeast. Perhaps, there were also some Narrow-Stemmed "hold outs" during this period of general change (Brian Jones, personal communication 2014).

CONCLUSION

A degree of southeastern influence stemmed from the Savannah River Valley inhabitants who created their own steatite bowl technology, crafted hypertrophic bannerstones for non-utilitarian purposes and utilized broadened point forms to secure their economic, social and cultural needs. A series of technological traits spread along the Atlantic Coast and form, what I call, the Savannah River Technological Complex (SRTC) and interpret as an expression of cult-like behavior where communities adopted behaviors from others. The process may have been similar to that practiced by the Enga of Papua New Guinea where cults are sold and purchased as a way of extending socio-economic networks while simultaneously increasing the social prestige of individuals or kin-groups.

Mid-Atlantic sites like Miller Field in New Jersey illustrate the visible blending of the southern derived SRTC with the influence of the northern Broad-tool cultural interpretation, which includes specific cremation rituals discussed in the next chapter. Both Broad-tool origin hypotheses are buttressed by the cult theory and support the development of increased intra/inter-regional social relations among wide-spread populations. A possible decline in cultural influences from the Southeast during the Late Archaic Period may have necessitated the revitalization or establishment of older social exchange networks as southeastern cult behaviors moved into southern New England.

CHAPTER V: RITUALIZED BEHAVIOR THROUGH TIME

INTRODUCITON

The ritualized cremation and disposal of the dead portray an ideological aspect of Broad-tool social communication that does not stretch far beyond southern New England. The Savannah River Technological Complex (SRTC), as defined in the previous chapter, depicts a cult-like participation in technological behavior, which was likely tied to one's socio-economic and political standing. No archaeological evidence exists suggesting that the SRTC was accompanied by any religious or ideological behaviors, and it remains unknown what relationship, if any, existed between the spread of the SRTC and Broad-tool burial rituals of southern New England.

This chapter defines the 'typical' southern New England Broad-tool burial feature and illustrates ritual behaviors that tend to accompany such burials. To accomplish this, burials and rituals are broadly defined and then identified archaeologically; i.e., what are burials and rituals and how can we see them archaeologically. Many of these terms and concepts will be revisited in the concluding chapter. Next, the Broad-tool act of burying the dead is placed within its cultural and historical context. Late Archaic burial practices of the proceeding cultural period are once again examined, as are the Meadowood practices of the succeeding period, in order to temporally situate Broad-tool behaviors and explore any ideological similarities that might be visible through time. Finally, historical and ethnographic accounts of local Native American burial rituals or the historic period are included because they may aid in the archaeological interpretation of the past (Kyriakidis 2007b). It is possible that certain rituals remained

somewhat intact as they were shared through Native generations and may be evident or interpreted in the historical accounts.

BURIALS

Burials reflect only one method of disposing of the dead and thus carry significant insight into how the living identified with their brethren in death. Burial was not considered the norm for many people of the past, but instead individuals were disposed of "in ways that were reverent and ritualistic but which are now archaeologically invisible" (Pettitt 2002:13). For those that were afforded a burial, mortuary practices varied greatly across the world and appear in many forms: (1) "primary inhumations placed in burial pits/graves/tombs where the body is left to decompose and return to the earth over time," (2) defleshed human remains or bodies left to the elements to speed decomposition before being deposited in a secondary setting and (3) "cremations—either in-situ, or in a crematorium—where the remains are buried, scattered in rivers, oceans, or across landscapes" (Doucette 2003:122–123).

Kyriakidis (2007a), Ucko (1969), and Pearson (1999) offered words of caution, however, when analyzing burial remains. Burials are not always religious activities, grave goods do not equate to a belief in the afterlife and archaeological interpretations are etic interpretations of past activities (Kyriakidis 2007a; Pearson 1999; Ucko 1969). Even something as simple as separating burial particularities into categories such as clothes, posture, body modification, material culture, and items located on versus off the body have the potential to create error because these categories may not have existed in the minds of those who interred their dead (Pearson 1999:21).

Unmolested burials have the potential to carry large amounts of cultural information. The type of interment, cremation, orientation and positioning of the body, associated artifacts, etc., are typically considered a snapshot into the past. Unlike domestic sites, which mostly contain artifacts that were unwanted, purposefully discarded or dropped, burials typically incorporate artifacts that were intentionally *chosen* for interment with the dead. Even the body of the deceased can house evidence for study because it visibly demonstrates how people observed, treated and dealt with death (Pearson 1999: 71). The goal of analyzing funerary practices and burials is not to interpret them as isolated events but events that were intertwined and integrated into other social institutions (Pearson 1999), such as social classes, concepts of gender or age or how the death of a community member affects the lives of the living.

Class, Gender and Age

Some societies rank individuals/families based on tiered economic and/or prestige levels (Fried 1967; Pearson 1999:74). For Fried (1967:109), in ranked societies "positions of valued status are somehow limited so that not all those of sufficient talent to occupy such statuses actually achieve them." These types of social systems are difficult to recognize before written records because they cannot be supported by historical documents. However, burial goods interred with the dead, the treatment of the body after death, and the extravagance of the burial can serve as a society's record of events, if read correctly.

Tainter (1978) and Peebles and Kus (1977) approached social ranking from separate viewpoints and offered their 'instructions' on how to read burial activities. Tainter (1978) examined social complexity by measuring the levels of redundancy that populations adhere to when enacting rituals. More complex societies with well-established rituals generated higher

redundancy because the quantum of energy expended on burial details and the treatment of the body indicated a higher level of socio-political organization. Therefore, populations measuring a lower redundancy were indicative of less-complex, egalitarian groups void of fixed burial rituals (Tainter 1978).

Peebles and Kus (1977), on the other hand, claim that two types of social ranking can be deciphered by examining grave goods and other attributes of the burial process. Vertical differentiation recognizes the vertical mobility of an individual/family on an economic, political, or social level and how one can either move up or down a perceived scale. Vertical differentiation is visible in the economic and social wealth of the grave goods, the luxury or extravagance of the burial, and the feasting or celebration that accompanies burials. Horizontal differentiation defines classifications such as clans, moieties, or sodalities, which are linked to religion and kinship and tend to cross-cut one's vertical status (Pearson 1999; Peebles and Kus 1977).

Although grave attributes provide much needed cultural information about ancient societies, they are also susceptible to biased interpretations. Archaeologists may unknowingly insert their own preconceived attitudes about death, burial, ritual, and religion into their overall interpretation of the past. While investigating gender roles, Pearson (1999) noted that rare trade goods located with adult males were interpreted as signifiers of the male's level of prestige and power during life. Whereas the same items interred with adult females were considered gifts from a prestigious male. Similarly, children who were buried with excessive goods are typically considered high-born and are associated with their parents' ranking, but this may not be the norm for some societies (Pearson 1999). The death of a first-born male within a high-ranking kin group or children who died during ritual events, who were sacrificed, or who died due to specific

circumstances all may have been culturally celebrated with lavish burials (Pearson 1999:78). Children are not the makers of cultural ritual (Pearson 1999), but they are active members of society and are those who will define the future. Children who were granted lavish burials long ago may therefore have earned this rite from something other than their parents' wealth.

The Living

As discussed, grave goods can offer insight into social systems and the status of the dead, but they can also allude to beliefs held by the living. What exactly are grave goods? Were they possessions of the deceased interred to benefit the dead in the afterlife, or were they 'killed' so as not to pollute the realm of the living? Perhaps they were mourners' gifts imbued with memories of the living or were considered tribute paid to the supernatural (Pearson 1999:7–11). The role of the living within burial practices cannot be ignored because the living are the creators, active participants, and stewards of burial rituals. Pearson (1999:22–24) contends that the death of group members disrupts the normal rhythm of a community and captures some, if not all, of the living within a liminal stage of mourning for a period of time. During this time, the living must come to terms with the loss of a person and their contribution to the group, whether it be their company or economic contribution, and the living must also deal with the pollution of the body. These concepts are what aid in the structuring of a burial ritual (Pearson 1999).

The mourners' liminal stage could be mirrored or even built into the 'between and betwixt' phase of the dead as well. This marks the phase where the person has died, but their soul/spirit has not yet reached its final place of rest. For example, the ancient Vietnamese tradition of Boreno inters the dead outside of their traditional village for the period of three years (Malarney 2002). The spirit is said to need this time to identify with their new state of death.

Biologically speaking, the body requires this time for decomposition. After three years, the family hires a 'digger' to exhume the body during the early morning hours, collect the bones of their loved one, carefully wash the bones, and then arrange them according to custom within a bone box or ossuary. The remains are then brought back to the dead's place of origin where they are given their second and final burial. For the living, the day of re-inhumation commences with sobs of grief because the living will see the body of their deceased relative for the last time. However, the day culminates in celebration as the decomposing body undergoes a ritual transformation and is returned home for their final burial (Malarney 2002). It could easily be argued that the three year liminal phase, when the body is decomposing, exists both for the soul of the deceased and the grievance of the living.

RITUAL

Rituals are "repeated, invariant, rule-governed, formal activities with an air of tradition, among other things" (Kyriakidis 2007b:297). This definition is well suited for archaeologists because the focus is on repetitive action. The repetition is what gives the ritual constancy, or steadiness, through time. This solidifies both the ritual performance and its religious or social purpose (Kyriakidis 2007a; Marcus 2007). Unfortunately, repetitive behavior turns invisible in over time when perishable paraphernalia, which decomposes over time or was consumed by participants, were utilized throughout the ritual. Non-perishable materials, like lithics or permanent structures, are more detectable archaeological tracers (Marcus 2007:46).

Once tracers are detected, archaeologists still run the risk of improperly decoding any messages that artifacts were intended to send. Wobst (1977) maintained that style, which was

previously discussed as a passive attribute in artifact manufacture, actively portrays messages to others regarding a person's social identity and cultural affiliation. His concept was structured on the premise that stylistic messaging will be decoded properly by target groups but misunderstood, or even undetected, by people of distant, non-targeted populations. For example, orthodox Jews maintain strict codes of dress, prayer and behavior, which act as signals of their devotion to others within their religious culture (Sosis 2004). These practices might seem peculiar or odd to other religious groups because they are not the targeted audience meant to decode these signals.

Stylistic variations can increase when the target population is smaller and will be able to decode minute stylistic differences, such as a manufacturer's identity or kinship line. The !Kung of the Kalahari typically share arrows with other hunters within their group in order to equalize the distribution of meat (Wiessner 1983). Each hunter can easily recognize the maker of every arrow within his quiver because they are members of the target population. To outsiders, including surrounding communities and ethnographers, this is an unachievable feat. Recipients confined to separate target groups will not translate stylistic variations in the anticipated manner. Archaeologists are not the intended audience of artifact style or ritual behavior and, consequently, will have issues decoding their meanings.

Kyriakidis (2007a:10) offered five additional obstacles that stem from ritual interpretation. The first deals with the expressed similarities between two or more rituals within a system. Rituals can be categorized into separate *systems*, such as a family ritual celebration, British military ritual or the Protestant Christian church rituals, which could share certain attributes including, but not limited to, participants, location and paraphernalia (Kyriakidis 2007b). Although Bell (2007:280) disagreed with the usage of the term 'system' because it

implies a "misleading set of connections," Kyriakidis (2007a) argued that rituals within a system often emulate either parts of a ritual package (a grouping of rituals that go together; i.e., the Catholic Mass) or possibly just a single element (a lone ritual event). It is possible that two unrelated rituals were performed using the same participants, garb, location and relics, but the only differing aspect was the accompanying oration (Kyriakidis 2007a). Therefore, even when archaeologists are able to identify repetitious activity, it cannot automatically be assumed that the same ritual was enacted over and over.

Kyriakidis' second issue arises when a common space is used for multiple rituals or the storage of ritual paraphernalia. As archaeologists search for patterns in cultural behavior, it may prove challenging to decipher between ritual and non-ritual deposits or content. Items that were cached for basic storage purposes and goods that were cached for a ritual usage could leave the same archaeological signature. Also, a cultural group may choose to stow all ritual material (garb, objects, containers, etc.) from their array of rituals together at a single location or even with non-ritual paraphernalia (Kyriakidis 2007a). The author has witnessed religious paraphernalia stored adjacent to crossing-guard vests and flags at Catholic elementary schools. The participants understand the differences between the two artifact groups, again because they are part of the intended decoding population. Non-Catholic visitors may not be able to decipher between the sacred and secular regalia.

Occasionally, there may be a disjunction between ritual practices and belief systems (Kyriakidis 2007a). Although ritual patterning may appear to remain consistent through time, the beliefs associated with the ritual could change. Or, on the other hand, beliefs associated with a ritual event could demonstrate constancy, but the activities within the ritual practices are altered over time. During the funeral procession for Queen Victoria in 1901, the horses meant to

pull the gun carriage with the queen's casket atop bolted, at which point surrounding members of the Royal Navy quickly grabbed the carriage and pulled it to the Royal Chapel. Even though this tradition has been incorporated into the funeral procession, the overall meaning of the procession has not changed (Cannadine 1983:134; Ponsonby 1951:32–33, 83–94; as sited in Kyriakidis 2007a:16). Hobsbawm (1983:1) would consider this an 'invented tradition', which he defined as "a set of practices, normally governed by overtly or tacitly accepted rules and of a ritual or symbolic nature, which seek to inculcate certain values and norms of behaviour by repetition, which automatically implies continuity with the past." The act of inventing new aspects of a tradition is meant to further relate the contemporary activity to a suitable historic past (Hobsbawm 1983). Hence, the tradition changes, but the meaning remains.

Kyriakidis' (2007a) fourth obstacle deals with the inseparability of the ritual and the mundane spheres. Ritual sacrifice appears in many religious systems. Based on the finality of sacrifice, many outsiders would consider the 'act of sacrificing' to be the main objective of a ritual. Humphrey and Laidlaw (2007) observed sacrificial rituals in Inner Mongolia and concluded that human/animal sacrifice is not always ritualized but is an action that contributes to a definitive ritual. The sacrifice must occur in order to gain the entrails, which were the real offering, or to cause a desired reactionary 'shock' from participants and onlookers (Humphrey and Laidlaw 2007). Therefore, more mundane activities, including ritual sacrifice, can and do occur as smaller activities within a larger ritual package.

Finally, the residual or secondary remains of ritual activity carry meanings of their own, but may lead to an increased emphasis placed on the secondary behavior rather than on the primary (Kyriakidis 2007a). An example of this is the discovery of wine residue found affixed to the interior base of a kylix, which is a type of drinking cup. Many scholars would be elated to

claim this find, yet the wine may have been used during a wedding, burial or sacrificial celebration that merely *supported* the primary ritual. Secondary ritual remains can be discarded along a procession, swept to the side, consumed by participants, or cleaned, wrapped up and stored away after usage (Kyriakidis 2007a). Secondary ritual remains were meant to support primary activities but can easily be misidentified, which then leads to a misinterpretation of past rituals.

Given all the pitfalls of researching ritual activity, there is still hope that something of substance can be located. Bell (2007) cautiously counseled archaeologists not to take the inability to decipher traditional ritualized behavior to heart because then we will cease looking at all. Rituals are culturally encoded, crystallized actions that involve repetitious activity and are therefore 'special' activities, which exist outside normal everyday practices (Kyriakidis 2007a). Tracking a culture's 'normal' human activity may therefore alert specialist as to which activities were ritualized. Two concepts discussed in the literature used to ferret out the 'special' are the identification of *ritual cores* (Kyriakidis 2005:43) and *key elements* (Marcus 2007).

Ritual Cores

Occasionally certain artifacts or activities will be restricted to one ritual and satisfy a sole purpose, such as a baptismal font (Kyriakidis 2007a:15). The font is utilized only during the rite of baptism and does not second as a borrowed implement in any other event. This type of ritual core, if identified in the archaeological record, theoretically could signify that a specific ritual occurred at the location and in context with the associated artifacts. Being able to recognize ritual cores archaeologically would open new facets of research focused on ancient cultures. Unfortunately, according to Kyrikidis (2007a) no ancient ritual cores are known.

Key Elements

Key elements, on the other hand, are visible in prior to written records as repetitious activities that are adjusted to fit many rituals within a ritual system. Marcus (2007:51) explained key elements by discussing three interrelated cosmological principles believed by the Aztec of the Basin of Mexico: "(1) the universe is alive, (2) the universe is divided into four world quadrants, and (3) the supernatural forces that animate the world can be approached by humans who dress in appropriate attire and/or impersonate those forces." These three principles assist in the interpretation of many Aztec rituals. The Aztec belief in animism helps to explain the numerous human sacrifices that were recorded, witnessed in hieroglyphs, and pulled from the ground by archaeologists. Human sacrifice was a *nextlahualli* or "debt paid" (Aveni 1991:71; Marcus 2007:58–59) and was perceived "as a magical act of reciprocity according to the principle of *do ut des* ('give that you may receive')" (Broda 1991:84). Many of these sacrifices were accompanied by offerings to the four world quadrants. The principle of quadripartition was a strong key element that had a presence in large state rituals and percolated through many realms down to the domestic systems (Marcus 2007).

CULTURAL CONTEXT OF BROAD-TOOL BURIALS AND RITUALS

Despite the proximity between northern and southern New England, ancient cultures inhabiting the two regions did not share identical social-political, economic and ideological practices through time. Northern cultures of the Labrador region and northern New England shared many cultural similarities during the Archaic Periods, whereas southern New England was more culturally akin to southern populations along the middle Atlantic Coast. Western

cultures from New York to the Great Lakes influenced the whole of New England but to differing degrees. However, the archaeological record demonstrates a steady ebb and flow of cultural persuasion oscillating between the regions. Studies by Robinson (1992, 1996a, 2001, 2003, 2006) and Taché (2008), among others, explore northern New England burial rituals for much of the Archaic era and social, political and ritual behavior of the Early Woodland, respectively. It is this author's belief that much information can be garnered concerning Broad-tool burial systems by comparing northern and southern regional studies.

Late Archaic in Northern New England

Much of Robinson's (1992, 1996a, 2001, 2003, 2006) research has concentrated on Archaic mortuary practices of northern New England. His dissertation (Robinson 2001) identified shifting burial practices during the three phases of the Moorehead Burial Tradition (MBT). Transitions from the Early MBT to the Middle MBT are of special interest here because Robinson (2001) was able to link the fluctuating ideological practices with social, political and kinship affiliation. Early MBT (5,000 BP) burials, which carry some Laurentian-like characteristics, were limited in number and constructed as small but formal, labor-intensive pits (Robinson 2001). His definition of a burial was expanded to include interments containing human remains, dogs and caches of artifacts (Robinson 2001:110).

> The definition of individual grave assemblages is problematic when bone is not preserved. In those cases where the floor of the pit was well covered with ocher, feature boundaries may be quite apparent. But with the possibility of overlapping graves, multiple secondary deposits in one pit, multiple artifact clusters with one individual, and with unclear pit outlines and lack of sufficient records, the meaning of each supposed burial assemblage is often unclear. The former presence of human remains is usually not verifiable, and as demonstrated by ocher covered dog burials and an associated cache of artifacts without human remains at the Turner Farm site (Bourque 1995), some deposits may not have included human remains. From sites such [as] Port au Choix and Nevin, however, it is probably safe to assume that most did, especially within formal cemeteries.

> Due to these problems, the term burial is used in a broad sense, including the burial of human remains, dogs or caches of artifacts (Dincauze 1975:31).

Early MBT burials were housed in "specialized, bounded area[s] for the exclusive disposal of the dead," and are thus considered to be formal cemeteries (Robinson 2001:119). Robinson borrowed his definition of formal cemeteries from Goldstein's "permanent, specialized, bounded area for the exclusive disposal of the dead" (Goldstein 1981:61; cited in Robinson 2001:119). The concept of permanence was eliminated by Robinson because his focus was on the context of ritual and not Goldstein's idea of linear inheritance through time.

> Large burial events, when part of a ritual tradition, may provide an ideal context for spatial analysis of large-scale social gatherings. Thus "permanence" is dropped from Goldstein's definition, retaining the "bounded area for the exclusive disposal of the dead" which may range from a large-scale burial episode or essentially permanent reuse of a bounded location. Excluded from this definition are isolated burials or small clusters within occupation areas that are not generally attributable to a specialized place (Robinson 2001:119–120).

Informal burials, which tended to lack burial goods and sometimes even human bone, are recorded throughout earlier Archaic Periods in both northern and southern New England. However, around 5,000 years ago, formalized cemeteries are witnessed in parts of the Illinois River Valley, the Southeastern shell mounds and across the Great Lakes region (Robinson 2001:161). It remains unclear if this development reflects the development of boundary-maintenance behaviors due to population increase, an eastern ideological/social trend or merely a coincidence.

Middle and Late MBT burials were constructed as larger, 'simpler' cemeteries displaying very little variability between burials (Robinson 2001:191). In this context, the term 'simpler' was used to signify a less labor intensive burial construction with decreased individualization within the pits. Robinson (2001) considered the modified burial rituals a byproduct of

fluctuating social organization. Interactive social networks of the Early MBT appear to be far-reaching and represent a single cultural group. Burials demonstrate an elevated scale of mortuary ritual but no real division of society across a broad space. Conversely, Middle and Late MBT sites appeared to be condensed into regional clusters, which indicates a transition to kin-based social organizations (Robinson 2001:260; 2006).

Late and Terminal Archaic in Southern New England

Broad-tool burials are unique in southern New England and are set apart from earlier Late Archaic and later Terminal Archaic (Orient) mortuary practices (Pagoulatos 2009). Unlike Late Archaic Narrow-Stemmed and Laurentian burials, Broad-tool burials tend to be "overwhelmingly characterized by secondary cremation burials, typically found in pits and associated with caches" (Pagoulatos 2009:244). The later Orient Phase populations placed the dead in communal burial features known as ossuaries (Pagoulatos 2009).

Inhumation and cremation burials existed in southern New England prior to the onset of the Broad-tool tradition, but for many no direct or immediate cultural affiliations can be made (Pagoulatos 2009; Robinson 2001). The Bliss site, however, was one of the few that did contain cultural identifiers. The site was a Laurentian Period cremation burial in Old Lyme, Connecticut, with many Early MBT and Broad-tool characteristics. Twenty-one separate burial features housed cremated remains, evidence of faunal remains, and broken (killed) artifacts (Ziac and Pfeiffer 1989). Information from the Bliss site coincides with Robinson's (2001:120) concept of a "specialized, bounded area for the exclusive disposal of the dead" as it is separate from the Howard site, a neighboring habitation site. Nearly adjacent to the Bliss site, Pfeiffer unearthed the Griffin cremation site, which contained one of the largest Broad-tool cremation

assemblages in southern New England and is further discussed in the following chapter. As previously mentioned, Pfeiffer (1984, 1992) believes that Broad-tool social and burial traditions were rooted in the Laurentian tradition. The ritualized burial practices of the Bliss and Griffin sites support this conclusion.

Doucette (2003) argued that some cremation behaviors in southern New England may have roots dating back 9,000 years based on findings at Annasnappet Pond in Carver, Massachusetts. The MBT manifestation gained its alternate name, Red Paint People, from the reddened-earth features heavily laden with red ochre. In addition to the ochre, these pits typically included ground stone tools and, occasionally, cremated human bone. According to Doucette (2003), the lack of human remains in certain pits does not negate the possibility of them being human burials. Rather, they may represent primary non-cremation burials in which the bodies have fully decomposed. Doucette posed a valid theory considering Robinson's concept of a burial. Dincauze (1968) also recorded secondary cremation pits that lacked human bone in Massachusetts, but these dated to the Terminal Archaic. She reasoned that as Broad-tool groups redistributed cremated ashes into the ground, either very little bone was deposited and did not survive through time, the ashes were ritually manipulated (crushed) or human bone was not among the ashes distributed among the pits.

Additionally, cremated human remains from Wapanucket 8 at Assawompsett Pond in Middleboro, Massachusetts, possibly date to the Late Archaic Period (Robbins 1968; Robinson 1996c). No less than eleven burials were unearthed with evidence of red ochre, calcined bone and diagnostic Stark-like and small stemmed points (Robbins 1968). A charcoal sample from Burial J of Feature 206 dates the site to 4290 ± 140 (GX-1104) suggesting a Late Archaic Period

site (Robinson 1996c:34). Unfortunately, the site was not contextually sound and the subsurface mixing of artifacts could have occurred, making the contextual information questionable.

Broad-tool cremations vary in structure and size and mirror many aspects of the northern MBT. Broad-tool communities in southern New England cremated their dead together or individually (Leveillee 1999) and deposited their ashes either collectively within a single burial unit or sectioned into multiple plots. Broad-tool cremations indicate that when multiple burials were filled at one time, there was not a fervent attempt to keep each person's remains together within a single pit or to insure that broken sections of 'killed' artifacts were deposited within the same burial unit (Dincauze 1968; Pagoulatos 1986). Despite the variations of Broad-tool burial, the populations continued their ritual with high redundancy, suggesting a more complex society with established and redundant ritual behaviors (e.g., Tainter 1978).

Cremations continue during the Orient phase of the Terminal Archaic and into the Early Woodland Period. Pagoulatos (2009) analyzed mortuary practices of the Late and Terminal Archaic Periods and found that Orient rituals included Orient Fishtail points, the inclusion of soapstone vessels and/or crude, clay pottery, few caches and seem less complex and formalized compared to the early Broad-tool phase. Ossuaries are more prevalent and have been uncovered in a wider range of resource zones than previously seen (Pagoulatos 2002, 2009). Pagoulatos (2009) believes that the changes in mortuary practices from the Broad-tool phase to the later Orient phase of the Terminal Archaic coincide with climatic and settlement shifts.

Early Woodland in Northern New England (Meadowood Phase)

In 1955, Ritchie was the first to declare that Early Woodland (the period immediately succeeding the Terminal Archaic) burial rituals were maintained as cult activities in northern

New England, which he dubbed the Early Woodland Burial Cult. The cult activities widely consisted of the:

> cremation of bone bundles; redeposition of incinerated remains; occasional multiple cremations or cremation associated with unburned skeletons; inclusion of fine artefacts with the dead; intentional destruction of grave goods; burning of artefacts at cremations; association of red ochre with burials; and caches of leaf-shaped "blades" (Ritchie 1955:75–76, cited in Taché 2008:17).

The manner in which socio-political, economic and kinship relations were built into cult systems was discussed in the last chapter. According to Ritchie and Taché, the Early Woodland Burial Cult was firmly established at this point in history, suggesting that its development was initiated in earlier periods, such as the Late and Terminal Archaic Periods. This perspective will be discussed below.

HISTORICAL ACCOUNTS OF NATIVE NEW ENGLAND BURIALS

Archaeological interpretations of ritual meaning can be misinterpreted in the literature or even completely excluded from site discussions (Kyriakidis 2007a). The desire to shed light upon past ritual activities sometimes leads to the dramatization of belief systems and creates debates about religion within the archaeological record (Kyriakidis 2007a). In order to sidestep this issue, some archaeologists turn to ethnohistorical or historical reports where accounts were recorded first-hand. However, both anthropological and colonial testimonies can give rise to biases because many times the Native perspective is still lost or completely ignored (Kyriakidis 2007a). Nevertheless, historical accounts are a starting point, a place to begin gathering thoughts, but they should never be considered the concluding document of proof, especially for ancient cultures.

European accounts detailed ways in which Native populations honored their dead in communal ceremonies. Historical accounts, specifically the *Jesuit Relations*, describe the comparability of the Algonquian, Huron, and Iroquois burial practices, suggesting that an underlying connection existed deeper in history for the populations (Barnes 2009; Hall 1997). The cultures participated in a Feast of the Dead celebration, which varied slightly within each culture, but the overall structure of the event remained intact. The celebration encompassed ritual burial of the dead, offerings of food and possibly animal sacrifices, and large populations congregating to participate in the burial and feasting activities (Hall 1997).

The Algonquian Feast of the Dead "was an occasion for the reburying of skeletons and even recently interred bodies in a common grave pit" (Hall 1997:37). The event may have been held annually, but each locality was not reused until the passing of six or more years (Hall 1997:38). Multiple villages and nations were invited to participate in the festivities. Upon their arrival, much pageantry was exhibited, including the distribution of gifts, dances and the commencement of public cries of joy (Hall 1997). The Huron Feast of the Dead involved the disinterment of the bones which were "cleaned, placed in bags, wrapped in robes of beaver fur, and carried on the back of their mourning relatives to the site of the feast" while the living displayed cries of 'haéé haé' (Jesuit Relations 1896–1901; cited in Hall 1997:36). The haéé haé was said to imitate the bellowing of the dead as they moved to their ossuaries and possibly has ties to the Iroquois Requickening Address. The public address marked a portion of the Condolence Council where a eulogy was performed in order to recite the names of the fifty original chiefs. This oration is known as the Hai Hai (Hall 1997:36). The word 'hai' is tied to the concept of 'a journey', and Hall suggests that it relates to the journey of the souls (1997:36). Cries of haéé haé accompanied an array of ritual activities:

> When death overtakes them, they who are more nearly related to the departed person, black their faces, sometimes cut off their hair: they also pierce their arms with knives or arrows. The grief of the females is carried to a still greater excess: they not only cut their hair, cry and howl, but they will sometimes, with the utmost deliberation, employ some sharp instrument to separate the nail from the finger, and then force back the flesh from beyond the first joint, which they immediately amputate. But this extraordinary mark of affection is only displayed on the death of a favorite son, a husband, or a father (MacKenzie 1801:148–149; cited in Pfeiffer 1992:162).

In addition to these activities, the afterlife was a matter of importance and possibly determined which items were interred with the dead. The afterlife was considered an extension of the living world, thereby establishing the need for one's possessions, including foods, to accompany them in death (Lavin 2013). Occasionally, bodies were wrapped in shrouds or matting (Roger Williams; cited in Lavin 2013:282), and layers of sand or soil were distributed atop burials or used to line the floors of burial pits (Lavin 2013). Wolves and dogs were commonly interred and/or cremated within Native burials (Lavin 2013).

Dogs have long held places of esteem in Native American traditions as hunter, guide and judge, food resource, healer, and human substitute. In New York and New England, "deceased dogs were often treated in much the same way as their human counterparts flexed or bundled, and buried in small pits or in graves with humans" (Lavin 2013:260). In many situations, dogs were sacrificed at the time of their owner's death and placed atop or next to the human remains (Webb 1974). Dog remains have been recorded in relatively equal numbers with men, women, and children and could have been considered guides, protectors, and/or companions ushering the dead into the next realm (Claassen 2008). Dogs were afforded a high status given the fact that they were hunters and contributed to subsistence practices. Claassen (2008) suggested that dogs were even sacrificed to serve in place of lost warriors at inhumations and cremations. Evidence supporting this is available in history where cremation pits only contain dog or wolf remains.

These animals could have taken the place of beloved warriors who never returned home but were still afforded ritual burial rights.

Hall (1997) and Tooker (1964) affirmed that both the Huron and Algonquian festivities were not solely for honoring the dead but also created ties between tribal communities. Hosting a feast entailed much preparation and likely signaled a level of wealth and prestige to others (Spielmann 2002). The hosting community (possibly kin-group oriented) was responsible for supplying enough food to feed guests, which would have disrupted their normal subsistence activities and strained their resources. The status gained by offering one's resources and homes to outside groups may be comparable to prestige accumulated by the Kawelkan Bigman of Papua New Guinea when they made Moka (Nairn 1976) or to the Nootka (Rosman and Rubel 1971), a Native American group in Canada, during their potlatch ceremonies. Therefore, a correlation would exist between hosting feasting events and a group's salient or social identity. As a consequence of increased feasting events, Spielmann (2002:200) argued that "[f]ood preparation for feasting may create demand for new kinds of cooking vessels that require skilled potters to craft," which in turn increased the status of craft specialists. Possibly inter-tribal bonds were formed as family members and friends were interred together and united for eternity. The annual congregation promoted harmony between communities, which spurred the growth of friendships, the marshaling of a large quantity of valuable goods, and the opportunity for exchange (e.g., Dincauze 1968).

DISCUSSION

As mentioned above, the Terminal Archaic is considered a transitory period from hunting/gathering/fishing to a more sedentary lifestyle. However, a simple examination of the concepts of burial and ritual coupled with cultural and historical contexts surrounding Broad-tool burial rituals implies that subsistence methods were not the only focus of change. The establishment of formalized cemeteries expressing high ritual redundancy (see Tainter 1978 above) was common across the Mid-West, Southeast, and New England, as evidenced by the MBT in the north and Broad-tool and Orient phase burials in the south. The three phases of the MBT demonstrate the changing attitude regarding burial ritual and the potential growth of a clan-based system. At the same time, the Savannah River Technological Complex was passing through a series of inter-related contact networks along the Atlantic Coast, where an individual's (or kin-group's) salient identity was recognized among participants of surrounding peer-polities (associated socio-political groups). By the Early Woodland Period, an established burial cult was visible in New England.

Historical accounts of the Huron Feast of the Dead demonstrated that certain Broad-tool rituals persevered through time as witnessed by: (1) the continuation of group burials, (2) the act of lining graves with specific materials, (3) the breaking of artifacts at the time of burial, (4) the inclusion of dogs or wolves within human burials, (5) the inclusion of dogs or wolves without human remains, (6) the presence of dry and green bone in burials, and finally (7) enacting a celebratory feast with clansmen as part of the burial ritual. Based on Spielmann's (2002) interpretation, increased feasting creates the need, and subsequent demand, for large cooking vessels and a social tier of specialists responsible for their manufacture. If Broad-tool

populations congregated in the manner proposed by Dincauze (1968), then the increased production of soapstone bowls during the middle portion of the Broad-tool phase was most likely a byproduct of this communal activity. This research does not claim that Huron, Iroquois, and Algonquian ritual activities derived directly from the MBT, Broad-tool populations or the Early Woodland Burial Cult. However, there is no mistaking the obvious similarities between ancient and historic finds.

Based on the literature, approximately 3,700 years ago two existing systems converged or otherwise overlapped within southern New England: (1) the SRTC that was transported either in the hands of a migrating people or via a complex series of contact networks and (2) a collection of ideological activities that spilled over from western Laurentian or northern Moorehead traditions. For the remainder of this research, the region of southern New England where these two overlap will be termed the Broad-tool Interaction Sphere (BTIS). It is this author's opinion that populations falling within this region were associated via multiple levels of social interaction. Thus far, this research demonstrates that the BTIS was connected by socio-political, economic, ideological and kinship networks.

CHAPTER VI: ANCHORED APPROACH
Terminal Archaic Burials in Connecticut

INTRODUCTION

The next three chapters are structured as a growing conversation with each chapter building upon the previous one. The focus of this chapter is to introduce the five burial sites that anchor the remainder of the research in geographic space, whereas Chapters Seven and Eight consider the data from zonal and regional approaches. The goal of this chapter is to examine each burial in turn and then determine what attributes can be considered typical or atypical for Connecticut Broad-tool burials and what, if any, ritual content carried over into historical Native traditions. This methodology examines multiple levels of social communication (socio-economic exchange, ritual borrowing, salient identity, etc.) within the Broad-tool Interaction Sphere in order to explore the possible existence of sub-cultural systems.

BROAD-TOOL BURIALS

Five Broad-tool cremation burials (Figure 6.1) are detailed below. Sites are presented in a west to east fashion and sub-headed under Western Connecticut (Rye Hill), Central Connecticut (Schwartz, Carrier and Griffin) and Eastern Connecticut (Rogers). The discussions that follow introduce each site and their Broad-tool diagnostic component and then present further observations per site.

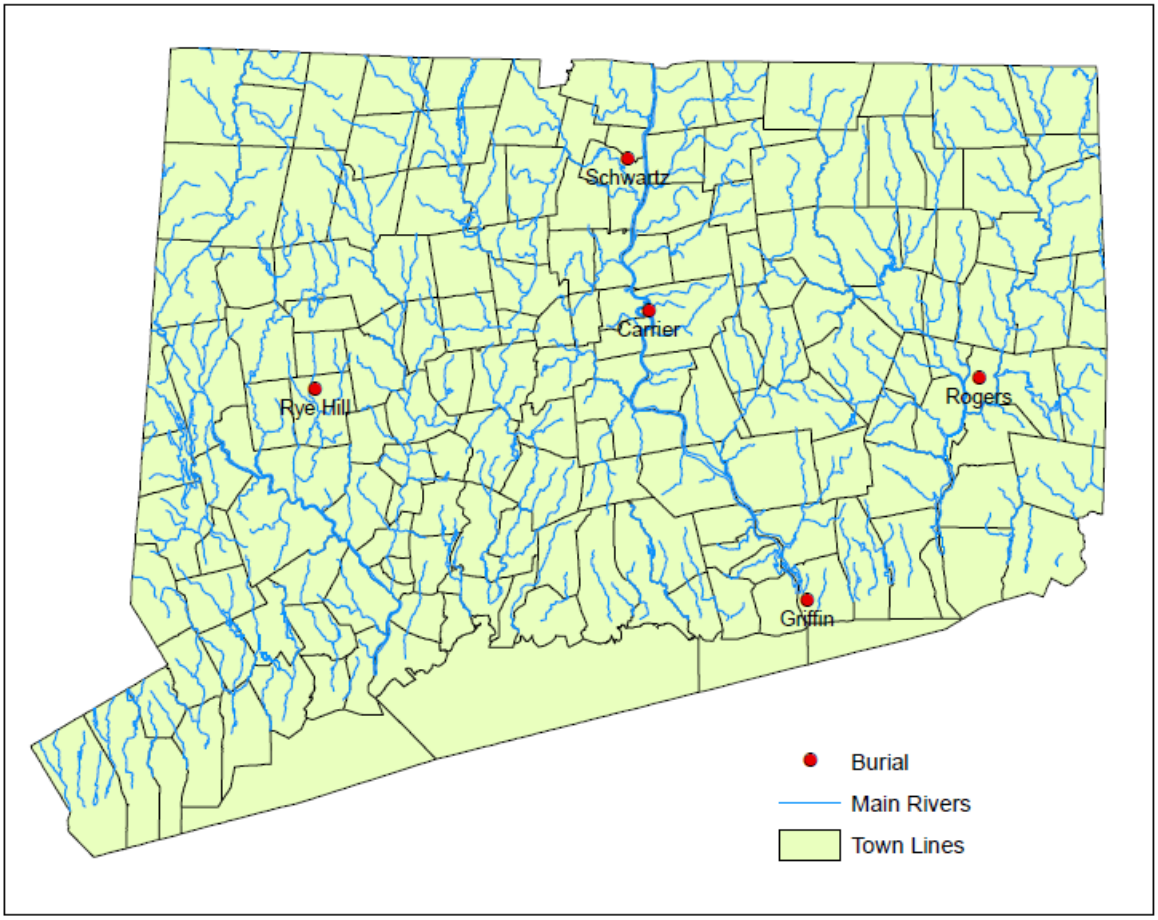


Figure 6.1 Map of Connecticut displaying the five burials sites analyzed for this research.

Western Connecticut

Rye Hill, Woodbury, Connecticut (3,610 BP)

Site Overview

The Rye Hill site was located in Woodbury, Connecticut, and resided on the eastern side of the Pomperaug River, a tributary of the larger Housatonic River. The site was initially identified by Ruth and Edmund Sinnott who were able to salvage information as bulldozers tore through the site (Thompson 1989). In total, four possible burial pits were located, with only Pit 1 offering any identifiable diagnostic artifacts. Although Pit 4 was heavily disturbed by bulldozing

activities, a one-inch layering of fine-grained sand underlay a black cremation fill (Thompson 1989).

The bulldozer crosscut Pit 1, leaving a discernable black feature, which is believed to be a burial. Seventeen small calcined bone fragments were excavated but could not be conclusively identified as human or animal. The bone, when considered in context with the recognizable look and feel of a Broad-tool burial, persuaded archaeologists that the pit was indeed a human burial. As the bulldozer cut through Pit 1, it truncated parts of the feature and removed layers of soil and artifacts. A majority (11) of the artifacts associated with Pit 1 were actually pulled from the back dirt by the Sinnotts, while only four were found cached in situ. Because artifacts from the back dirt were successfully refit to broken pieces still buried in Pit 1, these 11 artifacts are considered to have originated from Pit 1.

Lithic Material and Projectile Point Forms

Pit 1 contained fifteen (11 from back dirt, 4 in pit) Broad-tool point forms manufactured from non-local chert and weathered argillite or siltstone (Thompson 1989) (Table 6.1). Although Thompson (1989) labeled the non-chert artifacts as argillite in the figures, his text explains that due to the extreme heat damage, the materials were too damaged to determine whether they were siltstone or argillite. He believed that the rocks may be local to the area; however, this is yet to be proven. Argillite can be found to the southwest of the site in parts of New York, New Jersey and Pennsylvania and also to the east in Rhode Island, McBride and Jones doubt they stemmed from an eastern source (Kevin McBride and Brian Jones, personal communication 2013). Until more information can be offered regarding these lithics, the 15 lithic artifacts associated with Pit 1 are considered non-local to Connecticut (Chart 6.1). Even though Rye Hill exists within

Connecticut's boundaries, in the past, peoples utilizing the site may have been more affiliated with populations of eastern New York than central Connecticut (see Cassedy 1998).

The base of Pit 1 contained a cache of three cruciform chert Atlantic blades and an adjacent green chert Wayland Notched point (Figure 6.2). None of these artifacts displayed signs of fire damage or prior usage, although, a smoothing at the base of some of the points suggests that they may have been hafted at some point (Thompson 1989:27). These artifacts were intentionally chosen to line the base of the burial and represent a separate and distinct portion of the mortuary ritual (Thompson 1989). The 11 remaining points demonstrate various levels of heat damage, but interestingly, at least five of them were devoid of any use wear (Thompson 1989). No hypertrophic points were found with this burial site. Approximately 150 chips of debris were associated with the site along with shattered pieces of larger quartz cobbles. Thompson (1989:21) postulated that these were remnants of a cobble stone hearth used as a crematorium. He reasoned that the crematorium was on site and perhaps was lit atop Rye Hill as a beacon to surrounding 'cult' participants (Thompson 1989:27).

The point forms directly associated with Pit 1 range from Snook Kill to Coburn. Additional point types were located nearby as surface finds but lack any known provenience. Because of this, they were excluded from this research. Dincauze (1968) reasoned that Broad-tool point styles could be chronologically mapped as the point styles varied through time (see chapter two for chronological order). Following this line of thought, the Rye Hill site would represent a cemetery that was in use throughout the Broad-tool phase. However, based on finds at the Griffin burial (discussed below), Pfeiffer suggested that Broad-tool burials represented periodic gatherings of hunting bands, all of whom carried their own stylistic variants of the Broad-tool form (John Pfeiffer, personal communication; cited in Thompson 1989). This implies

contemporaneous use of these styles as some kind of clan or kin marker. Given Pfeiffer's theory, the Rye Hill burial would represent a gathering of multiple Broad-tool bands for a single burial episode, all (or some) of which offered their point styles as grave goods.

Further Observations

All accounts from the Rye Hill site are taken from Thompson (1989) and are based on his publication of all Broad-tool point forms and their identified raw materials. The positioning of the Watertown phase blades at the base of Pit 1 raises questions regarding subterranean shifting and site formation processes. If the artifacts remained stationary, should significance be found in that the three blades were stationed touching each other while the Susquehanna Broadspear/Wayland Notched point rests apart from the grouping? The Miller Field site in New Jersey (Kraft 1970) also contained a catchment of drills, stylistically Perkiomen, where the point forms appear to have been deliberately positioned so the blades overlapped (Figure 6.3). Thompson (1989:27) also noted that the one-inch fill that lined the base of Pit 4 was characteristically similar to a burial he excavated at the Schwartz site (discussed below). Both the sand fill and the cache of points were intentional goods/offerings planted at the base of the pits prior to the deposit of the cremated remains.

Point Type	Raw Material	Count
Atlantic cruciform blade	Chert	3
Atlantic	Chert	2
Atlantic	Argillite	3
BTF	Chert	1
Coburn	Argillite	1
Snook Kill	Argillite	1
Snook Kill	Chert	3
Wayland Notched	Chert	1
TOTAL		**15**

Table 6.1 Created from Thompson (1989). Displays the Broad-tool point forms and raw materials located in Pit 1; a cremation burial at Rye Hill (BTF=Broad-tool form).

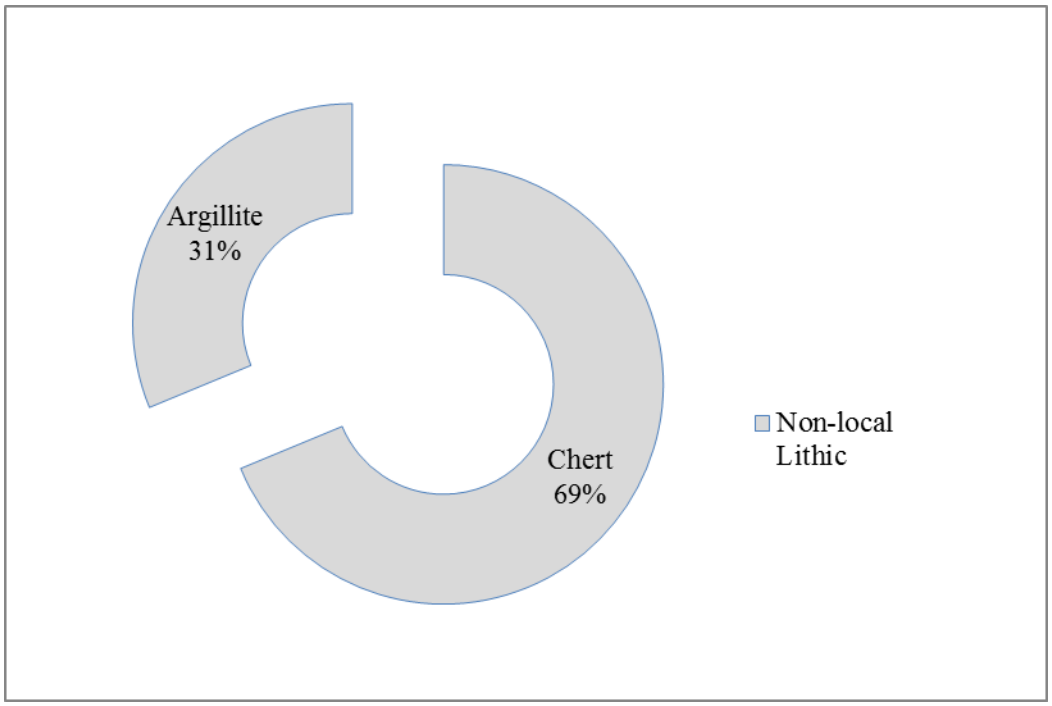


Chart 6.1 Chart displaying lithic variation and the 100% non-local assemblage at the Rye Hill site, Woodbury, CT (n=15).

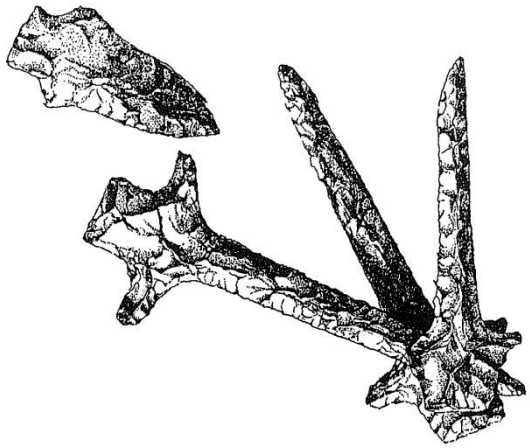


Figure 6.2 Cache of Broad-tool ritual goods found at the base of Pit 1, Rye Hill site (Thompson 1989:22).

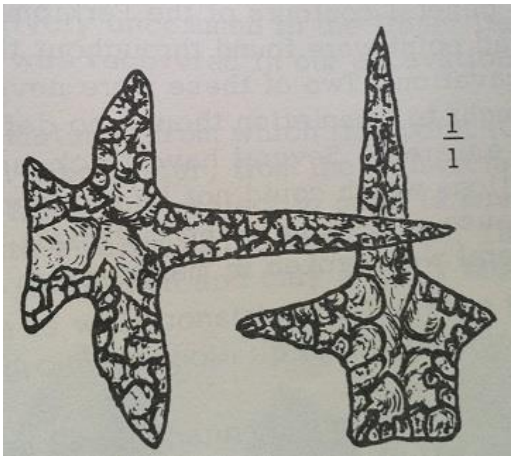


Figure 6.3 Cache of Broad-tool ritual goods found at the base of a burial pit, Miller Field site, NJ (Kraft 1970:63).

Central Connecticut

Schwartz Site, Windsor, Connecticut (3,335 BP)

Site Overview

The Schwartz site was situated near the Farmington River in an area adjacent to Whipple Pond. Eighteen separate burial pits and numerous associated artifacts were located. The former State Archaeologist, Doug Jordan, and the Albert Morgan Chapter of the Archeological Society of Connecticut (ASC) were called in as construction began at an industrial area in Windsor, Connecticut, near the Bradley International Airport. Based on other well-documented Broad-tool burials (see Dincauze 1968), it is assumed that the number of burials is not equivalent to the number of people interred within the ground. It is common to see more than one person represented in each burial pit or even the lack of human remains within the cremation residue. The size and shape of cremation pits varied across the site, and there was evidence of occasional pit overlapping. The Schwartz cemetery is the only burial discussed here that contains evidence of overlapping and the re-usage of the cemetery through time. Unfortunately, no evidence of pyres or crematoriums has been uncovered anywhere near the site. All field notes and associated site paperwork from the site have since been misplaced, leaving this site and its excavated remains devoid of context. All that remains is a catalogue sheet, which provides artifact inventory numbers (AIN) for some artifacts, but not all. The lack of provenience data severely limits the value of the information recovered from the site.

Lithic Material and Projectile Point Forms

The author was granted full access to artifacts from the Schwartz site by the OSA. A mixture of local and non-local materials were found at the site, which offered an array of artifact

types (i.e., a piece of argillite, petrified wood, two pottery fragments, a preserved copper point and two quartzite cobble abrading stones). Broad-tool point styles, similar to the Rye Hill site, range from Snook Kill to Coburn and were manufactured mainly from chert, shale and hornfels (Table 6.2). At least seven separate materials were utilized for projectile point manufacture; five specimens are made from unidentified raw materials (Charts 6.2 and 6.3). Of the known materials utilized for point production, chert and rhyolite were the only materials considered as non-local to Connecticut. Many of the local rocks were available within close proximity to the Schwartz site (Chart 6.4). The dominant lithic material used for the manufacture of diagnostic point forms was chert (with 26 specimens), and the second most abundant was shale (with only 7). Many chert and hornfels points demonstrated evidence of use wear; however, the heat damage was so severe that it is difficult to determine the level of use wear on others.

Further Observations

The Schwartz site presents a rare opportunity for Connecticut archaeologists to delve deeper into the questions regarding point styles as a chronological marker (Dincauze) or as a band's stylistic affiliation (Pfeiffer). The overlapping of cremation pits demonstrates evidence of re-usage of the site through time. If the lower and upper pits both contained a heterogeneous mixture of Snook Kill to Coburn point styles, then Pfeiffer's concept would seem a more apt conclusion. Offerings used for the rite of intensification would display a range of tools in use by the communities present and not a use of the pit through time. If true, burials within the BTIS should be re-evaluated based on this distinction. An increase in style variation could equal a gathering consisting of more distant populations, while a burial demonstrating much homogeneity could represent a relatively local event. However, if a chronological sequence of

point styles was present, then based on the principle of superpositioning, Dincauze's theory would be applicable for sites in southern New England. Sadly, in order to accomplish this task, the paperwork must first be located.

Dincauze (1975) discussed the Schwartz excavations briefly, but could not yet provide any substantial information at the time of publication. She noted that Feature 8 was excavated by a crew from the University of Massachusetts, which is supported by a drawing labeled 'Feature 8' and signed by Dincauze. A few of her notes and pictures are stored with the artifact boxes in the Dodd Center and the University of Connecticut, Storrs. As described by Dincauze (1975:29), Feature 8 consisted of Coburn notched points and an associated flaked and ground stone tool assemblage. Certain artifacts from the Schwartz site were inscribed with numbers as a means of cataloguing them in the laboratory, but sorting out the meaning of each has proved impossible. For example, the rearticulated artifact 1973.001.0026 (the catalogued AIN) was classified as a chert knife and displayed the numbers 6-HT-100-S, F14.14, 630, 629 and 905 (Figure 6.4). Given that 18 separate burials were excavated, I have to assume that F14.14 signifies that this artifact, as least in part, was somehow associated with Feature 14. 6-HT-100-S demarcated the site for the OSA, but the remaining numbers create a mystery. They may indicate initial bag numbers, but were found on numerous pieces and fall between 500 and 699 with the same number appearing on more than one artifact.

Unfortunately, some issues with the Schwartz site have yet to be answered. The assemblage could be partitioned into three groups: (1) artifacts drawn by Calogero and present in the collection, (2) artifacts drawn by Calogero that are not present in the collection and (3) artifacts not drawn by Calogero but are present in the collection. In our personal discussions, Calogero remarked that she cannot account for the three categories because she was under the

impression she had been given the entire assemblage for assessment. As a result of this inquiry, Calogero graciously continued her initial work and completed drawing and identifying the remaining artifacts from the Schwartz site. Yet, the question remains, do we now have the complete assemblage? Without the initial paperwork, these questions remain unanswered.

Point types	Raw Material	Count
Boats	Unid	1
BTF	Chert	1
BTF	Hornfels	1
Coburn	Basalt	1
Coburn	Chert	9
Coburn	Hornfels	4
Coburn	Siltstone	1
Coburn	Unid	1
Coburn-like	Copper	1
Mansion Inn	Chert	4
Mansion Inn	Unid	1
Perkiomen	Rhyolite	1
Snook Kill	Chert	1
Snook Kill	Hornfels	1
Susquehanna	Chert	8
Susquehanna	Hornfels	1
Susquehanna	Shale	7
Wayland Notched	Chert	3
Wayland Notched	Hornfels	1
Wayland Notched	Unid	2
TOTAL		**50**

Table 6.2 List of Broad-tool point forms and raw material type from the Schwartz site, Windsor, CT.

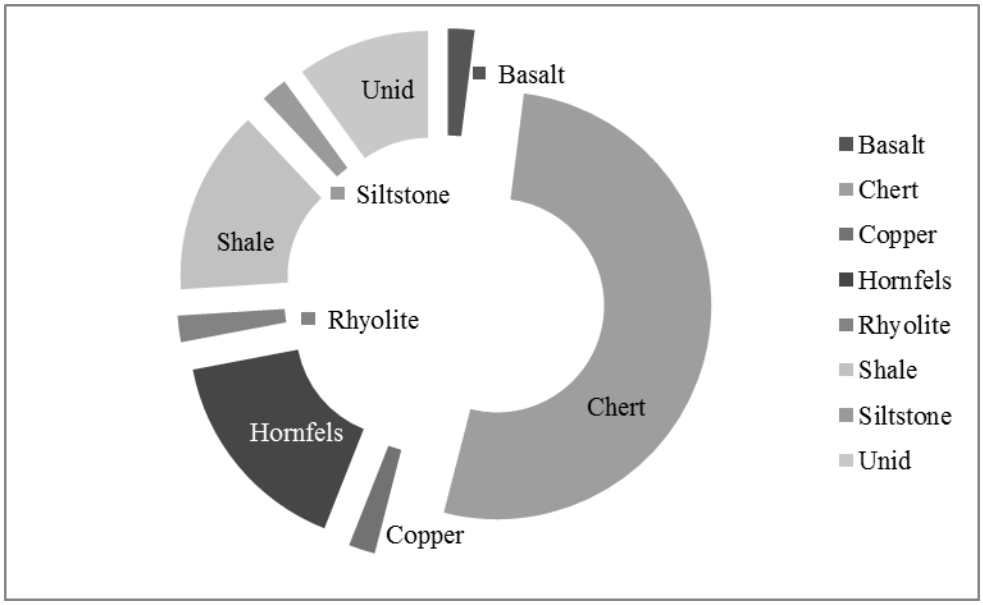


Chart 6.2 Chart displaying lithic materials for diagnositcs at the Schwartz site (n=50).

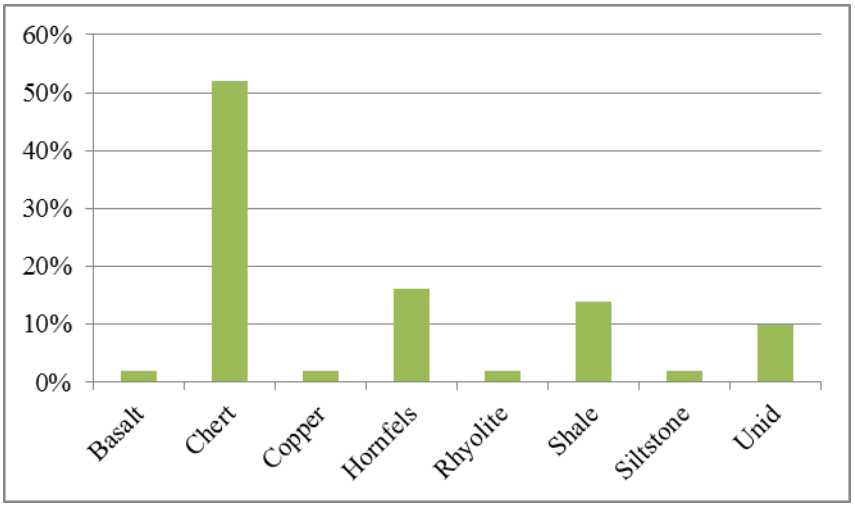


Chart 6.3 Percentages of lithic materials interred at the Schwartz site in the form of diagnostic projectile point forms (n=50).

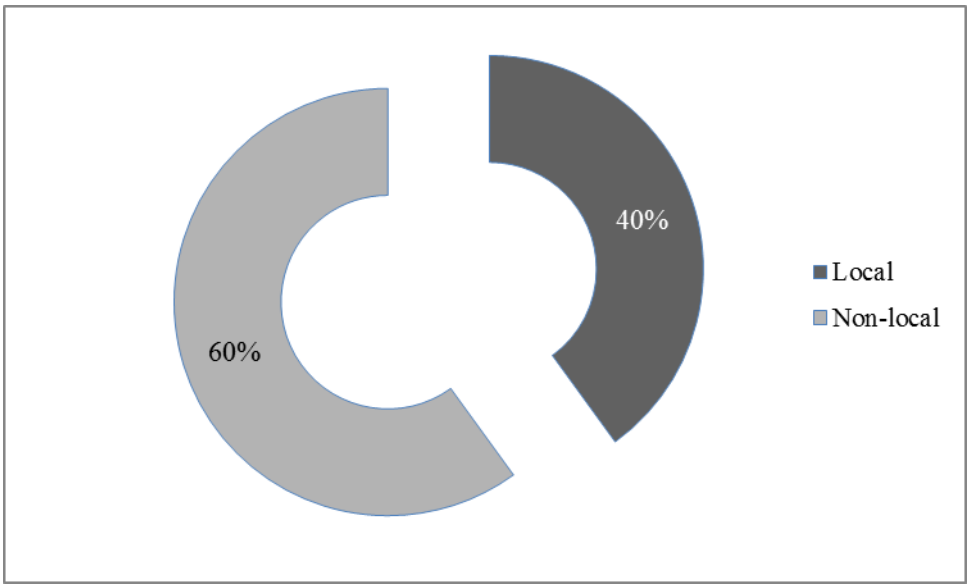


Chart 6.4 Percentages of lithics local to Connecticut versus non-local raw materials utilized for diagnostic point form manufacture at the Schwartz site (n=45; unidentified lithics have been excluded).

Figure 6.4 Artifact 1973.001.0026 from the Schwartz site, Windsor, CT.

Carrier Site, Glastonbury, Connecticut (3,550 BP)

Site Overview

Discovered in 1975, the Carrier site was located along the Connecticut River in Glastonbury, Connecticut, near the current Glastonbury Historical Society (GHS). Initial salvage excavations were led by Andy Kowalsky from the Albert Morgan Society and produced evidence of cremated remains, burial artifacts, and botanicals. A 1985 re-examination of the site by Pagoulatos (1986) yielded further proof of cremated remains, which produced a total four Broad-tool cremation pits. Today, the diagnostic artifacts are housed at the GHS while all other lithic materials, such as debitage, rest with the OSA in a single box. All were made available to the author.

Lithic Material and Projectile Point Forms

The temporal span of the point styles indicates an early-to-middle Broad-tool usage of the site (Snook Kill/Atlantic and Watertown Phases). Eighteen of the 20 Broad-tool points were manufactured from local materials (Table 6.3). Actually, fifty-six percent of Carrier's total lithic assemblage represented local material, which was mostly quartzite and shale debitage (Pagoulatos 1986). Quartzite and shale (seven each) were readily available near the site, as were the remaining local materials, hornfels (3) and schist (1) (Charts 6.5 and 6.6). The remaining non-local materials consisted mainly of chert, rhyolite and argillite. It is probable that the one point form manufactured from jasper can be sourced back to Pennsylvania.

Although non-local Broad-tool points are present within the assemblage (chert, rhyolite and jasper), compared to the Schwartz and Griffin assemblages, which also flanked the Connecticut River, non-local materials seem quite under-represented (Chart 6.7). Only fourteen

percent of the Broad-tool bifaces from the Carrier site were constructed from non-local materials. The Schwartz and Griffin assemblages far exceed this with 60% (Chart 6.4) and 70% (Chart 6.10), respectively.

Further Observations

The Carrier site was bookended between the Connecticut River meandering to the west of the site and a number of contemporary habitation sites to the east, north and south. The separation between the habitation sites and the cremation burial signifies that the area was considered different or distinct, where only specific ritual activities transpired. It is probable that the communities residing in neighboring habitation sites were the ritual participants and cultural producers of activities occurring at the Carrier site. This scenario mimics the relationship observed between the Laurentian period Bliss cremation site and the adjacent Howard site. This is discussed again at the end of the chapter.

Point types	Raw Material	Count
BTF	Hornfels	1
BTF	Quartzite	2
BTF	Shale	2
Mansion Inn	Hornfels	1
Mansion Inn	Quartzite	3
Mansion Inn	Shale	2
Mansion Inn	Unid	1
Perkiomen	Hornfels	1
Snook Kill	Quartzite	2
Susquehanna	Chert	1
Susquehanna	Jasper	1
Susquehanna	Rhyolite	1
Susquehanna	Schist	1
Susquehanna	Shale	3
Susquehanna	Unid	2
TOTAL		**24**

Table 6.3 List of Broad-tool point forms and raw material type from the Carrier site, Glastonbury, CT.

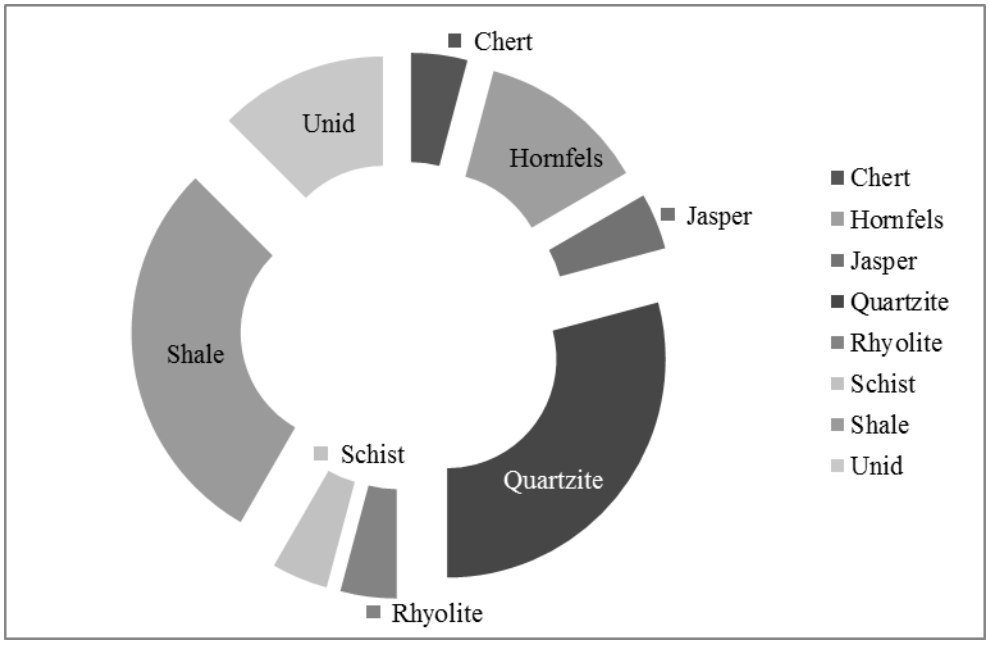


Chart 6.5 Chart displaying lithic matericals for diagnositcs at the Carrier site (n=24).

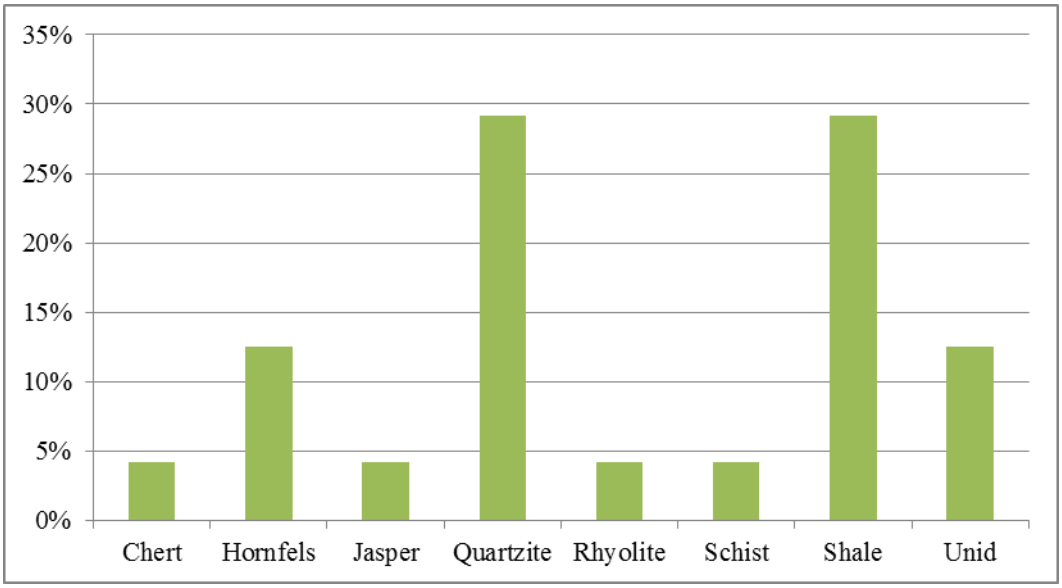


Chart 6.6 Percentages of lithic materials interred at the Carrier site in the form of diagnostic projectile point forms (n=24).

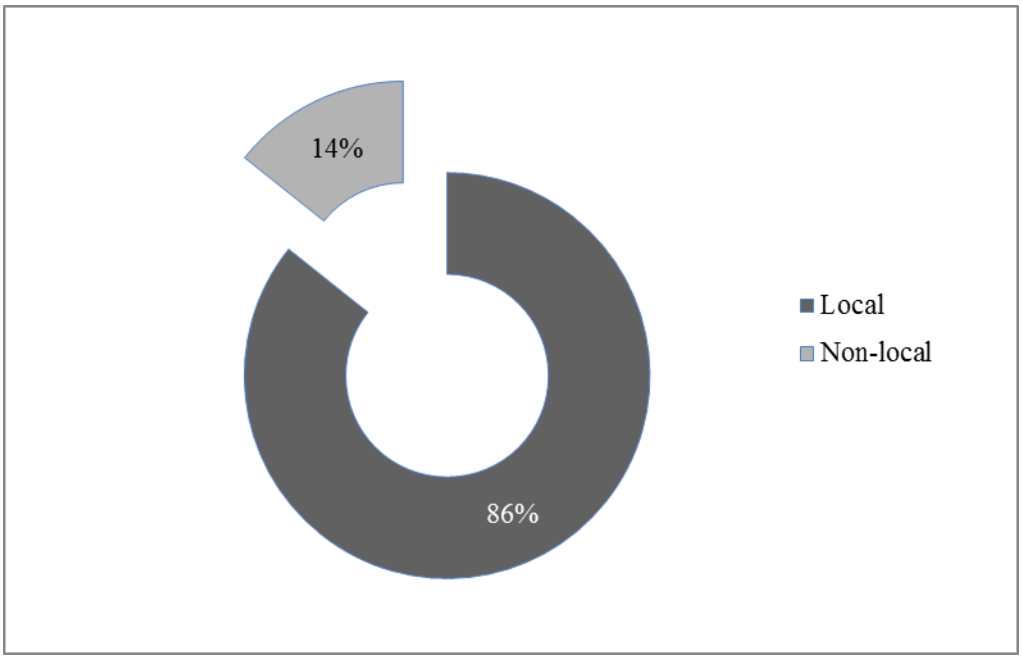


Chart 6.7 Percentages of lithics local to Connecticut versus non-local raw materials utilized for diagnostic point form manufacture at the Carrier site (n=21; unidentified lithics have been excluded).

Griffin Site, Old Lyme, Connecticut (3,005–3,535 BP)

Site Overview

The Griffin site sat on the east bank of the Connecticut River in Old Lyme, Connecticut, approximately one and a half kilometers from where the river's mouth opens into Long Island Sound (Pfeiffer 1980). Pfeiffer (1980) was called in by the landowner as darkened shapes began to emerge in the soil while a cellar was being dug. Within 44 square meters, Pfeiffer located 19 elliptical burials closely oriented together in space where over 350 Broad-tool point forms, 1 steatite amulet, 50+ axes, a gouge, 50+ adzes, 30 pestles-hones, 2 steatite lugged bowls, 25 abrading stones, and 1 piece of copper were unearthed (Pfeiffer 1980:132).

Lithic Material and Projectile Point Forms

Unfortunately, the author was unable to gain access to the Griffin site lithic assemblage, which is housed at Wesleyan University, but Calogero meticulously drew and macroscopically identified each diagnostic artifact for her own research (Calogero, unpublished works). Even though her work was detailed and patiently executed, I feel uncomfortable stylistically defining the Broad-tool point styles as Snook Kill, Perkiomen, Wayland Notched or Coburn based on pictures alone. Some were obvious renditions of specific tool forms and were categorized as such, but others (possibly preforms) are labeled merely as Broad-tool form (BTF). All forms, however, are believed to fit within the Watertown variety of the Mansion Inn/Wayland Notched points (see Dincauze 1968).

The diagnostic pieces alone illustrate the volume of material that was available to inhabitants in the area (Table 6.4). Lithic trade more than likely ventured along water routes due to the sheer weight of the goods. The Connecticut River runs north/south from just across the

border in Canada to the open water of Long Island Sound. With its many tributaries, the Connecticut River created a viable economic pathway for water-based trade. If the river was in use as a trade route, then communities positioned at the mouth would, in theory, benefit from the variety and quantity of non-local resources traveling it before they were ushered north along the river. The Griffin cremation assemblage exemplifies this diversity. Four hundred and fifty-one diagnostic pieces were manufactured from at least 11 separate lithic materials. The raw materials for forty-five points could not be identified. Non-local materials utilized for Broad-tool manufacture were chert (39%), rhyolite (29%) and argillite (3%). In comparison, very few local lithics were found (29%) and in total are equivalent to the percentage of rhyolite (Charts 6.8, 6.9 and 6.10). Pfeiffer (personal communication 2013) tested the felsites and rhyolites from the Griffin site using inductively coupled plasma (ICP) and determined that they originated from Maryland instead of Massachusetts.

Shale (7%) appears as a prominent local material for interment. Shale, which was found in four of the five cremations, and slate, only present in the Griffin burial, are both fissile rocks. Due to how they form and their internal properties, fissile rocks split into sheets along planes, thereby making them less attractive raw materials for projectile point manufacture. The shale/slate point forms deposited within Schwartz, Carrier, Griffin and Rogers (see below) cremations tend not to be utilized from a functional, technomic perspective. Unfortunately, many specimens have been altered, broken or pot-lidded by heat and are harder to analyze. The remaining slate and shale points demonstrate no signs of usage and appear to have been manufactured specifically for ritualized interment (see Cross 1993).

The availability of non-local goods must have affected which lithics were selected for ritual inclusion. Only 30% of the diagnostic population was manufactured from local goods, but

in quantitative terms, it remains rather significant considering 30% is equal to 120 points. Quartz and quartzite were notably absent from the Griffin cremation given the availability of quartz cobbles along the river's edge and the quartzite Plainfield formation to the east.

Further Observations

Based on his findings at the Griffin site, Pfeiffer (1980) argued that the Broad-tool burial ritual consisted of a two-part interment. He concluded that after the pits were constructed, deposits of uncharred tools were placed at the bottom of the pit. Atop this cache of preserved goods rested an assortment of lithic tools (broken and unbroken), floral and faunal (food) remains and human osseous remains mixed together within the cremation. This two-part ritualistic practice is well-supported in the literature. We see a similar type of activity at the Rye Hill site (Thompson 1989), the Miller Field site (Kraft 1970) in New Jersey and possibly the Schwartz and Rogers sites. The Mansion Inn site in Wayland, Massachusetts, also exhibited premeditated attempts to line the units before cremation remains were deposited (Dincauze 1968). Dincauze (1968) noted that cached tools at the Massachusetts sites she analyzed were heavily worn, broken during manufacture or otherwise presented the appearance of being undesirable. Of the three cremation assemblages analyzed by the author (Carrier, Rogers and Schwartz), few seem to be "undesirable" as functional tools. The discard rate of each lithic material seems partially dependent on its ease of procurement and a population's preference for specific lithics. But while most of the chert tools indicated wear, none appear too small to be functional.

Point types	Raw Material	Count
Boats	Unid	1
Boats	Argillite	1
Boats	Chert	4
Boats	Hornfels	3
Boats	Rhyolite	5
Boats	Sandstone	1
Boats	Shale	2
Boats	Silicified Mud	2
Boats	Siltstone	1
BTF	Unid	22
BTF	Argillite	9
BTF	Basalt	3
BTF	Chert	56
BTF	Hornfels	9
BTF	Rhyolite	33
BTF	Sandstone	2
BTF	Shale	17
BTF	Silicified Mud	6
BTF	Siltstone	10
Mansion Inn	Unid	13
Mansion Inn	Argillite	3
Mansion Inn	Basalt	5
Mansion Inn	Chert	67
Mansion Inn	Gneiss	2
Mansion Inn	Hornfels	7
Mansion Inn	Rhyolite	46
Mansion Inn	Sandstone	4
Mansion Inn	Shale	4
Mansion Inn	Silicified Mud	2
Mansion Inn	Siltstone	6
Mansion Inn	Slate	2
Susquehanna	Unid	9
Susquehanna	Chert	31
Susquehanna	Gneiss	2
Susquehanna	Hornfels	13
Susquehanna	Rhyolite	31
Susquehanna	Sandstone	1
Susquehanna	Shale	9
Susquehanna	Siltstone	6
Susquehanna	Slate	1
TOTAL		**451**

Table 6.4 List of Broad-tool point forms and raw material type from the Griffin site, Old Lyme, CT (all Watertown Phase variants).

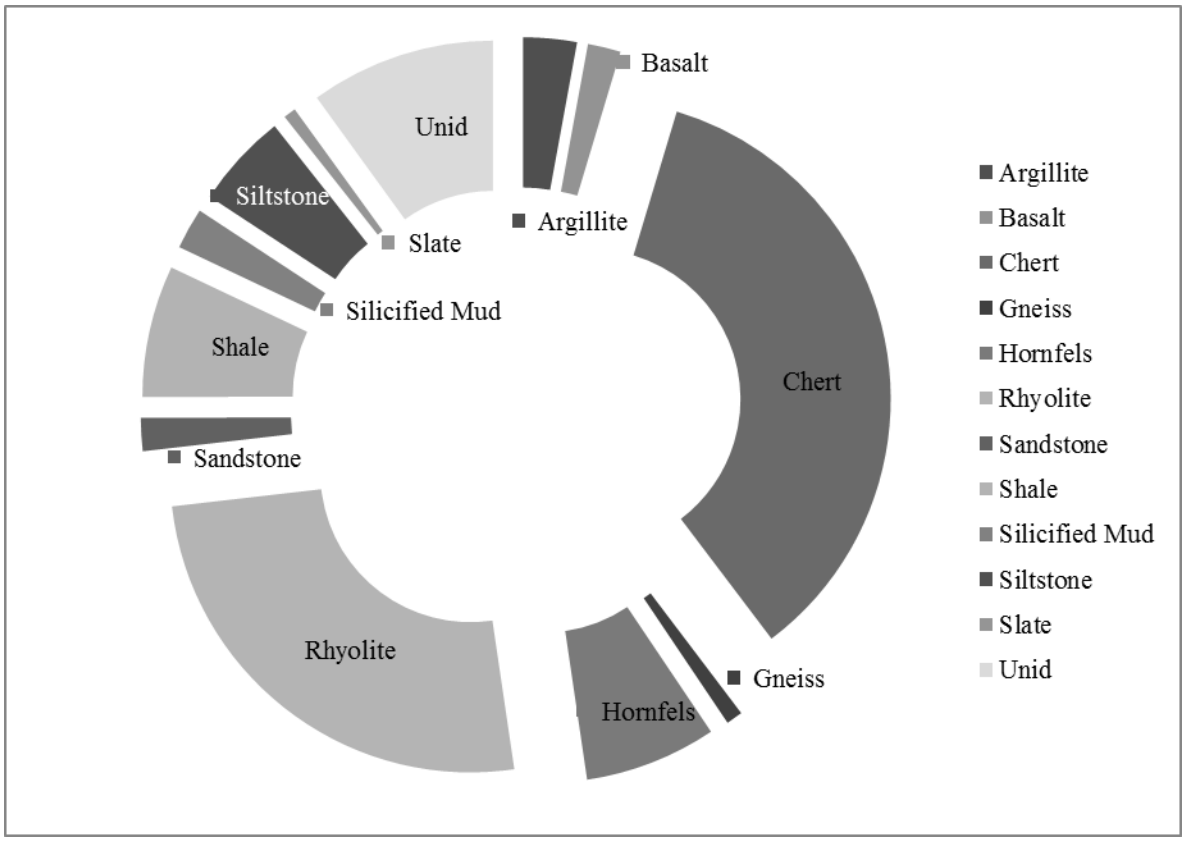


Chart 6.8 Chart displaying lithic matericals for diagnositcs at the Griffin site (n=451).

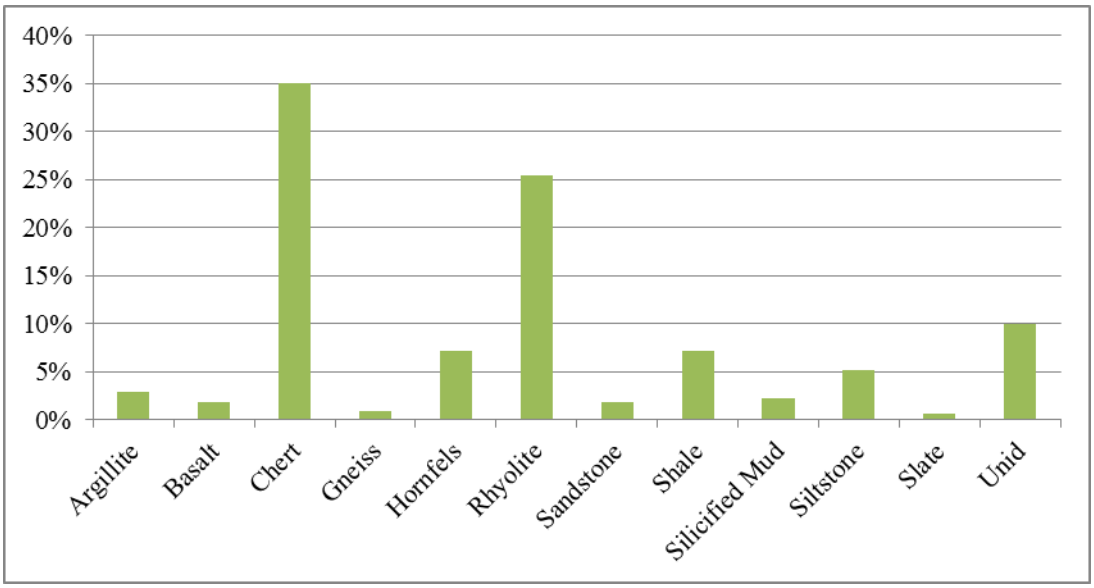


Chart 6.9 Percentages of lithic materials interred at the Griffin site in the form of diagnostic projectile point forms (n=451).

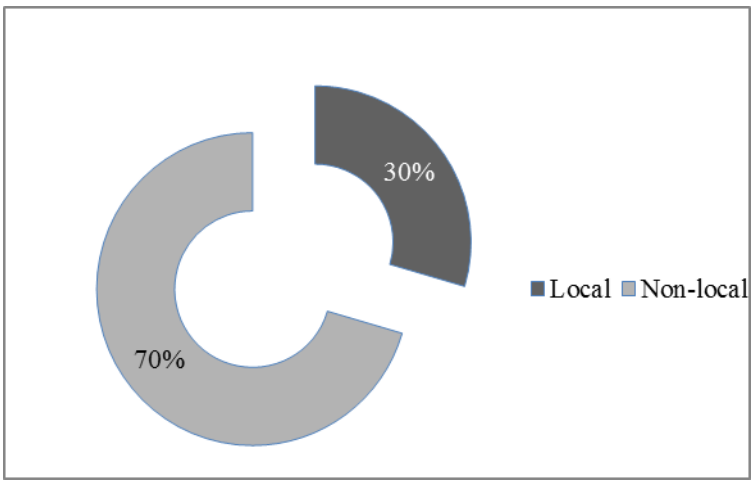


Chart 6.10 Percentages of lithics local to Connecticut versus non-local raw materials utilized for diagnostic point form manufacture at the Griffin site (n=406; unidentified lithics have been excluded).

Eastern Connecticut

Rogers Site, Lisbon, Connecticut (3,560 BP, 3,420 BP)

Site Overview

The Rogers site (a Watertown Phase site) was located in Lisbon, Connecticut, near the Pachaug River. The excavation was a salvage effort achieved by the OSA in conjunction with volunteers from Friends of the Office of State Archaeology (FOSA) in 2007. The site was originally discovered by a private landowner who found artifacts scattered about the surface. He often allowed friends who crossed his lands to search for and then keep any artifacts they found as souvenirs (Nicholas Bellantoni, personal communication 2012). As more artifacts were discovered, the owner decided to strip back about one acre of land with a backhoe unearthing features, rock debitage and projectile points. The owner contacted the OSA to assess the site, at which point a distinct blackened oval, which is characteristic of Terminal Archaic cremation burials, was visually identified.

Because the land continued to be held by the Rogers family during excavations, the OSA and FOSA had very little control over who had access to the site even though the homeowner worked with the OSA to preserve the site. There was fear that site provenience and contextual evidence would soon be lost to the natural elements or to looters. Therefore, only the exposed portion of the Rogers site was recorded. Of the five cremations discussed in this research, the Rogers site is the only cemetery to contain an isolated cremation pit. Cara Roure Johnson, Ph.D., analyzed small portions of bone from the residue and identified what she believed to be the remains of a juvenile, over the age of six, and a large canine animal (Cara Roure Johnson, personal communication 2011). Regrettably, it remains unknown whether additional cremation pits, a crematorium or pyre of some sort or additional site materials surround the feature. A Late Archaic Narrow-Stemmed component was located adjacent to the Broad-tool burial, but the two were not contextually related. The land has since been purchased by a land conservation organization and is protected from further digs of any kind. All materials extracted from the Rogers site by the OSA and FOSA have been re-interred in an undisclosed area of the property.

Lithic Material and Projectile Point Forms

The complete Rogers assemblage was accessible to the author prior to repatriation. Almost 100% of the whole lithic assemblage was manufactured from rocks local to Connecticut (Anthony Philpotts, personal communication 2011). Because the complete assemblage was comprised of a number of formed tools, debitage and quartzite chunks, a total weight was calculated per raw material instead of artifact counts in order to understand the total volume of lithic materials excavated from the burial. Rhyolite represents only .2% of the whole lithic assemblage and may have come from sources in Massachusetts (Table 6.6). Over half of the

assemblage was manufactured from quartzite (54.9% of the weighted assemblage) although many of the pieces were difficult to identify because of heat damage. Chemical changes due to extreme heat from a fire could have modified the quartz's appearance enough to generate difficulties with petrographic identification (Anthony Philpotts, personal communication 2011). Philpotts concluded that even if the quartzites were extracted from separate sources, they were still local to Connecticut.

About 50% of the quartzite extracted from the burial consisted of small, burnt chunks of material. Much of the quartzite debris was heat damaged, with a brittle, chalk-like texture. Apart from the obvious diagnostic pieces, very few refits were achieved. Those that were refit took on indiscernible, amorphous shapes, suggesting that larger chunks of quartzite were also placed into the fire alongside preforms or finished tools. Unfortunately, I was not able to determine their depth from the paperwork stored with the assemblage. The quartz chunks could have broken off from a crematorium (similar to Rye Hill) or acted as a type of lining upon which the cremation residue rested within the pit.

Dincauze (1968) was among the first to discuss the intentional breaking or "killing" of artifacts before they were interred and/or cremated with the dead. Large groundstone tools illustrated evidence of possible percussion scars or drill marks where tools were weakened prior to being killed. The method in which artifacts were selected for sacrifice is unclear. If selections were random, then presumably artifact thickness would correlate to broken artifacts. More fragile, thinned bifaces will snap with very little pressure, but thick, bulky hammerstones need excessive preparation to break open.

Based on artifacts at the Rogers site, the selection does not appear to be random. A large hornfels adze, approximately 16cm in length, was fractured into more than eight pieces despite

having a thickness of close to 2cm (Figure 6.5), but a Broad-tool hornfels point measuring 13.4cm long and .5cm thick exhibited no real damage (Figure 6.6). Three possibilities arise when considering the sacrifice of artifacts for Broad-tool burials: (1) items were specifically selected over others for intentional sacrifice before interment, (2) the ritual behavior only mandated that *some* items be sacrificed or (3) it is possible that some tools and raw material fragments were included in burials for different reasons and therefore required or received different treatment.

The diagnostic pieces indicate that the cemetery was in use during the "Watertown Phase", following Dincauze's (1968) chronology. All diagnostic points were manufactured from shale, hornfels, or quartzite, all of which are local to Connecticut (Chart 6.11). Many of the shale points were so badly heat damaged that splinters were readily flaking off upon examination, and people would have needed to take extra care during removal from the crematorium and transport to the burial pit.

Further Observations

Excavations at the Rogers site have raised a series of unanswerable questions. Was the child the only person interred within the pit, and if so, was this intentional? What role did the large canine (dog or wolf) play in the burial or in afterlife? Why was there such a focus on local materials, or maybe, a disregard for non-local lithics? Did the grave goods belong to the child or are they more of a symbolic offering that are supplied to all deceased members of the community? From the limited information available, we know that: (1) the remains of a young child and canid animal were identified in the cremation residue, (2) no exotic goods or even local steatite were unearthed with this component, (3) delicate hypertrophic blades (likely made for the

burial) were deposited, mostly unbroken, into the burial while large groundstone tools were intentionally fragmented, (4) much of the quartzite was broken into smaller nodules or chunks and heated at some point during the ritual and (5) only one burial pit was located at the site.

The other four burials discussed above contained multiple pits, so there is really no reason to suspect that Rogers included a single burial. As discussed, only the exposed portion of the site was excavated, and the full extent of the cemetery remains unknown. The fact that the burial pit only contained the remains of a child and canine animal in no way eliminates the possibility that they were cremated with a larger group of people/animals. The dog or wolf interred with the child may have represented a fallen warrior included in the cremation ritual or possibly some type of guide leading the dead into the afterlife (Claassen 2008; Lavin 2013).

Figure 6.5 Remains of hornfels adze located at the Rogers site, Lisbon, CT.

Figure 6.6 Hornfels Broad-tool from the Rogers site, Lisbon, CT.

Point Type	Raw Material	Count
Boats	Quartzite	3
Dudley	Shale	3
Dudley	Quartzite	2
Dudley	Hornfels	2
Mansion Inn	Shale	9
Mansion Inn	Quartzite	5
Mansion Inn	Hornfels	1
Susquehanna	Shale	2
Susquehanna	Quartzite	1
Susquehanna	Hornfels	1
Broad-tool Form	Shale	1
TOTAL		**30**

Table 6.5 List of Broad-tool point forms and raw material type from the Rogers site, Lisbon, CT.

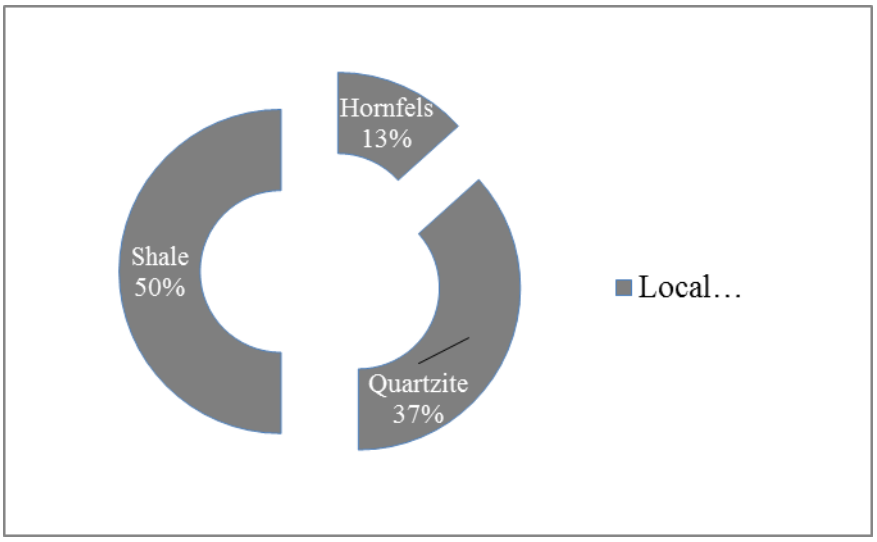


Chart 6.11 Chart displaying lithic matericals for diagnositcs at the Rogers site and their percentages (n=30).

Raw Material	Percent
Rhyolite	.2
Clay	.6
Feldspar	.7
Quartz	1.5
Hornfels	3.9
Gneiss	4.1
Basalt	6.6
Shale	27.5
Quartzite	54.9

Table 6.6 Percentages by weight of entire lithic assemblage from the Rogers site, Lisbon, Connecticut.

DISCUSSION

As dissimilar as the burials, assemblages and lithic materials may seem, an overarching burial package binds these five cemeteries together within the BTIS. The Broad-tool burial package within Connecticut consisted of formal cemeteries, defined as "specialized, bounded area[s] for the exclusive disposal of the dead," following Robinson's (2001:119) definition. Burial pits tended to be lined with a sandy/cobble element and/or with an unused, and sometimes hypertrophic, cache of tools. Although crematoriums have not been located, it is presumed that cremations consisted of multiple people, dogs/wolves, broken and unbroken tools, and foodstuffs. Certain tools were selected by an unknown method and ritually killed prior to being placed in the fire while others broke during the cremation due to excessive heat or the stirring of the cremated remains (remains often have to be stirred during the cremation process to aid in the breakdown of bone). Following cremation, residue was collected and re-deposited into one or more pits.

Kyriakidis (2007a) indicated that ritual cores remain a historical tracer, like a baptismal font, and have yet to be identified prior to written records. He stated that ritual cores are not repeated in any other ritual and are restricted to a specific purpose. Following his concept, killed Broad-tool diagnostics artifacts can be considered ritual cores because they are not seen in any other known Broad-tool ritual package. To a degree, this practice is already in use. Dincauze (1968) categorized features containing intentionally broken Broad-tool points as human burials even though no human remains were present. Unknowingly, she identified the ritual core (killed Broad-tool diagnostics) in order to identify the ritual package (burial). Unfortunately, these will

not assist us in tracing where to find additional Broad-tool burials for preservation purposes, but they do allow us to identify the ritual package.

Lithic selections from the five cemeteries match closely with what would have been available locally or exchanged through economic and social networks. Non-local lithics monopolized diagnostics at the Rye Hill site, an unequal mixture of local and non-local dominate the three sites along the Connecticut River, and local lithic materials were present at the Rogers site (Chart 6.12). Diagnostics at Rye Hill are chiefly comprised of chert (68%), which is not surprising given the site's proximity to New York. Populations within western Connecticut may have been more closely affiliated with communities in eastern New York than with peoples in middle and eastern Connecticut (Cassedy 1999). Whereas the cherts were categorized as non-local to Connecticut, they may have been considered more of a local lithic to people of western Connecticut. The argillite from Rye Hill (32%) was likely a southern lithic that passed through socio-economic systems along the Susquehanna River or another western river system. Again, it is unlikely that they originated from a source in Rhode Island.

Shale appears in all cemeteries except for the Rye Hill sites, and many appear to be of hypertrophic form. The mineral makeup of shale makes it a soft platy material that is easy to shape allowing for the manufacture of overly large, stylized artifacts. Because shale projectiles easily splinter and break, they were likely produced locally as ritual goods made only for the dead. The absence of shale points at the Rye Hill site further supports the concept that the groups that buried their dead here where more closely affiliated with eastern New York than central-eastern Connecticut. Conversely, the deposition of utilitarian Broad-tool points manufactured from non-local lithics, which tend to be broken or killed, could have been offered by participants of the ritual as tribute. The public killing of lithic resources was perhaps linked

to public display of the dead individual's (or his relative's) social identity or prestige level. As a person's (or family's) prestige grew, they could have been expected to offer increased amounts of tribute.

Lithic selections for diagnostic pieces at the Rogers site are curious; however, we are only viewing an unknown portion of the site. Shale, hornfels, and especially quartzite were available within the immediate area or to the west in the Connecticut River Valley. The absence of non-local lithics, mainly argillite from Rhode Island, suggests that the people who buried their dead at the Rogers site either chose to not participate in non-local lithic exchange or were, for whatever reason, not part of this economic network. This is discussed more in the following chapters.

The Schwartz, Carrier and Griffin cemeteries, on the surface, appear to be the most homogenous as they all contained a mixture of local and non-local lithics shaped into Broad-tool points. However, the three sites collectively contained 13 different lithic types, but only shared four in common (chert, hornfels, rhyolite, and shale). The Connecticut River was likely a main artery of lithic exchange, which presents the opportunity to trace the exchange of non-local lithics along the river. Because hornfels and shale are both local to the valley and the rhyolites were sourced to two different regions (MA and MD), the investigation of lithic differences rests upon the distribution of chert along the river.

Chert was heavily represented at Rye Hill (62%), Schwartz (58%) and Griffin (39%), minimally exemplified at Carrier (5%) and absent from Rogers, which is geographically positioned furthest from a New York source (Figure 6.10). The decrease of chert at the centralized Carrier site seems somewhat odd given the large percentages at the Schwartz and Griffin sites. If traded goods were moving in a north/south pattern along the Connecticut River,

then people positioned at the mouth of the river, near the Griffin site, would have had access to the greatest supply of chert, followed by habitations near the Carrier site, and then the Schwartz site. The obvious discrepancy could be due to the fact that we are only looking at burial sites at the moment. However, a comparison of chert distribution (Figure 6.10) and the percentage of local and non-local lithics per site (Chart 6.12) suggest that the Schwartz, Carrier, and Griffin sites did not participate in the same economic network for the exchange of chert.

Along the Connecticut River, the highest distributions of chert were from the Schwartz and Griffin sites. Based solely on the burial information, this distribution suggests that chert was transported to the Schwartz and Griffin sites for exchange before communities near the Carrier site had access to it. Chert was likely ushered into Long Island Sound and made accessible to populations along the mouth of the Connecticut River near Old Lyme before moving north along the river. Calogero (1991) argued that a competitive east-west trade had also developed prior to the Terminal Archaic that ushered rhyolites and cherts through the Windsor area. Calogero (1991) reasoned that eastern Massachusetts rhyolites were transported west to the Connecticut River, taken downriver, and then west along the Farmington River to central places of trade like the Lewis-Walpole site. Chert was ushered eastward in a reversed path (see chapter seven). Goods could have traveled north, as suggested by Calogero, and/or south to additional communities.

Site Name	% of Local Lithics	% of Non-local Lithics
Rye Hill	0	100
Schwartz	31	69
Carrier	86	14
Griffin	30	70
Rogers	100	0

Chart 6.12 Percentages of local to non-local lithics per site.

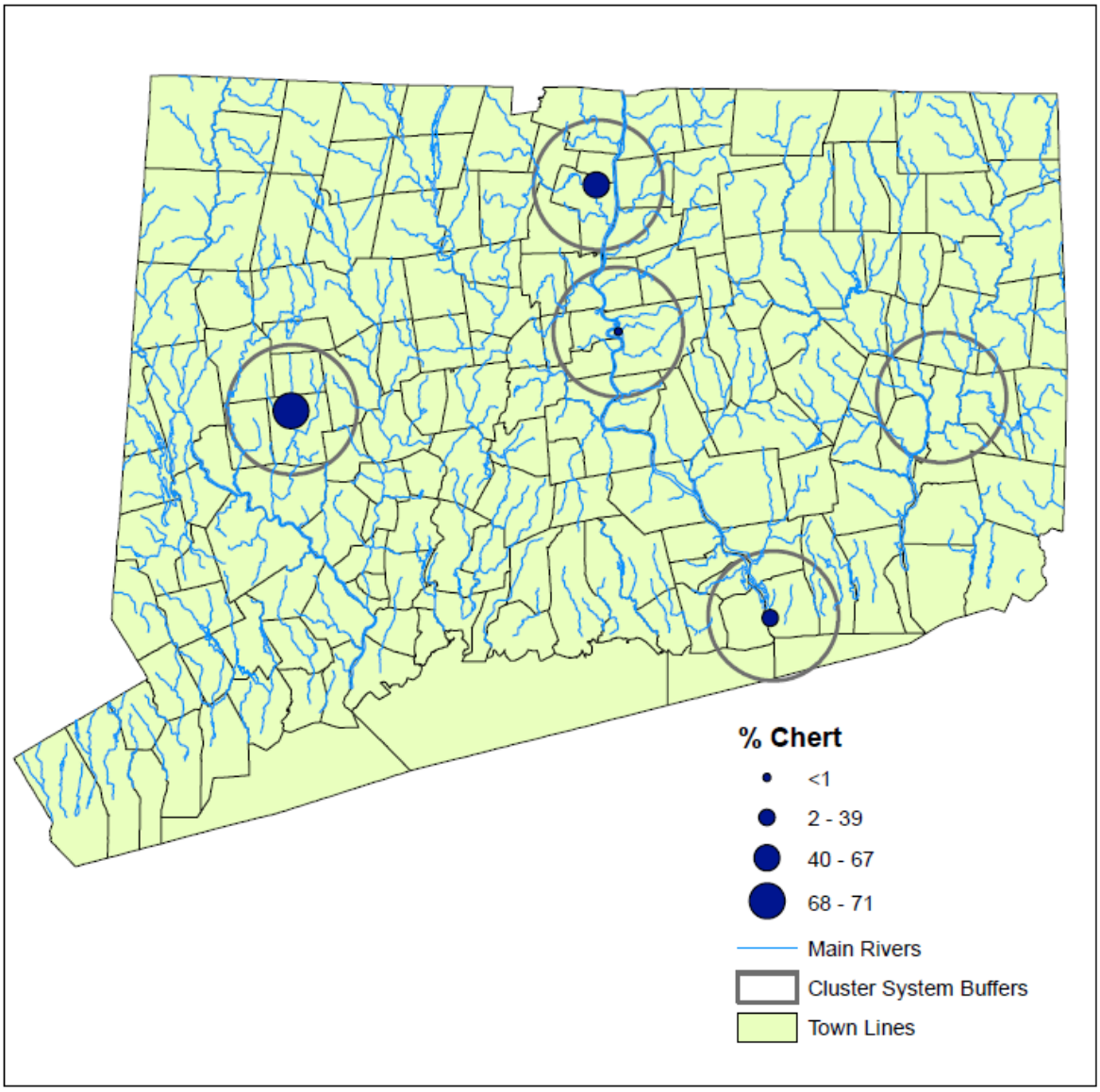


Figure 6.7 Percentage of chert within each burial site (Rye Hill=71%; Schwartz=67%; Carrier=.05%; Griffin=39%; Rogers=0%).

Parallels are visible between the nineteenth century illustration of the Algonquin Feast of the Dead and burials within the Broad-tool Interaction Sphere. Accounts of the Algonquin tradition discuss: (1) the reburial of interred or previously buried members of the community, (2) a cultural feast that was held annually but in various locations and (3) that the Feast was an aggregation of multiple villages. Pfeiffer (1992) and Pagoulatos (2009) noted differences in cremated remains for Broad-tool burials with both dry and green bone represented. If Broad-tool methods were similar to the Algonquin tradition, then the varying state the remains could simply be explained by time of death. If cremations were not scheduled as yearly events or if a group could not participate annually, then bones were dried and stored for future participation in the cremation ritual. Calcined green bone would have belonged to those individuals who died closer to the advent of the burial tradition.

The Algonquin Feast of the Dead was recorded as an annual event, but the same location was not reused until six or more years had passed (Hall 1997). The Feast was also considered to be a multi-village affair. Pagoulatos (1986) argued that the Broad-tool burial ritual represented a communal aggregation of populations where the deceased from all communities were cremated and then deposited into a series of pits. People could be deposited into a collection of pits, which was contingent upon the number of groups present at the ritual or the sum of communities that a person had affiliations with (Pagoulatos 1986).

The quantity of burials and associated goods from the Schwartz and Griffin sites indicate that these two cemeteries differ not only from the Carrier site but the Rogers and Rye Hill sites as well. If social and economic networks large enough to support higher quantities of non-local resources existed near the Schwartz and Griffin sites, then it can be presumed that inhabitants surrounding these two sites were either larger or had more ‘traffic’ than the other site locations.

Dincauze (1968, 1976) and Pagoulatos (1986) consistently stated that foraging bands of New England came together during the fall season when food was more plentiful. This was a social gathering where relationships were forged and information was shared among kin and friends, and if historical accounts are correct, then this type of yearly gathering continued as a key element through the years. The belief in the gathering of separate Broad-tool populations was tied to more than just ample food supplies. It was a function of life that intertwined social necessities like trade and marriage to the ritualistic burial of the dead.

The feasting events also established a higher level of salient identity for the hosts. Broad-tool cemeteries are continually found near habitation sites. As discussed in the last chapter, a population's salient identity increases when they host feasting events where they are forced to obtain additional resources in order to feed and house incoming groups. Because the swelling populations would strain foraged resources, only those communities with more wealth or access to greater available resources would have the ability to hold larger feasting, and thus, burial events. Based on this concept, communities near the Schwartz and Griffin burials had greater resources (local and non-local) or wealth, and therefore salient identity, than the other burial groups.

In addition, host communities were possibly charged with 'watching over' the dead and protecting the cemetery. Ford (1974) argued that as mobility became even more restricted within a territory, ancestor spirits remained a part of the territorial land and possibly offered protection to living members of their perceived social group. Larger cemeteries, like the Schwartz and Griffin sites, may have required more protection than others, thereby affording an even higher level of prestige for the host communities.

CONCLUSION

Based solely on the burial information, it is apparent that a relatively consistent Broad-tool ritual burial package was exercised across Connecticut. Populations likely aggregated to celebrate the ritual cremation and burial of the dead, which was comprised of members from one or more communities. Bases of the burials were lined with a variety of elements, anywhere from sand to a cache of unused and unbroken tools. People likely offered 'killed' utilitarian tools of local and non-local materials as tribute to the dead or in payment to their ancestors. Prestige likely increased for groups (related by kinship) who hosted the burial ritual and subsequent feasts. Hosts were obligated to house and feed their guests, protect the cemetery from threat and maybe intentionally kill more non-local lithic offering than visiting groups. However, individual site information demonstrates that variations in the ritual package did occur and were likely tied to one's access to non-local resources. The burial information provided in this chapter supports the idea that sub-cultural Broad-tool populations existed within the Broad-tool Interaction Sphere.

CHAPTER VII: ZONAL APPROACH
Intra-cluster Dynamics and Spatial Patterning

INTRODUCTION

Whereas Broad-tool burials present local and non-local cultural goods interred with the dead, non-burial sites demonstrate discarded, misplaced or intentionally cached lithic goods. Comparing these differences can widen our study of lithic selection and utilization. For this research, it is assumed that inhabitants who created adjacent burial and non-burial locations had the same, or nearly the same, access to lithics via direct procurement or socio-economic exchange networks.

The five burial sites discussed in the last chapter represent anchored locations from which the zonal approach will commence and intra-cluster dynamics are analyzed. Cluster systems were generated by stationing a 10 kilometer buffer around each burial site to incorporate as many non-burial locations as possible. Because site reports and their accompanying artifacts have been misplaced through time, the expected quantity of non-burial sites selected within each buffered area was lower than originally anticipated. The term non-burial was chosen to define these sites because words like domestic site, occupation or habitation insinuate that the locations were inhabited to some degree. However, certain artifacts were located via reconnaissance efforts atop the earth where excavations were not attempted or could not identify any sub-terraineal occupations. The sites collected for this research range from base camps to find spots. As long as the number of Broad-tool diagnostics and their lithic materials could be determined from the literature, site reports or oral sources, they were included in the research. Unfortunately, this caliber of information was not available for many well-known Broad-tool assemblages within the study area, and these sites were withheld from the research.

CLUSTER SYSTEMS

Each cluster system is discussed as a three-part entity below. Firstly, non-burial sites from within each bounded zone are introduced. Due to a paucity of information available for certain cluster systems, these discussions tend to be brief and may only identify the number of non-burials within the cluster system and a list of the accompanying lithics. Secondly, lithics from the centralized burials (discussed in chapter six) are then added to the data in order to compare the collective non-burial assemblage to the burial assemblage and to determine the range of lithics available to each cluster system. Given the varying site types amassed to construct the cluster systems, it is important to determine whether patterns of lithic selection exist within each cluster. Finally, the buffered perimeter is expanded to include additional non-burial sites that were retrieved during these research efforts and date to the period either temporally or diagnostically but happen to fall just outside the buffered zone. The buffer created for this research wraps an artificial boundary around the study area, thus segmenting towns and cities on a map. Therefore, as site information was gathered for specific towns, some site locations fell within the buffer while others did not. In order to gain as much knowledge as possible for each system, these adjacent sites are added in this final step of analysis and are termed the **complete** cluster systems. It is important to note that exact point types could not be determined for many of these sites. Non-burial sites are considered to be broadly contemporaneous with the burials within their cluster systems.

The Schwartz and Carrier cluster systems produced a higher number of non-burial sites than the Rogers, Griffin and Rye Hill systems, which are marginally supported by adjacent sites. Surveys along the Farmington River and within Glastonbury contributed heavily to our

understanding of the Terminal Archaic in Connecticut, causing a slight research bias in these areas. The number of sites in these locations versus others should not be interpreted as a true representation of Broad-tool occupations in Connecticut.

The maps generated for each of the cluster systems contain a series of abbreviations that define the macroscopically defined origin of lithic materials. Rhyolites tend to be from Massachusetts (MA), argillites from Rhode Island (RI) or an unknown (UNKN) source, cherts from New York (NY) and jaspers from Pennsylvania (PA). Materials local to Connecticut have been sectioned slightly in order to better define what was available in the 'neighborhood' for each cluster system. Quartz, quartzite, schist, silicified mud, gneiss and copper were given the broad label of 'Connecticut' (CT) since these materials are local to multiple sub-regions of the state. Basalt, hornfels, slate, shale, sandstone and siltstone are found in heavy quantities in the Connecticut River Valley and are thus labeled CTRV.

A majority of sites plotted on these maps are accurately placed in space. When site numbers were available, they were matched to their site reports from the OSA to verify their locations. However, some information was presented to the author orally, or it was obtained from literature searches as an archaeological site near landmarks, crossroads or even just within a specific town. Please note that the locations of certain sites remain unpublished for preservation purposes as well, and their placement on these maps was skewed for a purpose. Although the site locations are accurate enough for this research, those looking for exact site placement should not consider these maps as a true source.

Western Connecticut

Rye Hill, Woodbury, Connecticut

Non-burial Sites within Buffer Zone

Five non-burial sites fit within the Rye Hill cluster system and are mainly grouped in the northwestern portion of the buffered zone (Figure 7.1; Table 7.1). These assemblages were made available by the Institute for American Indian Studies (IAIS), in Washington, Connecticut. Lithic selections from this area of Connecticut demonstrate a preference for non-local materials. Nearly all Broad-tool diagnostics were manufactured from chert (Charts 7.1 and 7.2).

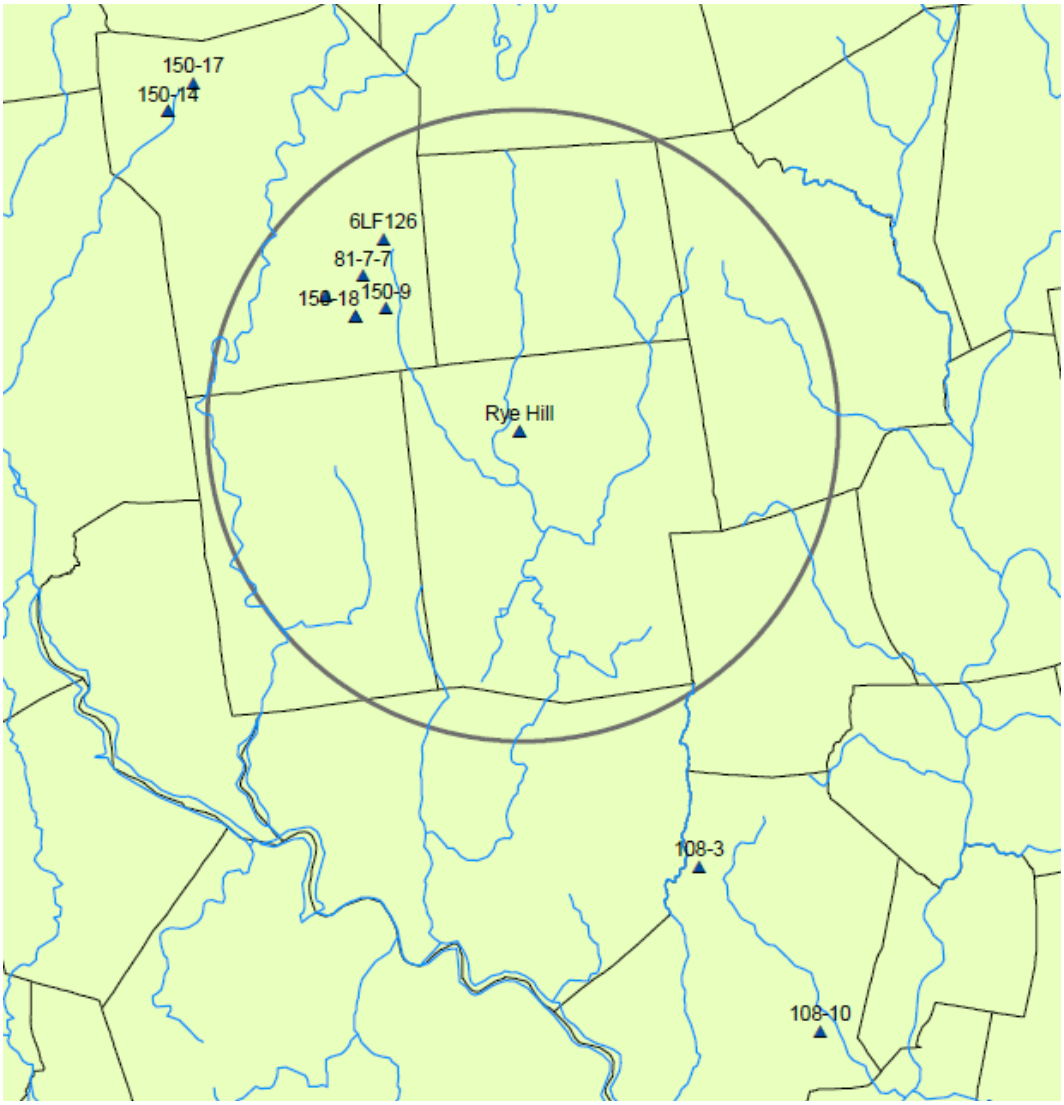


Figure 7.1 Map portraying all sites associated to Rye Hill cluster system. The Rye Hill site is centrally located within the circle.

Site Name	Site Number	Town	Lithic Material	Count	NON-BURIALS	BUFFER ZONE (BURIALS AND NON-BURIALS)	COMPLETE RYE HILL CLUSTER SYSTEM
Bronson	150-18	Washington	Chert	4			
Bronson	150-18	Washington	Quartz	1			
Bronson	150-18	Washington	Argillite	1			
WA Club Cornfield	150-9	Washington	Chert	6			
Wells Farm	78-2-68	Washington	Chert	4			
Rock Shelter	6LF126	Washington	Chert	2			
Romford Area	81-7-7	Washington	Chert	2			
Rye Hill	Rye Hill	Woodbury	Chert	12			
Rye Hill	Rye Hill	Woodbury	Argillite	5			
Southford Falls State Park	108-3	Oxford	Chert	1			
Underwood	150-17	New Preston	Chert	1			
Chernske	150-14	New Preston	Chert	6			
Chernske	150-14	New Preston	Felsite	1			
108-10	108-10	Oxford	Chert	1			

Table 7.1 List of all sites within the complete Rye Hill cluster system broken into Non-burial, Buffered and Complete cluster system.

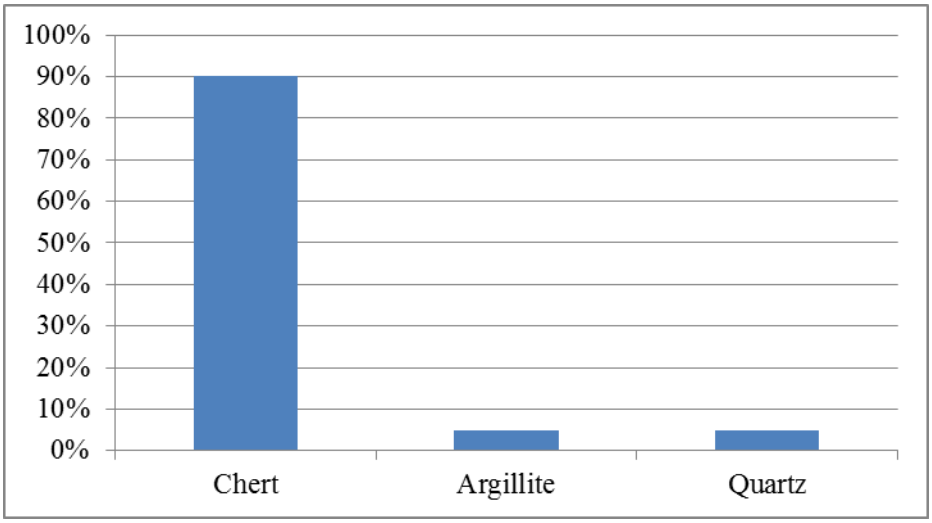


Chart 7.1 Rye Hill cluster assemblage based on **NON-BURIAL** sites within the bounded system (n=20).

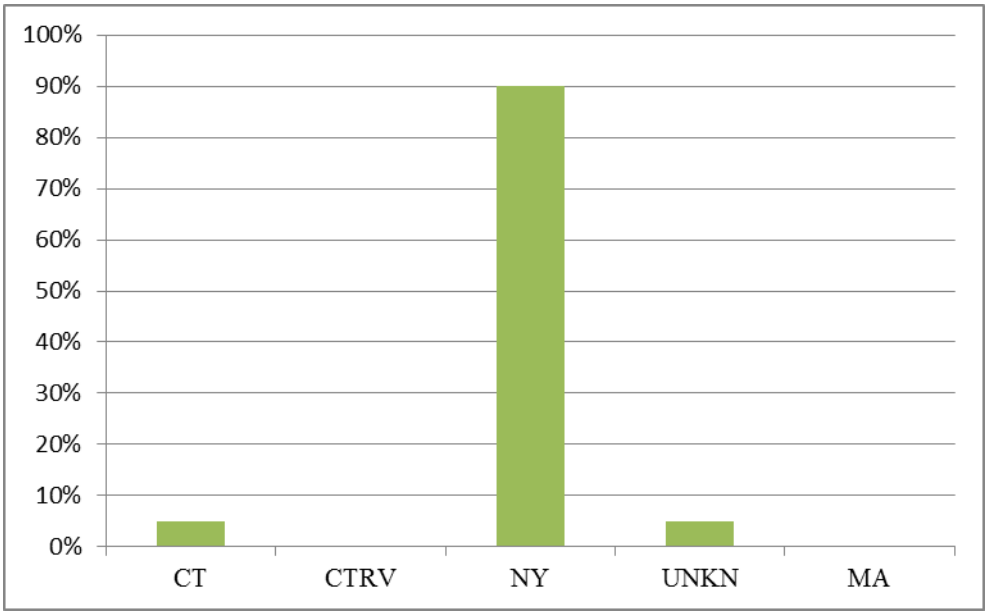


Chart 7.2 Depiction of presumed lithic origins for **NON-BURIAL** sites within the bounded Rye Hill cluster system (n=20).

Non-burial and Burial Sites within Buffer Zone

Additional chert and argillite Broad-tool points from Pit 1 of the Rye Hill cemetery further demonstrate the non-local lithic preference (Charts 7.3 and 7.4). As discussed in the previous chapter, the argillites likely came from a southern or western source. Cherts and flints are considered high quality lithic resources for the manufacture of projectiles, knives or any tool where a strong, sharp edge is needed. The cryptocrystalline properties of cherts allow an experienced knapper to drive off flakes of a predetermined size or to mold a tool into a specific shape. Non-cryptocrystalline lithics do not break conchoidally and can cause large backs, or ridges, to protrude from projectiles, making them thick and bulky.

The noted preference for cherts over hornfels, shale and other Connecticut River Valley lithics suggest that these inhabitants maintained strong ties to eastern New York populations. Relations between western Connecticut and eastern New York communities likely extended beyond lithic exchange opportunities. Western Connecticut populations may have considered themselves more closely related (via both kinship and socio-economic relationships) to eastern New York communities than central Connecticut.

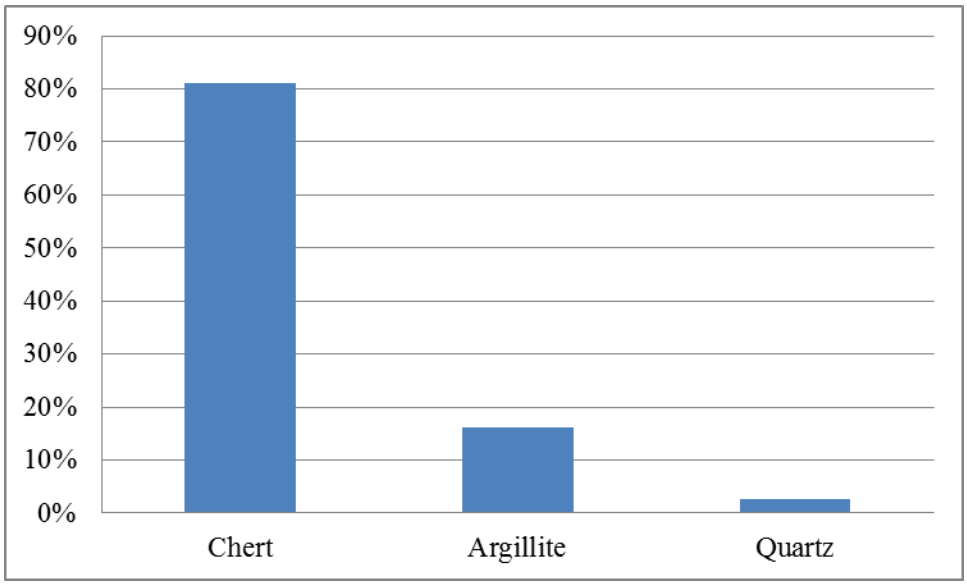


Chart 7.3 Rye Hill cluster assemblage based on burial and non-burial sites within the **BUFFERED** system (n=37).

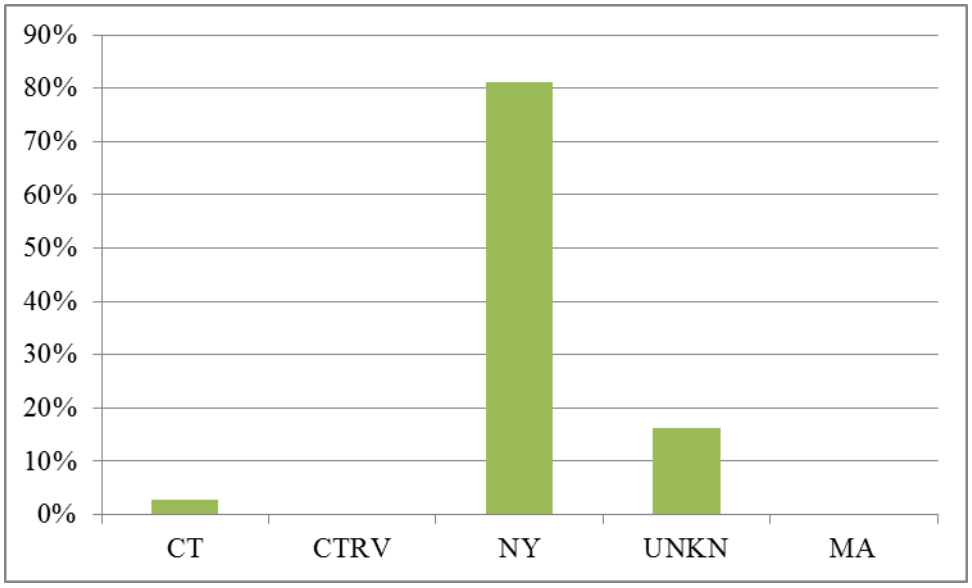


Chart 7.4 Depiction of presumed lithic origins for all sites within the **BUFFERED** Rye Hill cluster system (n=37).

Complete Rye Hill Cluster System

Four additional Broad-tool non-burial locations are appended to form the complete Rye Hill cluster system; two are to the northwest and two fall to the southeast (Charts 7.5 and 7.6; Figure 7.1). Lithic evidence from the Rye Hill burial is presently separately from the non-burial sites within the complete cluster system for comparison (Charts 7.7 and 7.8). Along with nine chert points, a felsite Snook Kill point was collected from just outside the buffered perimeter. The felsite is considered to have originated from Massachusetts; however, as previously discussed rhyolite sources from the Griffin site are believed to have been transported from Maryland (Pfeiffer personal communication 2013). Without further testing, it cannot be said for certain from which lithic source the felsite derived. But, if Maryland lithics were traveling into Long Island Sound, then the possibility exists that felsite lithics were also available to communities inhabiting the Housatonic Valley.

Chert dominates every level of analysis for the Rye Hill cluster system. Little lithic variation separates burial and non-burial assemblages, which could be interpreted in a number of ways: (1) the groups participating in the Rye Hill burial were local to the Rye Hill cluster system (as evidenced by the consistency of their available lithics) and mostly contributed chert, or (2) the groups participating in the Rye Hill burial were a collection of local and non-local groups but contributed chert to the burial based on some social or ideological preference. If the pyre had in fact been lit atop Rye Hill as a beacon to surrounding communities (as Thompson suggested), then we could be viewing a more localized ritual event. The small number of pits recorded at Rye Hill does not suggest a larger gathering of local and non-local communities. This, however, raises a question for which we currently have no answer. Is there a correlation between cemetery size (number of pits) and whether the site served as a local or a local/non-local event?

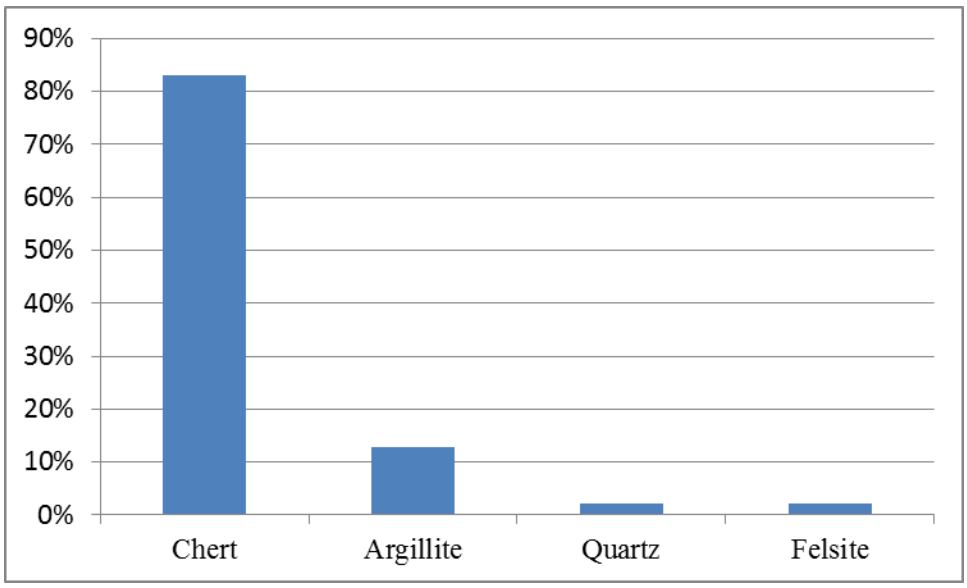


Chart 7.5 COMPLETE Rye Hill cluster system incorporating all sites associated (n=47).

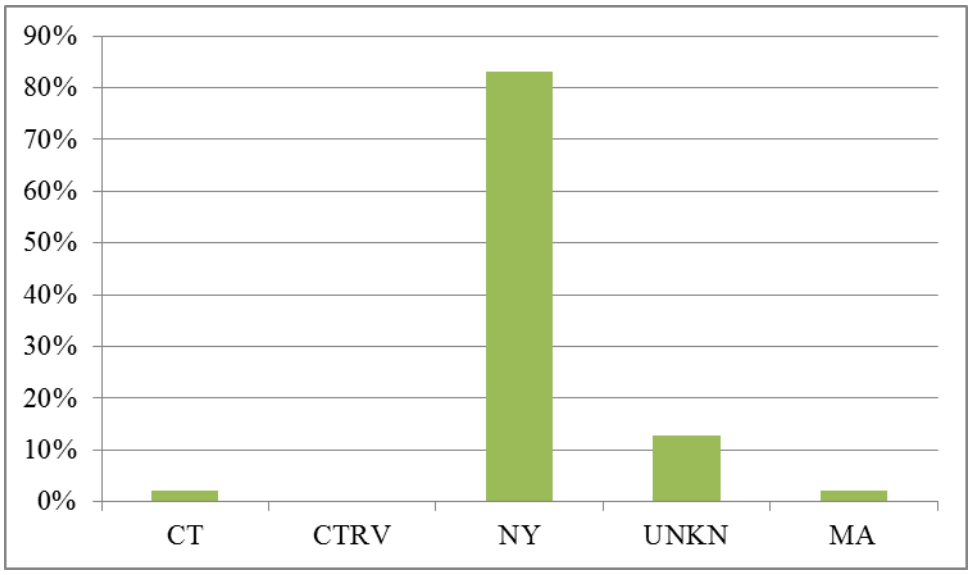


Chart 7.6 Depiction of supposed lithic origins for the **COMPLETE** Rye Hill cluster system incorporating all sites (n=47).

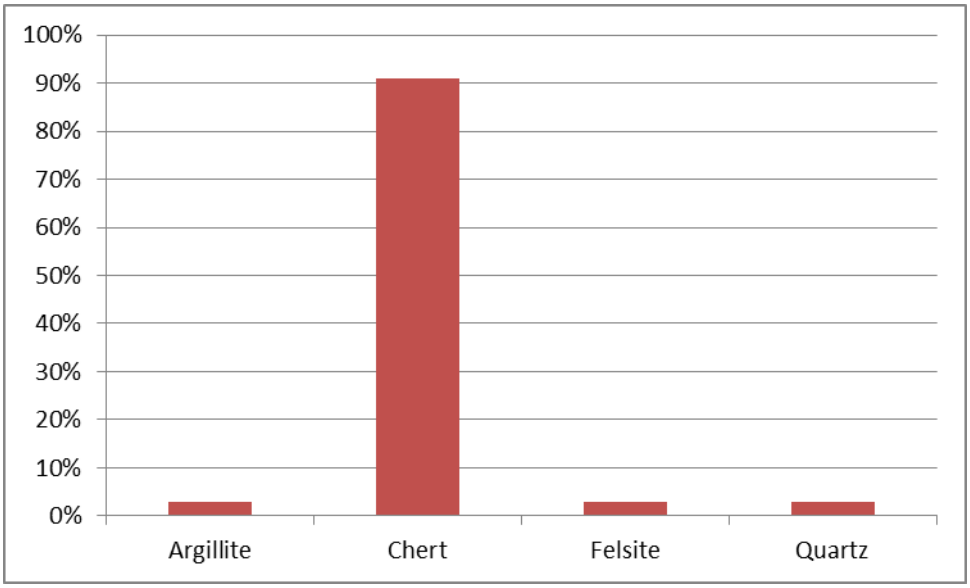


Chart 7.7 Lithic types from the **NON-BURIALS only** within the Rye Hill cluster system (n=40).

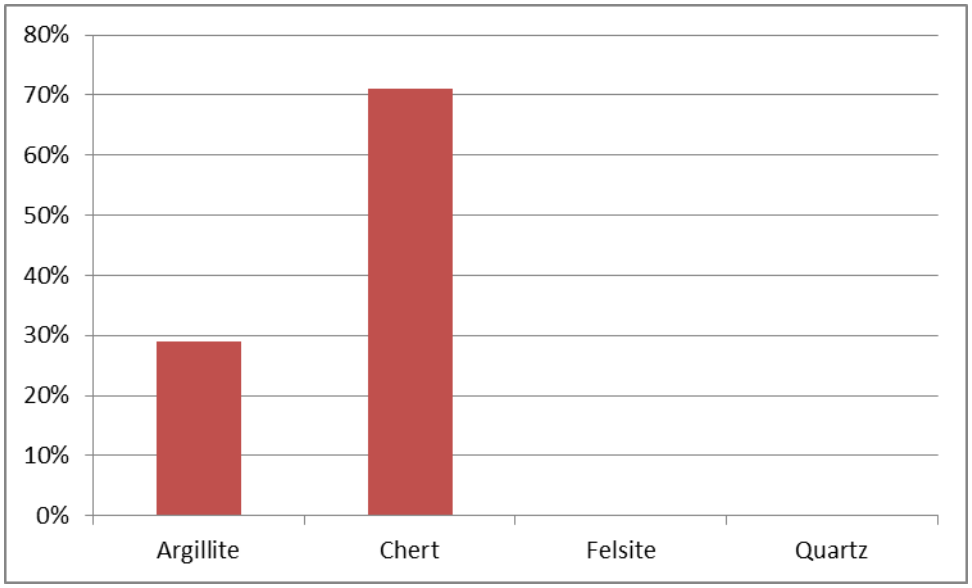


Chart 7.8 Lithic types from the Rye Hill **BURIAL only** (n=17).

Central Connecticut

Schwartz, Windsor, Connecticut

Non-burial Sites within Buffer Zone

The next three cluster systems offered a wider variety of lithic resources. They had direct access to a number of local lithics found within the valley and may have also been supplied non-local materials from trading groups traversing the Connecticut River (Figure 7.2; Table 7.2). Six non-burial locations were recorded from within the Schwartz buffered zone and produced a mixture of local and non-local rocks. The percentages of chert, however, are almost staggering as they approached close to 90% of the lithic collection. Many of the remaining point forms were constructed from lithics local to the Connecticut River Valley (Charts 7.9 and 7.10).

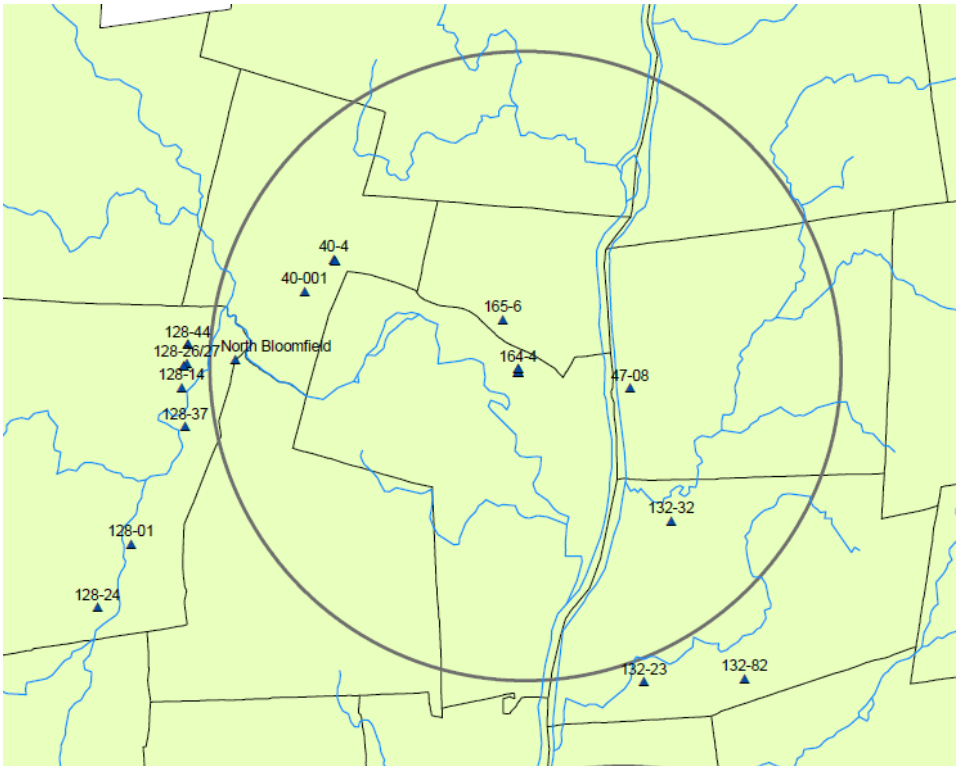


Figure 7.2 Map portraying all sites associated to Schwartz cluster system. The Schwartz site is centrally located within the circle (164-4).

Site Name	Site Number	Town	Lithic Material	Count
Gaging Station	47-08	East Windsor	Quartzite	2
Griffin	40-4	East Granby	Chert	25
Griffin	40-4	East Granby	Basalt	1
Griffin	40-4	East Granby	Hornfels	1
North Bloomfield	North Bloomfield	Bloomfield	Chert	3
Roncari	40-001	East Granby	Quartz	1
Toller I	132-32	South Windsor	Chert	1
WL-1	165-6	Windsor Locks	Chert	1
Schwartz	164-4	Windsor	Basalt	1
Schwartz	164-4	Windsor	Chert	26
Schwartz	164-4	Windsor	Copper	1
Schwartz	164-4	Windsor	Hornfels	8
Schwartz	164-4	Windsor	Rhyolite	1
Schwartz	164-4	Windsor	Shale	1
Schwartz	164-4	Windsor	Siltstone	1
128-26/27	128-26/27	Simsbury	Slate	3
128-26/27	128-26/27	Simsbury	Hornfels	1
128-26/27	128-26/27	Simsbury	Chert	4
132-28	132-28	South Windsor	Rhyolite	1
T-Bridge	128-14	Simsbury	Chert	2
Tamara	128-01	Simsbury	Chert	1
Higgins II	132-23	South Windsor	Chert	1
Holloway	128-44	Simsbury	Hornfels	1
Holloway	128-44	Simsbury	Quartzite	1
Bednarcyk	128-37	Simsbury	Hornfels	1
Rosedale Farm	128-24	Weatogue	Chert	1

NON-BURIALS

BUFFER ZONE (BURIALS AND NON-BURIALS)

COMPLETE SCHWARTZ CLUSTER SYSTEM

Table 7.2 List of all sites within the complete Schwartz cluster system broken into Non-burial, Buffered and Complete cluster system.

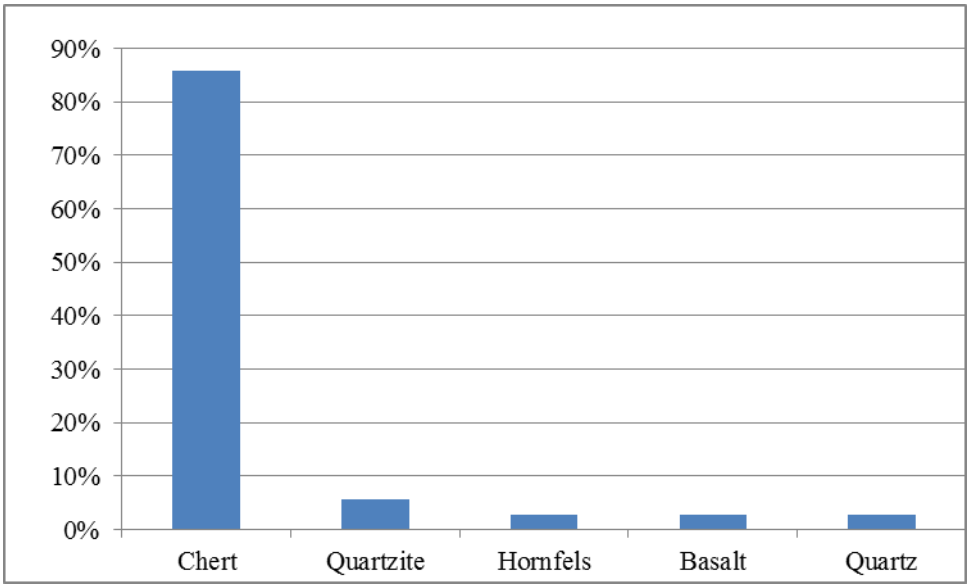


Chart 7.9 Schwartz cluster assemblage based on **NON-BURIAL** sites within the bounded system (n=35).

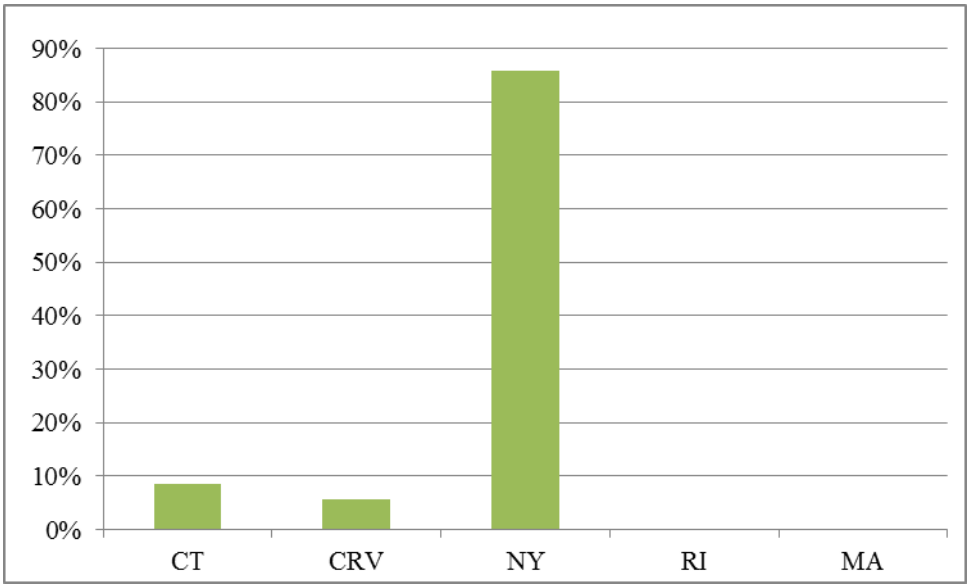


Chart 7.10 Depiction of presumed lithic origins for **NON-BURIAL** sites within the bounded Schwartz cluster system (n=35).

Non-burial and Burial Sites within Buffer Zone

Forty additional Broad-tool forms join the Schwartz cluster system once diagnostics from the burial are added to the queue. Amounts for quartzite and quartz remain stable but chert increases in count by 26 pieces even though its overall cluster percentage decreases by 10 percent. The Schwartz burial also introduced slate, shale, siltstone, rhyolite and copper into the cluster system; all but rhyolite are local to Connecticut (Charts 7.11 and 7.12).

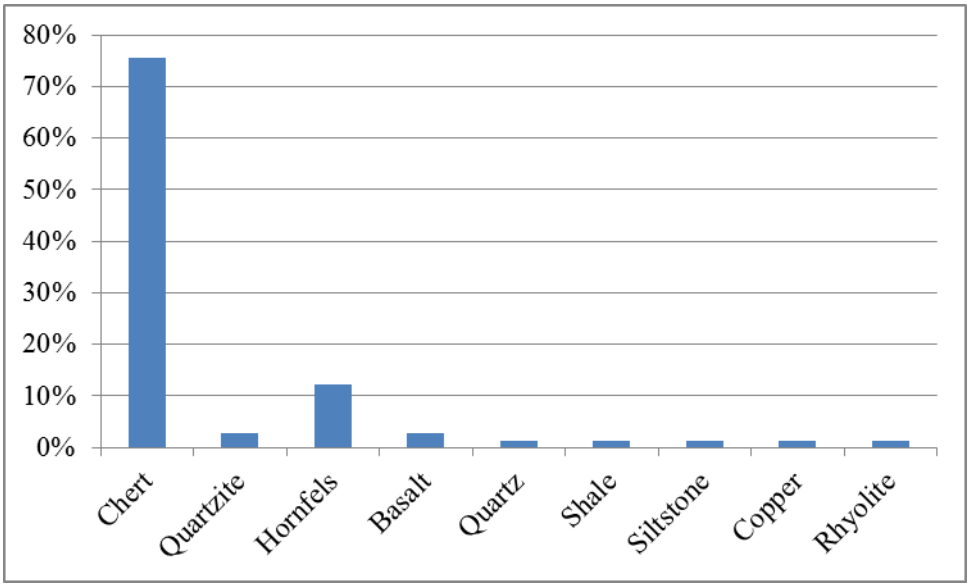


Chart 7.11 Schwartz cluster assemblage based on burial and non-burial sites within the **BUFFERED** system (n=74).

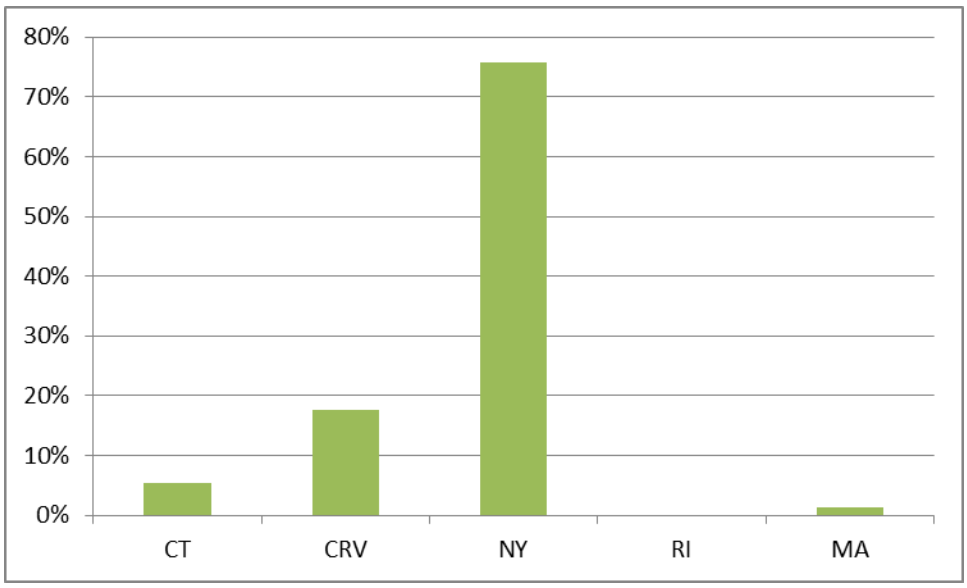


Chart 7.12 Depiction of presumed lithic origins for all sites within the **BUFFERED** Schwartz cluster system (n=74).

Complete Schwartz Cluster System

The complete Schwartz cluster system contains 15 separte Broad-tool sites, which is largely due to extensive surveys of the Farmington River Valley. Even with the addition of the eight perimeter sites to the cluster system, lithic variation remains relatively unchanged. A large quantity of chert was transported into the region, presumably via the Farmington and Connecticut Rivers, while local materials are only marginally represented. Calogero (1991) argued that evidence from the Turner Farm site (Thomas 1980) in Massachusetts signified that a long-lasting competitive east-west trade system had formed within the Connecticut River Valley. The site displayed a continued cultural existance of some form dating back 10,000 years where lithic influences from the east and west demonstrate differences in raw material selection (Thomas 1980). The Archaic Periods portray the ebb and flow of chert from the west and rhyolite from the east; the dominance of one lithic over the other fluctuating through time. Terminal Archaic populations witnessed a dramatic decline in rhyolite and a surge of chert at the

Turner Farm site (Calogero 1991; Thomas 1980). Calogero (1991) concluded that the large quantities of chert in the area caused rhyolite to increase in demand, which was likely linked to social prestige. The sheer expanse of chert exposed within the complete Schwartz cluster system, at least during the Terminal Archaic, fits with Calogero's (1991) interpretation of trade along northern portions of the Connecticut River (Charts 7.13 and 7.14). Lithic evidence from the Schwartz burial is presently separately from the non-burial sites within the complete cluster system for comparison (Charts 7.15 and 7.16).

Communities near the Schwartz burial were likely tied to socio-economic exchange networks in the northeast (in Massachusetts) and to the west through the Farmington and Connecticut Rivers (see Lewis-Walpole site below). Rhyolite and chert were the only non-local materials found within the compete cluster system suggesting that the east-west exchange of chert and rhyolite dominated the socio-economic networks within this area. Because of the possible influences from these systems, it is hard to determine whether or not the Schwartz burials were reserved for local communities or if non-local groups would have participated as well. Based on the lithics, two situations are conceivable: (1) attending communities were a gathering of local peoples, all of whom had access to the same lithics and chose to reuse their cemetery. This senario depicts a more sedentary population. But, if an established trade route had existed for thousands of years along the river systems, then increased sedentism and the re-use of sites would fit well into this proposed lifestyle. (2) The burial site could have been supported by congregations of Broad-tool peoples that were both local and non-local to the area but familiar with the Schwartz community via socio-economic networks. Meaning, the rituals could have been attended by local communities and non-local 'friends' that were united through socio-economic networks. The number of burial pits found at the Schwartz site seems to

represent a larger gathering of peoples; however, it remains unclear how may pits were created during each ritual event. There may have been numerous smaller events or a couple of larger ritual burials. Without any associated paperwork, it is impossible to determine.

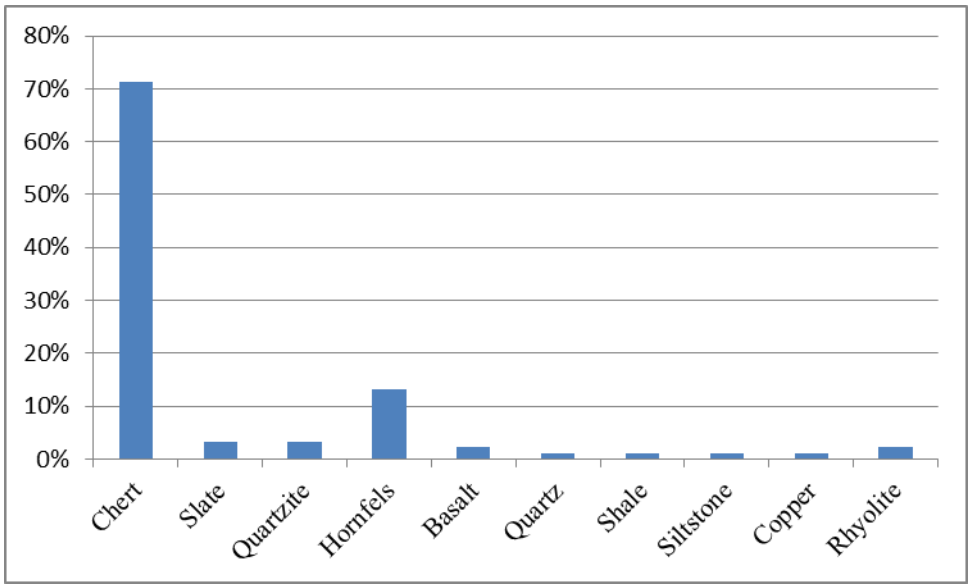


Chart 7.13 COMPLETE Schwartz cluster system incorporating all sites associated (n=100).

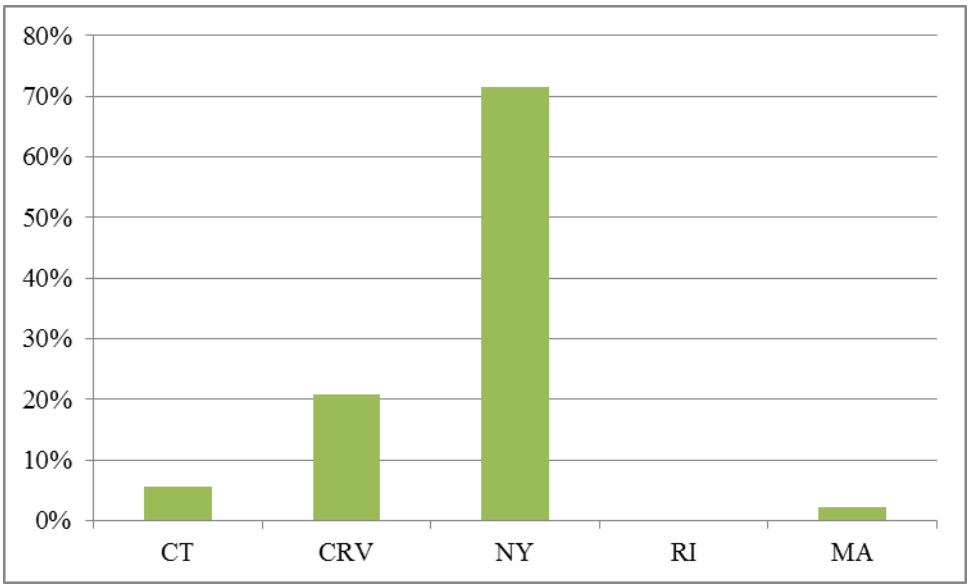


Chart 7.14 Depiction of supposed lithic origins for the **COMPLETE** Schwartz cluster system incorporating all sites (n=100).

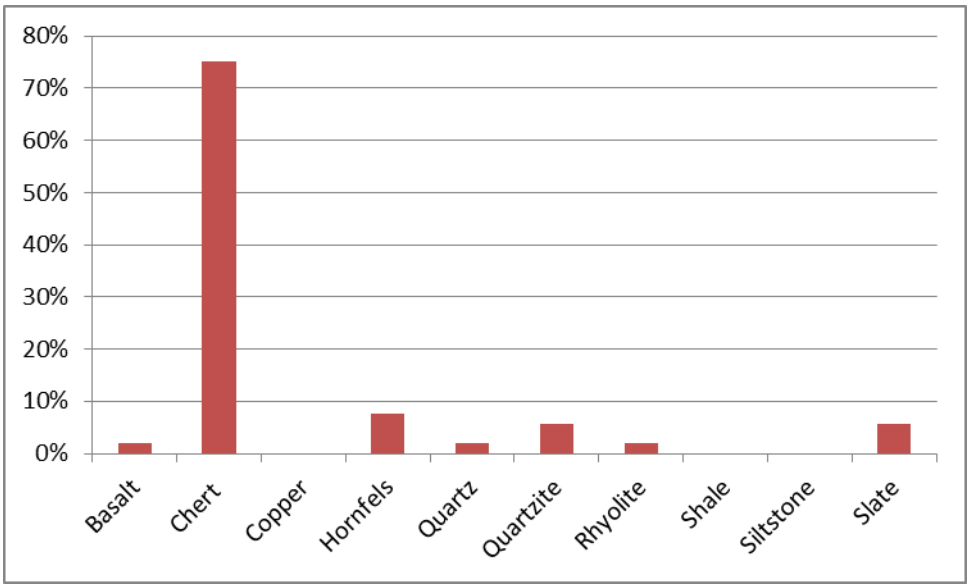


Chart 7.15 Lithic types from the **NON-BURIALS only** within the Schwartz cluster system (n=52).

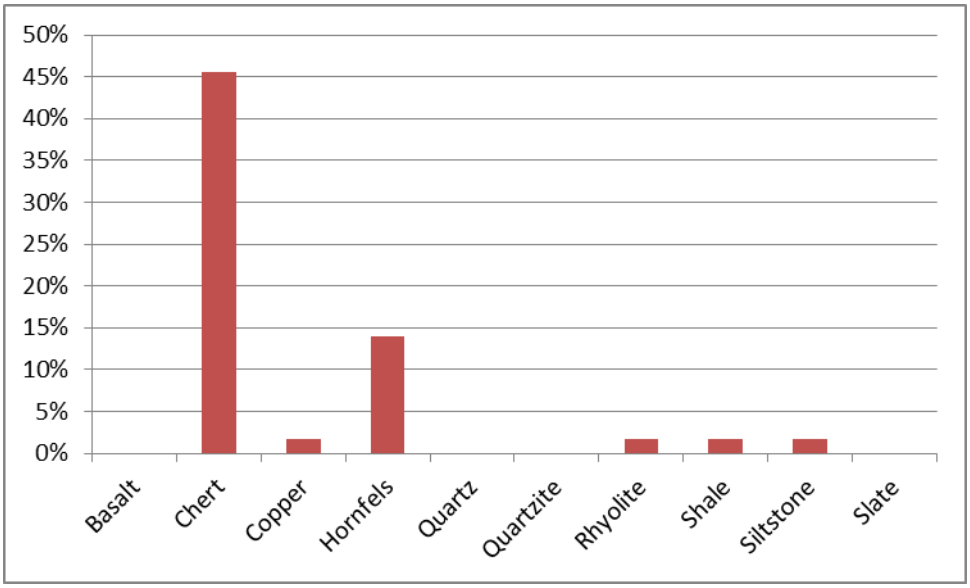


Chart 7.16 Lithic types from the Schwartz **BURIAL only** (n=57).

Carrier, Glastonbury, Connecticut

Non-burial Sites within Buffer Zone

The non-burial portion of the Carrier cluster system is only comprised of 6 locations that, collectively, contained 22 Broad-tool point forms (Figure 7.3; Table 7.3). Thirteen of these were reported for the Timothy Stevens site, but their lithic materials were not directly stated. Pagoulatos (1986, 1990) listed 9 Snook Kill, 3 Susquehanna Broad and 1 Mansion Inn as part of the projectile point assemblage from the Timothy Stevens site (see Table 4.2 in Pagoulatos 1986). The site report from the OSA discussed quartzite 'Broadspears' from the Timothy Stevens site but did not offer any other information as to the total number of points or the styles. However, in Calogero's report (1991), Table 5.3 demonstrates that there were only 5 quartzite 'tools' found at the site, but she does not express which tools these were. Based on these references and the fact that no additional site information was available regarding these points

(Peter Pagoulatos, personal communication 2013), the 13 point forms are listed as quartzite in this report. If this is incorrect and the quartzite outlier is removed, then only seven diagnostics form the non-burial portion of the cluster system and the lithics are more evenly distributed.

Given the central location of the Carrier cluster system along the river, Connecticut River Valley materials seem severely under-represented. Only one hornfels point was available from site 33-22, which resided along the southwest rim of the cluster boundary (Charts 7.17 and 7.18).

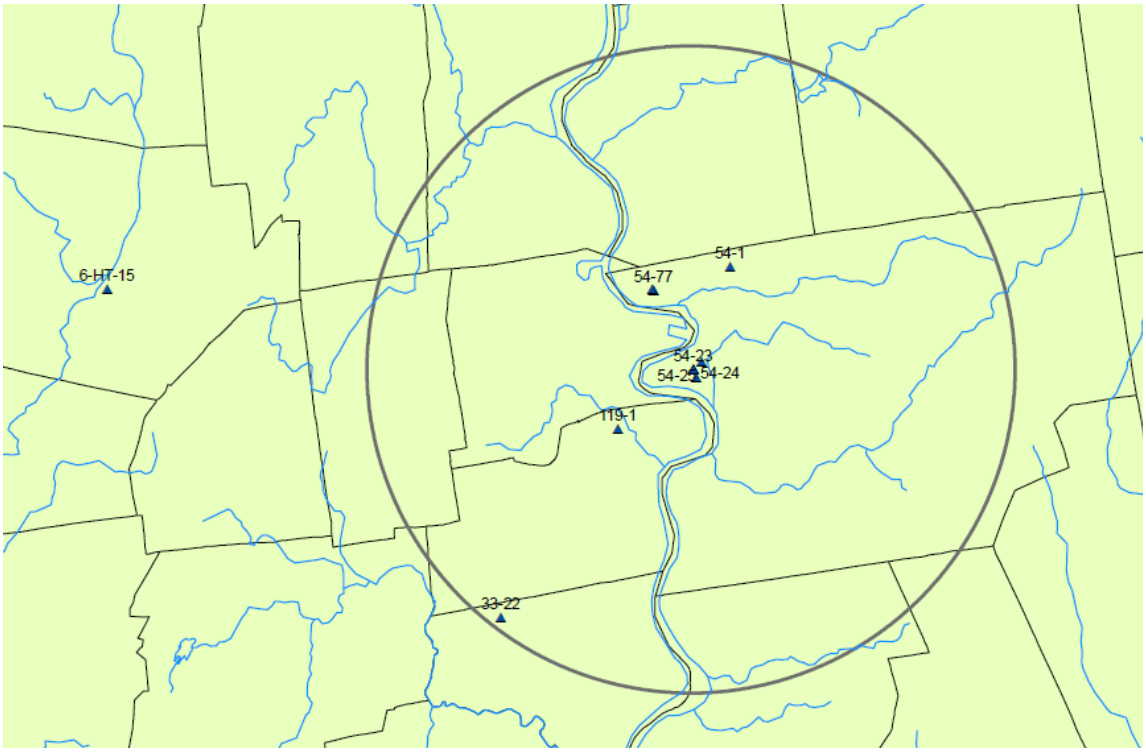


Figure 7.3 Map portraying all sites associated to Carrier cluster system. The Carrier site (54-23) is centrally located within the circle with the Lewis-Walpole site (6-HT-15) to the west.

Site Name	Site Number	Town	Lithic Material	Count		
33-22	33-22	Cromwell	Hornfels	1	NON-BURIALS	COMPLETE CARRIER CLUSTER SYSTEM
Horse Barn	54-24	Glastonbury	Quartzite	1		
Locus 1	119-1	Rocky Hill	Argillite	1		
Meadows Crematory	54-1	Glastonbury	Quartz	1		
Timothy Stevens	54-25	Glastonbury	Quartzite	13		
Phillips Cave	54-77	Glastonbury	Chert	2		
Phillips Cave	54-77	Glastonbury	Quartz	2		
Phillips Cave	54-77	Glastonbury	Quartzite	1		
Carrier	54-23	Glastonbury	Chert	1		
Carrier	54-23	Glastonbury	Jasper	1		
Carrier	54-23	Glastonbury	Rhyolite	1		
Carrier	54-23	Glastonbury	Schist	1		
Carrier	54-23	Glastonbury	Shale	7		
Carrier	54-23	Glastonbury	Hornfels	3		
Carrier	54-23	Glastonbury	Quartzite	7		

Table 7.3 List of all sites within the complete Carrier cluster system broken into Non-burial, Buffered and Complete cluster system.

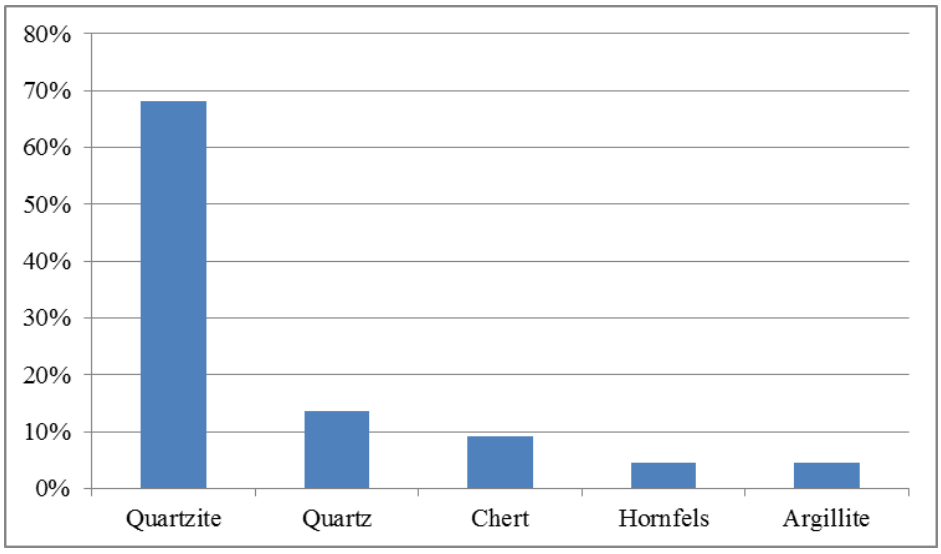


Chart 7.17 Carrier cluster assemblage based on **NON-BURIAL** sites within the bounded system (n=22).

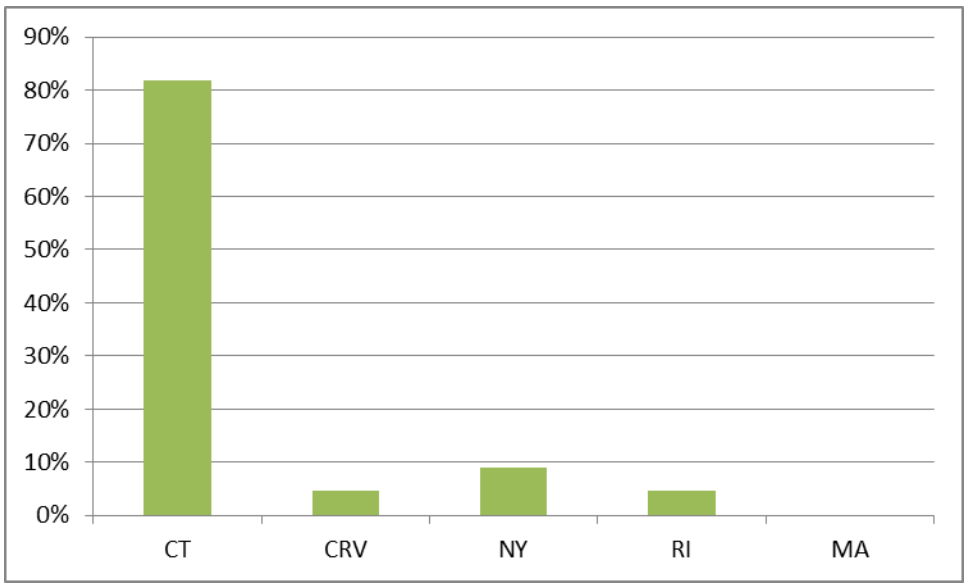


Chart 7.18 Depiction of presumed lithic origins for **NON-BURIAL** sites within the bounded Carrier cluster system (n=22).

Complete Carrier Cluster System

The Carrier cluster system is the only cluster system where the buffered zone is equivalent to the complete cluster system. The Carrier site offered a larger selection of raw materials, which represent connections not only to the Connecticut River Valley but also to New York, Rhode Island, Massachusetts and Pennsylvania (Charts 7.19 and 7.20). Lithic evidence from the Carrier burial is presently separately from the non-burial sites within the complete cluster system for comparison (Charts 7.21 and 7.22). The Carrier site included three of the five raw materials found within the surrounding non-burial sites (chert, hornfels and quartzite) but also contributed jasper, rhyolite, schist and shale to the cluster system.

This is the only complete cluster system that offers such an extreme diversity of lithic materials and source locations. Calogero (1991) may attribute this lithic assortment to the area's ties to places like the Lewis-Walpole site (6-HT-15) (Starbuck 1980), which is visible to the far west on Figure 7.3 but purposefully omitted from the complete Carrier cluster system because it

falls well outside the cluster boundary. Calogero considered the Lewis-Walpole site a possible example of a "central place" on the landscape, following Renfrew's (1984) concept. A central place is a location where habitual exchange takes place, which establishes it as a place with "special significance for the cohesiveness of the group" (Renfrew 1986:88). The Lewis-Walpole site was centrally positioned near the Farmington River at a small niche where the river bends abruptly and begins flowing north.

The Lewis-Walpole assemblage was heavily laden with local lithics, but the percentage of non-local rocks continued to be much higher than any surrounding sites (Calogero 1991; Starbuck 1980). The assemblage contained many of the same lithics seen in the Carrier cluster system but also included diabase basalt, chalcedony and feldspar perthite, some of which remained in raw, block form (Calogero 1991; Starbuck 1980). Of the 1,942 cores, flakes and tools, 32% were of non-local cherts, flints and rhyolites. Due to the multiple lithic types and their forms (i.e., block, flake, point form, etc.), Calogero (1991) believes the Lewis-Walpole site was a central place on the landscape where goods were intercepted, reshaped and/or roughed out and then distributed to neighboring populations via exchange. From the surfeit of chert within the Terminal Archaic assemblage, Calogero (1991) conjectured that rhyolite retained an ascribed value for those possessing it. Chert was very commonplace and would have carried a lesser social value than rhyolite.

The Carrier cluster system is similar to Schwartz in lithic diversity, most likely due to contact with groups around the Schwartz and/or Lewis-Walpole sites. The minute number of interments suggests that fewer people were interred within the cremation pits, similar to the Rye Hill site. Communities participating in the burial ritual could have been: (1) a gathering of local peoples who were able to acquire a series of non-local lithics via socio-economic networking

at/near the Lewis-Walpole site or (2) a grouping of local (and maybe non-local as well) communities who offered mainly exotic lithics for the burial ritual.

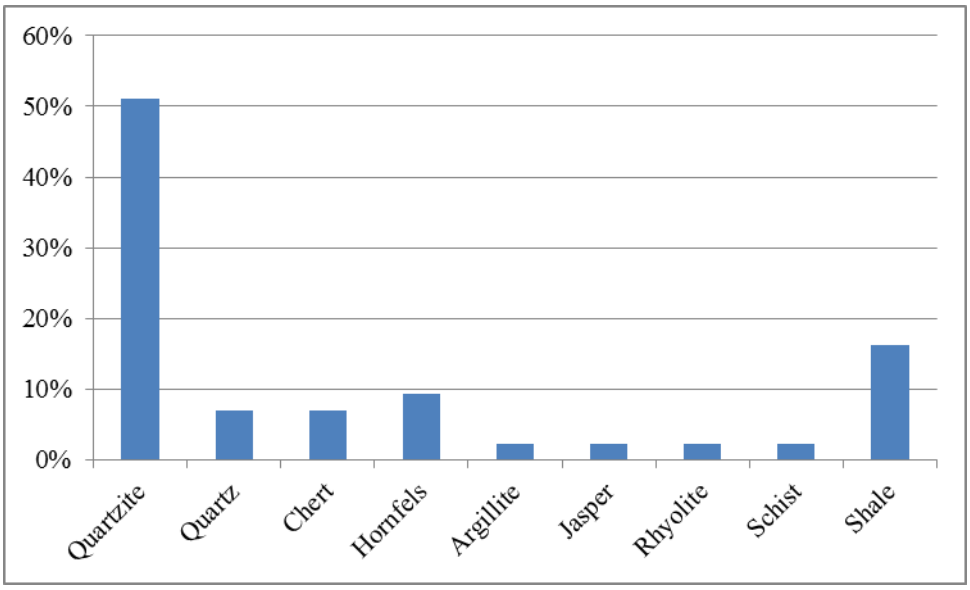


Chart 7.19 Carrier cluster assemblage based on burial and non-burial sites within the **BUFFERED** system (n=43), which is also equal to the **COMPLETE** Carrier cluster system.

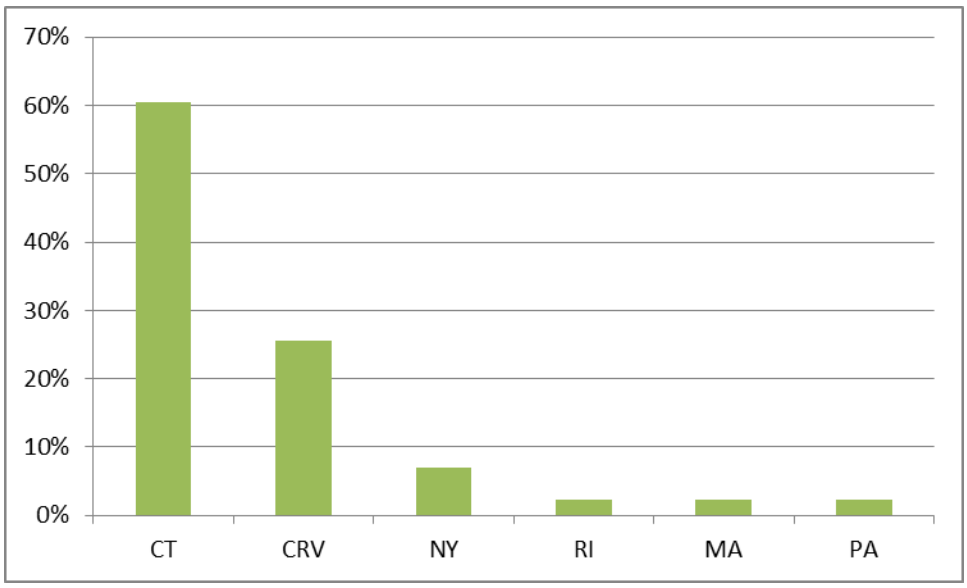


Chart 7.20 Depiction of presumed lithic origins for ALL sites within the **BUFFERED** Carrier cluster system (n=43), which is also equal to the **COMPLETE** Carrier cluster system.

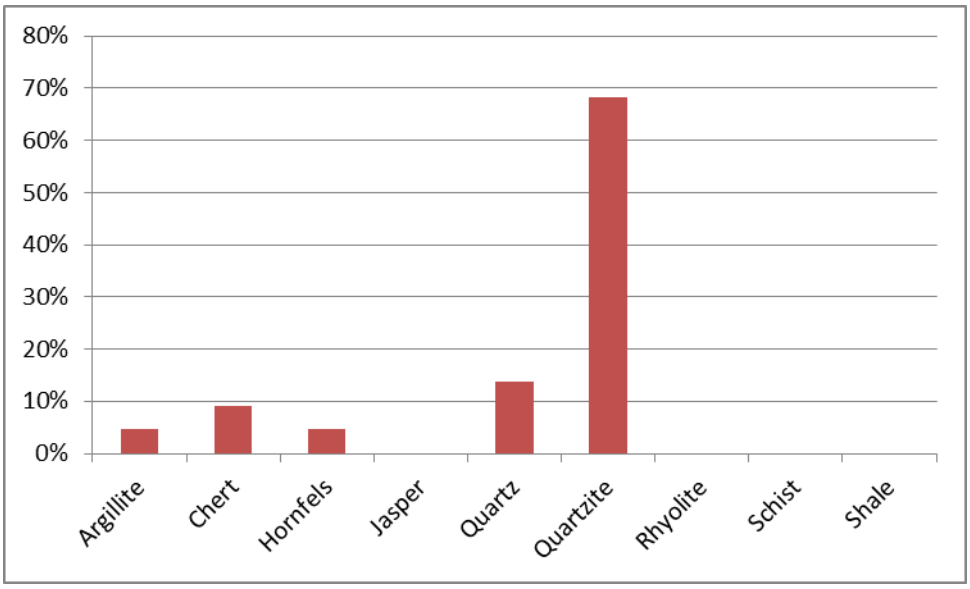


Chart 7.21 Lithic types from the **NON-BURIALS only** within the Carrier cluster system (n=22).

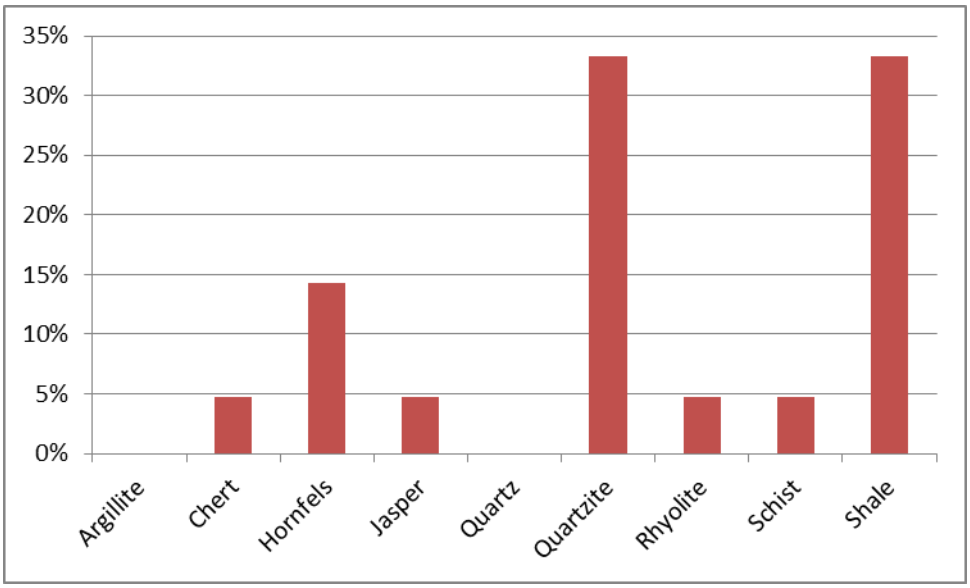


Chart 7.22 Lithic types from the Carrier **BURIAL only** (n=21).

Griffin, Old Lyme, Connecticut

Non-burial Sites within Buffer Zone

The Griffin cluster only contains two sites within the actual cluster boundaries (sites 105-43 and 105-34); including the Griffin cemetery (Figure 7.4). The sole non-burial site identified for this cluster system only produced one quartz Broad-tool form; a material local to Connecticut (Table 7.4). The small sample suggests that the apparent difference between the sites is likely not significant. The Murdoch (with felsite, chert and quartzite points), Great Island, Brodeur Point (quartzite points) and Klinck (quartzite points) sites were non-burial sites unearthed within the bounded area and contained "similar if not identical artifactual material" to the Griffin cemetery (Pfeiffer 1984:79). Unfortunately, these four non-burial sites could not be added to the data. The site reports and published literature for these sites did not specify exact lithic types and counts, and Pfeiffer was unable to locate the artifacts at the time of this research (John Pfeiffer, personal communication 2013).

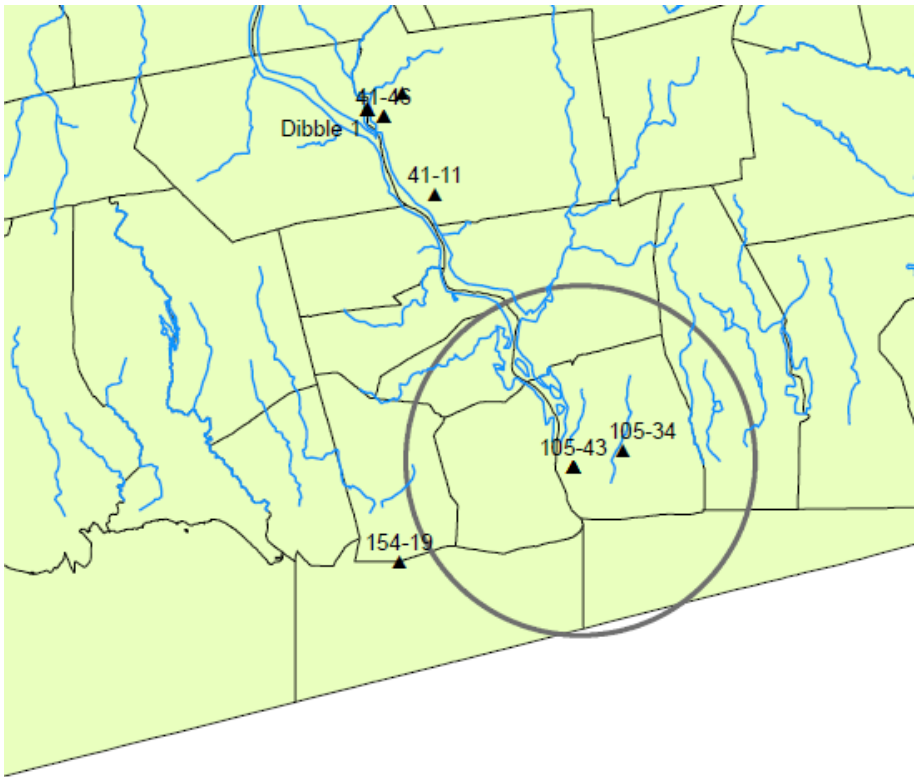


Figure 7.4 Map portraying all sites associated to Griffin cluster system. The Griffin site is centrally located within the circle (105-43).

Site Name	Site Number	Town	Lithic Material	Count	NON-BURIALS	BUFFER ZONE (BURIALS AND NON-BURIALS)	COMPLETE GRIFFIN CLUSTER SYSTEM
Lt. River	105-34	Old Lyme	Quartz	1			
Griffin	105-43	Old Lyme	Argillite	13			
Griffin	105-43	Old Lyme	Basalt	8			
Griffin	105-43	Old Lyme	Chert	158			
Griffin	105-43	Old Lyme	Gneiss	4			
Griffin	105-43	Old Lyme	Hornfels	32			
Griffin	105-43	Old Lyme	Rhyolite	115			
Griffin	105-43	Old Lyme	Shale	32			
Griffin	105-43	Old Lyme	Siltstone	23			
Griffin	105-43	Old Lyme	Silicified Mud	10			
Griffin	105-43	Old Lyme	Sandstone	8			
Griffin	105-43	Old Lyme	Slate	3			
Czaja	41-14	East Haddam	Chert	1			
Lesick	41-11	East Haddam	Slate	1			
Nolf Collection	154-19	Westbrook	Argillite	1			
Salmon River Cv	41-46	East Haddam	Chert	2			
Salmon River Cv	41-46	East Haddam	Quartz	4			
Salmon River Cv	41-46	East Haddam	Quartzite	15			
Dibble 1	Dibble 1	Haddam	Chert	4			
Dibble 1	Dibble 1	Haddam	Basalt	2			
Dibble 1	Dibble 1	Haddam	Slate	4			
Dibble 1	Dibble 1	Haddam	Hornfels	19			
Dibble 1	Dibble 1	Haddam	Quartz	1			

Table 7.4 List of all sites within the complete Griffin cluster system broken into Non-burial, Buffered and Complete cluster system.

Non-burial and Burial Sites within Buffer Zone

The addition of the Griffin burial dramatically alters the cluster system assemblage. As discussed in the previous chapter, the Griffin site generated a total of 406 diagnostic Broad-tool point forms from 11 separate lithic materials. The quartz point from site 105-34 now only represents one quarter of a percent of the total lithic assemblage for the Griffin cluster system, which rounds to zero percent (Charts 7.23 and 7.24).

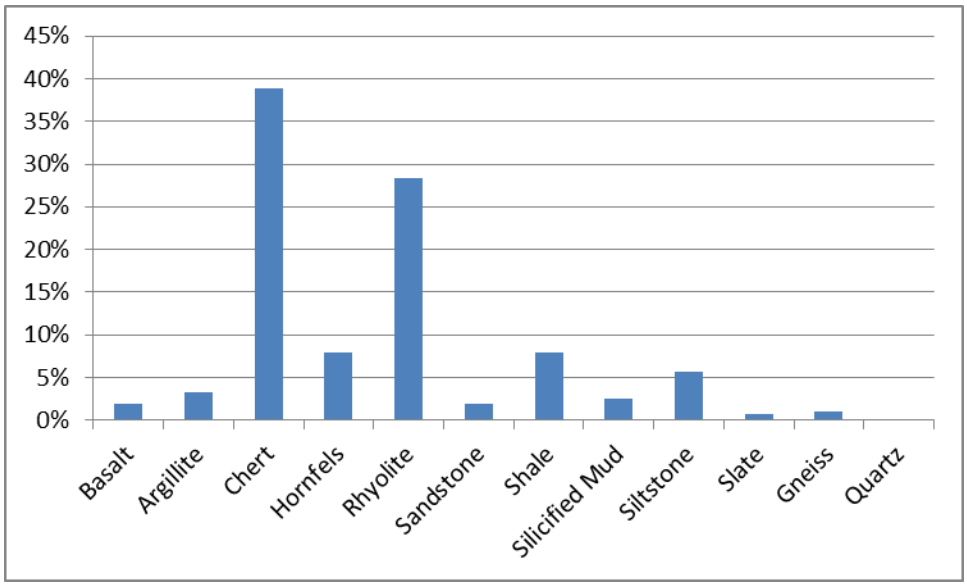


Chart 7.23 Griffin cluster assemblage based on burial and non-burial sites within the **BUFFERED** system (n=407).

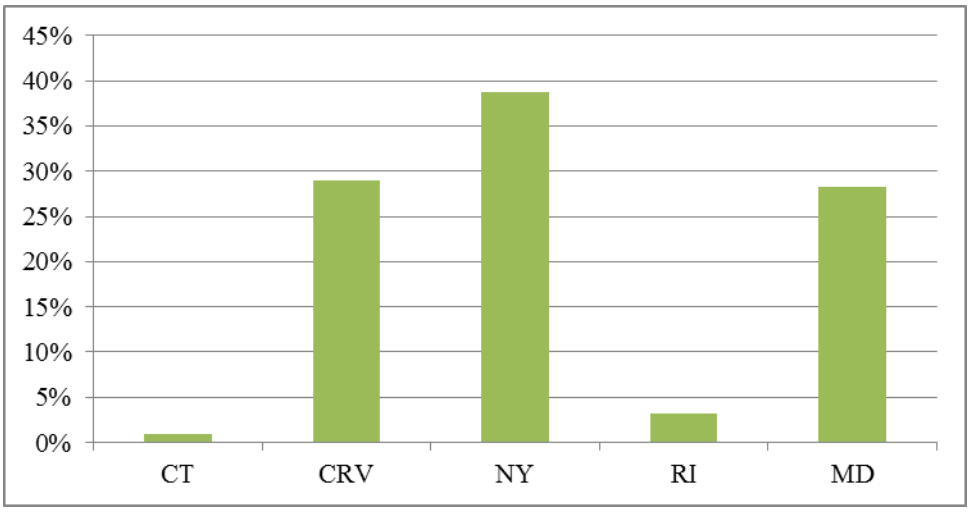


Chart 7.24 Depiction of presumed lithic origins for ALL sites within the **BUFFERED** Griffin cluster system (n=407). Note the label change from MA rhyolite to MD rhyolite.

Complete Griffin Cluster System

The complete Griffin cluster system contains five additional sites; one to the west and four to the north along the Connecticut River. Fifty-four more artifacts were added to the cluster assemblage, 30 of which were cached at the Dibble 1 site (Table 7.4). The completed Griffin cluster system supports the proposed concept that the this area was most likely opened to recurring exchange systems (Charts 7.25 and 7.26). Lithic evidence from the Griffin burial is presently separately from the non-burial sites within the complete cluster system for comparison (Charts 7.27 and 7.28). Lithics were transported from the south (rhyolite), the west (chert), and possibly the east (argillite). Socio-economic networks ferried lithics (and likely additional goods) into Long Island Sound and into the mouth of the Connecticut River.

The Dibble 1 site was unearthed just upstream from the Griffin cluster system and was situated next to site 41-46 (Lavin and Banks 2007). Thirty Broad-tool bifaces consisted of projectiles and knives constructed mostly from lithics local to the Connecticut River Valley

(Chart 7.29). Omitting the Dibble 1 cache decreases percentages for the Connecticut River Valley by only five percent.

Defining who the participants might have been at the ritual event turns slightly more complicated given the artifact numbers and materials. Although the complete Griffin cluster system demonstrates a reliance on both local and non-local materials, a higher proportion of non-local lithics were evident within the Griffin burial context. The cemetery is believed to represent a single burial episode with 19 pits and over 5,000 interred artifacts (Pfeiffer 1980). Like the burial events previously discussed, the communities may have been a compilation of local or local/non-local peoples, but given the quantity of interred artifacts, we are seeing an event where: (1) a smaller group of ritual partipants offered large quantities of grave goods per person/family or (2) a larger gathering of Broad-tool communiites attended the event and provided few ritual offerings. If goods were moving through the mouth of the Connecticut River as suspected here, then based on Renfrew's (1984) definition of a central place, it could be argued that Old Lyme was a central place on the landscape, similar to the Lewis-Walpole site. People would have been attracted to the area in order to participate in the socio-economic systems operating within it.

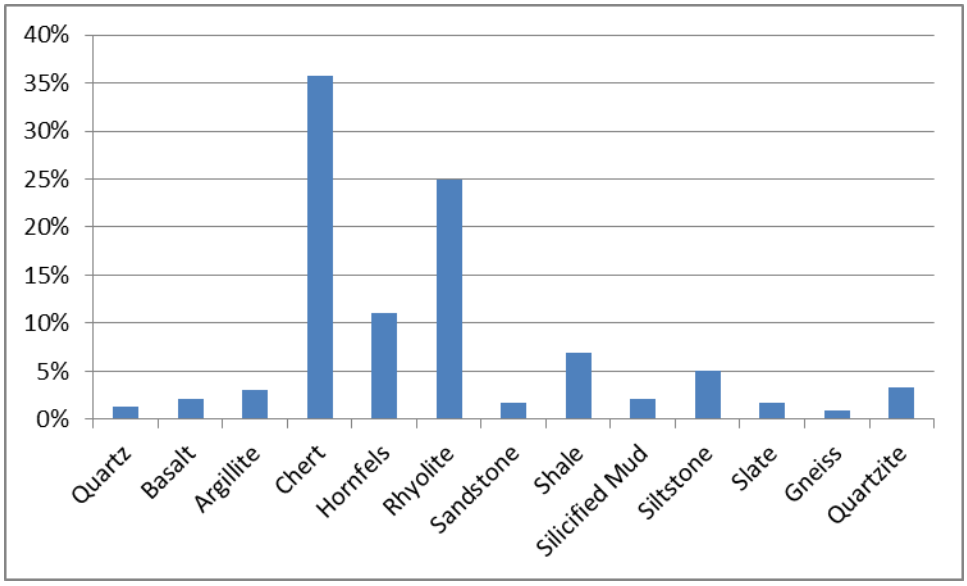


Chart 7.25 COMPLETE Griffin cluster system incorporating all sites (n=461).

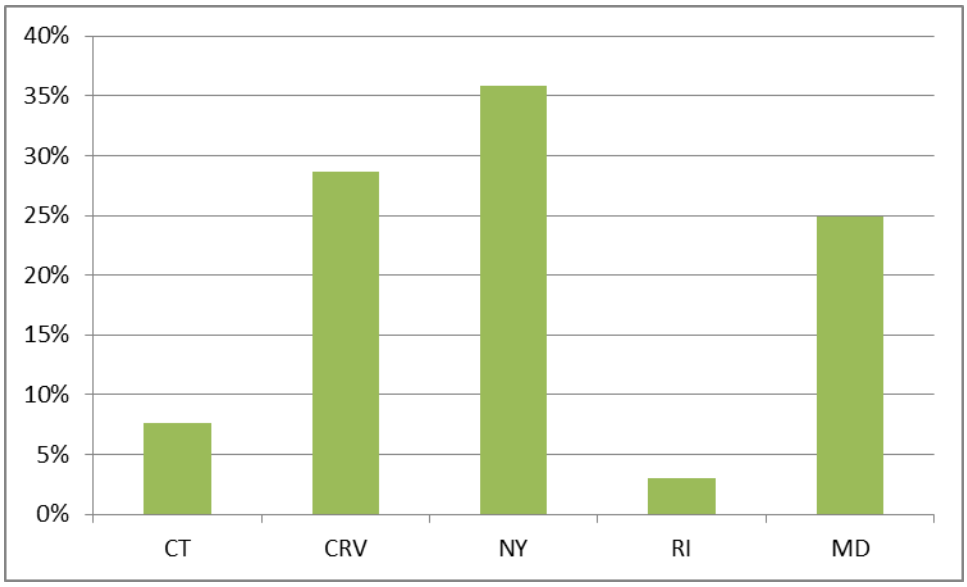


Chart 7.26 Depiction of supposed lithic origins for the **COMPLETE** Griffin cluster system incorporating all sites (n=461).

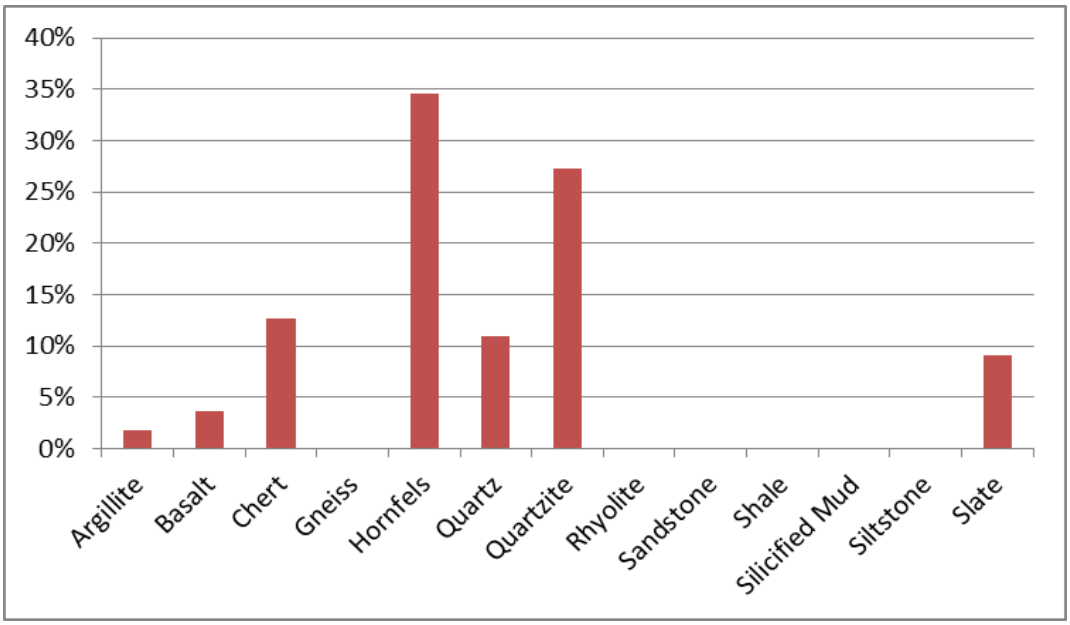


Chart 7.27 Lithic types from the **NON-BURIALS only** within the Griffin cluster system (n=55).

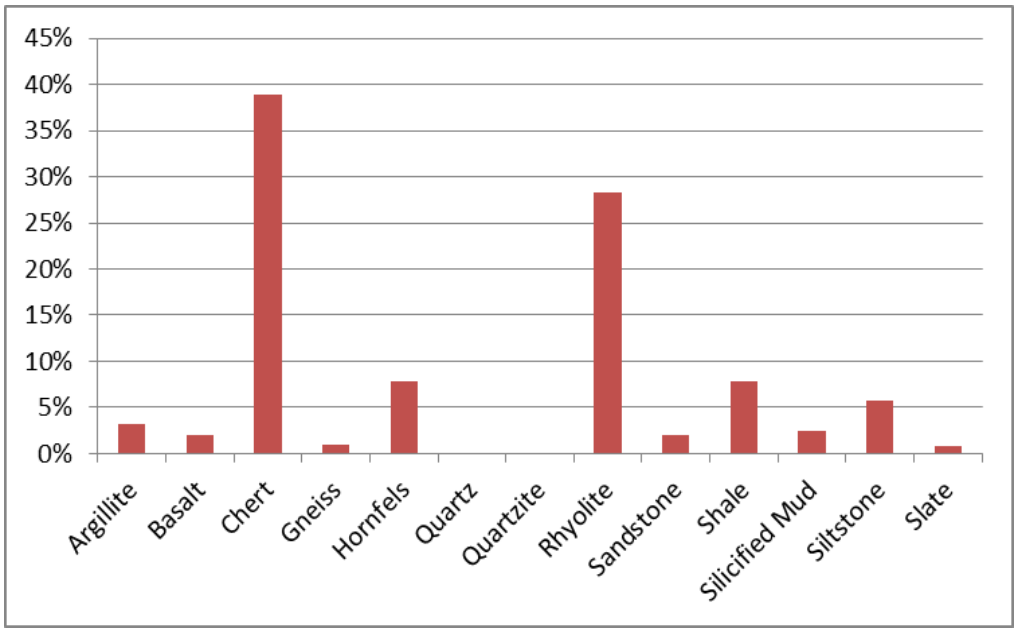


Chart 7.28 Lithic types from the Griffin **BURIAL only** (n=406).

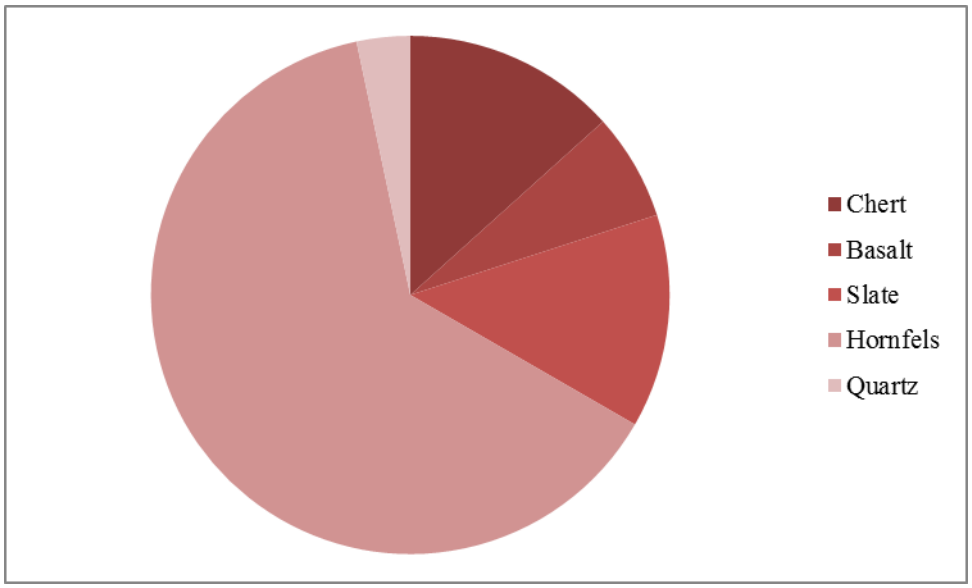


Chart 7.29 Distribution of lithics cached as Broad-tool points and knives at the Dibble 1 site within the **COMPLETE** Griffin cluster system.

Eastern Connecticut

Rogers, Lisbon, Connecticut

Non-burial Sites within Buffer Zone

The interior Rogers cluster is composed of four separate non-burial site locations producing a total of five quartzite Broad-tool point forms (Figure 7.5; Table 7.5). All of these sites are either centrally located within the buffered zone or fall near the southeastern rim.

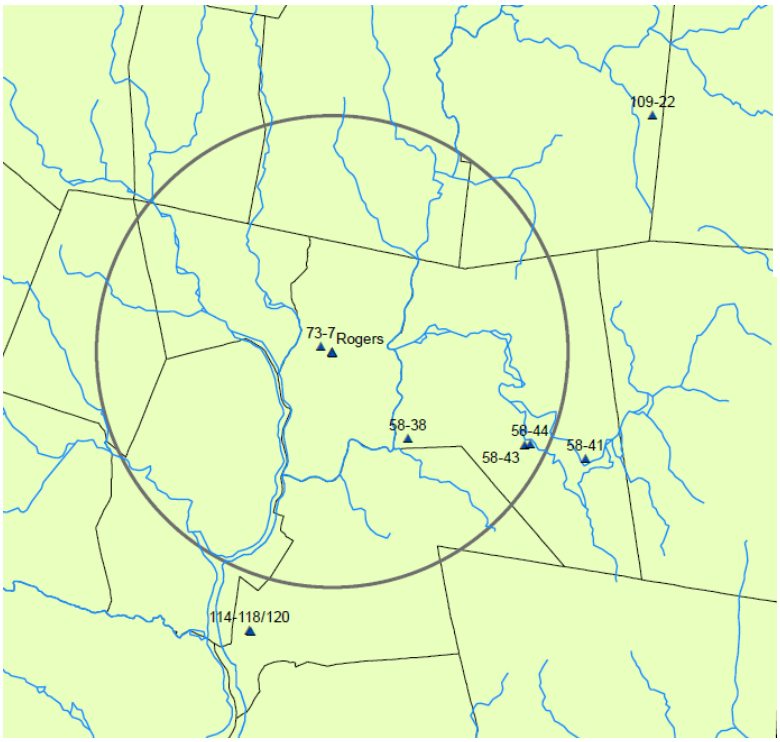


Figure 7.5 Map portraying all sites associated to Rogers cluster system. The Rogers site is centrally located within the circle.

Site Name	Site Number	Town	Lithic Material	Count	NON-BURIALS	BUFFER ZONE (BURIALS AND NON-BURIALS)	COMPLETE ROGERS CLUSTER SYSTEM
73-7	73-7	Lisbon	Quartzite	1			
Burton Rd. Farm	58-38	Griswold	Quartzite	2			
Griswold Gun Club on the Pt.	58-44	Griswold	Quartzite	1			
Griswold Gun Club	58-43	Griswold	Quartzite	1			
Rogers	Rogers	Lisbon	Shale	15			
Rogers	Rogers	Lisbon	Hornfels	4			
Rogers	Rogers	Lisbon	Quartzite	11			
109-22	109-22	Plainfield	Quartzite	1			
Island on Pt. Pond	58-41	Griswold	Quartzite	1			
Norwich State Hospital	114-118/120	Preston	Chert	2			
Norwich State Hospital	114-118/120	Preston	Hornfels	1			

Table 7.5 List of all sites within the complete Rogers cluster system broken into Non-burial, Buffered and Complete cluster system.

Non-Burial and Burial Sites within Buffer Zone

The addition of the Rogers assemblage to the cluster introduces hornfels, shale and 11 additional quartzite point forms (Charts 7.30 and 7.31). A dominance of local lithics remains overwhelming; however, a slight shift from quartzite in the non-burials to Connecticut River Valley lithics is noticeable. Non-local materials are absent from the buffered zone.

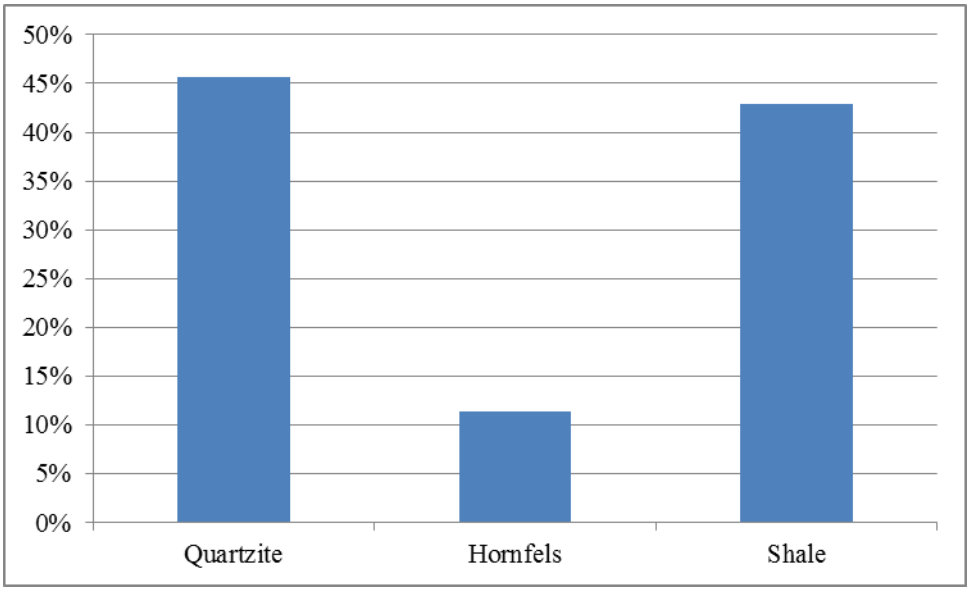


Chart 7.30 Rogers cluster assemblage based on burial and non-burial sites within the **BUFFERED** system (n=35).

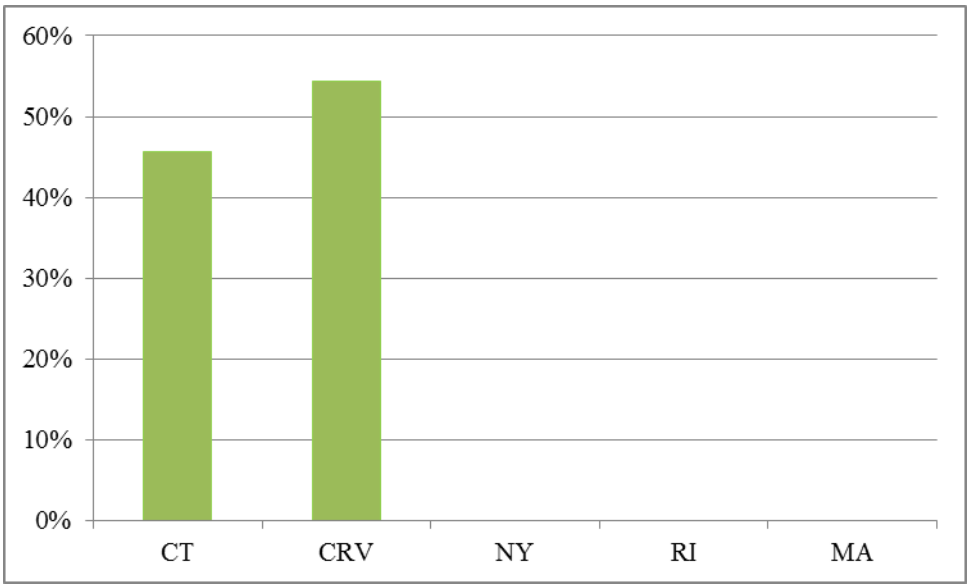


Chart 7.31 Depiction of presumed lithic origins for ALL sites within the **BUFFERED** Rogers cluster system (n=35).

Complete Rogers Cluster System

The complete Rogers cluster system incorporated three additional site locations. Sites 58-41 and 109-22 rest just outside the 10km buffer zone just to the east and northeast, respectively, while 114-118/120 is situated to the southwest. Many Broad-tool finds have been recorded along the Pachaug Pond in Griswold, Connecticut, but unfortunately, the lithic materials were not listed in the site reports and could not be verified. Site 114-118/120 introduced the only non-local lithic (two chert points) within the complete Rogers cluster system (Charts 7.32 and 7.33). Lithic evidence from the Rogers burial is presently separately from the non-burial sites within the complete cluster system for comparison (Charts 7.34 and 7.35).

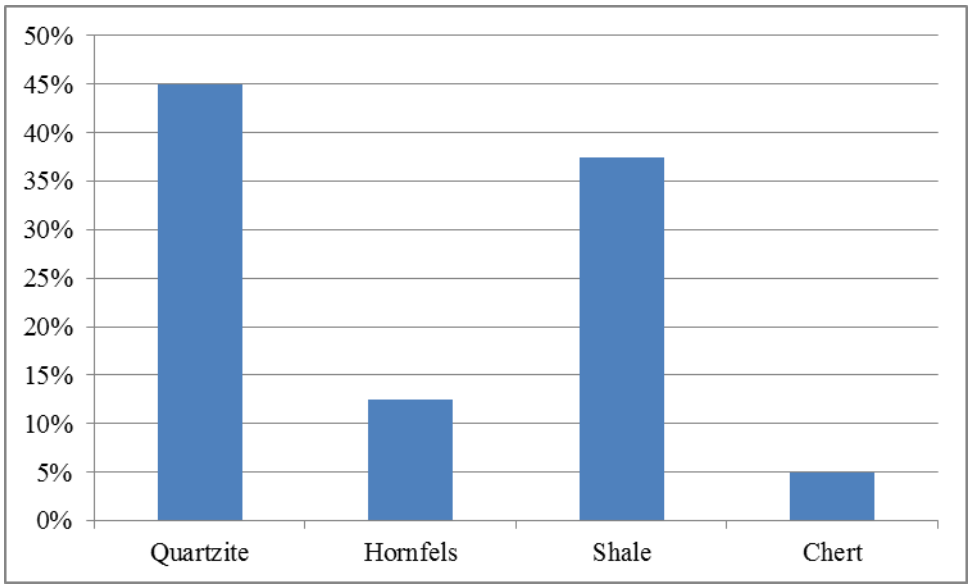


Chart 7.32 COMPLETE Rogers cluster system incorporating all sites (n=40)

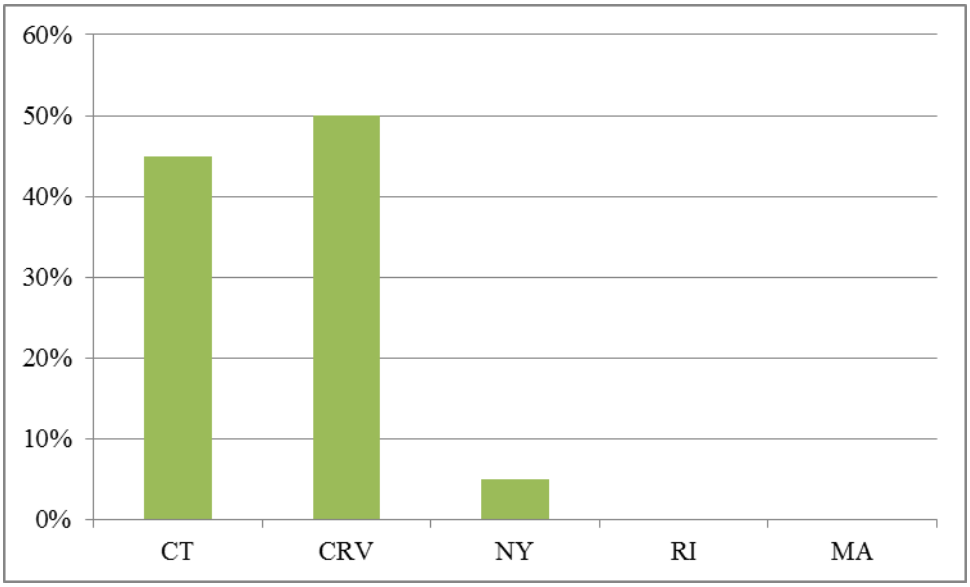


Chart 7.33 Depiction of supposed lithic origins for the **COMPLETE** Rogers cluster system incorporating all sites (n=40).

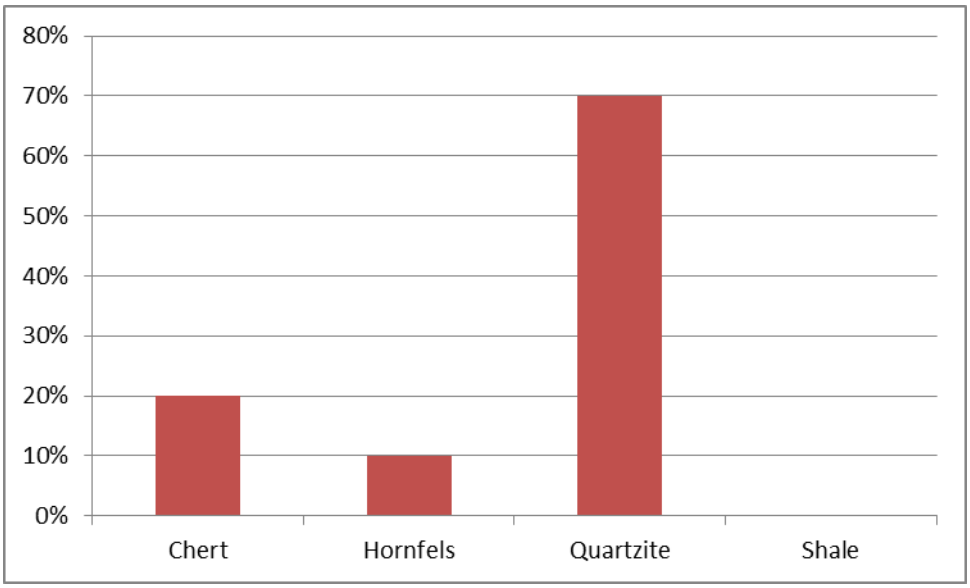


Chart 7.34 Lithic types from the **NON-BURIALS only** within the Rye Hill cluster system (n=10).

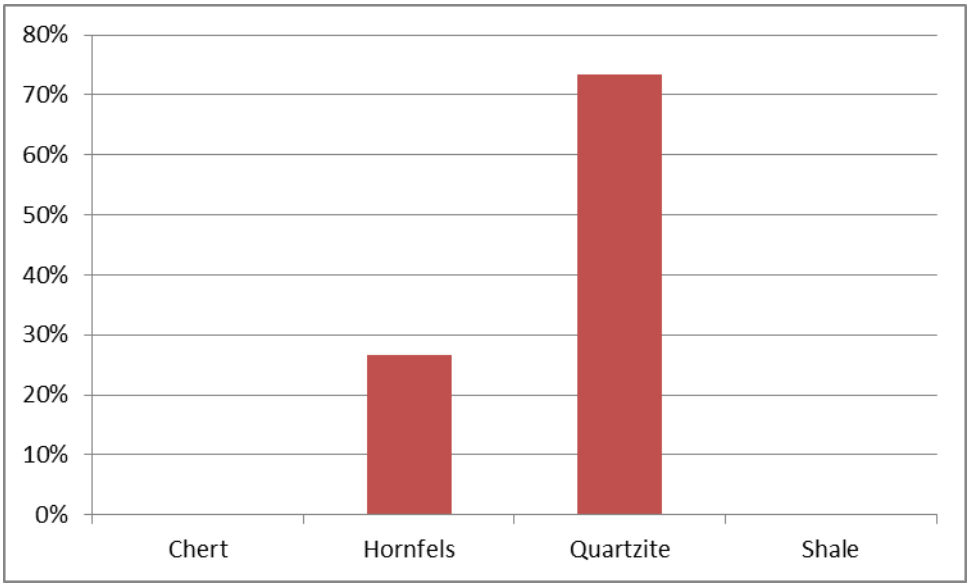


Chart 7.35 Lithic types from the Rogers **BURIAL only** (n=15).

The dearth of non-local lithics within the cluster remains unclear given the fact that argillite sources are located nearby in Rhode Island, and chert was likely available along the river systems or Long Island Sound at the very least. Quartzite was either the most preferred lithic, the easiest to obtain or both for groups within this cluster system. This raises a series of questions regarding lithic procurement and selection. Did these eastern communities prefer local quartzite over cherts? Did quartzite availability hinder their involvement in socio-economic networks in some manner? Were non-local lithics considered unnecessary because of the abundance of quartzite?

Comparisons between diagnostic assemblages from the complete Rogers cluster system and Terminal Archaic lithics from the nearby Mashantucket Pequot Indian Reservation portray two very different habits of lithic utilization. The Mashantucket Pequot Indian Reservation is located in Ledyard, Connecticut, which is just south of the Rogers cluster system. Archaeological research teams from the Mashantucket Pequot Museum and Research Center (MPMRC) have been constructing an inventory of cultural sites and artifacts as building construction progresses throughout the reservation. Information gathered from the MPMRC listed diagnostic Broad-tool point forms from approximately forty separate sites that were excavated on the reservation. The sample, therefore, far outweighs the number of sites collected to form the complete Rogers cluster system. It also provides us with a realistic glimpse of the types of lithics that were selected and utilized for this particular area during the Broad-tool phase.

Local lithic materials were heavily utilized, as quartzite makes up 20% of the total lithic selection (Charts 7.36 and 7.37). Most of the quartzite that is pulled from the reservation reflects the local consumption of Plainfield quartzite (Kevin McBride, personal communication 2013). However, argillite (39%) and chert (28%) completely overshadowed local materials. According

to the MPMRC files, an abundance of chert and eastern argillites were brought into the area; likely via socio-economic systems and not direct procurement. The large quantities of argillite found on the reservation, mostly in the form of Snook Kill points, generate a new thread of queries. Could this lithic discrepancy between the Rogers cluster and the MPMRC simply be a product of time? Diagnostic points at the Rogers site suggest that it is younger than those on the reservation; if one were to follow Dincauze's temporal change of point styles. Snook Kill dates tend to fall earlier within the Broad-tool phase. Did access to argillite sources change from the onset of the Broad-tool phase to the close of the Terminal Archaic Period?

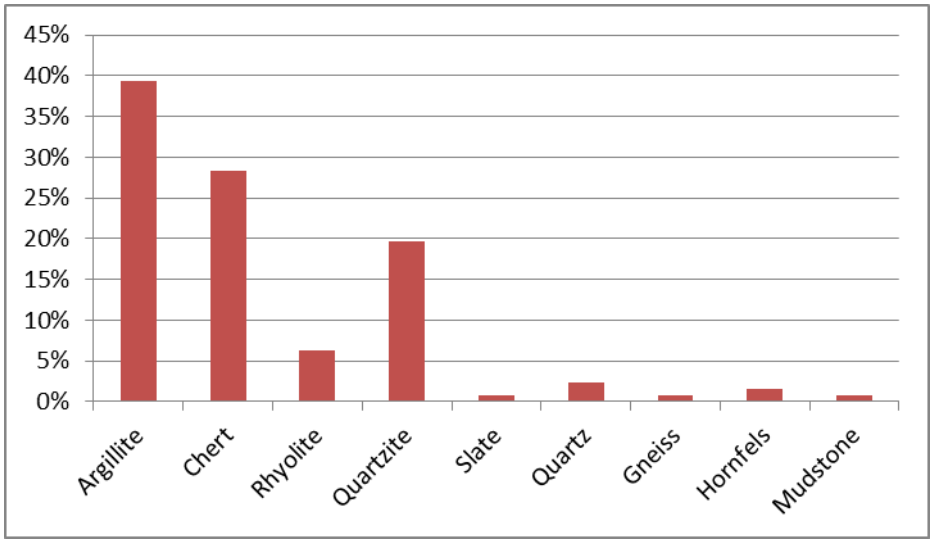


Chart 7.36 Depiction of lithic materials selected for Broad-tool manufacture on the Manshantucket Pequot Indian Reservation, Ledyard, Connecticut. All information provided by the MPMRC.

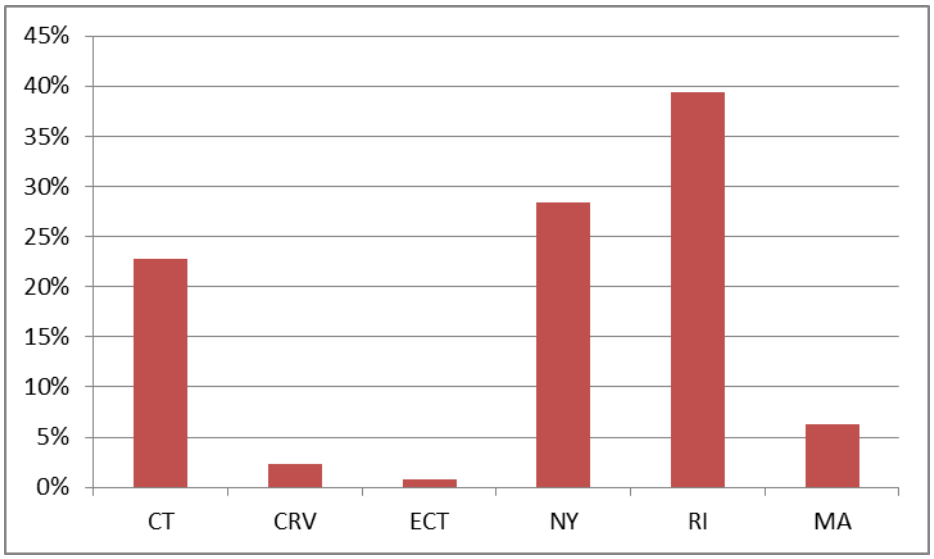


Chart 7.37 Presumed origins for lithic materials located on the Mashantucket Pequot Indian Reservation, Ledyard, Connecticut. Derived from information provided by the MPMRC.

SPATIAL PATTERNING

Based on the small sample of burial and non-burial sites collected for this research, there are two types of spatial patterns that are visible: the spatial patterning of lithics across the landscape and the spatial patterning of lithics between burial and non-burial sites. The spatial patterning across the landscape highlights the distribution of lithic materials at discussed sites across Connecticut. The second aspect is meant to draw attention to those lithics that appear to have been reserved for ritual burial and those that were kept separate from these events. The author recognizes that the coupling of five Broad-tool burials with a small collection of surrounding non-burial locations represents merely a sample of a much larger picture. Additional studies, where more complete site information is available, may produce different findings.

Between Burial and Non-burial Sites

Burials typically demonstrated a wider range of lithic materials than surrounding non-burial sites. The Griffin cremation produced such a variety of lithic materials that it contained 11 of the 19 lithic materials seen across sites (Table 7.6). The Griffin burial was the only site to contain gneiss (4), sandstone (8), and silicified mud (10) and also housed 96% of the siltstone; one siltstone point form was among the Schwartz assemblage. Interestingly, no quartz or quartzite was recorded within the Griffin burials (Figure 7.6).

Shale is the only lithic that appears to be reserved for burial usage (Table 7.6; Figure 7.7). Of the seven materials that were specific to burials, shale remains the only lithic interred within four of the five burial sites. The remaining six lithics were associated with only one cemetery, except siltstone; it was contained within the Schwartz and Griffin sites. Rye Hill was the only burial not to include shale Broad-tool points. If this evidence can be further supported within the region, then future conversations could label shale Broad-tool points as a ritual core (i.e., Kyriakidis 2007a; see also Chapter Five).

	Rye Hill	non-burials	Schwartz	non-burials	Carrier	non-burials	Griffin	non-burials	Rogers	non-burials
argillite	x	x				x	x	x		
basalt			x	x			x	x		
chert	x	x	x	x	x	x	x	x		x
copper			x							
felsite		x								
gneiss							x			
hornfels			x	x	x	x	x	x	x	x
jasper					x					
quartz		x		x		x		x		
quartzite				x	x	x		x	x	x
rhyolite			x	x	x		x			
sandstone							x			
schist					x					
shale			x		x		x		x	
silicified mud							x			
siltstone			x				x			
slate				x			x	x		

Table 7.6 Table of all lithic materials and their appearance across the sites (Shaded rows represent lithics interred only in burial sites. Rows with slashes represent lithics found only in non-burials).

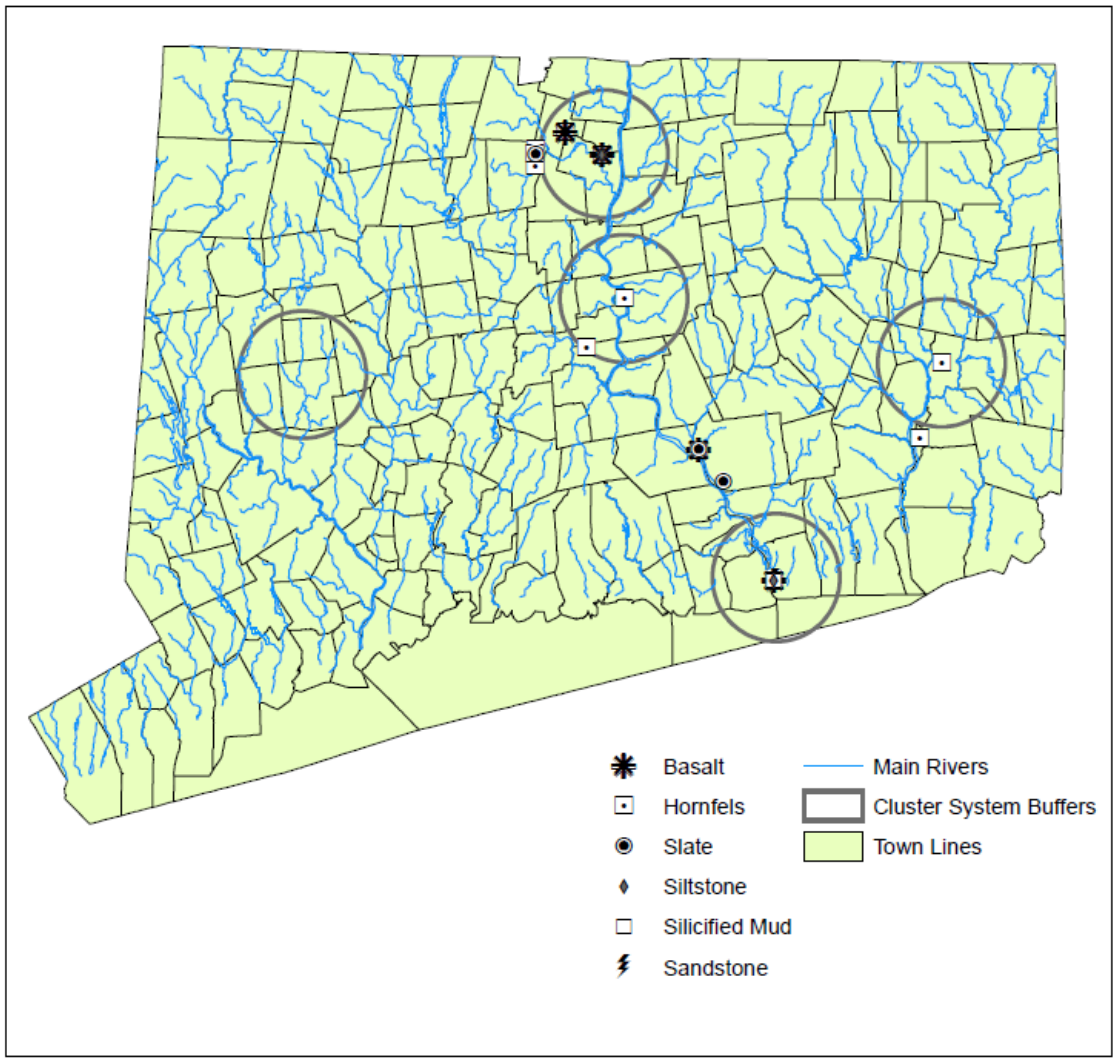


Figure 7.6 Spatial distribution across the state of Connecticut River Valley lithics.

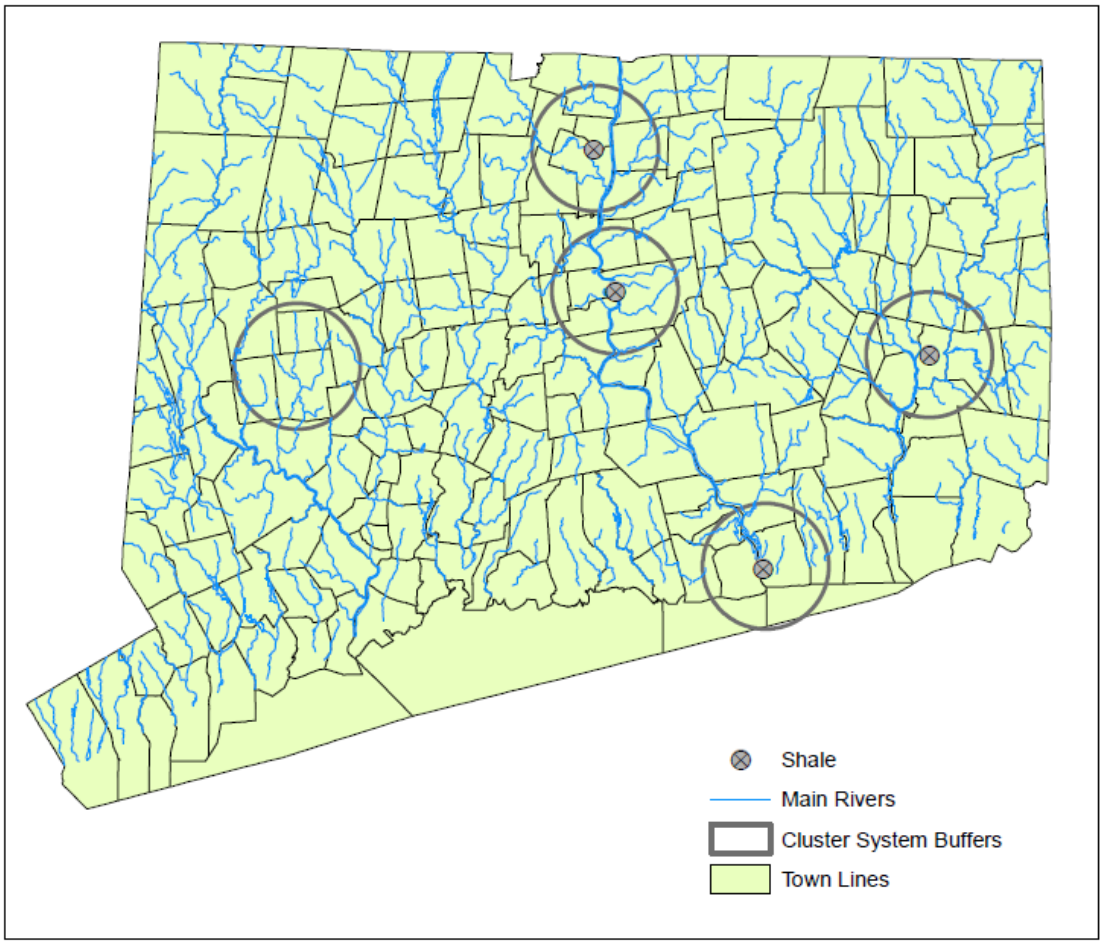


Figure 7.7 Spatial patterning of shale across the Connecticut cluster systems.

Across the Landscape

Basalt, silicified mud, sandstone, siltstone and slate were not transported outside of central Connecticut (Figure 7.6). Either these items were procured in place by the groups that utilized them and/or they were not considered lithics of commodity outside of the CTRV vicinity. Hornfels is the only lithic of this grouping to travel beyond these parameters. Four hornfels Broad-tool point forms were interred as burial artifacts within the Rogers cremation. The appearance of hornfels within the Rogers burial becomes a little more curious when one considers the fact that the Rogers and Carrier burials were the only two cremations to include quartzite. Even though quartzite is available in cobble form throughout much of Connecticut, southeastern Connecticut contains a large vein where sizable nodules can be extracted. The fact that both burials contained hornfels (a CTRV material), quartzite and shale could be coincidence, or maybe not. If the quartzites from the Carrier burial originated from the eastern quartzite vein, then there is a possibility of inter-cluster trade between the Roger and Carrier cluster systems.

Quartzite, quartz, and hornfels were all found along the central valley cluster systems. However, quartzite and hornfels were also present to the east within the Rogers cluster system, while quartz usage was visible to the west of the valley within the Rye Hill cluster system (Figure 7.8). The eastern preference for quartzite is likely related to the Plainfield formation that runs along the I-395 corridor.

Basalt and rhyolite were visible only in the Connecticut River Valley clusters, even though the rhyolite stemmed from multiple source locations (Figure 7.9). It is presumed that the northern sites along the Connecticut River (Carrier, Schwartz and Lewis-Walpole) illustrate rhyolite procured from a northeastern source around Boston, while the 115 pieces from the Griffin site were sourced to Maryland (Pfeiffer, personal communication 2013). This suggests

that a trade boundary existed along the Connecticut River separating the distribution of Massachusetts' rhyolite from that which was imported through Long Island Sound. In addition, rhyolite is only associated with Central Connecticut cluster systems (along the Connecticut River). Not enough information exists within this research to speculate where that boundary may have rested or whether the containment of rhyolite within the valley should be considered significant or whether the situation is a consequence of research sampling. These should be considered points of future research. Separating the northern and southern exchange systems would limit the flow of rhyolite and chert into the area and allow kin groups to control the value and quantity of specific commodities, thereby enhancing a family's prestige and power within their peer-polities.

Argillite was located in three cluster systems (Griffin, Carrier and Rye Hill), but the Carrier system only produced one point form as compared to 14 from the Griffin cluster and 6 from the Rye Hill cluster (Figure 7.10). Most of the argillite Broad-tool forms were excavated from burials (Griffin 13, Rye Hill 5), which suggests that this lithic might have been considered 'special' or different from other non-local materials brought into the area. Future testing might determine whether these pieces actually derived from Rhode Island or from a southwestern source, like New Jersey. It is possible they were being shepherded into Long Island Sound and then transported up the Housatonic (to Rye Hill) and Connecticut Rivers (to Griffin and Carrier) for trade, further supporting the existence of a trade boundary along the Connecticut River. Based on quantities at the Griffin and Carrier sites, argillite moved north along the Connecticut River to the Carrier cluster system but no further.

Findings at the MPMRC prove that argillite was available to certain peoples in eastern Connecticut at some point during the Terminal Archaic Period, suggesting that the dearth of

argillite within the Rogers cluster system may be a temporal issue. Snook Kill points from the Pequot Reservation were typically manufactured from Rhode Island argillites (Brian Jones, personal communication 2014). Based on Dincauze's projectile point typology for the Broad-tool phase, the Rogers site post-dates the early Snook Kill usage. This implies that there was either a decreased preference for argillite during the latter Broad-tool phases by eastern Connecticut populations, or relations with those communities that controlled argillite sources deteriorated.

The final point of interest is the distribution of chert across Connecticut (Figure 7.11). The presence of chert within all five cluster systems suggests that it was readily available to many Broad-tool populations. Chert was seen in all five cluster systems and within every burial with the exception of the Rogers site in Lisbon, Connecticut. This wide distribution suggests that Broad-tool communities of Connecticut maintained strong socio-economic ties with peoples from eastern New York. Some may argue that this is evidence that a trade specialization was growing where individual traders maneuvered goods from a supply zone out to consumers. However, based on the formation of kin relations as seen within the MBT (Robinson 2001, 2003) and the Early Woodland Burial Cult (Taché 2008), I believe the main organizing principles within the Broad-tool Interactions Sphere remained grounded in kinship.

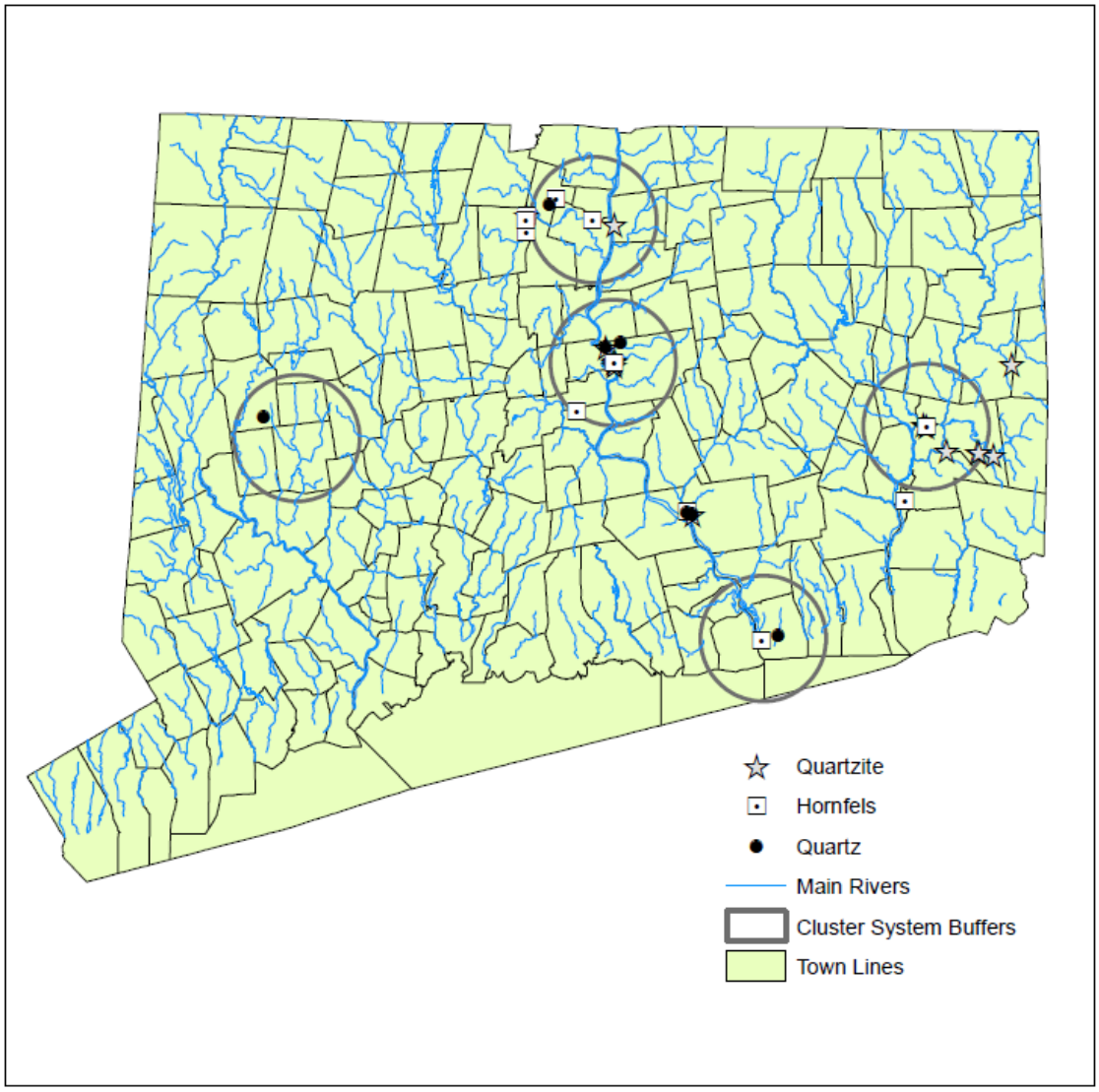


Figure 7.8 Spatial patterning of quartz, hornfels and quartzite across the Connecticut cluster systems.

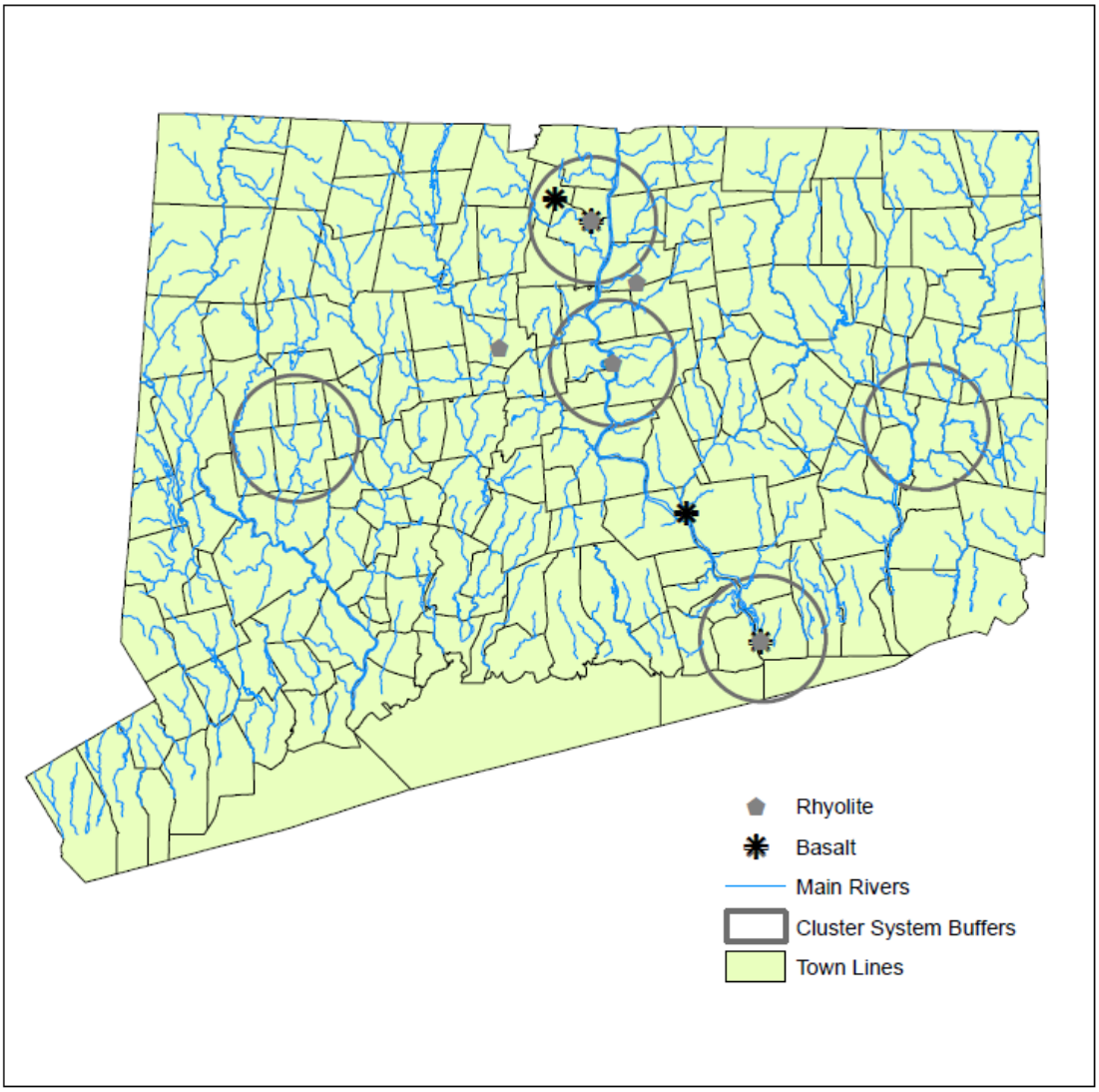


Figure 7.9 Spatial patterning of rhyolite and basalt across the Connecticut cluster systems.

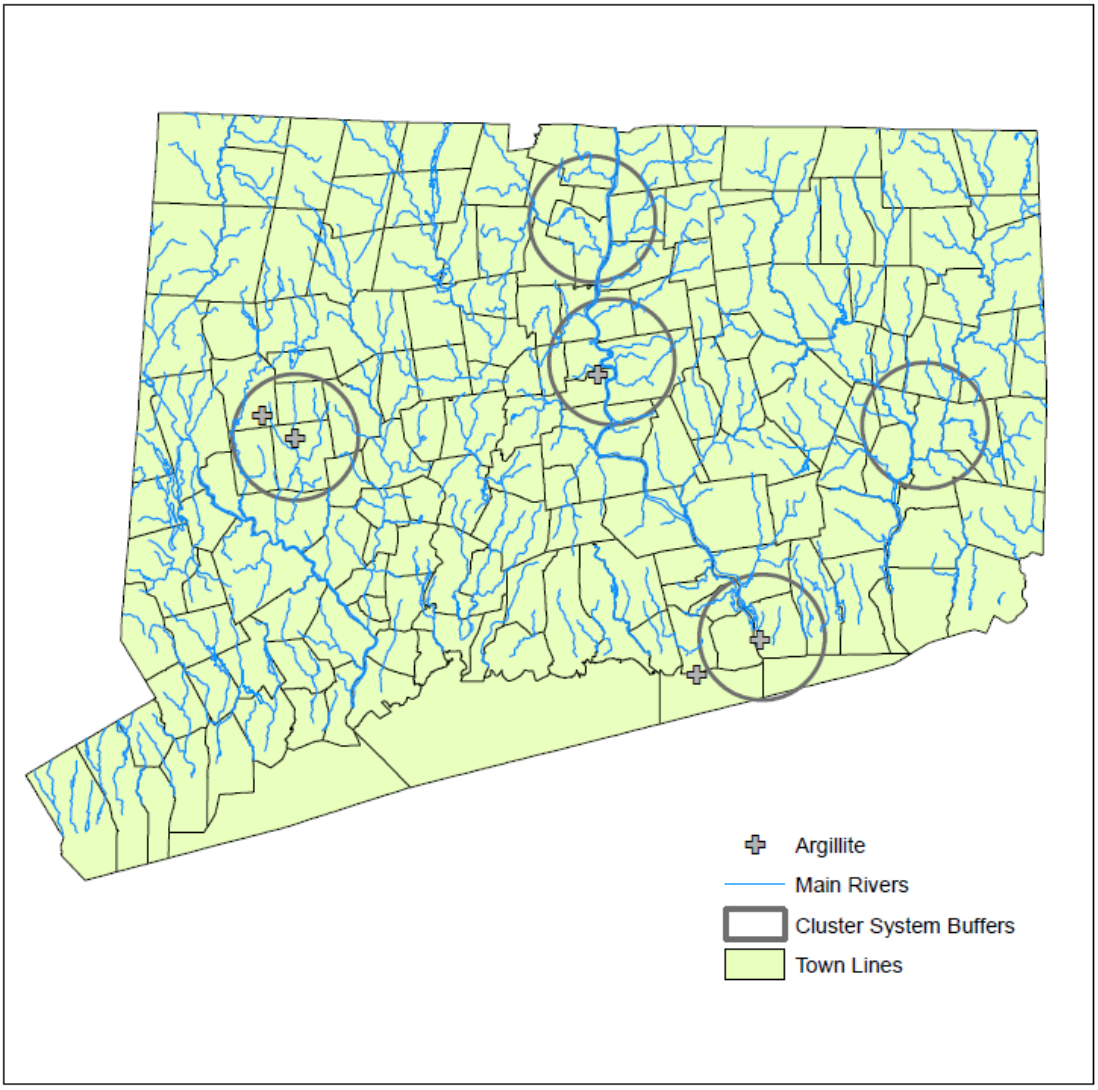


Figure 7.10 Spatial patterning of argillite across the Connecticut cluster systems.

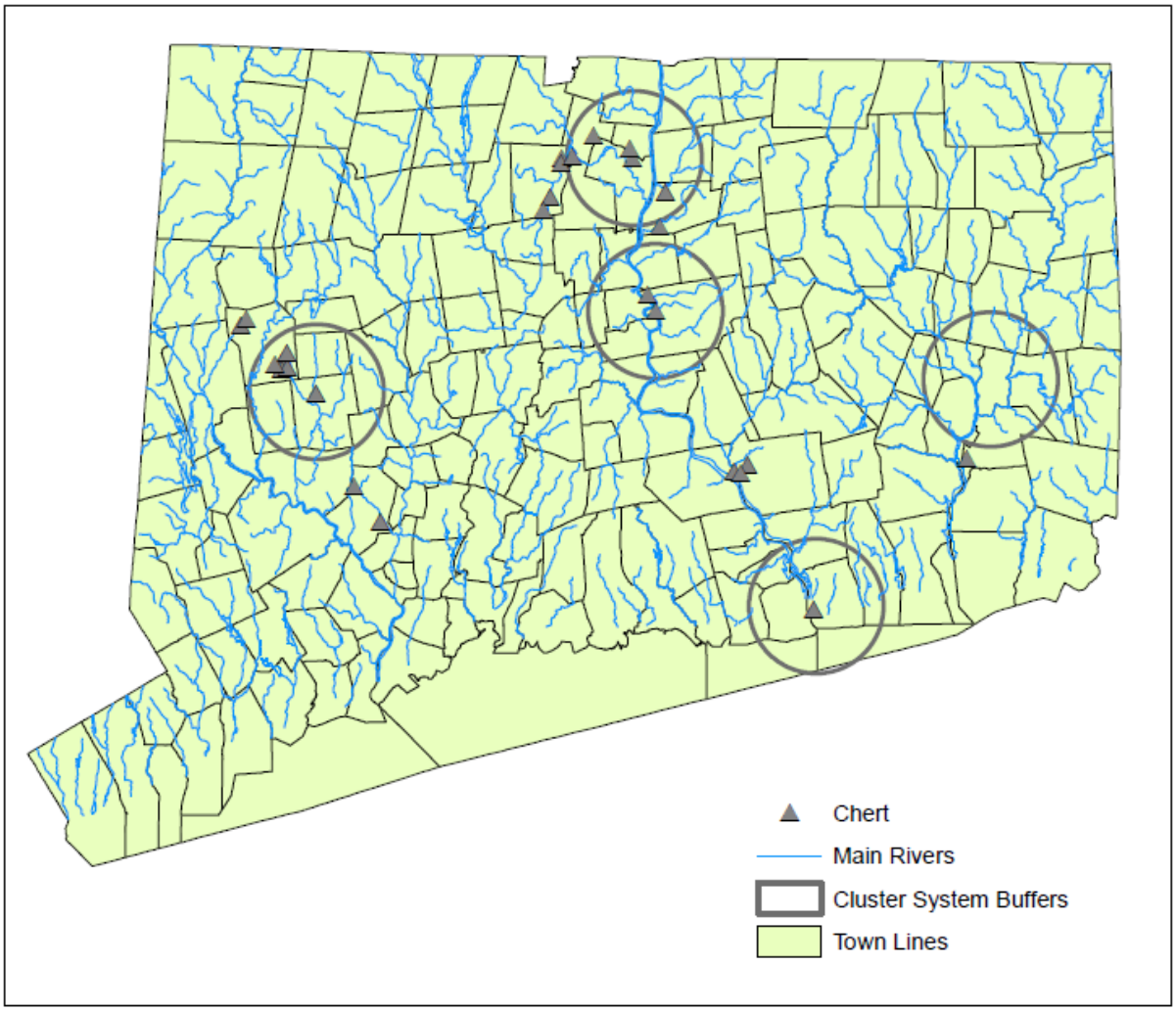


Figure 7.11 Spatial patterning of chert across the Connecticut cluster systems.

CHAPTER VIII: REGIONAL APPROACH
Inter-Cluster Dynamics and Reconstructing Broad-tool Sub-Cultures

INTRODUCTION

The methodological foundation of this chapter is a modified version of Earle's (1982) three-step approach designed to identify networks of ancient exchange (i.e., source, identify spatial patterning and reconstruct exchange). Although the reconstruction of past socio-economic pathways would greatly expand our understanding of Broad-tool populations, the recent loss of site materials has severely constrained our ability to proceed with this type of research at the present time. For this study, Earle's method was broadly interpreted in order to ascertain whether the lithic selection and ritual discard of Broad-tool bifaces differed within a controlled section of the Broad-tool Interaction Sphere.

Chapters Four and Five discussed the existence of the Savannah River Technological Complex (chapter four) and the boundaries of the Broad-tool Interaction Sphere (chapter five). The following chapter defined five burial locations across Connecticut from which diagnostic points were identified and sourced macroscopically. The formation of cluster systems in Chapter Seven, which fused burial and non-burial data, initiated discussions concerning lithic selection and spatial patterning mainly within the buffered zones. The reconstruction phase of Earle's approach was amended in order to identify the existence of Broad-tool sub-cultures within the BTIS.

RECONSTRUCTING BOUNDARIES

The mere act of defining a culture in anthropology implies that a separation in morals, norms and/or social distance exists between groups forming an 'us' and a 'them'. However, cultural systems are not 'natural' disunions of peoples across the landscape. During the Terminal Archaic Period, Broad-tool boundaries were fluid perimeters based in technology, kinship and/or mortuary participation that ebbed and flowed as people moved across the landscape. These boundaries are evidenced by the wide expanse of the SRTC (a technological boundary) and the Moorehead Burial Tradition (Robinson 2001), the BTIS, and the later Meadowood Interaction Sphere (Taché 2008), which were more closely associated with kinship and mortuary practices.

The distribution of lithic materials in chapter seven suggests that the 'boundaries' circumscribing Broad-tool sub-cultures were correlated to the access of certain lithics through socio-economic networks and the ritual deposit of lithics within the BTIS. The noticeable boundaries operate on a natural, cultural and sub-cultural scale. The flexibility of these boundaries cannot be expressed enough, and it should be noted that each of the boundaries discussed below ebbed and flowed depending on the needs of the cultures.

Natural Boundaries

Geographical divisions (rivers and mountain ranges) or environmental shifts, similar to those Robinson (2001) discussed for the Gulf of Maine, are natural boundaries that are often adopted by cultures. At the start of this research, I naïvely expected the Connecticut River to be a natural boundary and route of passage through the middle of Connecticut, but the boundary

separating the northern (Schwartz) and southern (Griffin) movement of chert and rhyolite contradicts this.

The distribution of chert across the study area, the continual east-west transport of chert and rhyolite through northern Connecticut and the movement of southern lithics into Long Island Sound do support the idea that waterways were core transportation and commerce routes. However, the rivers may have not been considered natural boundaries, per se. Owing to the heavy reliance on river systems for transportation and exchange, rivers likely rested at the heart of the Broad-tool socio-economic, political (kinship) and ideological territory rather than the outer-most edge. It remains unclear whether waterways were controlled or monitored by sub-culture groups or 'families', though. If group and salient identity were increasing with the control of resources, as suspected here, then acquiring jurisdiction over water routes is not implausible.

Although Broad-tool boundaries were believed to be more fluid than fixed, evidence discussed in the last chapter indicates that a trade boundary separated northern and southern rhyolite distributions (and possibly additional commodities) along the Connecticut River. The data does not provide enough information to determine where or why this boundary could have existed. The distribution of chert, however, supports boundary flexibility where peoples and resources moved through river systems unabated. This does not negate the idea that waterways were protected by communities or families. Further studies are necessary to determine the role of the socio-political unit within each sub-cultural group and its capacity to claim land, resources, waterways, etc.

Canoes offered a more energy efficient mode of transit for large quantities of goods, but smaller lithic packages were also passed through overland exchange networks. Small amounts of

non-local lithic materials, such as rhyolite, argillite and jasper, were likely transferred from hand-to-hand by people working to enhance their individual or salient prestige. These commodities would have been rare within the exchange network and likely traveled in limited quantities. They may have been brought into the area by non-local peoples traveling the waterways or offered by a relative or trade partner looking to pay/repay a debt. Therefore, non-local goods passing hand-to-hand differ from those that were imported into a region in mass quantities as they represent separate categories of commodities (Appaduai1986; Earle 1982; Rowlands 1971). The fact that much of the rhyolite and argillite and all of the jasper were deposited in cemeteries implies that these non-local lithics carried a higher level of prestige for their owners.

Cultural Boundaries

A regional interpretation of the cluster systems, and particularly the burials, suggests that the BTIS should be understood on a least three levels: (1) a combination of lithic technologies and burial rituals, (2) the selection of shale Broad-tool bifaces for ritual use and (3) size of burials and the lithic variation within the burials. These levels are considered subtractive in that the first incorporates all five cluster systems, the second reduces the number to four, and the third narrows, yet again, to define smaller Broad-tool sub-cultures. The author recognizes that all sites included in this research were not in use simultaneously, but enough information has been gathered in order to begin these types of discussions.

Lithic Technologies and Burial Rituals

All five complete cluster systems displayed evidence of Broad-tool lithic technologies and similar cremation rituals. These are considered the main unifying threads that bind the five

areas together under the BTIS. Broad-tool bifaces were located both within the burials and at nearby non-burial locations, and every burial contained evidence of ritual cremation and the intentional interment of Broad-tool diagnostics. Even though the defined cluster systems were not contemporary, certain cultural expressions continued throughout the Broad-tool phase and connect all five cluster systems together under the umbrella of the BTIS (Figure 8.1).

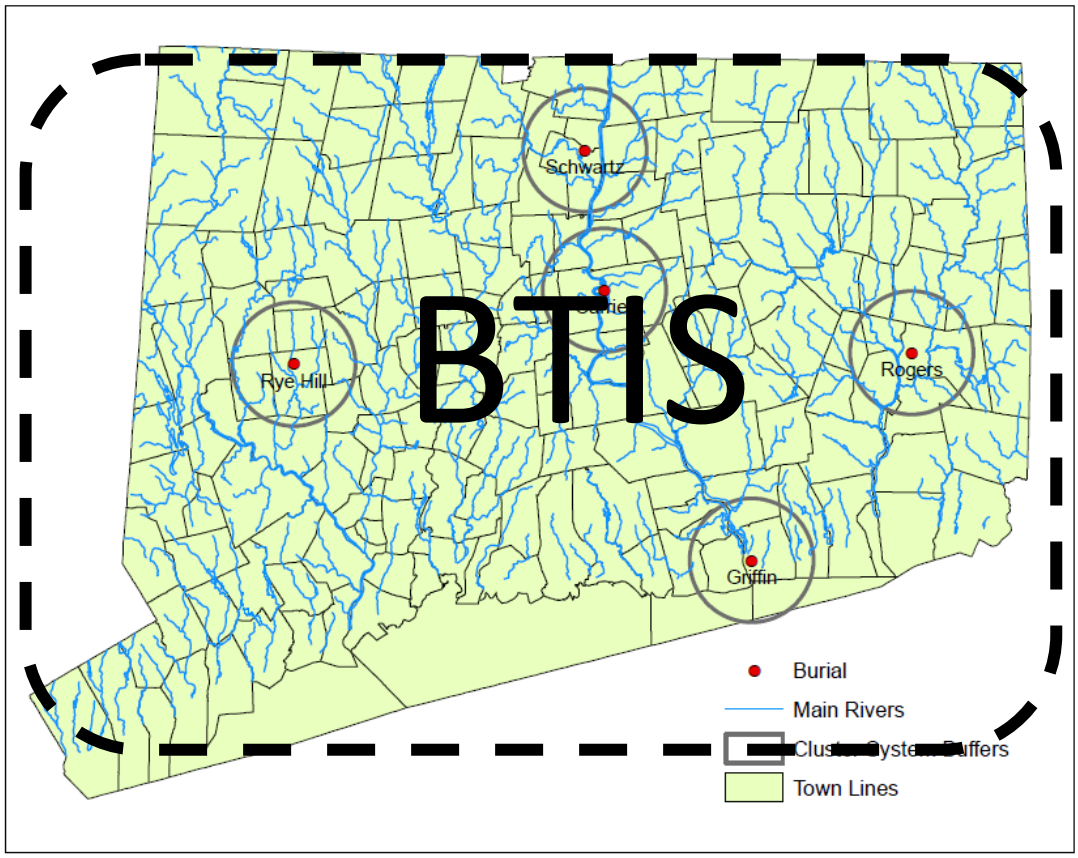


Figure 8.1 BTIS encompasses all of Connecticut because of the similar lithic technologies and burial rituals.

Shale Broad-tool Bifaces

The Rye Hill cluster system displayed two main characteristics that suggest it should be isolated from the remaining four systems: lithic selection and absence of shale bifaces. One hundred percent of the Broad-tool diagnostics from the Rye Hill cluster systems were manufactured from non-local materials. This is likely evidence that some inhabitance of western Connecticut recognized closer socio-economic and political (kinship) relations with eastern New York populations. A different lithic signature is seen in eastern Connecticut within the Rogers cluster system. These dissimilarities are presumably due in part to sample size, but they do suggest that those around Rye Hill preferred cherts, while those near the Rogers site were drawn to local materials or were unable to attain chert.

Lithic selection, when viewed regionally, is not evidence enough to suggest that the Rye Hill cluster system represented a separate type of cultural system than the remaining four because the Rogers cluster system also shows a lithic bias. However, the Rye Hill burial is the only cemetery within this study that did ***not*** include shale bifaces within the ritual burial of the dead. The Rye Hill site does pre-date the other cemeteries, and the lack of shale offerings and preference for non-local lithics could be due to temporal factors. Soapstone bowls do not show up in Broad-tool burials until the latter part of the Broad-tool phase, so the onset of shale grave goods could represent yet another 'temporal phase' of the burial ritual that began after the Rye Hill site was created. Whether the reasons are situated in time and/or cultural affiliation, the Rye Hill cluster system is seen as separate from the central and eastern cluster systems.

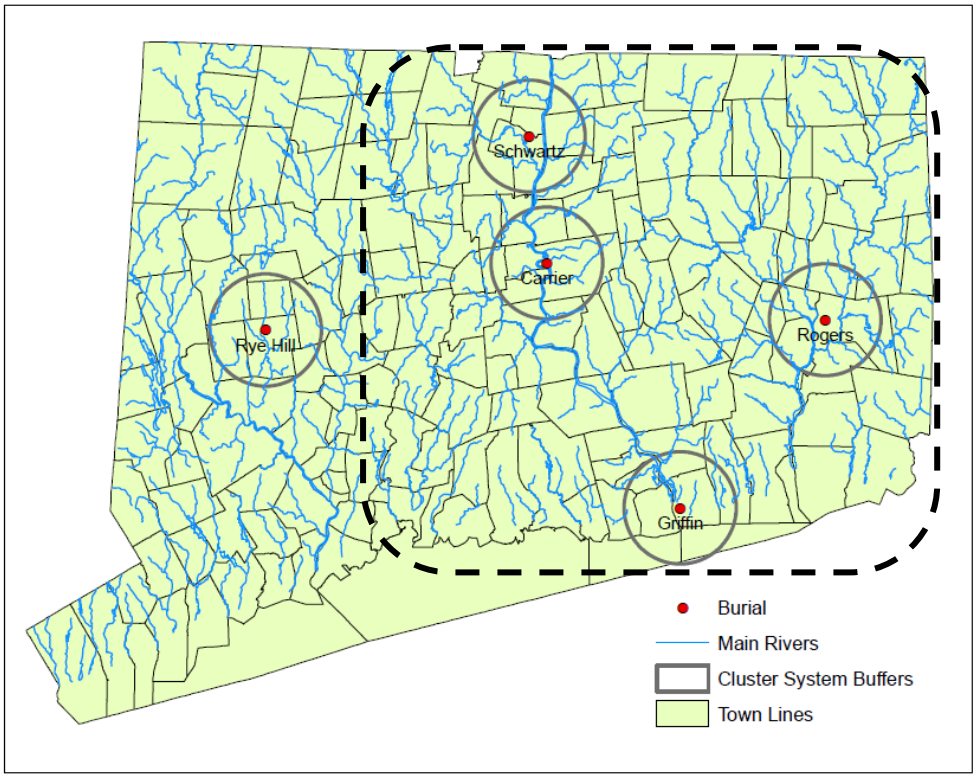


Figure 8.2 Cultural boundaries defined by the inclusion of shale diagnostics within Broad-tool cremation burials.

Size of Burial and Lithic Variation within Burial

The Schwartz, Carrier, Griffin and Rogers cluster systems may have participated in roughly the same socio-economic networks and peer-polity system, where attempts to gain prestige and increase one's salient identity were recognized by all members. Although site size, lithic selection and burial techniques differ, they all considered shale Broad-tool points to be a necessary attribute of their burial ritual (Table 8.1). As discussed in chapter six, these points tend not to be very functional as weapons or tools because of their size (some were overly large) and their soft material and could have been made by specialists (Cross 1993). Those examined by the author were mostly larger, unused and remained unbroken before being placed into the cremation fire.

Cluster System	BTIS	Shale in Burial	Lithic Variation	Small Site	Larger Site	Near a Central Place
Rye Hill	X			X		
Schwartz	X	X	X		X	X
Carrier	X	X	X	X		
Griffin	X	X	X		X	X
Rogers	X	X		X		

Table 8.1 Burial attributes defining boundaries for the five burials.

Site Size

Defining sub-group activity based on site size also leads to discussions about whether the site demonstrates singular or multiple burial episodes. Of the four remaining cluster systems, the Griffin and Schwartz sites were larger and contained many burial pits, which creates an obvious distinction between them and the remaining cemeteries. However, the Schwartz site was used on more than one occasion, and without the site's paperwork, it is impossible to determine how many pits were created at one time. The site could represent 2 larger burial events (some burials were overlapping) or up to 18 smaller ones. Therefore, a series of interpretations are possible. The sites could be divided into two groups: singular use of a cemetery (Carrier, Griffin and Rogers) and multiple use of a cemetery (Schwartz). They could also be based on site size: smaller sites with fewer burials (Carrier and Rogers) and larger sites with many burials (Griffin and Schwartz). Arguments could be made that the Schwartz site fits into either of these categories.

An additional inquiry was raised by Gagnon (personal communication 2014) who commented that exchange zones tend to be the most volatile and possibly dangerous areas of transport. That being said, the quantity and quality of goods transported to central places for

exchange could correlate to the size of the cemeteries found nearby and how often they were utilized. If desired goods that carried high prestige for local communities were passing through their region, we have to expect that some inhabitants would try to steal commodities or that disagreements over the exchange 'price' would occur. This could result in higher death rates for those peoples associated with the central places, either as inhabitants or visitors looking to exchange/acquire goods. This in turn could create the need for more frequent burial episodes and the reuse of cemeteries. The expanse of the Griffin site could be explained by the constant reuse of the site over a short period of time, which would appear as a single burial event to archaeologists as long as cremation pits did not overlap. In addition, the Schwartz site could have been formed in a similar fashion, but little effort was expended to assure that cremation pits did not cut into or overlap each other. Unfortunately, this research cannot be expanded to address these possibilities, but this is something to consider for future study.

Lithic Variation

Referring back to the last chapter, the Rogers site exhibited very little lithic variation with only shale, quartzite and hornfels recorded within the burial. Conversely, the cremation sites along the Connecticut River contained a quantity of local and non-local lithics, which may be a product of sample size. The Schwartz and Carrier sites both had seven separate lithic types, and the Griffin site contained eleven. Greater lithic variation along the river is likely a result of access to central places where socio-economic activities occurred, perhaps with greater regularity than elsewhere. Non-local lithics would pass through these areas either in larger quantities, like chert, or as smaller, singular items, like a lone jasper point from a Pennsylvania resource. Based on lithic variation, two types of sub-groups emerge: those sites near central places where

peoples had greater access to a variety of local and non-local materials (Schwartz, Carrier and Griffin) and those sites that were not near central places and contained fewer lithic differences within their assemblages (Rogers and Rye Hill). However, this division is harder to support because the variation of non-local lithics will fluctuate depending on which goods were available to exchange and therefore include in the burials. Lithic variation, at this point, is something to be monitored, but nothing conclusive can be determined.

Sub-Cultural Boundaries

Archaeologists have not yet resolved the Broad-tool socio-cultural, ideological, and/or economic significance behind the 'killing' of certain artifacts, leaving others whole, or burning some within cremation fires, while keeping others unharmed. These activities as a whole are interpreted as ritual expressions by Broad-tool populations within the BTIS. However, the heterogeneity of the diagnostic assemblages, treatment of lithics and number of people interred within a given cemetery indicate that burial events were more individually based (as a single community) rather than collective (as a congregation of many communities). Each burial was infused with a local 'flavor' or interpretation of the Broad-tool burial ritual. Based on the distribution of lithic materials across the landscape and differentiation in burial rituals, five sub-cultural Broad-tool populations are visible (Figure 8.3).

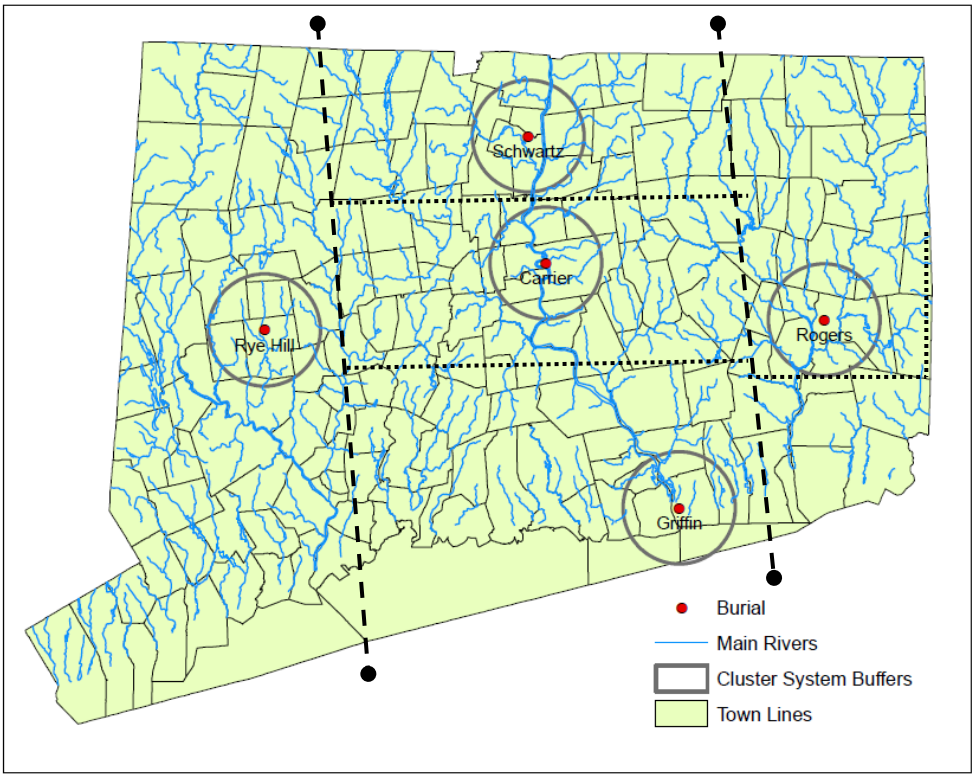


Figure 8.3 Sub-cultural Broad-tool populations based on the distribution of lithic materials across the landscape and differentiation in burial rituals. The two vertical lines represent stronger cultural divisions than the two horizontal lines. Rogers site to the east is somehow separate from the neighbors to the south and east as well.

Rye Hill Cluster System

Non-local lithics supplied to Rye Hill cluster system could have been filtered through the Housatonic River by way of Long Island Sound or across western river systems into Connecticut. Even though the cluster system rests near the Housatonic River, there is no reason to suspect that this was the main avenue of exchange. Broad-tool groups falling in or near the Rye Hill cluster system would have benefited from their geographical proximity to New York resources. They might have had closer familial ties with these groups, participated in their communal activities, or were even allowed to procure chert resources directly. Their core area might be restricted to Connecticut, but parts of New York would have existed within their annual

and/or lifetime range (Sampson 1988). Their close communal ties appear to have stretched more to the west than the east.

Schwartz Cluster System

The Farmington River is considered a route of socio-economic networking where goods were transported along the river systems to central places like the Lewis-Walpole site or exchanged at locations along the river (Marc Banks, personal communication 2013; Calogero 1991). The Schwartz site's proximity to the Farmington and Connecticut River systems would have established the area as a well-known and frequented area, which explains why the burial site was re-used by either multiple Broad-tool populations or the same group but multiple times.

Carrier Cluster System

Fluid movement along the Connecticut River seems probable, but lithics available to those in the Griffin cluster via Long Island Sound and the Schwartz cluster via the Farmington River might have reached depletion before entering areas around Glastonbury, Hartford, East Hartford, Wethersfield or Rocky Hill (the Carrier cluster system). This system expressed high lithic diversity as well (has the only pieces of schist and jasper in the study), suggesting that these groups had access to a network supplying them with non-lithic resources but not at the same magnitude as the other cluster systems within the valley.

Griffin Cluster System

Although the Griffin cluster system is mainly comprised of lithics collected from the Griffin burial site, this location is seen as a point on the landscape for the exchange of

commodities due to its location at the mouth of the Connecticut River. Connecticut coastal networks obtained materials as they were transported into Long Island Sound, which offered a wide range of goods to consumers. The nearby Connecticut River would have provided access to a number of exchange routes within the valley. Although quartzite is not recorded within the Griffin cluster system, the Murdoch, Brodeur Point and Klinck sites contained some quartzite Broad-tool point forms, suggesting that this material was available (Pfeiffer 1984) but not selected for tribute in burials.

Rogers Cluster System

According to this study, the eastern portion of Connecticut appears to have lacked any real connection to trade systems stemming from Long Island Sound except for the chert Susquehanna and Mansion Inn points from site 114-118/120 in Preston. However, the number of chert Broad-tool points catalogued by the MPMRC in Ledyard suggests a different interpretation. Chert may have been exchanged along the Thames River, but not all groups consumed it equally. There is also a large discrepancy between argillite (Rhode Island) usage on the reservation and that accounted for within the Rogers cluster system. Argillite Broad-tools, mainly in the form of Snook Kill points, dominate the MPMRC database for this period, yet not a single argillite point was recorded within the Rogers cluster sites. This could signify a strong boundary separating those groups who could be loosely defined as living/moving around the Rogers cluster system from people to the south (Ledyard) and east (Rhode Island). Again, the lack of non-local materials may also be related to sample size and temporal factors.

The Rogers site demonstrates some similarities with the Carrier cremation to the west. Hornfels, local to the Connecticut River Valley, was found interred at the Rogers site, and

quartzite, which is easily accessible from, but not limited to, southeastern Connecticut was unearthed at the Carrier site. The quartzite points from the Carrier burial were of a moderate size and could have stemmed from either larger cobbles (available around Connecticut) or larger cores from the Plainfield formation. In other words, the eastern highlands (North-Central Lowland Ecoregion) and eastern central valley (Southeast Hills Ecoregion) may have been more closely tied to each other than either was to the coastal lowlands (Eastern Coastal Ecoregion).

Although these cluster systems and their relations are not perfect, with additional research across the state and broader region, we may be able to improve our knowledge of the Broad-tool phase. These sub-cultural partitions possibly played a role, however slight, in the future divisions of the Algonquian language (see Bragdon 1996 and Goddard 1975, 1977) and/or polities (Figure 8.4).

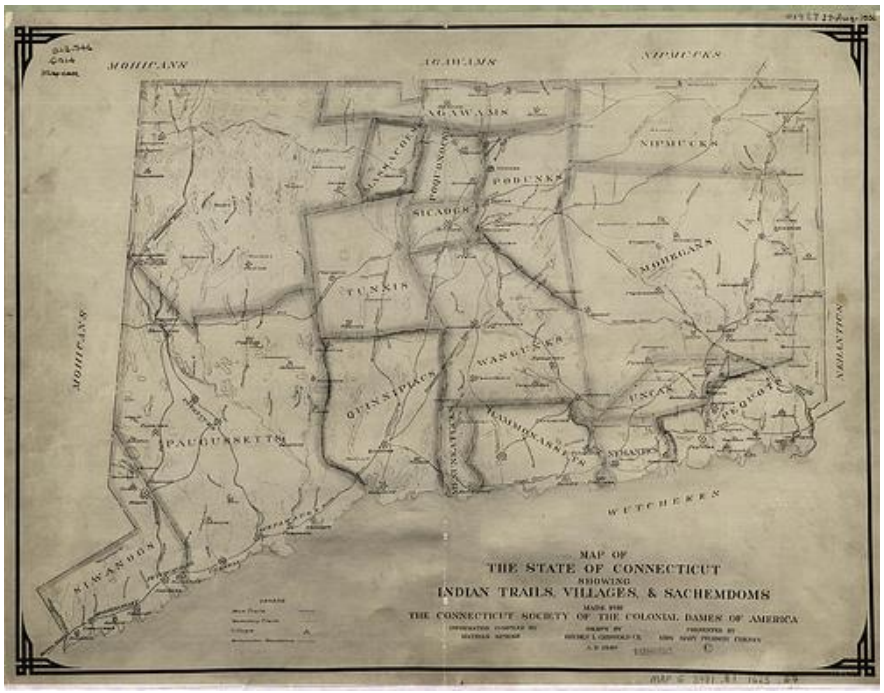


Figure 8.4 Indian trails, villages and sachemdoms in Connecticut ca. 1625 (adapted from Griswold 1930; https://www.flickr.com/photos/uconnlibrariesmagic/3332840235/).

DEFINING SOCIAL RELATIONSHIPS

The purpose behind defining boundaries and analyzing social exchange was to address Broad-tool socio-economic relationships and identify sub-cultural systems. This research focused on the exchange and deposition of lithic commodities, but much of what was transferred through ancient trade systems was centered in cargo that is invisible to archaeologists: people, information and perishable goods. Dillian and White (2010) believed that peoples of the past utilized exchange networks to establish modes of redistribution, resource buffers, levels of prestige, inter-group connectivity, and as a means to share information. A combination of these behaviors likely acted as a binding agent connecting sub-regional populations across Connecticut.

Redistribution

The term redistribution denotes political and economic behaviors associated with chiefs or big-men that collect resources in order to (un)equally partition them out to the surrounding public. The Lewis-Walpole and Griffin sites were discussed as possible central places where goods could have been brought into the region and then traded/redistributed out to surrounding communities. The existence of chiefs with ascribed power and status at this time is unlikely, but if continuous trade was occurring with specialized traders who filled the strong demand for chert and other non-local goods, then archaeologists need to start thinking of these populations as operating socio-politically toward "emergent complexity," which becomes visible in the later Woodland periods. Arnold (1992:62) developed the term to describe pre-chiefdom societies that

experience environmental or social stresses, political opportunism, and elite control over domestic labor, which stimulate a shift in social complexity.

> "…*emergent complexity* is employed to describe societies in the process of becoming chiefdom like in organization. I use the term complex to refer to societies that exhibit the following: ascribed status differentiation (hereditary inequality), regional organization of the economy on one or more levels above the domestic sphere, relatively large population (2,000 or more) with some form of regional sociopolitical integration, and chiefs with the power to manipulate the labor of their supporters" (Arnold 1992:61).

Additional research is needed to define exactly what level of authority and power were exhibited at central places during the Broad-tool phase. This research portrays boundaries as quite flexible across the BTIS and SRTC, like the spread of technologies and social and ideological practices. However, others appear to have been more rigid, like the boundary separating exchange networks between the Griffin and Schwartz cluster systems. If Broad-tool populations were becoming more complex, then central places may have experienced conflict over key resources as communities/families vied for increasing status and control over resources. This could explain the divide between the exchange networks within the valley and why the Carrier and Rogers cluster systems appear weaker or less complex when compared to other areas. If communities/families had established control over resources at this point in history, then prestige and power systems had already begun the shift to more complex levels; however, not to the level of chiefdom or full emergent complexity. Taché's (2008) findings within the subsequent Meadowood Interaction Sphere support this degree of political, economic and social influence.

Resource Buffer

Although populations were beginning to slow their mobility, they continued to have access to multiple floral and faunal resources (Custer 1984). Nevertheless, maintaining socio-economic networks to gain access to food (even if there was no immediate need) would be an advantageous method of social banking (O'Shea 1981). It is possible that the same networks ferrying non-local lithics, such as chert and rhyolite, into the study area were also valued for other resources, but it is not mandatory. Early socio-economic exchange created obligations between peoples/communities, supplied groups with outside and likely valued commodities allow people to bank their resources in case of future need. This research discusses one strain of socio-economic networking, but it must be assumed that others existed as well. But, if political/familial systems are found to be more complex than currently believed, then some resources could have been controlled by communities or families, thus creating competition for power and the need for increased resource buffers.

Prestige

Although non-local lithics were transported into the region, labeling them items of prestige is premature. Cherts had been in use throughout the region for millennia, though they were usually uncommon in Connecticut. Prestige could have derived from how many non-local lithic tools one owned, manufactured, cached or could be offered for deposit within a burial. Increased prestige may have also been gained by hosting burial feasts, where the housing and board of additional people strained your resources but simultaneously increased your salient identity to those within your peer-polity.

It is unclear whether opportunity for elevated prestige was reserved for the living or if it could have been transferred to the dead by the living at the time of burial and vice versa. Burial goods may have represented articles belonging to the deceased that demonstrated their accomplishments and prestige in life. When a member of the Tiwi tribe from northern Australia dies, "[e]verything owned by the deceased becomes taboo," or *pukamani* (Peters-Golden 2012:246). However, larger items, like canoes, are redistributed out to kin, while all others are brought to the gravesite and placed atop the burial. The idea that certain Broad-tool artifacts were intentionally broken or 'killed' prior to burial suggests they may have been taboo or tainted. Pukamani goods, for the Tiwi, included all items owned by or "touched by the deceased…and anyone who handled them would swell up and die" (Peters-Golden 2012:247). Collecting all of the deceased's items for public killing or gifting to living Broad-tool members offered an opportunity to display his/her wealth during life. In response, participants gathering for the ritual interment could have offered their own items for burials (possibly those artifacts that were not broken), which in turn granted them a level of prestige based on the number and types of lithics presented.

Social Connectivity

It is also possible that Broad-tool cemeteries represented more than just places on the landscape for ritual activities. Both functional and non-utilitarian goods manufactured from local and non-local raw materials were burned to varying degrees, broken and publically buried in the ground. From an economic perspective, these social gatherings created a 'centralized location' on the landscape, similar to Renfrew's 'central place' (see Renfrew 1977). Public burials marked a time and place where all aspects of exchange could commence; prior to, during

or after the burial ritual. Commodities were publically destroyed for all people to see, and the breaking and/or burning of the tools publically displayed that they could not be reused or re-enter the socio-economic system as commodities. These activities created an ongoing need for new non-local material resources, which further drove the strength of exchange networks. Whether or not this was the intended goal, Broad-tool cremation rituals created a steady demand for non-local lithics, which in turn solidified exchange relationships.

Information Sharing

Sharing information would have strengthened relationships and bound groups together on local (anchored), zonal and regional scales. The SRTC demonstrates that information and technologies were shared via very broad contact networks (see Michels 1968) along the Atlantic Coast from Florida into Canada. At this point, we can only speculate about the types of information spreading along these routes as communities interacted.

As early as 7,000 years ago, archaic shell mounds were being constructed by groups in the southeastern region of the United States. This was a distinct cultural tradition surrounding the utilization of freshwater mussels and snails that resulted in massive accumulations of shell in the lower Midwest, Midsouth (both 7,500–3,000 BP), and peninsular Florida (6,000–3,000.BP) (Sassaman 2008:79). Late Archaic semicircular/circular rings constructed of oyster shell occur predominately along the coasts of Georgia, South Carolina and Florida and suggest a more complex social structure (Russo 2004, 2008; Sassaman 2008). Russo (2004) argued that the asymmetry found within a population's socio-political organization was directly reflected in both the shape of the 'ring' (semicircular versus circular) and its verticality (height/volume/thickness/depth). These features were well-known places on the landscape that

many cultures would have had access to and visited, but detailed narratives describing the mounds, foods and shell rings would have spread to even more populations.

In addition, plant domestication in the southeast must have figured into southeastern trade systems with the occurrence of domestic squash (C. pepo ssp. Ovifera) and sumpweed (Iva annua) by 4,000 BP and sunflower (Helianthus annuus) and chenopod (Chenopodium berlandieri) by 3,500 BP (Smith 1989). These dates also coincide with the creation of one of the largest pre-contact sites in eastern North America, Poverty Point.

Poverty Point (3,700–2,700 BP) was an enormous earthen mound complex covering more than 700 square miles located in the lower Mississippi Valley (Neusius and Gross 2007; Sassaman 2008). It was positioned near the confluence of six major rivers and contained trade goods from the Appalachian Mountains, the Piedmont, the Rocky Mountains, the Ouachita Mountains and the Great Lakes (Neusius and Gross 2007:472; Walthall 1980:83–86). Soapstone bowls from the Carolinas were transported around the southern base of the Appalachian Mountain Range and across the landscape to Poverty Point. Renfrew (1984) deemed the compound a central place on the landscape for long distance exchange networks, while others view it as a cultural meeting place for shared ritualistic activities (Gibson 2000; Kidder et. al. 2008; Winters 1968).

Knowledge of the shell mounds, early plant domestication and the existence of occupations like Poverty Point likely spread well beyond the range of their immediate contact networks, perhaps as far as New England. Considering the efforts expended by peoples of the Carolinas when transporting soapstone vessels to Poverty Point, one can imagine that the SRTC was ripe with stories of foreign communities and extensive contact networks to the west.

Knowledge of such places not doubt influenced the worldview of individuals in many distant places.

CONCLUSION

Burial activities within the BTIS likely represented social gatherings where surrounding communities gathered to rekindle relationships or forge new bonds (Dincauze 1968, 1976; Pagoulatos 1986). Pagoulatos (1986) argued that the number of pits that a person's remains were deposited in correlated to the number of communities with which a person claimed affiliation (through kinship). The Algonquian and Huron Feast of the Dead supports a historical connection to large ossuaries where the communal dead from numerous villages and families were interred together "signifying the unity of the nation" (Robinson 2001:36). These burials "included feasts, gift giving and ample opportunity to display wealth and status" and would bind the communities together in life (via kinship) and in death (Robinson 2001:36; see Hall 1997). However, the burial studies in this research do not support the theory that all cremation rituals were performed as multi-group events (Dincauze 1968, 1976; Pagoulatos 1986).

Growing kinship relations, politico-economic and social influences are well-documented in Taché's (2008) research for the subsequent Early Woodland populations of northern New England and the St. Lawrence region. Therefore, it is probable that societies were moving towards an early form of emergent complexity during the Terminal Archaic Period when access to certain resources, like lithic commodities, was influenced or controlled by kin-group communities. Central places of exchange appear to have developed known locations that were frequented by traders and consumers.

The Carrier and Rogers cluster systems appear to have been inhabited by lower ranked communities, where prestige may have been more individually based. The jasper point from the Carrier site may have been exchanged between individuals, which increased his/her prestige but not the community's. The Carrier site demonstrated high lithic variation, but the site was smaller and few Broad-tool points were interred. Many Broad-tool sites have been located in the Glastonbury/Hartford region, but this does not equate to the existence of a larger cemetery (e.g., Carrier). Carrier appears to have been relatively isolated from the east-west trade passing through the northern Schwartz cluster system and the coastal trade near the Griffin cluster system. It is entirely possible that more elaborate burials do exist that have yet to be unearthed, but given the information presented here, the real activity around the Carrier cluster system stems from the west and north along the Farmington River and Schwartz cluster zone. If the Lewis-Walpole site was a central place that distributed lithics along river systems, then the Carrier cluster can be understood as more of a rural nexus that took advantage of trade along both the Connecticut and Farmington Rivers.

Lithic assemblages from the Carrier and Rogers sites demonstrated similarities. Perhaps more 'impoverished' communities banded together for certain occasions in order to supplement resources, share information, gain prestige via individual exchange, and reconnect socially. This could have helped them attain commodities that were otherwise controlled by larger, more powerful families or communities.

The Rogers and Rye Hill sites remain somewhat anomalous within this research. The Rye Hill cluster system is dominated by non-local lithics, which supports the above mentioned theory that these groups were more closely affiliated with eastern New York than central Connecticut. The Rogers site housed a child's burial, a canid animal and only local Broad-tool

bifaces. Broad-tool sites recorded from the Mashantucket Pequot Indian Reservation, just south of the Roger cluster system, documented Terminal Archaic lithic assemblages that were mostly manufactured from New York cherts and Rhode Island argillites (MPMRC files). Although this could represent a change in lithic preference through time by Broad-tool populations, such a drastic change seems unlikely. Perhaps goods from Long Island Sound traveled north along the Thames River, but their exchange was purposefully halted by a higher ranking community existing south of the Rogers cluster system. This community/family may have also controlled exchange networks that transported Rhode Island argillites into the area. If so, another central place of exchange may exist within or near the Mashantucket Pequot Indian Reservation.

The five Broad-tool burials analyzed for this research demonstrated similar ritual behaviors, which formed the boundaries of the BTIS: (1) selected individuals were cremated at some point after death, and (2) Broad-tool bifaces were either intentionally killed, preserved, burned, and/or left uncharred and placed within the pit with cremated *residue*. Not all burials contain evidence of *human* remains, but those defined as Broad-tool burials in the literature note the appearance of a cremation residue. Within the boundaries of the BTIS, as few as five separate sub-cultural systems existed in Connecticut with each enacting their own interpretation of the Broad-tool burial ritual.

It is the author's belief that Broad-tool burial offerings were both gifts from the living and possessions of the dead. Gifts in the form of exotic lithics, foodstuffs and/or animals were publically offered during the burial or feasting rituals because they displayed the wealth of a family or individual. Whether these offerings were collected mainly from members of the host community or considered expected payment from visiting groups remains a point for future study. Those hosting the feast and burial event would have gained prestige simply by assuming

the responsibility of host. This may have put the burden on the visitors to contribute burial payments. The growth of one's prestige was likely linked to the number of goods offered and/or their rareness within the region. Archaeological evidence of gifts from the living may be in the form of hypertrophic shale points, unburnt and/or unbroken items.

The intentional killing of Broad-tool bifaces, among other tools, was perhaps reserved for the possessions of the dead. Maybe it was believed that these possessions contained bits of the deceased's spirit, which needed to be released to ensure that the dead would not return. This animistic approach to death is not uncommon among traditional societies (Peters-Golden 2012). This hypothesis is supported by the numerous common items, such as preforms, hammerstones, pestles, awls and hand-axes, among other tools, that were purposefully broken and interred with the dead. The quantity and quality of goods amassed for 'sacrifice' may have brought prestige to the dead and her living relatives.

This research demonstrates that sub-cultural populations existed during the Broad-tool phase of the Terminal Archaic Period. Their burials mark a unique display of ancient cultural integration where familial, political, economic and social interactions influenced their perception of ideology within the Broad-tool Interaction Sphere.

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