“Towns They Have None”: Diverse Subsistence and Settlement Strategies in Native New England

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INTRODUCTION

Over the past twenty years there has been increased interest in the history and prevalence of maize use by Native peoples in New England. Much of this interest can be attributed to improved recovery techniques, particularly soil flotation, which have heightened our awareness of the use of tropical cultigens in the region. However, along with new data have come new challenges—and debates—in our understandings of the complexity of Native American subsistence systems. The goal of this chapter is to present a summary of the maize debate in New England, to pinpoint some of the sources of that debate, and to suggest ways that archaeologists might move from debate to cooperation in sorting out such an exciting and complex issue. For the purpose of this chapter I define New England as the modern New England states, as well as eastern and coastal New York.

THE MAIZE DEBATE: AN OVERVIEW

Few researchers today would agree that the adoption of maize horticulture by Native peoples in New England was a “non-event,” as stated by McBride and Dewar more than a decade ago (1987). However, many researchers do believe that while maize horticulture was practiced by New England peoples by A.D. 1000 (Cassedy and Webb 1999), it did not cause the rapid or extreme cultural changes witnessed in other parts of the world. Others, such as Hasenstab (1999) and Petersen and Cowie (this volume), propose that with better methods and more data we would discover that maize was far more important to Late Woodland peoples than we now believe.

The maize debate in New England began over twenty years ago, and centered on coastal southern New England (see Ceci 1979-1980; Silver 1980-1981). At that time Ceci convincingly argued that maize was not a dietary staple for Native peoples until after European contact. David Bernstein’s meticulous work on Long Island has provided further support for Ceci’s original hypothesis (see Bernstein 1992, 1999). Despite careful recovery techniques, including flotation and fine screening of large percentages of feature soil, maize simply does not show up on many Woodland period archaeological sites on Long Island (David Bernstein, pers. comm. 2001). Certainly, there is evidence for sedentism prior to European contact; some protected harbors in coastal New England clearly supported perennial habitation, with a subsistence base consisting of both marine and terrestrial resources (see Bernstein 1993, 1999; Bernstein et al. 1997; Gwynne 1982). From the evidence we now have available to us for the New England coast, maize horticulture seems to have been a late development and “one which probably had a negligible impact on overall lifeways . . . it was probably
not a central feature of the coastal economy” (Bernstein 1999; see also Bendremer et al. 1991; Ceci 1979-1980; McBride and Dewar 1987). That is not to say that maize is less often recovered from Late Woodland coastal sites (Figure 15.1; Table 15.1). My own recent work at the Lucy Vincent Beach site on Martha’s Vineyard indicates a diverse diet for Late Woodland peoples on the coast (Chilton and Doucette 2001): soil flotation and subsequent analysis of remains by Tonya Largy from numerous trash pits and other features indicates a diet that included a variety of maritime resources (e.g., hard- and soft-shell clam, scallop, whelk, large quantities of goosefish, scup), as well as terrestrial resources (deer, turtle, hickory nuts, and a small quantity of maize). While there is much work to be done in sorting out the complexity of Late Woodland coastal economies, it is clear that the diet and supporting subsistence-settlement system was quite diverse (Bridges 1994; Little and Schoeninger 1995).

While there is general agreement that maize was more of a dietary supplement than a staple on the New England coast, interpretations for the interior are far more contentious. Several researchers argue for intensive horticulture during the Late Woodland period. For example, Bendremer and Dewar (1994) suggest that the presence of more than one type of cultigen at inland
Table 15.1. Key to Figure 15.1: Archaeological Sites with Prehistoric Cultigens in Southern New England.

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Site Name</th>
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<tr>
<td>1</td>
<td>Skitchewaug</td>
<td>Heckenberger et al. 1992</td>
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<td>2</td>
<td>Fort Hill</td>
<td>Thomas 1985</td>
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<td>3</td>
<td>Early Fall</td>
<td>Cowie and Petersen 1990</td>
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<td>4</td>
<td>Campbell</td>
<td>Bunker p.c. in Bendremer and Dewar 1994</td>
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<td>5</td>
<td>Klock</td>
<td>Kuhn and Funk 1994</td>
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<td>6</td>
<td>19-FR-329</td>
<td>Garman 1991</td>
</tr>
<tr>
<td>7</td>
<td>Pine Hill</td>
<td>Chilton 1996</td>
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<td>8</td>
<td>Calf Island, Worlds End, HL-6</td>
<td>Luedtke p.c. in Bendremer and Dewar 1994</td>
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<td>9</td>
<td>Guida Farm</td>
<td>Byers and Rouse 1960</td>
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<td>10</td>
<td>Indian Crossing</td>
<td>Mulholland 1988</td>
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<td>11</td>
<td>Mattaquason Purchase</td>
<td>David Schafer p.c. 1997</td>
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<td>12</td>
<td>6-HT-116</td>
<td>Jordan p.c. in Bendremer and Dewar 1994</td>
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<td>13</td>
<td>Kasheta</td>
<td>Bendremer et al. 1991</td>
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<tr>
<td>14</td>
<td>Burnham-Shepard</td>
<td>Bendremer and Dewar 1994</td>
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<td>15</td>
<td>Gardner’s Neck</td>
<td>Bunker p.c. in Bendremer and Dewar 1994</td>
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<td>16</td>
<td>19-BN-288</td>
<td>McManamon 1984</td>
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<td>17</td>
<td>Malluzo</td>
<td>Dunford p.c. in Bendremer and Dewar 1994</td>
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<td>18</td>
<td>Morgan</td>
<td>Lavin 1988</td>
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<td>19</td>
<td>Selden Island</td>
<td>McBride 1984</td>
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<td>20</td>
<td>Tubbs</td>
<td>Russell 1946</td>
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<td>21</td>
<td>Mago Point</td>
<td>McBride 1984</td>
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<td>22</td>
<td>72-31</td>
<td>McBride 1984</td>
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<td>23</td>
<td>Hornblower II</td>
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<td>24</td>
<td>Lucy Vincent Beach</td>
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<td>25</td>
<td>Barlow Pond, Hawk’s Nest</td>
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<td>26</td>
<td>Muskrat Hill</td>
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<td>27</td>
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<td>28</td>
<td>Highland</td>
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<tr>
<td>29</td>
<td>Pleasant Hill</td>
<td>Ceci 1979-80</td>
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<td>30</td>
<td>Matinecock Point</td>
<td>Smith 1950</td>
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<td>31</td>
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<td>32</td>
<td>Bowman’s Brook</td>
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<td>33</td>
<td>294A-25-2, 294A-AF2-1</td>
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<td>RI 2050</td>
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<td>37</td>
<td>Hurley</td>
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<td>Dennis</td>
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<td>39</td>
<td>211-1-1</td>
<td>Cassedy and Webb 1999</td>
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<td>40</td>
<td>Little Ossipee North</td>
<td>Sidell 1999</td>
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\[1\] Sites with direct radiocarbon dates on cultigens. I recently obtained a direct date on a maize kernel from the Indian Crossing site, which had previously been dated using a wood charcoal sample from the same level (Mulholland 1988). The direct date is cal A.D. 1482-1654 (\(p=1.0\); See Stuiver et al. 1998; uncalibrated age = 310\(\pm\)40 \(^{14}\)C years, \(^{13}\)C corrected, GX-27629-AMS).
sites in Connecticut, storage pits, and “substantial amounts” of horticultural remains indicates intensive horticulture in the lower Connecticut Valley (i.e., the Connecticut portion of the valley). They define “substantial amounts” as more than fifteen hundred kernels at the Burnham-Shepard site, and more than one hundred kernels at the Morgan site (see Lavin 1988). Similarly, Lavin (1988) reports “numerous maize kernels from virtually all of the features” at the Morgan site, although precise numbers are not given. On this basis she suggests that maize was a “major food source,” while acknowledging that it was likely part of a broad-spectrum hunting and foraging base.

Similarly, Heckenberger et al. (1992) conclude that maize is an “important dietary constituent” by the early Late Woodland period at the Skitchewaug site in southeastern Vermont. They base this interpretation on the presence of maize in all seven storage pit features excavated at the site (although it is worth noting that these features contained far larger quantities of charred nutsheils and seeds). Similarly, Petersen and Cowie (this volume) believe that the “most profound changes to ever occur among Natives in the Northeast prior to the arrival of the Europeans were those related to the local arrival of maize-beans-squash horticulture.”

In contrast, other researchers emphasize continuity for the Late Woodland period and believe that the current data support the interpretation that maize was a dietary supplement and not a staple (Chilton 1999; Chilton et al. 2000; Dincauze 1990; Luedtke 1988; McBride and Dewar 1987; Thorbahn 1988).

What accounts for the disagreement about the role of maize in the interior? A few years ago I outlined some of the factors that have fueled the maize debate in New England (Chilton 1999). In the next section I review these factors and others that are the primary sources of miscommunication, misinterpretation, and confusion in our attempts to understand the role of maize in the lives of New England’s Native peoples.

**SOURCES OF MISINTERPRETATION**

The maize debate has been both clouded and fueled by several factors: (1) the improper and inconsistent use of terms; (2) a presumed correlation between the number of maize kernels recovered at an archaeological site and the importance of maize to the prehistoric inhabitants of that site; (3) the misuse of ethnohistoric literature; (4) the misapplication of archaeological theory related to the origins of agriculture; and (5) the misinterpretation of settlement patterns.

**Improper and Inconsistent Use of Terms**

One of the main sources of miscommunication and confusion in the maize debate is the improper and inconsistent use of terms to describe the relative importance of maize in the diet. For example, Bendremer et al. (1991) interpret the archaeological evidence at the Burnham-Shepard site as evidence for “significant involvement with maize horticulture” (emphasis added) during the Late Woodland period. Likewise, Lavin (1988) asserts that maize was an “important dietary staple for inland Indians” (original emphasis) on the basis of her work at the Morgan site. Heckenberger et al. (1992) suggest that maize and other agricultural products were an “integral part of the diet” (emphasis added). Petersen and Cowie (this volume) state that maize became “important” in riverine settings across New England during the Late Woodland period.

In all of these cases, the use of terms such as “integral,” “significant,” “important,” and “staple” are not defined. What do these terms mean in terms of proportion of the diet, cultural significance, or economic importance? And what is the frame of reference? Maize may have had a ceremonial importance long before it was a dietary staple. Does saying that maize is “important” mean that it constitutes more than half of the caloric intake of a population? Or does it mean, as I defined it (Chilton 1999), that it is necessary for the survival and well-being of a community? It is clear that consistency and precision in our use of terms dealing with the importance of maize in prehistoric economies will aid our attempts to understand changes over time and the differences between the usages of maize in different regions.

**Counting Kernels**

There is an unquestioned assumption by many archaeologists that the number of kernels found on an archaeological site is an indication of the importance of maize to the people who lived there. For example, Bendremer and Dewar (1994) interpret the recovery of 1,500 maize kernels at the Burnham-Shepard site as indicative of intensive horticulture. Likewise, on the basis of the presence of “numerous maize kernels,” Lavin (1988) concludes that maize was a “major food source” at the Morgan site.

Certainly, there is not a one-to-one relationship between the numbers of kernels found and the importance of maize. As Dincauze (1981) points out, prehistoric farming is extremely difficult to detect in New England because of poor preservation conditions.
Maize will normally not preserve for long in the archaeological record unless it is charred, which is more of an accident than a common occurrence. Even in areas where we know that maize was an importance food resource, the recovery of maize kernels or other maize parts is rare (e.g., Mesoamerica, Iroquoia, etc.). Thus, we cannot rely on the quantity of cultigens in our interpretations of their relative importance. In general, we need to move away from the kernels themselves, and examine the broader archaeological and cultural context, which includes the osteological and isotopic evidence, evidence for planting fields or gardens, food storage, the full range of subsistence practices, inter- and intrasite settlement patterns, and other technical systems (e.g., ceramics). I discuss all of these below.

The Use and Abuse of the Ethnohistoric Literature

Many archaeologists look to the Contact period to help them understand Native societies on the eve of contact. For example, Bragdon (1996) assumes that Late Woodland riverine peoples were dependent on agriculture both prior to and following European contact. She suggests there is evidence for pre-Contact “large, sedentary, agricultural villages” in the interior valleys (Bragdon 1996); here she cites McBride (1984) and Lavin (1988), who refer only to sites in the lower Connecticut Valley. She does include the Bark Wigwams site from the middle (or Massachusetts) portion of the Connecticut Valley (Johnson and Bradley 1987), but Bark Wigwams is most likely a seventeenth century site, and we know very little about this site because there have been no professional excavations beyond locational surveys (Chilton 1990). Other sites in the middle Connecticut Valley, such as the Late Woodland Pine Hill site in Deerfield, Massachusetts, provide evidence for short-term seasonal encampments of mobile farmers (Chilton et al. 2000). Therefore, Bragdon’s claim for a riverine “commitment to maize horticulture with its accompanying sedentism, nucleated settlement pattern, and dense population” is not well supported for the Late Woodland period (see further critique in Chilton 2001).

Many ethnohistoric sources mention Native farming. However, Bragdon herself suggests that “the predominance of descriptions of agricultural practice in . . . early accounts is . . . in large part a reflection” of the European preoccupation with agricultural productivity of southern New England (Bragdon 1996).

While there is certainly strong historic continuity in some aspects of Native society, the biases of the European accounts and the revolutionary effect of Europeans on Native society in the seventeenth century should not be underestimated and have not been adequately resolved (Chilton 2001). That is not to say that Native Americans were passive in such transformations. In fact, it was more likely quite the opposite. It is likely that Native peoples increased horticultural productivity as a way of entering into economic relationships with Europeans and/or in response to a shrinking land base in the face of European contact. For example, from his evaluation of the ethnohistoric literature, Bennett (1955) suggests that maize contributed as much as 65 percent to total diet during the Contact period. He also notes that “Indian cornfields were limited to Connecticut, Rhode Island, central and eastern Massachusetts,” which, of course, are the areas of most intense European settlement (Bennett 1955:370). Thomas (1985:96-97) also suggests that in the middle Connecticut River Valley, Native peoples during the Contact period relied heavily on maize horticulture. He bases this on Pynchon’s (1645-50:iii, in Day 1967) account of the names of the 13 months of the Connecticut Valley Indians (Day 1967:244). Since four of the month names refer to the growing and harvesting of maize, Thomas (1985) and Day (1967) conclude that there was a “heavy reliance” on horticulture (see also Bendremer 1999; Petersen and Cowie, this volume). However, we simply must assume that by the mid-seventeenth century, Native subsistence practices had been significantly transformed by the well-developed trade networks in the Connecticut Valley and in the broader region. The nature of that transformation is something that requires much more scholarly attention.

Even if one chooses to place more credence in the European accounts and/or assume more continuity than I have indicated here, many of the accounts emphasize flexibility and diversity in New England subsistence systems. For example, Wood (1977 [1634:86]) records the following about the peoples of the Massachusetts Bay: “In wintertime they have all manner of fowls of the water and of the land, and the beasts of the land and water, pond-fish, with cathers and other roots, Indian beans and clams. In the summer they have all manner of shellfish, with all sorts of berries.” Josselyn (1833 [1674]:93), in writing about the coast of Maine, echoes this diverse menu:

Their Diet is Fish and Fowl, Bear, Wild-cat, Ratton and Deer; dried Oysters, Lobsters rosted
or dried in the smoak, _Lampres_ and dry’d _Moose-_tongues, which they esteem a dish for a _Sagamor_; hard eggs . . . their _Indian_ Corn and Kidney beans they boil . . . they feed likewise upon earth-
nuts or ground-nuts, roots of water-Lillies, Ches-
nuts, and divers sorts of Berries [emphasis in original].

To this list, Roger Williams, who is referring to
groups in the vicinity of Narragansett Bay, adds the
hunting and trapping of numerous animals and the
collecting of acorns, chestnuts, walnuts, strawberries,
and cranberries (Williams 1963 [1643]).

While most of the ethnohistoric evidence for this
period refers to the New England coast, there is also
evidence that hunting and gathering were equally
important in the New England interior. In reference to
the Hudson Valley, in a letter of Isaack Rasieres from
the seventeenth century (in Jameson 1909:105-107), he
states that the valley peoples “support themselves
with hunting and fishing, and the sowing of maize
and beans.”

While the ethnohistoric record may support a mul-
titude of interpretations, ultimately, we must base our
interpretations about Late Woodland subsistence and
settlement on the available archaeological evidence.
The ethnohistoric record provides only a source of
ideas, inspiration, and—ultimately—a possible win-
dow on the amount and kind of continuity between
the Late Woodland and Contact periods, but only if it
is used critically and in toto.

**SETTLEMENT PATTERNS**

The most important body of evidence that we have
for interpreting degrees of sedentism and overall
economy consists of settlement patterns, that is, the
patterning of structures and features within an
archaeological site, and the distribution of sites across
the landscape in time and space.

Settlement pattern data are not plentiful for New
England. This is in part due to historic disturbance,
amateur digging, the scarcity of regional surveys, and
geomorphological processes (Chilton 1999). Hasenstab
(1999) underscores this last point, arguing
that village sites are simply “hard to find” in New
England because of their hypothesized location on
stratified alluvial floodplains.

There is little evidence for structures, much less vil-
lages, in Late Woodland New England. While it is true
that we simply may not have yet found such evidence,
we must proceed on the basis of the data we now have on
hand. We may change our interpretations later in light
of new data, and this is how any science must proceed.

So what is the current evidence? For the New
suggested that there was no evidence for settled vil-
lage life prior to European contact. As I mentioned
previously, there does seem to be evidence for year-
round or nearly year-round habitation in some pro-
tected harbors on the coast (Bernstein 1993, 1999;
Bernstein et al. 1997; Gwynne 1982), but this coastal
sedentism is a process that does not seem directly
associated with the adoption of maize horticulture.
Instead, it is likely that the year-round availability of
both marine and terrestrial resources in these areas
was the impetus for increasing sedentism. This seden-
tism may have paved the way for the adoption of
horticulture (maize, as well as indigenous plants),
rather than the other way around.

For the interior, identifying post molds on Late
Woodland sites is a cause to celebrate. But rarely do
these post molds form a pattern that can be traced to
identify structure size or shape. For the most part, post-
mold patterns seem to indicate short-term wigwam-
type structures; and the overlapping nature of these
structures and features, as well as a general lack of
well-defined middens, indicate repeated seasonal use
of site locations over time (e.g., Chilton et al. 2000).

Certainly, there is evidence for fairly large—though
not necessarily year-round—Late Woodland sites in
the lower Connecticut Valley, but these lack published
settlement pattern data (see Bendremer and Dewar
1994; Lavin 1988). Occasionally, there is evidence for
large structures, or “longhouses,” in New England,
but these are rare occurrences (e.g., the Goldkrest site
in New York and the Tracy Farm site in Maine). The
Goldkrest site apparently represents a multiseasonal
fishing and foraging hamlet whose inhabitants
exploited floodplain resources, supplemented by
some local horticulture (Lavin et al. 1996). The “long-
house” identified at Goldkrest was not occupied year-
round or for multiple years. Instead, on the basis of the
botanical remains, it was interpreted as having
been occupied in late summer and early fall (Lavin
et al. 1996). As for the Tracy Farm site, the dating of the
“longhouse” structure is unclear (Cowie 2000). From
the 587 post molds recorded for the site, two isolated
structures were identified: a longhouse and a small
circular “wigwam” (the latter is thought to date to the
Middle Woodland period) (Cowie 2000). No hearths
were identified, but three storage pits were excavated
and were in apparent association with Contact period...
artifacts. Cowie (2000) suggests that the longhouse represents either a ceremonial lodge or a multifamily residence. Thus, the archaeological record supports an interpretation of flexibility and diversity in the size and shape of the dwellings.

The ethnohistoric literature, likewise, supports such an interpretation. In 1674 Josselyn (1833 [1674]) reported on the impermanence of New England communities: “Towns they have none, being always removing from one place to another for conveyniency of food . . . I have seen half a hundred of their Wigwams together in a piece of ground and within a day or two, or a week they have all been dispersed.” In the second quarter of the seventeenth century, Johan de Laet (in Jameson 1909) said of the Algonquians living in the Hudson Valley that “some of them lead a wandering life in the open aire without settled habitation . . . Others have fixed places of abode.”

Williams (1963:135 [1643]) also comments on the Algonquians’ seasonal movements and the flexibility of their habitations:

In the middle of summer . . . they will flie and remove on a sudden from one part of their field to a fresh place . . . Sometimes they remove to a hunting house in the end of the year . . . but their great remove is from their Summer fields to warme and thicke woodie bottoms where they winter: They are quicke; in a halfe a day, yea, sometimes a few hours warning to be gone and the house up elsewhere . . .

Similarly, Gookin (1792:149) and Higgeson (1629:123) state that the New England Indians were inclined to frequently move their dwellings from place to place. Cronon (1983:38) notes that, for some groups, the size and shape of dwellings would change, depending on population density and the time of year (e.g., small wigwams in the summer, multifamily longhouses in the winter).

Another topic related to the issue of settlement patterns is the occurrence of large pit features on Late Woodland sites. Bendremer and Dewar (1994) and Petersen and Cowie (this volume) believe that the presence of what they believe are storage pit features provides evidence for the importance of maize horticulture. However, there are several problems with such an interpretation. First, pit features were not an invention of the Late Woodland period. There are many pit features in New England that date to the Middle and Late Archaic periods as well. Second, we simply do not fully understand the functional complexity of these pit features. At the Late Woodland period Pine Hill site in Deerfield, Massachusetts, of the 21 pit features identified, only 1 contained maize (Chilton et al. 2000). Very little in the way of artifacts or other food remains was recovered from these features. On the basis of feature contents and soil micromorphology, I have interpreted these features as short-term food storage or food processing features (Chilton et al. 2000; see also Moeller 1991). Of the five Late Woodland pit features excavated at the Lucy Vincent Beach site on Martha’s Vineyard, thus far, none has been found to contain maize, although the analysis of flotation samples is currently being completed by Tonya Largy. (Maize was, however, recovered from a large fire hearth.) In general, instead of assuming that all Late Woodland pit features are storage pits, what is needed is a comprehensive study of these features (e.g., Volmar 1998), which likely had a variety of functions. They may have been used for short-term storage, long-term storage, trash pits, food composting, human or dog burials, or some combination of the above. In fact, there is great antiquity to pit features, and the continuity of pit feature use needs to be closely examined.

Lag in Archaeological Theory

Finally, aside from issues of methodology, taphonomy, and interpretation, a more important explanation for the New England maize debate is a lag in archaeological theory. As John Hart (1999a:138) indicates, archaeologists still largely adhere to natural-state models in which “all members of a type or kind are expected to reflect the natural state.” The natural-state model is particularly evident in studies of prehistoric agriculture; the assumption is that once maize is adopted, “its natural state can be defined as effective and highly productive,” that is, it becomes the center of a focal economy (Hart 1999a:139).

However, as Hart (1999a) points out, maize agriculture does not have a natural state, because it is “formed on the basis of relationships between maize and human populations . . . “ Thus, the degree of reliance on maize cannot be determined simply on the basis of its presence in archaeological contexts.

Many archaeologists want to elevate New England archaeology, or to “center” New England (Dincauze 1993). In doing so, they want to demonstrate that New England peoples were not backward, were not passive reactors to the Iroquois or the Europeans, and that, in fact, they were evolutionarily “complex” prior to European contact (e.g., Bragdon 1996). But as I have stated elsewhere (Chilton 2001), one does not need
hierarchy, permanent villages, and/or intensive horticulture to argue for complexity. There are anthropological models of “transegalitarian societies,” that are neither egalitarian nor politically stratified (see Clarke and Blake 1994; Hayden 1995). Models of increasing social complexity should, therefore, include the potential for horizontal complexity or heterarchy (see Coupland 1996; Creamer 1996; Crumley 1987). Certainly, New England is one region where rigid cultural classifications obfuscate the complexity of social relations (see also Yoffee 1993). In the end, arguing for maize horticulture as the impetus for presumed sedentism and extreme cultural transformation minimizes the importance of indigenous, premaize horticulture in the region and the associated economic, ideological, and other social transformations.

GAINING PERSPECTIVE

It is clear that even though New England peoples had at least some experience with indigenous cultigens, the acceptance of tropical cultigens into the subsistence system undoubtedly and necessarily caused changes in subsistence, settlement, and ideological frameworks. But how drastic were these changes? My own assessment of “intensive horticulture” is framed by my early archaeological training in the Mohawk Valley. As part of my field school at SUNY Albany in 1984 (under the direction of Dean Snow), we excavated portions of two Iroquois sites, the prehistoric Otstungo site and the Contact period Rumrill-Naylor site. In comparison to these, sites like Burnham-Shepard, Morgan, Skitchewaug, and Pine Hill do not, to me, indicate intensive horticulture, that is, year-round, semipermanent villages (20-50 years). They lack substantial middens, permanent structures, evidence for year-round residence, and indications of some of the social correlates of permanent settlement (such as warfare in the form of palisaded villages, villages in defensible locations, or osteological trauma). The presence of maize kernels or even storage pits in and of themselves is not enough to elevate maize to the status of staple. Ironically, there is actually not a lot of evidence for maize storage in Iroquoia, because it was apparently most often stored above-ground in the residential longhouses. Similarly, my Mayanist colleagues tell me that they rarely find maize itself on archaeological sites, even though we know it was of central importance to the prehistoric Maya. Certainly, we don’t want to get caught up in comparing New England Algonquians to the Iroquois or to the Maya, but sources of comparison can help us gain perspective. In this case, there are both quantitative and qualitative differences in maize use, but we cannot hope to understand these differences without looking at the broader context of subsistence, settlement, and technological systems.

FUTURE DIRECTIONS

Finally, other than my suggestions and comments above, I would like to suggest some further directions for maize research in New England. First, we need more direct dates on New England cultigens. For example, of the sites with cultigens shown in Figure 15.1 only 10 of these sites have AMS dates directly from cultigens—most dates reported for maize in the literature are from associated wood charcoal dates (Table 15.1). But such dates are extremely important since, in theory, they leave no doubt about the association between the maize itself and the radiocarbon age obtained. For example, by redating maize, beans, and squash from the Roundtop site in New York State, Hart (1999b:65) was able to demonstrate that “beans . . . did not enter New York until at least 400 years after the introduction of maize,” thereby significantly changing our interpretations of the mechanism for the adoption of tropical cultigens in the Northeast (see also Hart and Scarry 1999).

A second important undertaking for archaeologists in the Northeast is to better understand the relationship between radiocarbon dates for wood charcoal and for maize (see Little 2002). It is clear that radiocarbon dates for maize are often much younger than their associated wood charcoal dates. For site 211-11-1, Cassedy and Webb (1999) report a wood charcoal date for a fire hearth as cal A.D. 710-990, while the associated AMS date for maize was cal A.D. 1327-1650. Similarly, at the Lucy Vincent Beach site (Chilton and Doucette 2002), we obtained three AMS dates on wood charcoal from a fire hearth that clustered around cal A.D. 1000. The associated AMS date for several maize kernels from this feature was cal A.D. 1325-1467. Likewise, Little (1994) reports for Myrick’s Pond in Brewster, Massachusetts, that “all but one of nine charcoal and shell ages associated with maize are older than the four ages directly on maize kernels in southeastern New England collected for this paper.” One possible explanation, at least when comparing wood charcoal dates to maize dates, is that we are dating heartwood and thus, older carbon. This is an issue that will take a considerable amount of time, effort, and
creativity to resolve, but is also underscores the need for direct dates.

Third, stable isotope analysis has also proven very useful for sorting out the issue of maize importance in many parts of the world. Bridges (1994), Little and Schoeninger (1995), and Bourque and Krueger (1994) have demonstrated the potential of this method for New England analyses. Stable isotope analysis is currently the most effective technique for reconstructing prehistoric diet and for reconstructing changes in diet through time. Because maize is a nonindigenous plant, and because it utilizes a different photosynthetic pathway than nearly all other Native edible plants in northeastern North America ($\delta^{13}$C for maize and eelgrass, as opposed to $\delta^{13}$C for all other indigenous plants), it is often possible to detect the level of maize in the diet using a combination of $\delta^{13}$C and $\delta^{15}$N values. However, destructive analysis of human remains is often neither possible nor advisable because of NAG-PRA and other political and social concerns. Therefore, I have recently begun a project to assess whether stable isotope analysis on other animals—such as dogs or deer—would prove useful in identifying at least the initial entry of maize into the region (Chilton et al. 2001). Preliminary results suggest that dogs can, indeed, serve as proxies for human diet during the Late Woodland period. Ninian Stein at Harvard University is currently following up on this research.

Finally, standard nondestructive osteological studies can also go a long way in helping to understand the level of dependence on maize in New England (see Bellantoni 1991; Bradley 1989). For example, dental caries and various nutritional pathologies often accompany the onset of intensive maize horticulture. A large-scale comparison between the general health of Late Woodland New England Algonquians and the Late Woodland Iroquois would be extremely informative.

In the end, we will need multiple lines of site-based and osteological evidence in order to reconstruct the complex mosaic of Native American cultural practices during the Late Woodland period. There is no question that the adoption of maize horticulture was an event in New England Native history that had ideological, economic, and social consequences. It is now up to us to understand just what those consequences were.

Acknowledgments

I would like to thank John Hart and Christina Rieth for organizing the session upon which this volume is based and for their patience in putting together the volume itself. While the opinions expressed here are my responsibility alone, I wish to thank the many individuals with whom I have worked and/or had fruitful discussions on issues related to maize horticulture over the past several years, most notably Dena Dincauze, Dianna Doucette, Kit Curran, Tonya Largy, Elizabeth Little, David Bernstein, John Hart, and Gary Crawford. All of these individuals have been generous with their time and ideas. A special thanks to Michael O. Sugerman for many long brainstorming sessions and his undying support.

REFERENCES CITED


Bernstein, D. J. (1993). Archaeological Data Recovery at the Van der Kolk Site, Mount Sinai, Town of Brookhaven, Suffolk County, New York. Institute for Long Island Archaeology, Department of Anthropology. The State University of New York, Stony Brook.


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