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In southeastern Connecticut in the 19th century, many Native Americans resided on reservations in close proximity to European American communities. The Mashantucket Pequot, who lived on a government-controlled reservation during this period, and their European American neighbors both utilized forestland resources in their subsistence strategies. This article explores the subsistence strategies of both groups and interprets the importance of the reservation to indigenous-identity maintenance.

Durant le XIXe siècle, au sud-est du Connecticut, plusieurs Amérindiens vivaient sur des réserves à proximité de communautés euro-américaines. Le groupe autochtone des Mashantucket Pequot, qui vivait au XIXe siècle sur une réserve supervisée par l'État, et leurs voisins euro-américains, utilisaient tous deux les ressources forestières dans leurs stratégies de subsistance. Cet article vise à explorer les stratégies de subsistance de ces deux groupes et d'interpréter l'importance de la réserve dans le maintien de l'identité amérindienne.

Introduction

This article examines the social practices of two 19th-century Connecticut households, one of them inhabited by Mashantucket Pequots and the other by European Americans. By analyzing the plant remains left behind by the people living at these two sites, I seek to examine the subsistence and land-use strategies that they employed to successfully navigate and mitigate the challenges of life in a colonized setting.

The Mashantucket Pequot are the descendants of an indigenous group known as the Pequots, who, prior to the 17th-century arrival of Dutch and English settlers, controlled a great deal of land in southern New England. After the devastating outcome of the 1630s Pequot War, the Pequots were split into two groups and allocated two distinct reservations under the oversight of the colonial government (Campisi 1990: 118–119). These new land bases consisted of small portions of the former Pequot territories. In this article I seek to reveal facets of daily practice by exploring the ways in which Mashantuckets utilized their reservation landscape in the pursuit of their subsistence goals. The study further reveals the means by which Mashantuckets implemented novel subsistence practices, such as an increased participation in regional labor markets, to replace and supplement traditional practices made cumbersome by state restrictions. This article also examines the relevance of the forest landscape to both Mashantucket Pequot and European American subsistence practices.

Each of these foci will serve to challenge and complicate the myth of the destitute Indian, an historical misconception that shaped political dialogues central to the lives of New England's indigenous people in the 19th century. The continued agency of New England's native people in the face of colonialism has been discussed by a number of recent works (Den Ouden 2005; Cipolla, Silliman, and Landon 2007; Holmes 2007; Witt 2007; Law 2008; Mancini 2009; Silliman 2009) and is further analyzed here. However, it is important to note that the setting of 19th-century southern New England offered real challenges to the continuity of native practices and to the daily survival of every Mashantucket both on and off the reservation. The continued relevance of these issues lends political weight to this article.

This study explores the concepts of cultural continuity and change, facets of identity that were major factors in the lives of both indigenous peoples and European Americans. Although both households discussed herein experienced change and continuity, their individual daily challenges forced them to experience change and continuity differently. Households on the Mashantucket Pequot reservation modified their subsistence practices to negotiate the difficult realities of reservation life. European American households in southern Connecticut similarly broadened their subsistence strategies

to mitigate a rapidly changing environment and a fluctuating economy. While surviving in this quickly evolving landscape required shifts in practice and a great deal of change, in many ways these two communities maintained their overall cultural continuity.

For many decades, archaeologists have treated continuity and change as mutually exclusive concepts when inferring the practices of past peoples. More recent studies of colonial lifeways have suggested otherwise. Silliman (2009: 226) states that "ideas about culture change and continuity have lost their polar opposition," going on to say that "for social agents, communities, or households to move forward, they must change and remain the same." The households in this study changed to ensure their continued subsistence. The achievement of subsistence goals through a combination of novel and traditional subsistence practices allowed both households to sustain themselves.

It is particularly important to understand the non-dichotomous nature of cultural change and continuity for an overtly political reason. Both the general public and academic archaeologists have, until recently, interpreted Native Americans' increased use of European-made goods as an indication of acculturation (Silliman 2009: 227). In this work I offer interpretations contrary to this notion. Furthermore, I provide evidence that European Americans simultaneously shifted toward a reliance upon goods indigenous to New England and commonly associated with Native American culture without falling victim to the "pernicious" charge of acculturation (Silliman 2009: 227).

It would be incorrect, however, to suggest that Pequot subsistence strategies did not change as reservation populations dwindled in the 18th and 19th centuries. McBride (1990: 108) argues that "by the second half of the eighteenth century both the documents and Pequot archaeological sites reflect more European subsistence practices." Contrary to simplistic theoretical notions that place the Pequots squarely in an acculturative model, McBride (1990), Silliman (2009), and others have gone on to interpret the Mashantuckets' adoption of certain European materials and practices as agentive methods of adaptation, rather than as an attempt to assimilate to European American norms. Speaking of the Eastern Pequot experience during the same period, Silliman (2009) found that native communities accepted cultural change, in the form of an increased use of European-made goods, in order to stay the same. Their adoption of these goods as a mode of cultural survival and as a means of achieving an indigenously defined sense of modernity is counter to the notions of outdated acculturative models.

If Silliman's idea is taken and extended not only to objects but also practices (such as European American styles of land tenure and subsistence), and from the Eastern Pequot to the Mashantucket, McBride's observation can be understood as simultaneous and purposeful continuity and change for the preservation of cultural practices. The primary result of successful achievement of subsistence goals in the 19th century was a continued Mashantucket presence on the reservation. That continual occupation allowed the Mashantucket Pequot to conserve and reaffirm their understandings of group identity and preserve a land base that would be vital to later tribal legal activism and economic development.

The period discussed herein was one in which Pequots and European Americans both struggled to survive in a quickly changing environment while concurrently maintaining the foundations of their identities. World events, including the Industrial Revolution and the War of American Independence along with more local happenings, shaped the subsistence strategies of both Mashantuckets living on the reservation and European Americans living in nearby Stonington. After the wars of the mid- to late 18th century, Mashantuckets saw their treatment by their state overseers shift, because, as "Indians were no longer needed to fight on the frontier, colonial governments began to systematically limit Indian rights and exclude Indian people and interests (including much sought after Indian lands) from the body politic" (Mancini 2009: 5). European Americans felt pressures as well, including environmental degradation due to widespread deforestation. Both the physical and social landscapes of southern New England have been altered significantly and continuously between the arrival of native peoples around 10,000 years ago and today. These transformations were recursive, greatly affecting the very inhabitants (and generations

of their descendants) that wrought them. Both native peoples and European Americans found ways to mediate the challenges of their everyday lives by interacting with and drawing from the landscape that defined this ever-shifting region. Understanding subsistence practices is essential to understanding the importance of these landscapes to both indigenous and non-indigenous people.

As a means of understanding cultural practice, studies of subsistence make possible the comprehension of broader topics (Pluciennik 2001: 741), including the effects of class and racial categories important to people living in the world of 19th-century southern Connecticut (Cronon 1983). Pluciennik (2001: 742) describes this phenomenon by stating that

> [c]hanges in attitudes that raised the profile of subsistence can also be seen within colonial practices. The "discovery" of the Americas and the changed nature of cross-cultural encounter, including extensive colonial settlement, meant that one of the inevitable points of conflict was land.

The ownership of or access to land, which was tantamount to access to the resources necessary to sustain life, is a proxy for overall success in the realm of colonial subsistence. Land encroachment and the sovereignty required to defend one's right to land are key concepts in understanding cultural entanglement in 19th-century southern New England. The reservation, the cultural space that represented the sovereignty and the resource base for Mashantuckets, was therefore the basis for their potential success in subsistence. Further, subsistence is, in essence, *all* the means (including new means made available by cultural interaction) by which a group of people survives in its daily life. Plants are used for a wide variety of purposes: sustenance, medicine, recreation, as ornamental or garden plantings, and, particularly important, as fuel, making them central to an understanding of subsistence (Mrozowski, Franklin, and Hunt 2008: 700–702).

To facilitate a comparative analysis of subsistence strategies in southeastern Connecticut, two sites previously excavated by the Mashantucket Pequot Museum and Research Center were chosen in consultation with museum staff. The Spring site, 72-226, and the Daniel Main Homestead, 102-44A, were selected to be the basis of this research (FIG. 1). These sites were useful for a comparative analysis because of their relative contemporaneity, close proximity, and their material and spatial similarities. Both sites were interpreted to be single-family homesteads, and both had features suggesting a major post-occupation burning event. Key differences, including the location of each site in relation to 19th-century reservation boundaries, were also factors in their selection.

Historical Context

At the time that these households were inhabited, the reservation and the town of Stonington were in a period of great economic and ecological shift. Both households were probably engaged in some form of agriculture as a part of their livelihood and subsistence. This is relevant because those economic and ecological shifts largely stemmed from decades of the region being subject to intensive agricultural practice. It is therefore important to examine both the tumultuous state of Connecticut's farm economy in the 19th century, as well as the massive changes to the agricultural/sylvan landscape that had begun even prior to European arrival in the region.

The southern Connecticut environment, which in the 19th century was a heavily altered and largely cleared forestland, was comprised of a combination of indigenous species and European-introduced taxa. By the year 1900, 25% of the flora, 30% of the fish, 7% of mammals, and 4% of birds were not indigenous (Irland 1999: 59). Both European American and Native American peoples utilized a number of both indigenous and introduced plants and animals.

Agricultural practices related to both the production of domesticated grains and the raising of livestock expanded throughout the colonial period as well. By the mid-19th century, farmers were growing corn, wheat, onions, potatoes, apples, cranberries, hops, peppermint, and many more crops in addition to supplementing their diet with collected fruits and berries. Livestock farmers were raising, among others, sheep, cattle, dairy cows, and poultry (Russell and Lapping 1982: 214). Of course, changes to the plant and animal ecology were not the only changes humans rendered on this landscape during the colonial era. William Cronon (1983: 121) estimates that

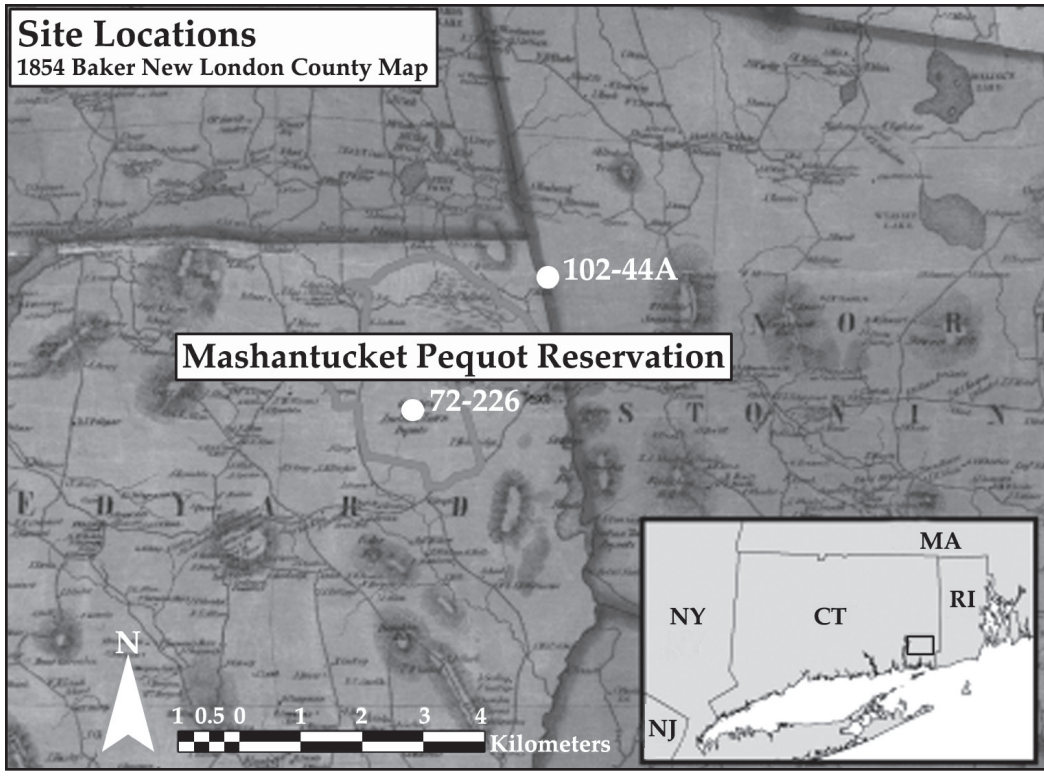

Figure 1. Map showing locations of sites discussed in this work. (Map by author, 2014.)

New Englanders burned around 260 million cords of firewood between the years 1630 and 1800. The resultant deforestation fundamentally shaped the ecology and the economic opportunity of colonial New England's inhabitants.

While the region's history certainly affected the lives of individuals living in these households, understanding the microhistories of the dwellings and their inhabitants offers a more exact insight into their daily practices. Further, an examination of the reservation's history provides an opportunity to contextualize this study and its findings, especially in regard to the centrality of that landscape's role in Mashantucket life.

The History of the Mashantucket Pequot and the Spring Site

Following the demographically devastating 1637 Mystic Massacre, which effectively ended the Pequot War, many Mashantucket Pequots were enslaved in the Caribbean or in European American households. Many others were given as war tribute to the native allies of the English. By the 1650s most Pequots had freed themselves from their Mohegan and Narragansett overseers and reestablished communities along the Thames River in Connecticut. Mashantuckets were granted a reservation of around 2,000 ac. by the colony of Connecticut in the mid-1660s. This acreage would be slowly whittled away by encroachment, legal attack, and outright land theft over the course of the next three centuries (Campisi 1990: 118–120; McBride 1990: 104–107).

In 1732 Mashantuckets filed a "petition from the sachem and sundry others of the Pequot Indians" complaining "that the inhabitants of the town of Groton [were] continually cutting down and carrying away their timber and firewood" (Campisi 1990: 121). Here fuel wood was at the center of the controversy. Many of the lands that white settlers would encroach upon would be for the sake of this precious resource (Den Ouden 2005: 3). Mashantucket populations dwindled throughout the 18th and 19th centuries, with censuses taken around 1800 claiming only 30

to 40 individuals from a few families residing on the reservation (Campisi 1990: 125). The household at the Spring site was likely home to one of these families.

Since there are no historical records or maps that refer directly to the house at the Spring site, archaeological methods must be primarily relied upon for dating the occupation period of this site and, thus, placing it within this historical context. The reservation household is too recent to produce accurate absolute dates from sources such as radiocarbon dating. Mean ceramic dating offers the best method for dating the site, which has a calculated date of 1837. The site lies in the heart of the historical reservation boundaries, thus reliably suggesting that it is a Mashantucket Pequot household. Excavated archaeological features at the Spring site imply that the house burned down sometime after abandonment. Ceramics recovered during excavations are very typical for the era and are similar to those found at the European American–occupied Main Homestead. These include high proportions of pearlware, whiteware, and transfer-printed earthenwares, all of which are very common on late 18th- and early 19th-century sites (Noël Hume 1970).

The History of the Morgan/Bailey/Main Household at 102-44A

Unlike the Spring site, the European American families living at the Main Homestead are well documented in historical resources, including wills, deeds, tax records, and censuses. Since these records are tied directly to the Main Homestead property, it is much clearer who exactly deposited the archaeological remains there. The household at the Main Homestead has a mean ceramic date of 1820, and historical resources suggest a period of occupation of ca. 1769–1880 (Mancini, Hill, and Jones 2003: 1–3).

The dwelling house at the Main Homestead was likely built between 1769 and 1776 by Elijah Morgan, who purchased the 56 ac. Stonington lot on which it stood. He sold the property at a loss to his son, Jonathon Morgan. Jonathon, his wife Mary, their four children, and Jonathon's parents are listed in a 1790 census as living on the lot. Later that decade, Jonathon bought an additional 75 ac., bringing his holdings up to an approximate total of 130 ac. (Mancini, Hill, and Jones 2003: 1).

In 1799, the Morgans sold 125 ac. of the property and the houses thereon to a brother-in-law, Elijah Bailey. The Baileys lived in the house until sometime after 1810. Elijah deeded the property to his son James in 1836, who expanded it by 80 ac. in 1840. James sold the property and the dwelling house, along with 140 ac. of land, a barn, and a crib, to Thomas Main in 1846. Main is listed in the 1850 census as living on the property with his wife and daughters.

In that same census, a Mashantucket Pequot boarder/laborer named Sampson Fagins was listed as living on the property. While the census records him as "a person of color," Fagins was, in fact, the son of Charles Fagins, who was black, and Hannah Miller, who was Mashantucket, and who regularly appears in documents penned by 19th-century overseers. In the 1870s, another man, Thankful Johnson, boarded with the Main family. The ethnicity of this man is unknown, but he was likely a laborer also (Mancini, Hill, and Jones 2003: 2–3).

The Main family left the house at the Main Homestead sometime during the 1870s or 1880s, and the house was completely abandoned by the following decade. Archaeological features at the site suggest that the house probably burned down sometime after abandonment. Ceramics recovered are similar to those at the Spring site, including large amounts of pearlware, whiteware, and transfer-printed wares typical of the era. There is, however, a greater richness of ceramics at the Main Homestead, including some earlier types of ceramics like creamware and salt-glazed stoneware. A variety of hand-painted earthenwares were also recovered. The Morgan/Bailey/Main House was continuously occupied for around a century, and those living and working there left behind a rich deposit of material culture and macrobotanical remains.

Materials and Methods

Seven discrete features were uncovered and excavated during the 2003 fieldwork at the Spring site, including two fireboxes, basins, post molds, and several stains interpreted as the result of the house burning down sometime after occupation (TAB. 1). Mashantucket Pequot Museum researchers working on the Lake of Isles Project performed excavations at the Main Homestead in 2001

and uncovered seven discrete features. These included two fireboxes, basins, post-molds, an attached structure, a cellar floor filled with charred material, and a well.

At both the Spring site and the Main Homestead, soil samples from each arbitrary or natural level within a feature were taken by field technicians. These samples were then hand floated in a sink using a fine meshed screen. Light fractions were taken by skimming disturbed floating sediments periodically during flotation. Heavy fractions were gathered from the settled remains at the bottom of the screen. This method is deemed effective for recovering a reasonably high percentage of botanical material, but less effective than machine-assisted flotation (Popper 1988; Wagner 1988: 24). In some levels, flotation samples were not taken, but botanical materials were recovered during dry screening with 1/4 in. mesh. Botanical materials from both flotation samples and dry screens were evaluated during the analysis phase of this research

To expedite analysis, each sample was separated using four geological sieves, ranging in size from 0.5–2.0 mm. All remains that were not captured by the 0.5 mm sieve were discarded. The largest samples were subdivided by 1/8 using a riffle splitter. Seed counts reported for these samples were extrapolated from the sub-sample. The samples were then scanned using a 10–40× magnification dissecting microscope. Charred wood and seeds were separated during scanning and identified to the most specific level possible. In some cases seeds and nutshells could be identified to species, but more often were described by genus or family. Seeds and nuts were identified using printed references (Martin and Barkley 1973) and the University of Massachusetts Boston paleoethnobotanical comparative collection. In total, this research included the analysis of 286.25 L of floated soil and 4881.84 g of botanical material.

Charred seeds are often associated with human activity, whereas uncharred remains

Table 1. All analyzed features from both the Spring Site (72-226) and the Main Homestead (102-44A). The number of samples analyzed from each feature was determined by the analytical importance of that feature and, in part, on the excavation and sampling strategies. Sample volume represents the liters of sediment extracted for flotation. The weight denotes the number of grams of botanical material that remained after flotation. The density is a measure of the recovered material per liter of soil and allows for a relative comparison across groups of samples. While many of these samples have similar densities, a few are very high or very low meaning that deposition or preservation was not equal across the sites.

Site	Feature	Type	Description	Number of samples analyzed	Sample volumes (l)	Weight (g)	Density (g/l)
72-226	2	Construction	House burn	6	7.00	117.74	16.82
72-226	3	Construction	Red stain	1	12.00	16.65	1.39
72-226	4	Construction	Post-mold	1	0.50	53.24	106.48
72-226	5	Construction	Basin	2	11.50	9.59	0.83
72-226	6	Thermal	Firebox/hearth	8	64.00	225.43	3.52
72-226	7	Thermal	Firebox/hearth	3	18.25	35.99	1.97
72-226 Total number of samples				**21**	**113.25**	**458.64**	**4.05**
102-44A	1	Construction	Shallow basin	2	22.00	109.45	4.98
102-44A	2	Thermal	Firebox/hearth	5	1.00	15.00	15.00
102-44A	3	Thermal	Firebox/hearth	6	80.00	2,360.52	29.51
102-44A	6	Construction	Attached structure - shed	3	8.00	32.62	4.08
102-44A	7	Construction	Cellar floor	4	62.00	1,905.61	30.74
102-44A Total number of samples				**20**	**173.00**	**4,423.20**	**25.57**

are much less likely to be cultural in many contexts (Miller 1988: 50–51). Other paleoethnobotanists performing similar analyses at Mashantucket sites have elected to disregard uncharred remains for a number of reasons, including a likelihood of a taphonomic environment not conducive for preservation and the possibility that heavy bioturbation caused by rodents introduced modern seeds (Trigg and Bowes 2007; Trigg, McBride, and Smith 2007; Kasper and McBride 2010). Examination of uncharred remains at the Spring site and the Main Homestead revealed examples of fresh rodent gnawing and a set of taxa not likely to have been present in the mid-19th century, or not likely to have survived post-depositional environments. For these reasons, uncharred materials were noted but not included in statistical analyses or interpretation.

Charred wood remains made up the majority of botanical materials recovered from the Spring site and the Main Homestead. Twenty-five pieces of charred wood (or all of the charred wood in cases where fewer than twenty-five were available) were chosen by grab sample from each of the forty-one samples analyzed in this study. Each woody taxon tends to burn differently, with some breaking off into large or small pieces, some warping, and some turning into ash (Smart and Hoffman 1988: 174). A grab-sampling strategy, in which the wood pieces are chosen with special attention given to choosing fragments of different sizes and shapes, is used to reduce preservation biases (Smart and Hoffman 1988: 176). The chosen examples were examined under 10–60× magnification dissecting microscopes and, when necessary, with a 200–600× magnification compound microscope in order to identify them to the finest taxonomic level possible. Identification of wood to at least the family level was attempted even with relatively small specimens so as to account, as much as possible, for more friable softwood species. Wood sample identification was aided by published resources (Hoadley 1998) and the paleoethnobotanical comparative collections housed at the University of Massachusetts Boston.

Results

A manual sorting and scanning of the 41 samples led to the recovery and identification of 44 different taxa from morphological categories including charred seed, wood, nutshell, bark, cupule, kernel, and rind (TAB. 2). The recovery rate of charred seeds was low relative to similarly scaled macrobotanical analyses of historical Mashantucket houses (Trigg, McBride, and Smith 2007; Kasper and McBride 2010). Only 94 individually identified seeds and related plant parts were recovered including two corn cupules and one corn kernel. The recovery of charred nutshell was significantly higher and included 283 examples of both complete shells and fragments. A total of 946 identified wood samples from 14 different identified taxa and several broad, descriptive categories, such as "softwood" or "hardwood," were also recovered. Charred wood samples made up the largest percentage by far of the total botanical material recovered.

Interpretation and Discussion

These results reveal that the subsistence strategies and practices employed by those families residing at the Spring site and the Main Homestead were complex and varied. Interpreting these results, therefore, is likely to reveal that the lives lived by native and non-native people were fittingly complex. In the following discussion two topics are explored. The first is an analysis of each household's subsistence strategies and its interaction with regional and local labor. This issue is addressed to determine why each apparently employed different subsistence practices. Second, interpretations are offered for each household's use of forest resources to explain the observed intersite variability of wood and nut taxa.

Subsistence Strategies and the Importance of Labor Participation

Differential participation in the regional labor and commodity markets of the 19th century may have been a factor in why these two households selected different strategies to achieve similar subsistence goals. Mashantucket participation in such markets during this time was highly fluid. Many employers, including whaling-vessel owners, transatlantic shippers, industrial factories, and agriculturists, were desperate for labor, and Mashantuckets living on or near the reservation often filled these

Table 2. All recovered taxa at both the Main Homestead (102-44A) and the Spring Site (72-226) including both their common and scientific names. Ubiquities are shown for each taxa at each site. For seeds, raw counts are shown while nutshell and wood are denoted by their weight in grams. Whether weights or raw counts are displayed reflects which type of measurement was used in further statistical analyses. Seed are broken into several analytical categories.

Common name	Scientific name	102-44A raw count or weight (g)	102-44A ubiquity	72-226 raw count or weight (g)	72-226 ubiquity
Cultigens					
Corn	*Zea mays*	2	10.00%	—	0.00%
Cucumber / Cantaloupe	*Cucumis* sp.	1	5.00%	—	0.00%
Wheat	*Triticum aestivum*	—	0.00%	1	4.76%
European cereal	—	—	0.00%	1	4.76%
Gourd	Cucurbitaceae	10	5.00%	—	0.00%
Fruits and Berries					
Bayberry	*Myrica* sp.	2	5.00%	2	4.76%
Cherry (wild)	*Prunus* sp. (wild)	1	5.00%	—	0.00%
Chokeberry	*Aronia* sp.	1	5.00%	—	0.00%
Crowberry	*Empetrum* sp.	2	10.00%	—	0.00%
Elderberry	*Sambucus* sp.	1	5.00%	—	0.00%
Grape	*Vitis* sp.	1	5.00%	—	0.00%
Huckleberry	*Gaylussacia* sp.	10	10.00%	—	0.00%
Raspberry	*Rubus* sp.	14	20.00%	—	0.00%
Sumac	*Rhus* sp.	1	5.00%	1	4.76%
Other					
Bedstraw	*Galium* sp.	1	5.00%	—	0.00%
Bittersweet	*Celastrus* sp.	—	—	1	4.76%
Dock	*Rumex* sp.	1	5.00%	1	4.76%
Goosefoot	*Chenopodium* sp.	31	20.00%	2	9.52%
Grass (wild)	—	4	10.00%	—	0.00%
Hornbeam	*Carpinus* sp.	—	—	1	4.76%
Jimsonweed	*Datura stramonium*	1	5.00%	—	0.00%
Knotweed	Polygonaceae	3	15.00%	—	0.00%
Mint	*Mentha* sp.	1	5.00%	—	0.00%
Nightshade	*Solanum* sp.	1	5.00%	—	0.00%
Sedge	Cyperaceae	1	5.00%	—	0.00%
Sedge	*Carex* sp.	1	5.00%	—	0.00%
Plantain	*Plantago lanceolata*	1	5.00%	—	0.00%
Pondweed	*Potamogeton* sp.	—	—	1	4.76%
Purslane	*Portulaca* sp.	—	—	1	4.76%

Table 2. All recovered taxa at both the Main Homestead (102-44A) and the Spring Site (72-226). (*continued*)

Common name	Scientific name	102-44A raw count or weight (g)	102-44A ubiquity	72-226 raw count or weight (g)	72-226 ubiquity
Nutshell					
Butternut	*Juglans cinerea*	23.41	30.00%	—	0.00%
Chestnut	*Castanea* sp.	0.31	5.00%	—	0.00%
Hazel	*Corylus* sp.	0.65	10.00%	—	0.00%
Hickory	*Carya* sp.	7.24	30.00%	0.19	19.05%
Acorn	*Quercus* sp.	—	0.00%	0.01	4.76%
Walnut	*Juglans nigra*	0.10	5.00%	—	0.00%
Walnut/Butternut	*Juglans* sp.	0.62	20.00%	0.05	4.76%
Wood					
Maple	*Acer* sp.	1.83	45.00%	0.70	47.63%
Birch	*Betula* sp.	0.62	0.00%	—	10.00%
Hickory	*Carya* sp.	0.01	5.00%	0.16	14.29%
Chestnut	*Castanea* sp.	23.58	55.00%	60.66	80.95%
Pine	*Pinus* sp.	5.63	45.00%	0.13	33.33%
Oak	*Quercus* sp.	482.26	85.00%	1.48	71.40%
Hemlock	*Tsuga* sp.	122.73	70.00%	0.01	4.76%
White Cedar	*Thuja* sp.	11.85	15.00%	—	0.00%
Walnut/Butternut	*Juglans* sp.	1.87	15.00%	3.63	33.33%
Beech	*Fagus* sp.	—	0.00%	0.02	4.76%

labor gaps (Silverman 2003; Mandell 2008: 27–34 Silliman and Witt 2010). Taxonomic richness, which is an absolute count of the number of unique taxa recovered, may help validate historical accounts of Mashantucket laborers and their tendency to be away from the reservation for long periods of time.

Figure 2 shows the number of seed and nut taxa recovered from each site, and the same statistics for charred wood and cultigens. A comparison of the taxonomic richness of wood and cultigens reveals similarities in the usage of these categories. In contrast, there is a significant difference between the sites in regard to seeds and nutshells. There were more than twice as many seed and nut taxa recovered from the Stonington European American household than from the household on the reservation.

I posit that this difference in richness reflects the amount of time spent by individuals at each homestead. The lower taxonomic richness at the Spring site may be the result of fewer meals and a relatively lower plant-diet breadth at this site. Due to the increased participation by Mashantuckets, especially men, in the regional economy and the nature of their labor, Pequots were often off reservation for days, weeks, or months at a time. Mashantucket women also spent long periods of time away from the reservation selling handmade wares like baskets and brooms (Law 2008; Mandell 2008: xvii). Mashantuckets may have been taking their meals on the European American farms to which they were indentured or on whaling vessels on which they labored.

The most significant intersite differences are among fruits, berries, and nutshells. This implies that there was a greater breadth of local collected food plants at the European American household. Although it is unlikely that the reservation household was ever abandoned altogether, it is possible that its

number of inhabitants was lower than that of the household at the Main Homestead, thus resulting in a decreased intensity of occupation and a correspondingly lower taxonomic richness.

The greater taxonomic richness at the Main Homestead also supports evidence drawn from historical documents that portrays the residents at the European American household as farmers and employers of people of color. In addition to the owners, two boarders, one of whom was a Mashantucket Pequot, lived and worked at the Main Homestead (Mancini, Hill, and Jones 2003). Meals at the Main Homestead would likely have included a wide variety of foods, including cultigens, nuts, and berries. The higher proportion of fruits and berries to cultigens implies that the inhabitants of the Main Homestead relied more heavily upon the resources of the farm and its fringes to support a varied diet.

Some limitations to this analysis must be noted. Due to differing sampling strategies at the time of excavation, more soil was available for analysis at the European American Main Homestead (286.25 L) than at the Mashantucket Spring site (173 L). This larger amount of soil could account for some of the deviation in richness, since it does increase the chances that rarer taxa would be recovered. A second consideration that must be accounted for is period of occupation. Historical records suggest a length of occupation of more than a century at the European American household. Length of habitation at the Spring site may have been shorter, although this analysis affords no way to test for this accurately. However, the similarities in the richness of wood and cultigen taxa, as revealed in Figure 2, provide some support for the interpretation that the differences in taxonomic richness at these two households are the result of subsistence practices, rather than of sampling bias. If the length of occupation at the Main Household were significantly longer or more intensive than at the Spring site, expected results would include a higher taxonomic richness in all categories, rather than in a few discrete ones.

Weaknesses in this interpretation due to low recovery rates of seeds from food taxa are ameliorated by very high rates in the recovery of nutshell. The amount of nutshell recovered from the Main Homestead—by all statistical analyses, including raw counts, proportions, ubiquities, and richness—is much higher than that found at the Spring site. Every category of seed taxa had greater representation at the Main Homestead than at the Spring site. The categorical exception to these richness trends is cultigens. Despite the recovery of only a few cultigen seeds from either site, the types of cultigens found raised interesting questions about the nature of plant usage in regard to identity maintenance and cultural continuity.

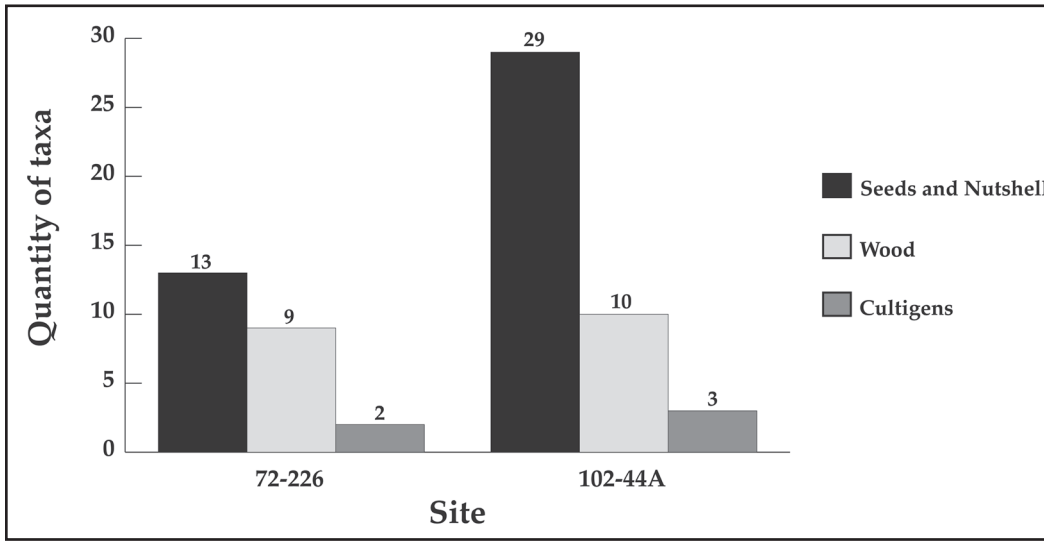

Figure 2. Taxonomic richness at 72-226 and 102-44A. Taxonomic richness is an absolute count of the number of unique taxa recovered from each site. (Figure by author, 2014.)

There are some signs that long-term culture change was occurring at both sites, at least in regard to the raw materials selected for food preparation. Cultigens recovered at both sites were antithetical to expectations. Corn and gourds, species indigenous to the Western Hemisphere and used by native peoples in southern New England for a millennium, were found exclusively at the European American–inhabited Main Homestead. Wild cherries, described by Leighton (1986: 271) as unpalatable to European tastes in the 17th and 18th centuries, were also found at the Main Homestead. In contrast, wheat and another unidentified cereal of definite European origin, but no indigenous corn, were recovered from hearths at the Spring site. Answering the question of why these individuals were acting counter to the notions we, as researchers, expect is an important step in understanding culture change and the not mutually exclusive idea of cultural continuity at these two sites.

These findings provide evidence to discount notions of a one-sided acculturative model during the reservation period, at least in regard to food. Here, both European Americans and Native Americans are seen selecting ingredients traditionally associated with the opposite group. Does this suggest that each culture was moving toward the other, towards hybridization? More likely, this is evidence that individuals at both sites were participating in what was quickly becoming a regional, Atlantic, and even global economy that was exploding in both breadth and complexity. The inhabitants of both the Main Homestead and the Spring site were participating in varied forms of production, procurement, and the labor that made these possible, for the purposes of their households' subsistence. Participation in this complex system allowed them to select from a greater number of plants than ever before.

With the exception of two corn cupules at the Main Homestead, all the recovered cultigens came from hearth or firebox features. This may be evidence that these plants played a part in the household foodways and subsistence of both sites. Some of the dishes being created and served at both the Spring site and the Main Homestead may have been rooted in deep notions of traditional food culture and cuisine. The foods, and by this time the ingredients (be they indigenous to North America, Western Europe, or elsewhere), were likely imbued with a great deal of cultural meaning relating to both European American and indigenous cultural practices. Combining this evidence with an in-depth analysis of the zooarchaeological remains, material culture, and use of space could help shed light on a broader picture of foodways at both the Spring site and the Main Homestead.

While both groups strove to achieve similar subsistence goals, they chose different strategies to achieve them. Higher taxonomic richness suggests the centrality of household labor and local resources for the individuals at the European American–inhabited Main Homestead. In contrast, historical records and a lesser richness are evidence of a heavier reliance on regional and Atlantic wages and resources at the Mashantucket-occupied Spring site. Parallels were also revealed among the sites, however, including a significant interaction with and dependence on the forest.

Harvesting the Forest: The Importance of Wood as Fuel and Nuts as Food

Anthropogenic changes to the landscapes immediately surrounding these sites were significant in the 19th century. Depending on the type and magnitude of these changes, a differential access to fuel wood was created. European American land tenure practices that began to affect the environment negatively as early as the first half of the 17th century were in widespread use by the turn of the 19th. Evidence garnered from this research implies that the reservation may have been a sheltered preserve for otherwise-affected tree species. Pollen analysis completed at the nearby Eastern Pequot Reservation supports this hypothesis (Jacobucci 2006). This reservation experienced changes in the composition of arboreal pollen during the period of European colonization, most notably large increases in the relative amount of chestnut, walnut/butternut, maple, and hickory (Jacobucci 2006: 58). These are all taxa that, in this research, were recovered in higher proportions at the Mashantucket household than at the European American one.

Figure 3 illustrates the changes over time in different types of land coverage in Connecticut. The periods of occupation for each site, as determined by mean ceramic date

and historical records, are superimposed as colored bars. Both sites were occupied at the nadir of forest coverage and the, presumably related and converse, peak of farm coverage. This chart, however, represents the findings of research on European American settlements. The charred-wood data collected from the Spring site suggests that this trend had less of an effect on native access to high-quality fuel woods. Explanations for these environmental degradations and the resultant strife with European American households can be found in studies of 19th-century global economic development (Russell and Lapping 1982; Cronon 1983; Krech 1999).

The dawn of the Industrial Revolution and the corresponding increase in Atlantic trade that coincided with the ending of the American War of Independence (1775–1783) led to an aggressive harvesting and clearing of Connecticut's forestland. Mashantucket Pequots participated in these expanding economies in a more peripheral way than their European American neighbors, providing mostly labor, rather than the resources of their land base (McBride 1990; Vickers 1997; Witt 2007: 41–43, 100–103; Mancini 2009). Although this type of market participation was less lucrative in the short term, it may have benefited the reservation community by providing them with easier access to higher-quality woods for the purposes of fuel and construction. The results of comparative charred-wood analysis for the Spring site and the Main Homestead support this hypothesis.

To compare wood choice and usage at the two households quantitatively, rank orders of recovered charred wood were constructed. Rank orders allow the analysis of wood resource access by giving comparative data. Ideal ranks quantify an objective interpretation of wood quality for each taxon recovered (Brown et al 1952; Hale 1933; Panshin and Zeeuw 1970). Observed ranks contrast this by showing the actual choices made by household members. The difference between the two can reveal facets of consumer choice and market access.

Each feature from which samples were taken was determined to be either functionally associated with house and outbuilding construction, or with "thermal" hearths or fireboxes. These categories, inclusive of all 14 features, were aggregated after consulting the excavation field notes. The charred wood from features associated with the post-depositional burning of the houses was categorized as "construction"

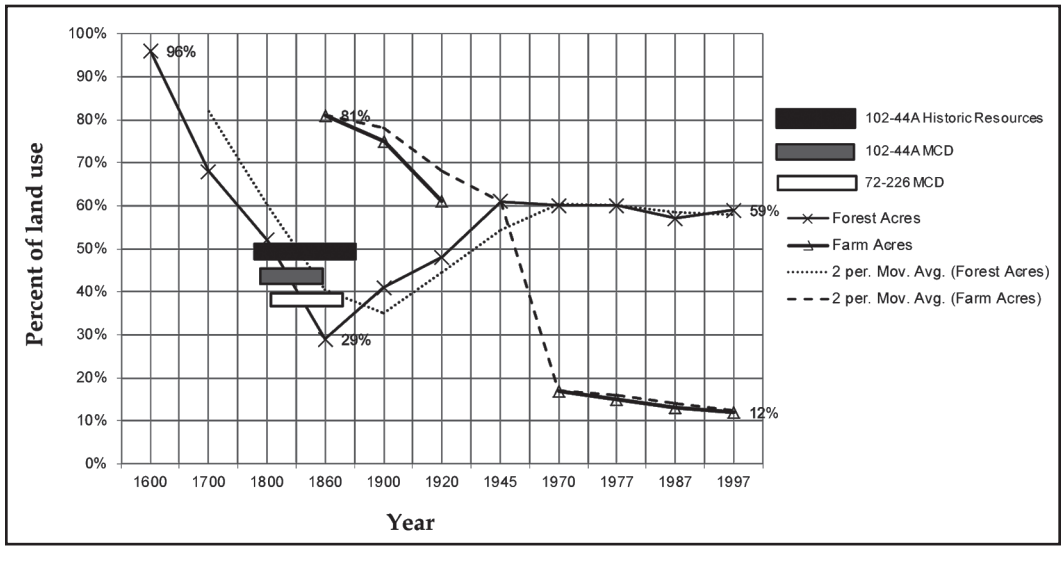

Figure 3. Land coverage change in Connecticut 1600-1997. Figure data source: Irland 1999:123. Percentages of land coverage were plotted on a line chart. A 2-period moving average trendline was added in order to better visualize the trends over time. The three bars represent the periods of occupations for 72-226 and 102-44A determined by use of mean ceramic dating and historical resources. No data are available for farmland coverage prior to 1860, but qualitative data suggest that 81% represents its near peak. Note that the x-axis is not normalized and simply reflects a series of dates ordered chronologically. (Figure by author, 2014.)

(TAB. 3). Wood samples taken from hearths and fireboxes were interpreted to be the remains of fuel selected and used for heating and cooking, and were categorized as "thermal" (TAB. 4).

The results of the analyses of charred wood from these two groups were then converted into the "observed" proportions and ranks. "Idealized" ranks were built by determining and averaging different characteristics associated with the two functions. To create the idealized construction ranks, an average value was calculated from the bending strength, hardness, and durability (resistance to decay) of each recovered taxon (Panshin and De Zeeuw 1970: 504–505, 627–629). For the thermal rank, the gross calorific value, which roughly represents the burning heat value, was ranked for each species of wood (Hale 1933: 7–12). By comparing the idealized rank to the observed rank of each site, patterns were revealed.

Charred wood recovered from construction features at both sites was generally highly ranked. Both sites also revealed a heavy reliance on a single construction material: oak is the predominant wood selected for the purposes of building at the Main Homestead, whereas at the Spring site chestnut filled this role. These are both top-ranked woods, and their prevalence suggests that household members had both an access to and knowledge of the best possible materials. There is evidence, however, that the reservation families had modest advantages in this regard. The most highly ranked taxon, hickory, only appears at the Spring site. The recovered wood at the Spring site is nearly all hardwood of the best quality, while most of the non-oak woods at the Main Homestead are softwoods of much lower quality. Hemlock, by far the second-most prevalent wood selected at the European American homestead, is ranked last in quality among the recovered taxa. While perhaps the families at the Main Homestead had access to a fairly abundant source of oak when building their house, it would seem that their other choices were limited.

Thermal features reveal greater dissimilarities. Charred wood recovered from these features evidences that the reservation family at the Spring site again relied heavily on chestnut, but with a wider variety of other taxa represented than in construction features. Oak, hickory, maple, beech, and walnut/butternut are all represented in significant quantities. Again, only a small amount of softwoods was recovered from these features. The most surprising finding here is the high prevalence of low-ranked softwoods, including hemlock, pine, and white cedar, at the Main Homestead.

Table 3. Rank orders of wood recovered from construction features. Ideal Construction ratings from Panshin and De Zeeuw (1970:504-505, 627-629) and are based upon a combination rating of bending strength, hardness, and durability.

Taxon	**Ideal construction rank**	**72-226 observed construction proportion**	**72-226 observed construction rank**	**102-44A observed construction proportion**	**102-44A observed construction rank**
Hickory (*Carya*)	1	0.24%	5	—	—
Oak (red and white averaged) (*Quercus*)	1	0.49%	3	76.65%	1
Chestnut (*Castanea*)	2	89.00%	1	2.99%	3
Maple (*Acer*)	3	0.47%	4	0.03%	8
Walnut/Butternut (*Juglans*)	3	5.18%	2	0.30%	6
Beech (*Fagus*)	4	—	—	—	—
White Cedar (*Thuja*)	4	—	—	1.81%	4
Birch (*Betula*)	5	—	—	0.07%	7
Hemlock (*Tsuga*)	6	—	—	17.26%	2
Pine (*Pinus*)	6	0.06%	6	0.47%	5

Table 4. Rank orders of wood recovered from thermal features. Ideal Thermal ratings from Hale (1933:7-12) and are based on gross calorific value (millions of BTU per air-dry cord).

Taxon	Gross calorific value	Ideal thermal rank	72-226 observed thermal proportion	72-226 observed thermal rank	102-44A observed thermal proportion	102-44A observed thermal rank
Hickory (*Carya*)	30.6	1	0.13%	7	—	—
Oak (red and white averaged) (*Quercus*)	28.95	2	15.32%	2	23.58%	2
Beech (*Fagus*)	27.8	3	0.26%	6	—	—
Birch (*Betula*)	26.2	4	—	—	0.50%	7
Maple (*Acer*)	24	5	5.24%	3	4.15%	5
Chestnut (*Castanea*)	20.2	6	51.57%	1	12.81%	3
Hemlock (*Tsuga*)	17.9	7	0.13%	7	40.49%	1
Walnut/Butternut (*Juglans*)	17.4	8	4.32%	4	—	—
Pine (*Pinus*)	17.1	9	1.18%	5	6.74%	4
White Cedar (*Thuja*)	16.3	10	—	—	1.72%	6

Inter-site variation in the composition of thermal and construction features may signify differential access to resources. I posit that these disparities were due, at least in part, to differences in practice between European Americans living in Stonington and native families living on the reservation. An environmental contrast is evident in Connecticut's overall forest coverage (Irland 1999: 123) and the makeup of forest lands on Connecticut reservations (Jacobucci 2006: 58). This reality likely had a direct impact on the consumer choices of families living within and outside the boundaries of the Mashantucket Pequot Reservation. Woodlands on the reservation, which were protected from the effects of wide-scale deforestation, may have left Mashantuckets with access to stands of older, better-quality woods for fuel and construction purposes. Although the families living at the Spring site were harvesting their forests for fuel and construction materials, less widespread and purposeful clear cutting for the creation of pastureland may have left many forest stands untouched. The increased participation of both Mashantucket men and women in alternative markets of labor during the 19th century was likely a factor in the relatively low levels of clear cutting. This was not the case off reservation, where European Americans were clear cutting thousands of acres of forests for pasture (Cronon 1983: 108–112; Krech 1999: 96). Perhaps not consciously, but nonetheless effectively, native peoples living on the Mashantucket Pequot Reservation may have avoided the worst effects of the deforestation felt more acutely by nonnatives in nearby Stonington.

Pequots protested repeatedly to state and colonial legislators about the destruction and theft of their forestlands by adjacent European American communities (Campisi 1990: 121; Den Ouden 2005: 3; Farley 2012: 26). Whether the theft were perpetrated by corrupt overseers who sold fuel wood for personal profit and without permission, or by European Americans who entered reservation lands to cut valuable timber, this violation of reservation boundaries and state law was perceived as egregious by Mashantuckets (Holmes 2007: 87–89). The findings here do not directly reveal practices of resource theft on the part of European Americans, but they do show the conditions in which such theft would be incentivized. The overall lower quality of the charred wood recovered from the Main Homestead is evidence that its inhabitants' access to this vital resource was limited. If European Americans living at the Main Homestead and elsewhere in Stonington were struggling to find adequate and quality

fuel for their hearths, they may have been desperate enough to ignore colonial and state laws by trespassing and cutting trees on Mashantucket lands.

Of course European Americans and Mashantucket Pequots harvested the forest for more than just fuel wood. Evidence suggests that both households were relying heavily on woodlands to support their diets. Gathered resources from the forest appear to have been an important part of both households' subsistence strategies. Nuts were by far the most prevalent food product found in the present macrobotanical analysis. Nuts, especially walnuts/butternuts and hickory nuts, are calorically rich. Their quality as a foodstuff and their prevalence at both sites suggest that nut collecting was an important activity in the yearly cycles of food procurement for both households. The primary differences (and sometimes similarities) between these households' strategies can, at least in part, be explained by their locations on and off the reservation, and of the ecological realities of each site's location. Data presented in Table 5 suggest that individuals at both the Spring site and the Main Homestead were making decisions based on prior knowledge and expertise when selecting trees to harvest for wood or save for nut collection. This type of informed preservation allowed both families to make the most of their available resources.

By comparing the proportion of wood and nutshell (produced by dividing the weight of a specific taxon by the total weight of wood or nutshell recovered from each site), patterns of choice and informed selection were revealed. The importance of chestnut, both for fuel and construction, to the native community at the Spring site, and the equal importance given to oak for similar reasons at the Main Homestead, are evident. An overwhelming majority of the wood from each site came from these two taxa. In both cases, the corresponding nut was absent. This result suggests that the inhabitants of the Spring site were deliberately choosing to harvest chestnut wood, despite the apparent result that chestnuts would become unavailable. A similar treatment of oak at the Main Homestead may be more understandable, as acorns are less nutritious and less palatable than chestnuts, and require a great deal more processing due to their high tannin content (Šálkováa 2011). It is important to note that preservation factors may have skewed these results because both acorns and chestnuts are thin shelled and are more likely to be burned to ash or be destroyed by post-deposition factors or pre-deposition processing than thicker-shelled nuts like hickory or walnut.

In contrast to this are the results of the same analysis applied to the most prevalent nut taxa at each site. At the Spring Site, walnut/butternut nutshell is four times as prevalent, by proportion, than walnut/butternut wood. At the Main Homestead, the proportion of walnut/butternut wood is 250 times higher. An unexpected trend is found in the results for hickory. There is 330 times more hickory nutshell than hickory wood, by proportion, at the Spring site. Hickory represented the highest ratio of nutshell at this site. Only 0.01 g of hickory wood was recovered from all of the Main Homestead, whereas hickory nuts are the second-most prevalent at this site, representing 22.39% of the total recovered. This result is surprising because hickory is rated the highest in quality for both construction and fuel purposes (TABS. 3 AND 4). The ubiquity of hickory nuts forces me to abandon the theory that hickory trees were unavailable to inhabitants of these two sites. Instead I must conclude that the families at the Spring site and the Main Homestead were choosing to preserve these

Table 5. Nutshell and wood proportions.

Taxa	72-226 wood proportion	72-226 nut proportion	102-44A wood proportion	102-44A nut proportion
Walnut/Butternut	5.12%	20.00%	0.29%	74.64%
Chestnut	85.50%	0.00%	3.61%	0.96%
Hickory	0.23%	76.00%	<0.01%	22.39%
Oak	2.09%	4.00%	73.75%	0.00%
Taxa that show patterns of household choice for the purposes of wood or nut procurement have been highlighted.				

valuable trees to harvest the nuts that were, apparently, an important component of their overall diet and subsistence.

Conclusions

A number of factors including, but not limited to, environment, social status, access to economic modes of production, access to commodities, and simple individual choice affected the practices and materiality of these two households. By comparing Mashantucket subsistence strategies with those of their European American neighbors, this analysis allows the drawing of certain conclusions concerning the subsistence practices of reservation Mashantuckets. Both external and internal factors motivated the people of these households to subsist in the particular ways they chose.

Political, economic, and legal conflicts were some of the forces that affected Mashantucket subsistence options. The actions of overseers and state governors, the theft of land and property by neighboring European Americans, and the influence of the Industrial Revolution simultaneously provided novel opportunities for Mashantuckets, while eliminating access to other subsistence strategies deeply rooted in tradition. Social pressures, including the idealistic desire of some European Americans to encourage Mashantuckets to practice European-style land tenure, further reduced the subsistence options of some reservation Indians. The myths of the vanishing and destitute Indian, common discourses of the 18th and 19th centuries, created a perception of hopelessness surrounding the cause of native peoples, and encouraged a false impression that reservation indigenes were unable to sustain themselves (O'Brien 2010). Other pressures were physical. Reservation lands were specifically selected by European Americans who "granted" them because of their poor quality. This was true of the lands at Mashantucket, which further limited Pequot subsistence choices.

This article provides evidence of how Mashantuckets mitigated these challenges to maintain their overall subsistence. In some ways, the indigenous people living at the Spring site made choices similar to those of their European American neighbors. If correct, these interpretations reveal that both households were willing to and capable of choosing to participate in the larger regional economy to utilize new resources.

In other ways these households varied significantly. The continuation of long-term traditional practices, associated with activities repeated by Mashantuckets for centuries and related to the preservation and successful management of reservation forestlands, afforded the members of the reservation household varied fuel wood and food choices (Bragdon 1996; McBride 2002; Trigg and Bowes 2007; Trigg, McBride, and Smith 2007). Mashantuckets engaged in their regional economy and in novel labor practices to realize fully their subsistence goals. By employing a combination of traditional and learned subsistence practices, Mashantuckets managed to navigate the hardships of their colonial environment.

The central finding of this paper is that 19th-century Mashantuckets and European Americans utilized different subsistence practices to achieve similar subsistence goals. The centrality of the forest landscape to both European Americans and Mashantuckets is evident; however, this research suggests that Mashantuckets were more likely to engage with new subsistence opportunities to achieve their goals and thus preserve their place on the reservation. Paradoxically, Mashantucket willingness to participate in cultural change allowed them to preserve both their resources and their access to what remained of their traditional landbase. It was vital that their physical presence be retained. The subsistence strategies employed by Mashantuckets made it possible for them to preserve their place on the reservation into the 21st century.

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References

Bragdon, Kathleen Joan
1996 *Native People of Southern New England, 1500–1650*. University of Oklahoma Press, Norman.

Brown, H. P., Alexis John Panshin, and C. C. Forsaith
1952 *Textbook of Wood Technology: The Physical, Mechanical, and Chemical Properties of the Commercial Woods of the United States*, Vol.2. McGraw-Hill, New York.

Campisi, Jack
1990 The Emergence of the Mashantucket Pequot Tribe, 1637–1975. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, ed. by Laurence M. Hauptman and James D. Wherry, 117–140. University of Oklahoma Press, Norman.

Cipolla, Craig, Stephen Silliman, and David Landon
2007 "Making Do": Nineteenth-Century Subsistence Practices on the Eastern Pequot Reservation. *Northeast Anthropology* 74: 41–64.

Cronon, William
1983 *Changes in the Land : Indians, Colonists, and the Ecology of New England*. Hill and Wang, New York.

Den Ouden, Amy E.
2005 *Beyond Conquest: Native Peoples and the Struggle for History in New England*. University of Nebraska Press, Lincoln.

Farley, William A.
2012 Subsistence in the Shrinking Forest: Native and Euro-American Practice in 19th-Century Connecticut. Master's thesis, Department of Anthropology, University of Massachusetts Boston, Boston.

Hale, J. D.
1933 *Heating Value of Wood Fuels*. Deptartment of the Interior, Forest Service, Forest Products Laboratories of Canada, Ottawa.

Hoadley, R. Bruce
1998 *Identifying Wood: Accurate Results with Simple Tools*. Taunton Press, Newtown, CT.

Holmes, Sarah Louise
2007 *"In Behalf of Myself and My People": Mashantucket Pequot Strategies in Defense of Their Land Rights*. Ph.D. dissertation, Department of Anthropology, University of Connecticut, Storrs. University Microfilms International, Ann Arbor, MI.

Irland, Lloyd
1999 *The Northeast's Changing Forests*. Harvard University Press, Cambridge, MA.

Jacobucci, Susan A.
2006 Constant Changes: A Study of Anthropogenic Vegetation Using Pollen and Charcoal on the Eastern Pequot Tribal Nation Reservation, North Stonington, Connecticut. Master's thesis, Department of Anthropology, University of Massachusetts Boston, Boston.

Kasper, Kimberly, and Kevin McBride
2010 The Spatial Significance of Plants. Paper presented at the 75th Conference of the Society for American Archaeology, St. Louis, MO.

Krech, Shephard
1999 *The Ecological Indian: Myth and History*. W. W. Norton & Company, New York.

Law, Heather
2008 Daily Negotiations and the Creation of an Alternative Discourse: The Legacy of a Colonial Nipmuc Farmstead. Master's thesis, Department of Anthropology, University of Massachusetts Boston, Boston.

Leighton, Ann
1986 *Early American Gardens: "For Meate or Medicine."* University of Massachusetts Press, Amherst.

Mancini, Jason
2009 *Beyond Reservation: Indian Survivance in Southern New England and Eastern Long Island, 1713–1861*. Ph. D. dissertation, Department of Anthropology, University of Connecticut, Storrs. University Microfilms International, Ann Arbor, MI.

Mancini, Jason, Brenda Hill, and Debra Jones
2003 102-44A : Morgan/Bailey/Main Historical Report, Mashantucket, Connecticut. Manuscript, Mashantucket Pequot Museum and Research Center, Mashantucket, CT.

Mandell, Daniel R.
2008 *Tribe, Race, History : Native Americans in Southern New England, 1780–1880*. Johns Hopkins University Press, Baltimore, MD.

Martin, Alexander C. and William D. Barkley
1973 *Seed Identification Manual*. University of California Press, Berkeley.

McBride, Kevin A.
1990 The Historical Archaeology of the Mashantucket Pequots, 1637–1900. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, ed. by Laurence Hauptman and James Wherry, University of Oklahoma Press, Norman.
2002 Transformation by Degree: Seventeenth- and Eighteenth-Century Native American Land Use. Paper presented at the 25th Conference of Ethnobiology, Storrs, CT.

Miller, Naomi
1988 Ratios in Paleoethnobotanical Analysis. In *Current Paleoethnobotany,* ed. by Christine Hastorf and Virginia Popper, 72–85. University of Chicago Press, Chicago.

Mrozowski, Stephen A., Maria Franklin, and Leslie Hunt
2008 Archaeobotanical Analysis and Interpretation of Enslaved Virginian Plant Use at Rich Neck Plantation. *American Antiquity* 73(4): 699–728.

Noël Hume, Ivor
1970 *A Guide to Artifacts of Colonial America*. Knopf, New York.

O'Brien, Jean
2010 *Firsting and Lasting : Writing Indians Out of Existence in New England*. University of Minnesota Press, Minneapolis.

Panshin, Alexis John, and Carl De Zeeuw
1970 *Textbook of Wood Technology: Structure, Identification, Uses, and Properties of the Commercial Woods of the United States and Canada*, Volume 1. McGraw-Hill, New York.

Pluciennik, Mark
2001 Archaeology, Anthropology and Subsistence. *Journal of the Royal Anthropological Institute* 7(4): 741–758.

Popper, Virginia S.
1988 Selecting Quantitative Measurements in Paleoethnobotany. In *Current Paleoethnobotany*, ed. by Christine Hastorf and Virginia Popper, 53–71. University of Chicago Press, Chicago.

Russell, Howard S., and Mark B. Lapping
1982 *A Long, Deep furrow : Three Centuries of Farming in New England*. University Press of New England, Hanover, NH.

Šálkováa, Tereza
2011 Acorns as a Food Resource. An Experiment with Acorn Preparation and Taste. *Interdisciplinaria Archaeologica Natural Sciences in Archaeology* 2(2): 139–147.

Silliman, Stephen
2009 Change and Continuity, Practice and Memory: Native American Persistence in Colonial New England. *American Antiquity* 74(2): 211–230.

Silliman, Stephen, and Thomas A. Witt
2010 The Complexities of Consumption: Eastern Pequot Cultural Economics in Eighteenth-Century New England. *Historical Archaeology* 44(4): 46–68.

Silverman, David J.
2003 "We Chuse to be Bounded": Indian Animal Husbandry in Colonial New England. *William and Mary Quarterly* 60(3): 511–548.

Smart, Tristen Lee, and Ellen S. Hoffman
1988 Environmental Interpretation of Archaeological Charcoal. In *Current Paleoethnobotany*, ed. by Christine Hastorf and Virginia Popper, 167–205. University of Chicago Press, Chicago.

Trigg, Heather, and Jessica Bowes
2007 *An Examination of Botanical Materials from Mashantucket Pequot Site 72-58*. Fiske Center for Archaeological Research, Cultural Resource Managment Study No. 24b. Boston.

Trigg, Heather, Kevin McBride, and M. Smith
2007 Botanical Indications of the Impact of the Reservation System on the Mashantucket Pequot. Paper presented at the 30th Conference of Ethnobiology, Berkeley, CA.

Vickers, Daniel
1997 The First Whalemen of Nantucket. In *After King Philip's War: Presence and Persistence in Indian New England*, ed. by Colin G Calloway, 90–113. University Press of New England, Hanover, NH.

Wagner, Gail E.
1988 Comparability Among Recovery Techniques. In *Current Paleoethnobotany*, ed. by Christine Hastorf and Virginia Popper, 17–35. University of Chicago Press, Chicago.

Walling, Henry Francis
1854 *Map of New London County*, Connecticut. Map and Geographic Information Center, University of Connecticut, Storrs, Connecticut.

Witt, Thomas A.
2007 Negotiating Colonial Markets: The Navigation of 18th Century Colonial Economies by the Eastern Pequot. Master's thesis, Department of Anthropology, University of Massachusetts Boston, Boston.

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