

## A Southeastern Perspective on Soapstone Vessel Technology in the Northeast

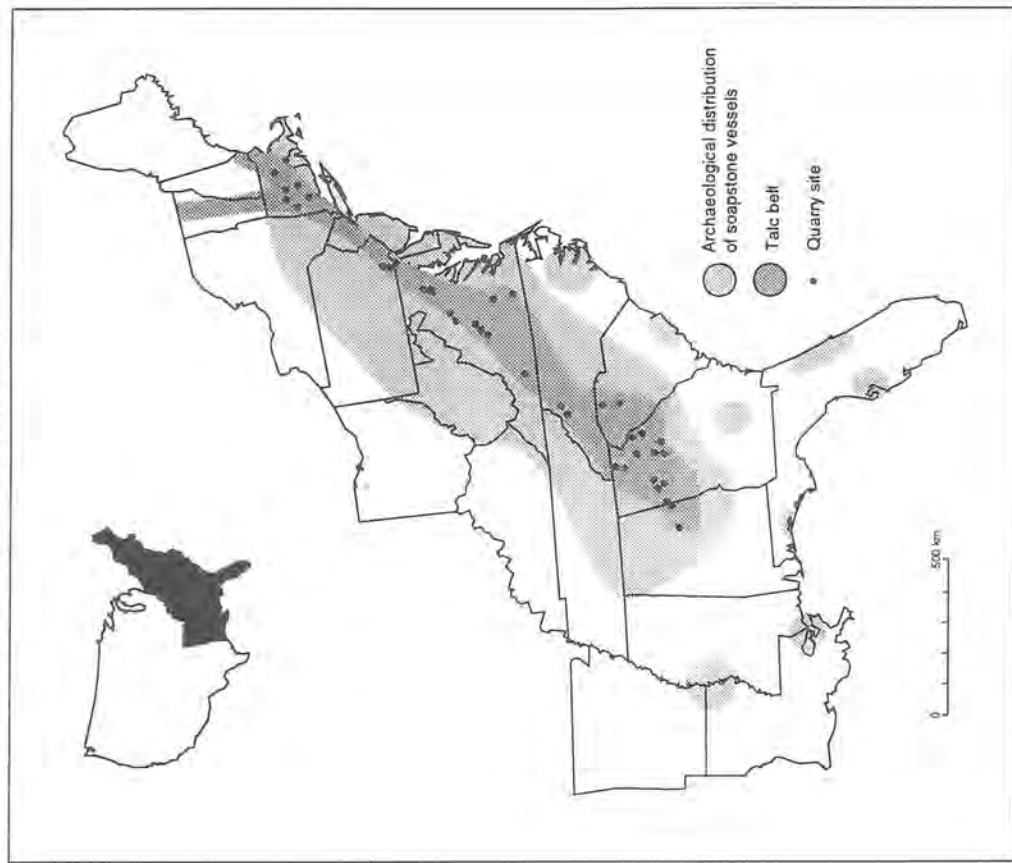
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The geological formations of eastern North America offered a variety of raw materials of interest to prehistoric Indians. Among them were talc-rich rocks known today as soapstone or steatite. As early as 8000 years ago, Native inhabitants acquired soapstone for making components of weaponry, and later for ornaments, smoking pipes, and cooking stones and vessels. Aside from being soft and hence easy to carve, soapstone had thermal properties which made it particularly effective as a medium for cooking. Archaeologists have long regarded soapstone vessels as the prototype of the ceramic cooking pot, an innovation that at once enhanced the efficiency of food processing while setting the stage for further technological developments (e.g., Custer 1988; Gardner 1975; Smith 1986:30; Stephenson and Ferguson 1963:88; Withoft 1953).

Soapstone vessels were made and used throughout most of the talc belt of eastern North America (Chidester et al. 1964), and they were exported to select locations as much as 500 km from geological sources (Figure 5.1). Differences in vessel size and shape attest to some subregional variation, although generally soapstone vessels were shallow, widemouthed containers with either flat or round bottoms and occasional lug handles. Their use as cooking vessels is evident in the carbon residue, or soot, that adheres to the exterior surfaces of some vessel sherds (Custer 1987, 1988; McLearn 1991; Mouer 1991; Ritchie 1959: 64-65, 74, 1965:170; Sassaman 1997).

In its capacity as a direct-heat cooking container, soapstone vessel technology presumably was an improvement over the indirect-heat, "stone-boiling" method used by generations of native hunter-gatherers to process nuts and other resources for consumption. Pottery vessels represented further improvements in thermal engineering, as vessel forms and ceramic composition became increasingly better suited for prolonged cooking (e.g., Braun 1983; cf. Smith 1986:43). Furthermore, because clays for making pottery were more widely available than

**Figure 5.1**  
Map of the Eastern United States, Showing Generalized Distributions of  
Archaeological Occurrences of Soapstone Vessels and Geological Formations which  
Contain Talc-rich Deposits Quarried for Soapstone



soapstone sources, the adoption of pottery greatly reduced acquisition costs, particularly for groups that resided far from outcrops of the talc belt.

The shift in cooking technology from stone boiling to direct-heat cooking—first with soapstone vessels, then with increasingly more effective ceramic forms—is a pervasive theme of eastern North American prehistory (Dent 1995: 182–184, 224–227; Smith 1986:28–30; 42–43). However, the timing and sequence of these changes are not paneastern. The Southeast was home to the oldest pottery in the East, dating to as much as 4500 radiocarbon years ago in the Savannah River area of Georgia and South Carolina, and in the St. Johns

River valley of northeast Florida. Soapstone vessels did not precede pottery in these areas; in fact, their local adoption postdates the oldest ceramic wares by as much as a full millennium. What is more, ongoing research on the chronology of soapstone vessels, which I summarize in this chapter, suggests that the innovation does not predate 3700 radiocarbon years B.P. anywhere in the Southeast, contrary to the widely held notion that its origins date to the beginnings of the Late Archaic period (ca. 5000–3000 B.P.) (PHELPS 1983:26; SMITH 1986:30).

Combined with the presumed antiquity of soapstone vessels, the demonstrated antiquity of southeastern pottery has long inspired northeastern archaeologists to look south for sources of innovations in the north (GARDNER 1975; RITCHIE 1959:62, 1965; SNOW 1980:240–242). However, refinements in the chronology of southeastern vessel technologies provides ample cause for rethinking the causes and contexts for the origins of cooking technologies in the Northeast. Whereas pottery in the Southeast clearly predates ceramic traditions to the north, soapstone vessels in the Southeast are not a technological antecedent of pottery, nor do they predate their soapstone counterparts in the Northeast. It follows that simple diffusionist claims for soapstone vessel origins in the Northeast are no longer plausible. Furthermore, in neither region do soapstone vessels fit neatly into the technological sequence outlined above, a finding that undermines any lingering influences of nineteenth-century, unilineal evolutionary thinking. The eroded credibility of these dominant themes points to the need for increased attention to the particular historical and cultural contexts of alternative cooking technologies.

### SOAPSTONE VESSELS IN HISTORICAL CONTEXT

Ever since soapstone vessels were first proposed as a diagnostic trait of the Northeast's Late Archaic period (WITTHOFT 1953), the Southeast has been regarded as the donor of innovations. Connections between the regions were inferred not simply from this technology alone, but from an entire cultural complex known as the Broadpoint Tradition. Its namesake is a series of broad-bladed, stemmed hafted bifaces that occur in Late Archaic assemblages along most of the Eastern Seaboard. In the Southeast, the tradition is best represented by the Savannah River Stemmed (COE 1964), a biface type alleged to have deep historical roots in the region (OLIVER 1985). In contrast, northeastern manifestations of the Broadpoint Tradition generally are considered intrusive to an indigenous narrow-point technological tradition. Diffusion, migration, and paneastern adaptive change are alternative explanations for the sudden appearance of broadpoint cultures in the Northeast (cf. COOK 1976; CUSTER 1968; DINEAUZE 1968, 1975b; FUNK 1993:224–225; RITCHIE 1965; TURNBAUGH 1975; WITTHOFT 1953). More than simply the introduction of new traits, the broadpoint cultures of the Northeast apparently introduced an entirely new way of life centered on the intensive exploitation of riverine and estuarine environments (cf. DINEAUZE 1974). Given

this context, soapstone vessels are viewed as a technological response to an increasingly demanding lifestyle (Dent 1995:203, 213; Gardner 1975).

Whereas the association between soapstone vessels and the Broadpoint Tradition in the Northeast is apparently certain, no such claim can be made for the Southeast. The landmark site for broadpoint technology in the Southeast, Stallings Island in the middle Savannah River valley (Clafin 1931), has never yielded a soapstone vessel sherd in the 1400 m<sup>2</sup> of excavation to date. This site is, however, home to some of the oldest ceramic vessels in the Southeast, Stallings fiber-tempered pottery. Importantly, the stratum containing Stallings pottery is stratigraphically superior to and distinct from the stratum containing broadpoints. Unfortunately, this unconformity was not sufficiently documented in the widely read report on Stallings Island (Clafin 1931). Fairbanks (1942) later contributed to this oversight by conflating the artifact types of both strata into a single trait list for Stallings Culture. More recent investigators have kept the two separate, noting differences in artifact types and subsistence patterns which appear to reflect wholesale replacement of one culture by another (Bullen and Greene 1970; Crusoe and DePratter 1976). Indeed, it now seems certain, as Waring (1968) suspected long ago, that the middle Savannah River valley was colonized by a population with roots on the coasts of Georgia and South Carolina. The indigenous people they displaced—local bearers of the Broadpoint Tradition known today as the Mill Branch phase (Elliott et al. 1994)—persisted for at least two centuries on the outskirts of Stallings territory (Sassaman 1998). They used neither pottery nor soapstone vessels, but they apparently interacted with their pottery-using neighbors on a regular basis. Why an innovation such as pottery would fail to cross seemingly permeable cultural boundaries is an issue of ongoing research.

Soapstone vessels never figured into the technological repertoires of Mill Branch and Stallings populations during the centuries of their coexistence (ca. 4200–3800 B.P.). Still, the middle Savannah valley was home to a soapstone *cooking stone* technology with origins extending back to at least 5700 B.P. (Sassaman 1993b). Throughout the Mill Branch and Stallings phases, soapstone was fashioned into perforated slabs for indirect-heat cooking, or stone boiling. Because of its superior resistance to thermal shock, soapstone was a vast improvement over cooking with clastic materials such as quartz and granite. Literally thousands of perforated slabs were uncovered at Stallings Island by Clafin (1931), who, like many of his contemporaries, mistook them for net sinkers. Made and used for centuries, soapstone cooking slabs eventually became obsolete when pottery was adapted for use over fire, but for many generations, until about 3500 B.P., they continued to be employed for cooking with ceramic vessels by Stallings people (Sassaman 1993a).

Soapstone cooking slabs were not used widely outside of the middle Savannah River valley. Perhaps because of their limited distribution, hence unfamiliarity to those working elsewhere, cooking slabs have sometimes been mistaken as perforated vessel sherds (e.g., Dent 1995:184). Such misidentification has

conspired with other factors to perpetuate the falsehood that soapstone vessels predate pottery in the middle Savannah valley. To the contrary, the namesake site for early pottery, Stallings Island, provides absolutely no such stratigraphic evidence, nor do any of the other middle Savannah sites investigated to date (Sassaman 1998). What is more, the stratigraphy of one of the key sites for the Southeast's Broadpoint Tradition, the Gaston site in North Carolina (Coe 1964), is ambiguous in its alleged association between Savannah River Stemmed points and soapstone vessels (Sassaman 1997:10–11). In short, the proposal that soapstone vessel technology diffused northward with the Broadpoint Tradition is undermined at its very source.

Obviously, soapstone vessels were eventually made and used by many of the Southeast's prehistoric people, for they are found at sites throughout the region, including the middle Savannah area, where they occur most often at remote, interriverine sites. As I have argued, the stratigraphy of riverine sites in the middle Savannah suggests that soapstone vessels did not predate the local adoption of pottery. Sites of early pottery in Florida offer corroborative stratigraphic evidence (Bullen 1972), as do locations within the Poverty Point complex of northeast Louisiana (Gibson 1996). Precisely when soapstone vessel technology was used in the Southeast and how its timing compares with the Northeast is a matter of radiocarbon chronology.

### Radiocarbon Chronology

Radiocarbon chronology for riverine sites in the middle Savannah valley is relatively thorough (Sassaman 1998). However, because these sites typically lack soapstone vessel sherds, none of their absolute dates apply directly to the innovation. What is more, interriverine sites that contain numerous soapstone vessel sherds offer few opportunities for radiometric or stratigraphic dating. Together these factors have impeded progress in dating soapstone vessels.

In lieu of features or other contexts for preserved organic matter in direct association with soapstone vessels, I began in 1995 a program to date soot adhering to the exterior surfaces of sherds using accelerator mass spectrometry (AMS) (Sassaman 1997). I have thus far obtained twelve age estimates on samples from eleven sites in five southeastern states (South Carolina, Georgia, Florida, Alabama, and Tennessee). The uncorrected assays range from 3620 ± 60 to 2590 ± 40 radiocarbon years B.P. Corrections for C13/C12 ratios alter estimates by no more than eighty radiocarbon years, and calibration does little to change the relative differences among them.

A graphic display of the AMS soot assays is provided in Figure 5.2, along with other, conventional age estimates from the Southeast (defined herein as all states south of Virginia, and east of the Mississippi River, but including northeast Louisiana) purported to date soapstone vessels. The entire inventory of seventy-five assays includes several run on charcoal from feature contexts with at least one sherd of a soapstone vessel; the bulk of the remaining assays involve



indirect associations with soapstone sherds. Only one of the assays predating the oldest soot date (i.e.,  $> 3620 \pm 60$  B.P.) is from a feature context. At the Falcon Field site in Georgia, charcoal beneath a rock cluster with a soapstone sherd yielded an uncorrected age of  $4170 \pm 150$  B.P. (Elliott 1989). At the time of its publication, this assay was regarded as the oldest date for soapstone vessels in the Southeast. The investigator has since reconsidered its validity, noting that the charcoal was perhaps not directly associated with the sherd (Daniel T. Elliott, personal communication 1997). The other assays predating the oldest soot date have either weak associations with soapstone sherds or standard deviations exceeding 5 percent of the mean value. Notably, the Gaston site estimate of  $3900 \pm 125$  B.P. (published with two-sigma value of 250) was not only derived from charcoal collected from three different hearths (Coe 1964:97), none of which contained soapstone, but there is good reason to suspect that all of the soapstone sherds in the Late Archaic stratum were introduced by pit activities of subsequent Early Woodland occupants (Sassaman 1997:10-11).

In short, the Southeast radiocarbon record for soapstone vessels contains no unambiguous assays predating about 3700 B.P. The range of time bracketed by the oldest and youngest soot dates is endowed with many good associations between soapstone and dated organic matter. The radiocarbon centuries from 3500 to 3000 B.P. account for more than half of all assays, including eight of the twelve obtained from soot. A notable break in an otherwise continuous distribution is evident at about 2800 B.P., after which a series of younger assays, including two on soot, suggest the occurrence of a separate, late horizon for soapstone vessels. This is a pattern that may be paralleled in parts of the Northeast.

The program of soot dating has recently been expanded to include samples from the Northeast. Thus far only two such assays have been obtained, on soapstone vessel sherds provided by James Herbstritt from islands in the Susquehanna River of southeast Pennsylvania. Soot from a McCormick Island sherd yielded an estimate of  $3190 \pm 50$  B.P. (Beta-116287), and one from Upper Bare Island gave an estimate of  $2940 \pm 50$  B.P. (Beta-116286).

Three additional AMS dates have been acquired by James Truncer (1997) as part of his ongoing research on soapstone vessel technology in the Northeast. A sample of exterior residue (soot?) on a sherd from the Hunter Home site in western New York returned an estimate of  $3420 \pm 60$  B.P. (AA-19136), well within the range of soot assays for the Southeast. The other two results, obtained from interior residues, deviate markedly from all soot ages. A sherd from the Hagerman site (36LY58) in north-central Pennsylvania is estimated at  $4910 \pm 75$  B.P. (AA-19134), while one from the Christiana quarry (36LA189) in southeastern Pennsylvania is estimated at only  $310 \pm 65$  B.P. (AA-19135).

These outlier assays are not corroborated by the full suite of radiocarbon ages purported to be associated with soapstone vessels in the Northeast (Figure 5.3; note that the recent age from the Christiana quarry sample is not included in this suite of fifty-two assays). Only two age estimates come close to the

Figure 5.2  
Radiocarbon Age Estimates for Soapstone Vessels in the Southeastern United States

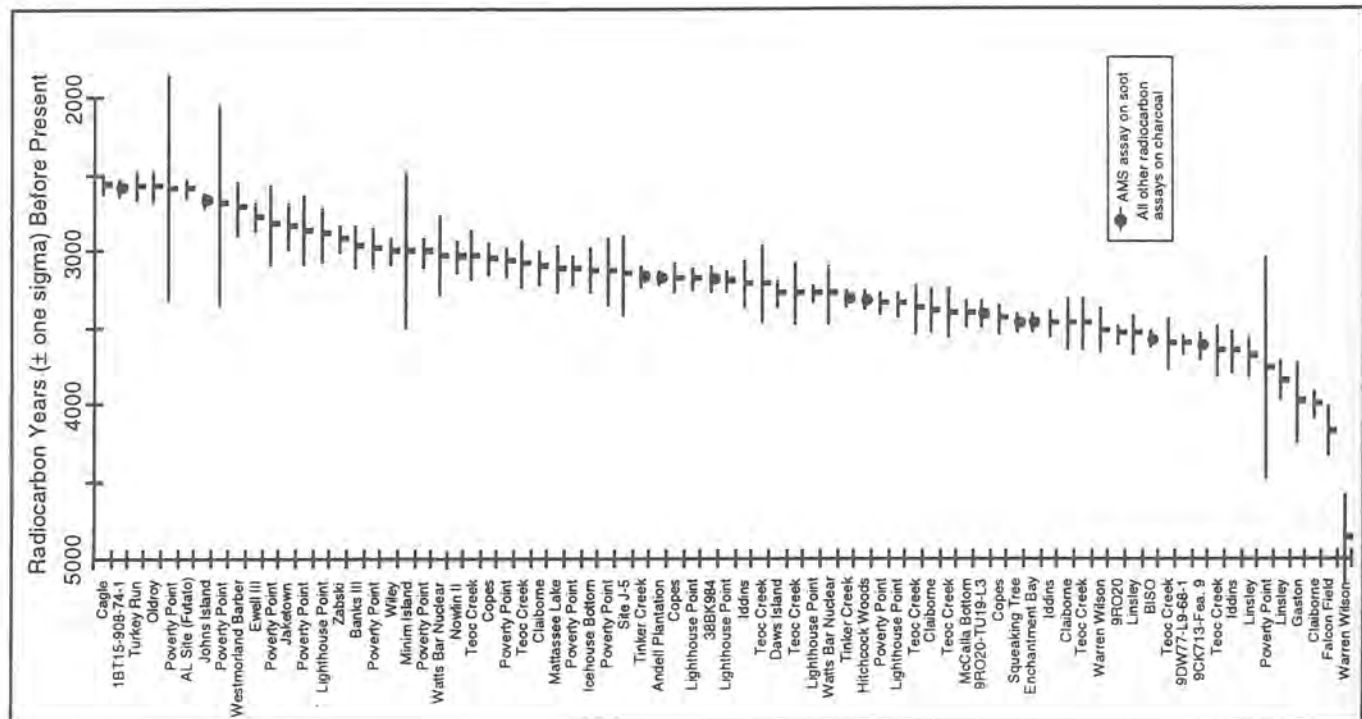
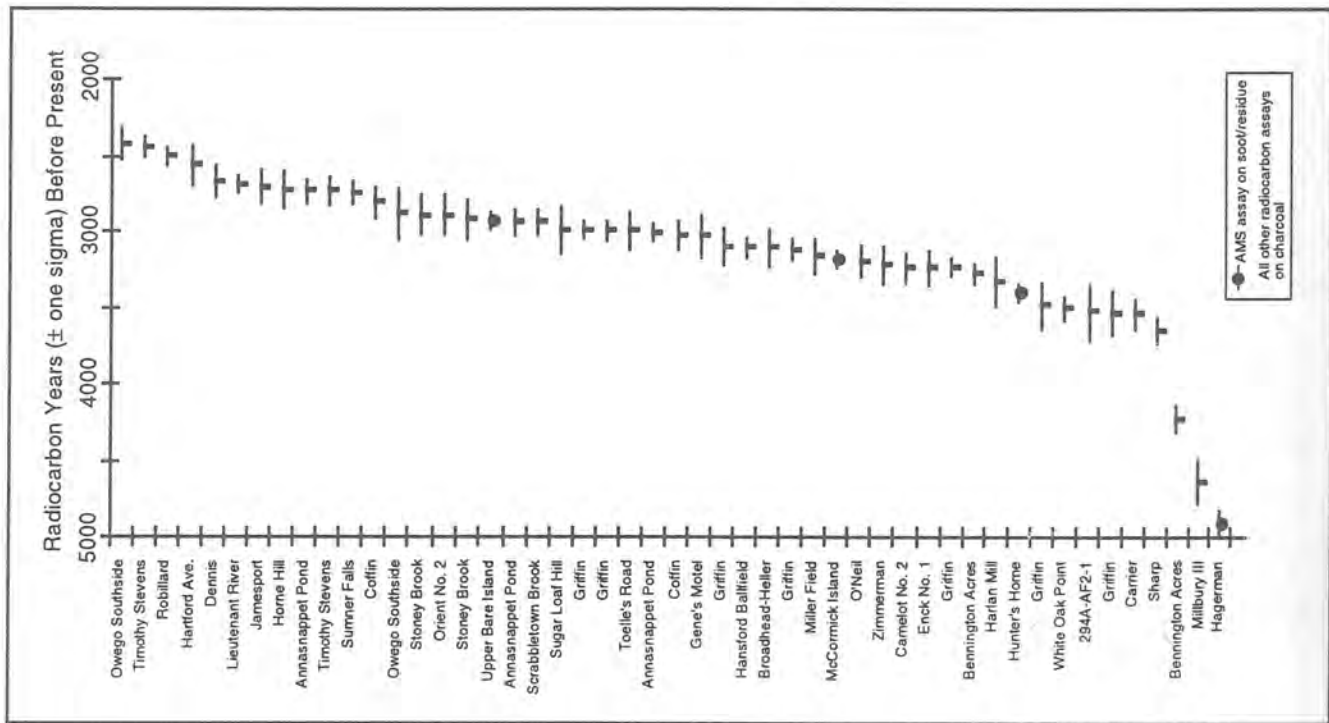


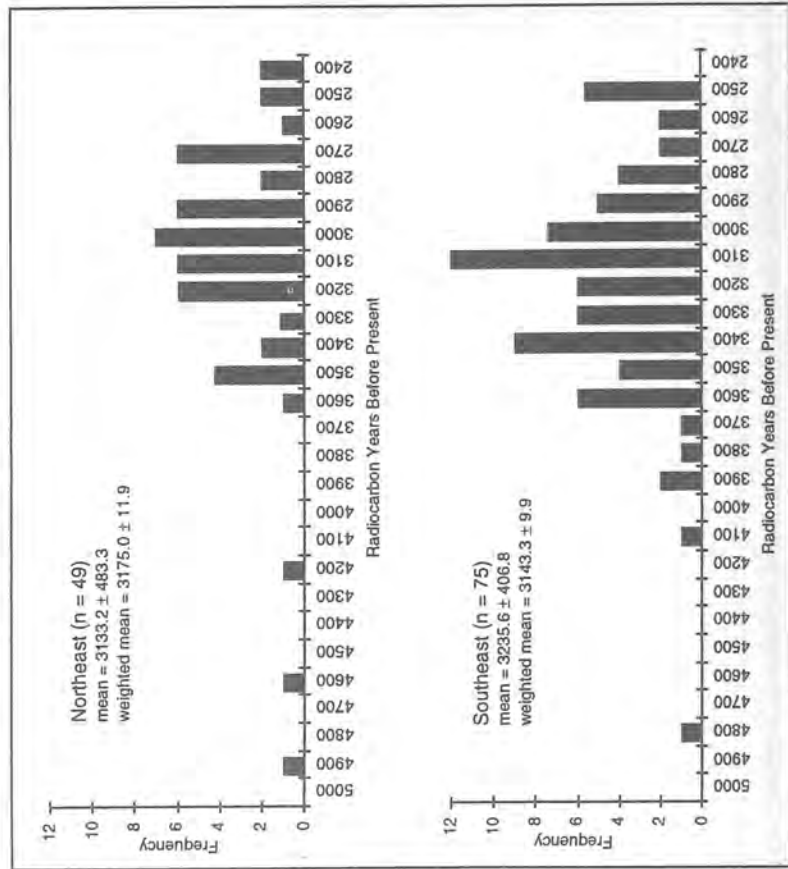
Figure 5.3  
Radiocarbon Age Estimates for Soapstone Vessels in the Northeastern United States



antiquity of the Hagerman AMS assay. Although Hoffman (1997) ascribed the Millbury III (Massachusetts) and Bennington Acres (Vermont) ages to soapstone vessels, neither of the investigators of these sites consider the associations credible (Doug Mackey, Alan Leveillee, personal communication 1997). Thus, the radiocarbon inventory for the Northeast, like that of the Southeast, includes no unambiguous assays predating 3700 B.P., Hagerman notwithstanding.

To compare further the two regional inventories, I converted the chronometric data into bar diagrams using only the mean values of the assays (Figure 5.4). Although they do not reveal tendencies in sample variance, these graphs enable some first-order analysis of interregional patterning. Basically, the distributions are very similar: both are attenuated toward the early end of the scale by a few ancient outliers (i.e., >3700 B.P.), both have a more or less unimodal shape centered on 3200 to 3100 B.P., and both have some stacking toward the recent end of the scale, particularly in the Southeast, where ages

Figure 5.4  
Graphic Comparison of the Frequency Distributions of Radiocarbon Age Estimates for Soapstone Vessels in the Northeast and Southeast



around 2500 B.P. are not uncommon. These general similarities are manifested in group averages, with the Northeast yielding a mean of  $3133.2 \pm 483.3$  B.P. and the Southeast a mean of  $3235.6 \pm 406.8$  B.P. Although the greater mean for the Southeast ages might be construed as evidence for a southerly origin for the innovation, the difference is not statistically significant due to the large standard deviations of either value ( $t = -1.215$  [unpooled],  $-1.261$  [pooled];  $d.f. = 122$ ). Moreover, when individual sample variance is taken into account to produce weighted means (Long and Rippeteau 1974), the differences are reversed: the Northeast shows a mean of  $3175.0 \pm 11.9$  B.P., while the Southeast has a mean of  $3143.3 \pm 9.9$  B.P. Because weighting serves to reduce group variance, the difference in means is now statistically significant ( $t = 15.332$  [unpooled],  $15.946$  [pooled];  $d.f. = 122$ ).

Accounting for all potential errors of misascription and sample contamination is beyond the scope of this chapter. I have already pointed out problems with radiocarbon ages greater than 3700 B.P.; other problems no doubt exist among more recent ages. However, taken at face value—with potential errors distributed randomly across both sets of assays—the Northeast and Southeast radiocarbon records for soapstone vessels are very similar with respect to range and modal tendencies. There is little to recommend that soapstone vessel technology in the Southeast is older than its Northeast counterpart; if anything, Northeast origins may be slightly older.

The relatively recent ages for soapstone vessels across the East underscore the need to rethink the relationship of this technology to early ceramic vessels. Clearly the relationship between the two technologies varied from region to region. Across much of the Southeast, pottery preceded local uses of soapstone vessels by several centuries. In the Middle Atlantic region (Virginia, Maryland, Delaware, Pennsylvania, and New Jersey), the two technologies may have emerged in tandem, while in New York and New England soapstone may yet have preceded pottery by a century or two. Regardless of the timing of origins, soapstone vessels apparently enjoyed a resurgence in popularity after 2700 B.P., well after pottery was adopted across most of the East. It goes without saying that soapstone vessel technology cannot be viewed simply as the precursor of the ceramic cooking pot. More deliberate attention to the specific cultural contexts of alternative vessel technologies is in order.

#### SOAPSTONE VESSELS IN CULTURAL CONTEXT

In the balance of this chapter I explore more fully the cultural contexts of soapstone and ceramic vessel technologies, first in the Northeast, where they are widely regarded as progressive stages in a developmental sequence, and then in the Southeast, where pottery predates soapstone vessels by several centuries in certain areas. My own experience reconciling this reversed sequence in the Savannah River valley led to a better appreciation of the cultural circumstances surrounding technical choice. Specifically, I found it useful to consider how

alternative technologies were actively manipulated to create and reproduce ethnic or cultural identity. In this regard, neither technology can be understood as merely technical solutions to mundane needs but, rather, as deeply entrenched, historically specific symbols whose significance can only be appreciated through detailed cultural reconstruction.

#### Northeast

Early pottery traditions and their relationships to soapstone technology in the Northeast are sufficiently varied to divide the region into two for the purpose of this discussion. The Middle Atlantic (Virginia, Maryland, Delaware, New Jersey, eastern Pennsylvania) boasts an early pottery tradition (Marcey Creek) whose design allegedly was inspired by a soapstone antecedent. In southern New England and New York, the first pottery (Vinette I) marks a dramatic technological break from soapstone vessels, although the two technologies apparently coexisted for several centuries.

*Middle Atlantic.* Soapstone vessels have long figured in the systematics of Middle Atlantic prehistory. They were the defining characteristic of Witthoft's (1953) Susquehanna Soapstone Culture, part of the so-called Transitional period. Although he lacked absolute chronology for this period, Witthoft (1953:14) was certain about the relative chronology of soapstone vessels and thus their "transitional" status: "[soapstone vessels] pertain to a very limited period in our archaeological history, and . . . they were not used by peoples before or after the Transitional Period; they represent the first form of cooking vessel, slightly earlier than pottery, and were soon supplanted by pottery vessels."

Although modern-day specialists in the Middle Atlantic long ago abandoned Witthoft's scheme (Kinsey 1972), soapstone vessels are still widely regarded as an early form of cooking vessel that was quickly rendered obsolete by ceramic technology (Custer 1984:84; 1989:167). Described as "experimental ware" (following Wise 1975), early pottery series in the region include Marcey Creek (Manson 1948), Seldon Island (Slattery 1946), Bushnell (Waselkov 1982), and Croaker Landing (Egloff et al. 1988), among others (see Dent 1995:224-227). These early ceramic vessels are generally trough- or basin-shaped, with flat bottoms, wide orifices, and occasional lug handles. Their formal resemblance to soapstone vessels has led some to suggest that early pots were copies of stone precursors (Custer 1984, 1989; Stephenson and Ferguson 1963:180; Witthoft 1953:25). Notably, Marcey Creek and Seldon Island wares were tempered with soapstone.

The type site for Marcey Creek pottery provided stratigraphic evidence for the temporal priority of soapstone vessels over pottery (Manson 1948). A few other stratified sites in the Middle Atlantic region apparently corroborate the Marcey Creek sequence (e.g., Kent-Hally [Kinsey 1959]; Raccoon Point [Kier and Calverley 1957]), while others show stratigraphic overlap between the two technologies (e.g., Seldon Island [Slattery 1946]; Koens-Crispin [Cross 1941];



Goose Island [Cross 1941]). Notably, all such stratified contexts were investigated long ago; comparable contexts have not been examined in the recent era. Whereas the quality of these excavations is not itself at issue, the lack of modern scrutiny is curious. Still, the cooccurrence of soapstone vessels and early pottery has not escaped attention, as some regional specialists allow that the former technology may have persisted well into the pottery era (Stephenson and Ferguson 1963:182; Stewart 1989; Thurman 1985).

As the chronology for soapstone vessels and early pottery in the Middle Atlantic continues to be refined, we may very well find that they were largely, if not fully, coeval, both dating as early as 3600 B.P., and then peaking in popularity from 3200 to 2900 B.P. If this indeed proves to be the case, the question then becomes: What were the conditions that allowed or encouraged the simultaneous use of soapstone and ceramic vessel technologies? In keeping with the dominant themes of Middle Atlantic prehistory, the answer would seem to be found in conditions, such as population growth and environmental change, which encouraged more intensive economic practices and increased settlement permanence (Custer 1984, 1989; Gardner 1975; Witthoft 1953). In this regard, either vessel technology may have helped to improve the efficiency with which foods could be processed through direct-heat moist cooking. However, given the formal and technological similarities between soapstone vessels and early pottery in the Middle Atlantic, the advantage of one over the other is unlikely to be manifested in mechanical performance but, rather, in relative manufacturing costs, particularly the costs of acquiring adequate raw material. Thus if early pottery represented the functional equivalent of soapstone vessels, its origins should be traced to locations removed from geological sources of soapstone, notably the Coastal Plain province.

Middle Atlantic radiocarbon chronology is too coarse-grained at present to posit the exact origins of the oldest pottery, although enough distributional data are available to suggest that limited access to soapstone was unlikely the determining factor in technical choice. Indeed, soapstone-tempered pottery is more common in the Piedmont province than in the Coastal Plain (Stewart 1989:57). And, whereas soapstone vessels are most common nearest quarries in the Piedmont and Fall Zone, they are distributed widely across the Coastal Plain (Stewart 1989:57). One of the more remote Coastal Plain locations in the Middle Atlantic, Dismal Swamp in southeast Virginia, received large numbers of imported soapstone vessels (Painter 1988). Soapstone-tempered pottery was also deposited regularly at Dismal Swamp sites (Painter 1988).

Obviously, factors other than ease of manufacture or access to raw material were at play. One possibility is that soapstone vessels and early pottery had significance beyond their role in everyday cooking. This is an idea recently examined by Klein (1997). In assessing the formal and technological qualities of early stone and ceramic vessels, Klein has suggested that they functioned primarily as containers for stone-boiling. He further suggested that soapstone vessel technology did not represent a vast improvement over traditional organic

media (wood, basketry), primarily because of its high acquisition and manufacture costs. Instead, the value of soapstone, according to Klein, resided in its capacity as a symbolic medium of social interaction. He notes that the use of soapstone vessels in the Middle Atlantic coincided with a period of widespread soapstone exchange in the Southeast, particularly the Poverty Point exchange network. Spurred by opportunities for interregional alliance building, Middle Atlantic residents incorporated soapstone vessels in the highly social contexts of ritual and ceremony. Later, when the exchange networks of the Southeast ceased to involve long-distance importation of soapstone, Marcey Creek ceramics became a short-lived substitute for soapstone in the ritual lives of Middle Atlantic residents.

Klein introduced a variety of considerations that typically are overlooked in explanations for the origins of durable container technology in the Middle Atlantic. I agree that interregional exchange, alliance building, and ritual uses of vessels were integral factors in the adoption of innovations. On the specific details of Klein's model I find some points of disagreement, however. For one, Klein embraced the usual sequence of soapstone to pottery that underlies traditional explanations. Clearly, soapstone vessels and early pottery coexisted for a few centuries in the Middle Atlantic, even if the former preceded the latter by a century or two, which remains to be proved. Second, sufficient evidence exists to conclude that at least some soapstone vessels were used directly over fire. In addition to the sooting described earlier, thermogravimetric analyses conducted by Truncer (1997) on sherds from the Middle Atlantic verify that soapstone vessels were regularly subjected to direct heat. Assemblages of Marcey Creek pottery await similar use-wear analyses. Inferences based on form and technology must be tested with independent evidence to determine how vessels were actually used, as opposed to the intent of design engineering. Marcey Creek and soapstone vessels may not have been functional equivalents, despite their obvious similarities in form.

These provisos about Klein's model deliver us back to the issue of cooccurrence. In this regard, I suggest that much is being missed in the lack of attention to ethnic diversity among populations of the Middle Atlantic. One of the more striking aspects of early ceramic technology in the region is the incredible diversity of the so-called experimental wares. In addition to the soapstone-tempered pottery that coincides more or less with distributions of soapstone vessels, there are a variety of sand-tempered and grog-tempered wares that are as old, or nearly as old, as Marcey Creek and Seldon Island pottery (Dent 1995: 225-226). Many of the wares tempered with aplastics other than soapstone are concentrated on the outer Coastal Plain, geographically distant from Piedmont outcrops of soapstone. Still, the appearance of Piedmont lithic materials in Coastal Plain sites with early pottery suggests that Coastal Plain and Piedmont groups interacted on a regular basis. The ethnic affiliations of these respective groups and the nature of interaction are topics that are woefully underexamined. It stands to reason that choices of alternative vessels technologies had much to

do with one's ethnicity, while the boundaries surrounding technical variants relate directly to rules of group formation and interaction. As I discuss at the close of this chapter, these very issues figured significantly in the differential use of alternative vessel forms in the Southeast. They may very well explain patterns of technological choice in southern New England and New York, as well.

*New England and New York.* Archaeologists in New England and New York have consistently, if not unanimously, confronted issues of ethnicity and cultural interactions in their explanations of technological innovation. Withoft's Transitional Stage, while crafted for archaeological manifestations of the middle and lower Susquehanna River valley, was adapted by Ritchie (1965) to explain the introduction of broadpoint technology and soapstone vessels into New York. Similarly, broadpoint cultures are believed to be intrusive to a southern New England landscape inhabited by indigenous cultures of the narrow-point tradition. The first pottery in the greater region—Vinette I—crosscuts both areas, although its relationship to soapstone vessel technology is not uniform across this expanse.

The temporal priority of soapstone over pottery in New England and New York is not supported by stratigraphic data, for the region boasts few deep sites. Instead, the sequence is based on radiocarbon chronology and by the lingering influences of the same unilinear thinking that has affected all other regions. As in the Middle Atlantic, with soapstone vessel chronology being compressed toward the recent end, and ceramic vessel chronology extended farther back in time, the two technologies are converging on contemporaneity. Regional specialists might balk at the notion that pottery is as old as soapstone vessels (cf. Hoffman 1997), although most would agree that soapstone vessels continued to be made after pottery appeared on the scene (Ritchie 1965:163), at least in southern New England, where sites sometimes contain both technologies (Snow 1980:258). This long history of soapstone vessels in the region actually encompasses two different traditions: a presumably early one associated exclusively with broadpoint cultures, and the later one centered on southern New England and Long Island, involving elements of both broadpoint and narrow-point cultural traditions known as the Orient Complex (Dincauze 1968, 1975b; Ritchie 1965).

Ceramic vessel technology in New York and New England marks a dramatic technological break from either variant of soapstone vessel technology. Dating as early as 3200 B.P., Vinette I pottery consists of coiled, grit-tempered, conoidal vessels marked by vertical or oblique exterior cord marking and horizontal interior cord marking. In form and technology, Vinette I pottery bears no resemblance to soapstone vessels. It occurs sporadically across sites of both narrow-point and late broadpoint affiliation in southeast New York and southern New England, and is occasionally found in association with early pottery of the Middle Atlantic as far south as southeast Pennsylvania (Kinsley 1959). Whereas New England/New York specialists generally agree that Vinette I pottery was an indigenous innovation, its precise context of origin is unknown. A few southern New England radiocarbon dates stretch origins back to as much as 3600 B.P.

(McBride 1984:124). Age estimates in the 3330–3100 B.P. range have been obtained from sites in southern New Hampshire (Bunker 1988; Howe 1988), on the northern fringe of its distribution, and on its western fringe in central New York (Ritchie 1965:158). Sparse occurrences in southeast Pennsylvania may be equally old (Custer et al. 1983). The use of Vinette I pottery peaks in the Meadowood Phase of central New York, which dates to about 3000 to 2500 B.P. and does not involve soapstone vessel technology. Southern New England sites of the Orient Complex often include early pottery, as well as soapstone vessels, although not typically in the same assemblages. Little of this Orient pottery is Vinette I; occurring with greater frequency are sherds of soapstone-tempered ware (Weeks 1971b) and other poorly known wares with possible affinities with Middle Atlantic pottery traditions (Dena Dincauze, personal communication 1998).

Central New York sites with soapstone vessels believed to predate Vinette I pottery are part of the Broadpoint Tradition that Ritchie (1965) attributed to Withoft's Susquehanna Soapstone Culture. Both Withoft and Ritchie regarded these occurrences as the northward expansion of broadpoint cultures whose ultimate origins laid to the Southeast. Soapstone vessels were considered a diagnostic feature of this intrusion, having been literally paddled by canoes up the Susquehanna River into central New York from quarries in southeast Pennsylvania (Withoft 1953:25).

Ritchie's (1965:161) Frost Island phase embodies the proposed expansion of soapstone vessel technology into central New York, following on the antecedent Snook Kill phase of the Broadpoint Tradition. Dating from about 3600 to 3000 B.P., the Frost Island phase involved the use of soapstone vessels with formal similarity to those of the Middle Atlantic region; that is, they consist of oval to rectangular, shallow vessels with flat to nearly flat bottoms, straight or slightly outflaring walls and occasional lug handles. Exterior surfaces bear the traces of chiseling or gouging, while interior surfaces are smoothed. Ritchie (1965:161) suggested that such vessels were at first delivered directly by immigrant groups, but then acquired through trade with groups down the Susquehanna River who had access to the quarries of southeast Pennsylvania. New York offered absolutely no local sources of soapstone. According to Ritchie (1965:161), pottery making may have been stimulated by the lack of local soapstone sources: "The want of any suitable stone substitute for the steatite pot may have hastened the adoption of Vinette I ware which was being introduced into the New York area not later than 1000 B.C. (Ritchie, 1962)."

Modern research undermines Ritchie's model on two counts. First, it appears that soapstone vessels were not a major element in the early assemblages of the Frost Island phase. Few early assemblages (i.e., pre-3200 B.P.) contain soapstone, and there is absolutely no evidence for soapstone in the preceding Snook Kill phase (Funk 1993:198). It thus appears that soapstone vessels were added late in the Frost Island phase, along with Vinette I pottery (Funk 1993:197–198). Second, recent sourcing analyses by Truncer and colleagues (1998)



eliminate southeast Pennsylvania or other Middle Atlantic quarries for most of the soapstone artifacts sampled from New York sites, including five sherds from the O'Neil site in Cayuga County, type site for the Frost Island phase (Ritchie 1965). These results suggest that southern New England quarries are the most likely sources for many soapstone vessels in New York (Truncer et al. 1998:40).

The earliest expression of an intrusive broadpoint culture in southern New England is the Atlantic phase, estimated by Dinceauze (1972) to date from about 4000 to 3600 years B.P. This phase apparently did not include soapstone vessel technology, exemplifying again the lack of unity between intrusive broadpoint culture and this cooking innovation. The subsequent Broadpoint phase, Water-town (3600–3300 B.P.; Dinceauze 1968), is responsible for the earliest uses of soapstone vessels in southern New England, although the defining contexts for the innovation are mortuary rather than domestic. Burial ceremonialism involving soapstone vessels intensified in the ensuing Coburn (3300–3000 B.P.) and Orient (3000–2500 B.P.) phases, the latter considered by Dinceauze (1968, 1974) to be the coalescence of 500 years of interaction between an indigenous population of the narrow-point tradition and descendants of the intrusive broadpoint culture. Independent of Dinceauze, Ritchie (1969a) drew a similar conclusion about the coexistence of distinct cultural traditions from work on Martha's Vineyard.

In light of the Dinceauze's and Ritchie's outlooks for a multicultural landscape in southern New England, it may be instructive to consider how soapstone vessels and Vinette I pottery emerged in the arena of interethnic relations. This opens an array of complex issues that require detailed study. Did soapstone vessel production and exchange in southern New England emerge in the context of an expanding broadpoint cultural front as one of several means of alliance building with central New York groups? Did successful ties with such groups effectively preclude or thwart assimilation between indigenous and immigrant populations in southern New England? Was the burial ceremonialism of southern New England a context of mediating ethnic distinctions between indigenous and immigrant populations, as suggested earlier by Dinceauze (1975b:31)? Did the ritual "killing" of soapstone vessels in mortuary contexts in southern New England symbolize mediation? Did the growing technological contrasts in the third millennium B.P.—notably the exclusive use of Vinette I pottery by Meadowood groups of New York and the coexistence of both soapstone and pottery in Orient contexts of southern New England and Long Island—signify an end to traditional alliances?

Answers to these questions elude us for now. Still, it is apparent that the peak in popularity of soapstone vessels in southern New England occurred after pottery was adopted, albeit lightly, throughout the region. This is the period of about 2900–2700 B.P. that encompasses many of the radiometrically dated or crossdated mortuary contexts of Orient affiliation. It likewise coincides with the proliferation of pottery use in Meadowood contexts of central New York, contexts which exclude soapstone vessels. Given the ceremonialism surrounding

soapstone vessels in southern New England and the sharp interregional contrasts that emerged at this time, I would suggest that explanations for the choice of alternative vessel technologies reside in the interpersonal alliances, marriage opportunities, and descent rules which underwrote patterns of ethnic affiliation and interaction. Ultimately, these are issues of social organization about which many archaeologists consider impossible to know. On the other hand, much untapped potential awaits archaeologists in the study of technology from a social perspective, particularly as regards one of the chief dimensions of social identity in any society, gender. It is within gender that we find the fundamental dimension for social divisions through marriage, alliance, and descent. It follows that archaeological patterns of gender-specific technologies embody rules of social organization, much in the fashion that Hill (1970) and Longacre (1970) attempted to show with ceramic design in the Southwest. In the close of this chapter I provide a short summary of my own attempt at social reconstruction in the middle Savannah River valley during the time pottery and soapstone vessels appeared. This case study illustrates how technical choice embodies identities of gender and how such identities are extended, through unilineal social organization, to boundaries and emblems of ethnicity.

#### Middle Savannah River Valley

Before pottery appeared in the Savannah River valley around 4500 B.P., soapstone had a long history of use as a raw material for cooking stones and bannerstones among Piedmont residents with lineal ancestry going back at least 1200 years. The use of pottery was initiated by a distinct people who resided in the lower Coastal Plain and on the coast of Georgia. Their first vessels were flat-bottomed basins used for indirect-heat cooking with soapstone cooking stones and other rocks. Soapstone did not outcrop in the Coastal Plain, so it had to be acquired through direct, long-distance procurement, or, more likely, through alliances with Piedmont neighbors. Pottery was not adopted by individuals occupying the Piedmont, not even after innovations for direct-heat cooking rendered soapstone slab cooking unnecessary. I have argued elsewhere (Sassaman 1993a) that the resistance to technological change may have been grounded in efforts to perpetuate alliances predicated on soapstone exchange. I further suggested that the apparent ethnic distinctions between Coastal Plain and Piedmont groups paralleled gender relations as regards cooking technology, with females responsible for pottery innovations and men in control of soapstone acquisition and trade.

By 4000 B.P., Coastal Plain residents began to spend more time in the Fall Zone and lower Piedmont of the middle Savannah River valley. Their composition at this point may have resulted from the assimilation of Piedmont and Coastal Plain residents into one group, through marriage and other means. However, the emerging cultural expression archaeologists refer to today as Stallings appears to have been organized by rules of exclusion. Analysis of the technology

and decoration of Stallings pottery suggests that Stallings Culture was matrilineal in its postmarital residence patterns (Sassaman and Rudolph 1995). Men who were lineal descendants of Piedmont groups may have been able to marry Stallings women and then join their wives' groups, but there is nothing to suggest that such men were able to take Stallings brides away from their natal lands. The inequity of this arrangement may have been disadvantageous to Piedmont groups attempting to sustain themselves biologically and socially. Over the 200 years during which Stallings Culture rose to prominence in the middle Savannah (i.e., 4000–3800 B.P.), Piedmont groups became increasingly remote. Known today as the Mill Branch phase, small groups persisted in the uplands of the middle Savannah during this period, but completely abandoned the area after 3800 B.P. Certain enclaves of Mill Branch affiliation appear to have relocated into portions of north-central Georgia (Stanyard 1997), where they maintained a traditional lifestyle. Here they began to make and use soapstone vessels.

In one sense, soapstone vessels can be viewed as a technological solution to challenges facing descendants of Mill Branch Culture. However, they certainly had knowledge of pottery, and there is nothing yet from the archaeological record to suggest they experienced any new demands on cooking technology. Rather, the greatest challenges may have been in establishing new alliances and relations with regional neighbors and to build a new cultural identity from the remnants of their traditions. In this regard, soapstone vessels embodied the raw material of tradition (soapstone) and the form of innovation (pottery) that paralleled both the ethnic distinctions of their history (Mill Branch/Stallings) and the gender relations underwriting inequality (men:outsiders; women:insiders). For them, soapstone vessels may have symbolized the mediation of contradictions (ethnicity, gender) that had undermined more open, egalitarian social relations. Shortly after appearing, soapstone vessels were exported great distances into peninsular Florida, the Gulf Coast, and, eventually, to Poverty Point. They clearly had a conspicuous role in the intergroup relations of regional populations, many of which, by this time, had developed, or at least had access to, full-blown pottery technology (Finn and Goldman-Finn 1997). Alliances directed away from the middle Savannah River valley may have themselves contributed to the collapse of Stallings Culture. Classic Stallings Culture, with its elaborate pottery, large shell middens, and concentrated riverine settlement pattern, dissolved at about 3500 B.P. Appearing at the very same time, for the very first time in the middle Savannah, were soapstone vessels.

To summarize, variation in timing and uses of alternative cooking vessel technologies in the Savannah River region was embedded in the histories of culture building and ethnogenesis stemming from group interactions. The most conspicuous seams of variation resided at the level of ethnicity, or the boundaries of collectivities, but they emanated from domestic relations of gender and their community extensions of unilineal descent and unilocal postmarital residence. As such, the alternative technical choices can hardly be considered passive expressions of tradition. Rather, they were conscious and purposeful decisions.

enacted to distance one from the constraints of tradition (structure) while simultaneously building new tradition of alliance and collectivism.

## CONCLUSION

Improved chronology for soapstone vessels in the Southeast verifies that this innovation was not the technological precedent for pottery, as unilineal evolutionary thinking would have us conclude. Refined chronology also undermines simple diffusionist claims for the spread of soapstone vessel technology from south to north. The so-called Broadpoint Tradition may in fact have involved the northward migration of people from the Southeast to the Middle Atlantic, and then into central New York, southern New England, and beyond. However, soapstone vessels technology was not a part of this process. In each of the areas of their occurrence, soapstone vessels were adopted or developed at least 200 years after members of broadpoint cultural affiliation became established locally. The decoupling of emergent broadpoint cultural elements (e.g., flaked stone) and soapstone vessels underscores the inadequacy of normative models which view cultures as unified, integrated wholes, as in the now defunct Susquehanna Soapstone Culture of Withoft (1953). Clearly, the origins of soapstone vessels and its relationship to pottery varied from region to region and need be interpreted in their specific historical and cultural contexts.

At the same time, soapstone vessel technology has all the hallmarks of a true archaeological horizon at about 3200 B.P. across much of the East, and a resurgence in use at about 2700–2500 B.P. in two widely separated areas, the Gulf Coastal Plain and southern New England, both of which involved mortuary ceremonialism. The factors accounting for such large-scale patterns are not likely to be independent of the local-scale processes which led to varying choices among alternative vessel technologies. The earlier horizon coincides with the beginnings of pottery making throughout the Middle Atlantic and areas of the Southeast apart from those with earlier, fiber-tempered pottery traditions. The later occurrences accompany widespread use of pottery across eastern North America. Rather than relegating soapstone vessels to the category of "ceramic prototype," we ought to consider more fully how soapstone vessels were among the consequences of cultural processes which circumscribed traditions of pottery. The Savannah River case study exemplifies one such process. Elsewhere the juxtaposition of soapstone and pottery may be structured by control over raw material sources, labor arrangements, or technical processes.

In examining social processes accounting for alternative vessel uses, it is important that analyses not be restricted to the simple presence-absence of particular technologies. For instance, soapstone vessel forms vary considerably across the Northeast. Orient vessels tend to have smooth exterior surfaces and rounded bottoms, while other Northeast forms tend to have chiseled exteriors and flat bottoms (Ritchie 1959:62; 1965:159, 161; Withoft 1953). Within particular quarries of southern New England, vessels forms vary from oval and

round to rectangular and triangular (Bullen 1940; Dixon 1987). Also, size within a single tradition of form varies; those in Orient and related mortuary contexts, for example, vary from 14 to 62 cm in length and 5 to 23 cm in height (Lord 1962; Ritchie 1965:170). The extent to which formal variation reflects diachronic trends is uncertain, but one cannot dismiss the possibility that contemporaneous producers manipulated form for diverse cultural purposes.

In a similar sense, vessel function is subject to cultural variations not directly related to utilitarian concerns. As noted earlier, the persistent of indirect-heat cooking with early ceramic vessels in the Savannah River valley arguably was the result of conscious efforts to perpetuate exchange alliances between groups. Similarly, the Chumash Indians of California resisted the adoption of Western cooking technology to perpetuate soapstone exchange alliances with channel island neighbors (Hudson and Blackburn 1983). What is more, function can be manipulated to break from alliance and tradition, as well as perpetuate it—that is, to build new culture and identity (e.g., Lemonnier 1992). Thus, detailed information of the actual functions of early vessel technology is highly relevant. Truncer's (1991, 1997) recent analyses of soapstone vessel function is a major step in documenting the full range of vessel uses in the Northeast. Advances in our understanding of the cultural contexts of alternative uses cannot proceed without such functional data.

Above all, renewed interests in the specific cultural and historical contexts of prehistory heightens the need to interpret vessel technology in the Northeast in its own, multifaceted terms. New insights await efforts to "center" the Northeast (Dincauze 1993a) as a legitimate arena of social process, to abandon theoretical programs that downplay historical process, and, perhaps most important, to deconstruct the typologies that preclude social variation (see also Chapters 4, 6, and 8, this volume). We have the potential to convert unilineal sequences into multicultural communities and, by extension, enhance greatly the interpretive relevance of archaeological data to the issues of power and ethnicity that are in the mainstream of contemporary anthropology.

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