DATING AND EXPLAINING SOAPSTONE VESSELS: A COMMENT ON TRUNCER

Kenneth E. Sassaman

A recent paper by Truncer (2004) perpetuates the recalcitrant misconception that soapstone vessel technology uniformly predates the inception of pottery across eastern North America. Whereas soapstone vessels indeed preceded the local adoption of pottery in limited areas, the bulk of stratigraphic and independent radiometric data supports the conclusion that soapstone vessels either accompanied or postdated the inception of pottery in many parts of the Eastern Woodlands. I reiterate here my criticism of benchmark studies that have been uncritically accepted to support the greater antiquity of soapstone. Given the coincidence of pottery and soapstone in many areas of the Eastern Woodlands, any explanation for the use of soapstone vessels must consider the relative costs and benefits of alternative container technology. Moreover, evidence for use of soapstone vessels in mortuary contexts, caches, and in locations far from geological sources of soapstone suggests that their significance resided not simply in the domestic economy of nut processing, as suggested by Truncer, but in the political economy of group formation and alliance.

Un reciente escrito de Tuncer (2004) se continua perpetuando el recalcitrante error de argumentar que la techonología de vasijas de piedra jabonosa es anterior a la incepción de la ceramica en el este de Norte America. Mientras que las vasijas de piedra jabonosa preciden la adopción local de cerámica en areas limitadas, el grueso de la estratigrafia y de los datos radiométricos apoyan la conclusión que las vasijas de piedra jabonosas acompañan o son posteriores a la introducción de la cerámica en muchas partes del este de las Woodlands. Yo reitero aquí mi criticismo de estudios que son aceptados sin ninguna crítica que dan soporte a la antígüedad de la piedra jabonosa. Dada las coincidencias de la cerámica y la piedra jabonosa en muchas areas del este de las Woodlands, cualquier explicación sobre el uso de la piedra jabonosa debe cosiderar el relativo costo y beneficio de tecnologías de almacenamiento alternativos. Ademas, la evidencia para el uso de las vasijas de piedra jabonosa en contextos mortuarios, caches y en otras localizaciones lejanas de las fuentes de piedra jabonosa sugiere que su significado no reside en la economía domestica del procesamiento, como sugiere Truncer, pero en la economía política de la formación de grupos y alianzas.

I applaud James Truncer (2004) for compiling a comprehensive data set on the distribution and timing of soapstone (steatite) vessels in eastern North America. He and I share a long-standing interest in these data, and I agree with him that the rise and fall of soapstone vessel technology is a woefully understudied topic. We approach the subject from vastly different theoretical precepts, and it is unlikely we will ever agree on matters of interpretation. Thus, my primary intent here is not to counter his explanation for the rise and fall of soapstone vessels, but rather to set the record straight on matters of fact. I maintain that the empirical basis of most knowledge claims for the prepottery age of soapstone vessels is weak at best. Truncer takes me to task directly in my criticism of three such claims in the American Southeast, and I take this opportunity to respond directly to his dismissal of this effort.

My interest in soapstone vessel technology grew from dissertation research on early pottery in the Savannah River Valley of Georgia and South Carolina (Sassaman 1993a). In analyzing collections from across the region, I was struck by the association of soapstone vessels with early pottery and the seeming lack of counterparts in prepottery contexts. Having been taught that stone vessels preceded pottery in the sequence of Archaic technologies of the Eastern Woodlands (Caldwell 1958; Smith 1986), I was curious about the possi-

Kenneth E. Sassaman ■ Department of Anthropology, Box 117305, University of Florida, Gainesville, FL 32611 (sassaman@anthro.ufl.edu)

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bility that the order was reversed, or at least that the two technologies emerged at the same time. Another researcher of the Savannah River Archaic, Daniel Elliott (1986), contemplated this scenario long before me, having tested a site on the Sumter National Forest with soapstone vessel sherds stratigraphically superior to Stallings fiber-tempered pottery. In northeast Florida, Ripley Bullen (1972) made similar observations of the relationship between Orange fiber-tempered pottery and soapstone vessels. Of course, in both areas pottery was especially early, appearing no later than 4200 B.P.,[1] so a post-pottery appearance for soapstone vessels could be early too, and likely contemporaneous with prepottery uses in other parts of the Eastern Woodlands where pottery appeared much later. However, as radiocarbon assays accumulated it became clear that in both areas, soapstone vessels not only postdated the inception of pottery, but they did so by at least six and as many as nine centuries (ca. 3500-3200 B.P.). By this time pottery enjoyed more widespread use in many parts of the Eastern Woodlands, so the associations evident in the St. Johns and Savannah valleys were more pervasive. Proving so meant coupling critical evaluation of the empirical underpinnings of knowledge claims for prepottery soapstone with a new suite of radiocarbon assays from samples with unequivocal association with soapstone sherds.

AMS Assays on Soot

The Soapstone Vessel Dating Project began in 1994 when a sooted soapstone vessel sherd was uncovered at the Tinker Creek site (38AK224) in Aiken County, South Carolina. Like so many interriverine sites in the South Atlantic Coastal Plain, Tinker Creek consisted of shallow, well-drained, acidic sands that rarely preserve organic matter older than a few centuries. Datable organics (usually small bits of charred nutshell) were seldom observed and never in direct association (e.g., pit features) with diagnostic artifacts. Thus, the sooted sherd presented a rare opportunity to acquire an age estimate for a specific artifact of presumed prepottery age. As Truncer (2004:496) discusses at length, association-based dating (e.g., stratigraphic or feature associations between datable organics and artifacts) has its pitfalls, as the target events (objects) we hope to date and the actual organic matter assayed do not necessarily coincide. AMS dating of carbon residues on vessel walls would seem to circumvent this pitfall inasmuch as the residue accumulated during the actual vessel use, and not during, for instance, the reuse of sherds of broken vessels, or worse, natural post-depositional fires. Following the criteria for soot formation on vessel exteriors specified by Hally (1983) and Skibo (1992), it is relatively easy to determine the likelihood that soot on any given sherd formed during the actual use of the vessel over fire. This means sampling only soot from the upper exterior portions of vessels (rim sherds), and avoiding interior residues and any sherd with carbon on one or more fracture planes. Because the exterior surfaces of soapstone vessel sherds typically bear the chisel marks of their manufacture, soot often is preserved in the recesses of exterior surfaces, even when preservation of organic matter is generally poor, as at Tinker Creek. I have found the same applies to the punctated and incised surfaces of pottery sherds in the Stallings and Oranges series, and have applied AMS dating of soot from these to great effect (e.g., Sassaman 2003a). Although AMS dating of soot is no panacea and hardly immune to the "old-wood" problem and related forms of contamination, it clearly provides the best possible association between target event (thermal use of soapstone vessel) and sample event (datable soot samples).[2]

I have since 1994 obtained 21 AMS assays on exterior soot from soapstone vessel sherds from 19 sites distributed across seven states. In addition, several colleagues in the Southeast have obtained assays on soot from soapstone sherds at my suggestion. Data on all such assays are listed in Table 1; seven of these are previously unpublished and two others have not been issued outside of limited-distribution contract reports. Included in Table 1 are the three AMS assays obtained by Truncer from sites in New York and Pennsylvania, giving us a total inventory of 27 assays (Figure 1). Two of the samples collected by Truncer (Hagerman and Christiana) and one by a southeastern colleague (9LI444) are from interior residues[3]; all others were scraped from sooted exteriors.

Following a method used by Truncer (2004), I graph in Figure 2 the frequency distribution of all of the AMS assays on soot/residue at the 2-sigma range of calibrated age B.C. (hereafter cal B.C.).[4]

Figure 1. Locations of sites from which samples of soot from soapstone vessel sherds were collected, along with other sites mentioned in the text.

The distribution is somewhat bimodal, with the largest mode centered on ca. 1650 cal B.C., a smaller mode centered on ca. 800 cal B.C., and two ancient outliers at roughly 3700 and 5200 cal B.C.[5] Missing in this graph is the attenuated early tail seen in Truncer's figure (2004:Figure 6). This discrepancy is partly due to the smaller sample size of the AMS inventory, but actually the tail of Truncer's figure consists of only four assays: the early Hagerman AMS date, included in my graph, and three conventional assays on charcoal from two sites in North Carolina (Gaston and Warren Wilson) and

Table 1. Data on AMS Assays of Soot Samples from Soapstone Vessel Sherds.

Map Number	Laboratory Number	Site, State	Measured ^{14}C Age (B.P.)	$\delta^{13}C$ (‰)	Conventional ^{14}C Age (B.P.)	Calibrated Date[a]	Reference
1	Beta-139264	8WL1278, FL	6260 ± 40	-25.2	6260 ± 40	5317-5205 (p = .679)	Saunders and Mikell 2004
						5179-5138 (p = .169)	
						5130-5075 (p = .152)	
2	AA-19134[b]	Hagerman, PA	4910 ± 75	-26.3	4910 ± 75	3940-3857 (p = .089)	Truncer 2004
						3817-3622 (p = .820)	
						3599-3523 (p = .091)	
3	Beta-81709	8WI1005, FL	3740 ± 50	-25.3	3740 ± 50	2293-2014 (p = .975)	Hemphill et al. 1995
						1998-1979 (p = .025)	
4	Beta-130126	8DI52, FL	3620 ± 70	-24.2	3630 ± 70	2198-2158 (p = .038)	Yates 2000
						2151-1862 (p = .892)	
						1844-1807 (p = .041)	
						1803-1773 (p = .029)	
5	Beta-92523	9DW77, GA	3620 ± 60	-25.9	3610 ± 60	2139-1862 (p = .907)	Webb 1997
						1844-1807 (p = .055)	
						1803-1773 (p = .038)	
6	Beta-113255	BISO 3, TN	3650 ± 50	-29.8	3570 ± 50	2106-2104 (p = .002)	this report
						2033-1748 (p = .998)	
7	Beta-175787	8FL163/8PU17, FL	3500 ± 40	-25.1	3500 ± 40	1921-1736 (p = .964)	Sassaman 2003b
						1713-1693 (p = .036)	
8	Beta-84699	9TF5, GA	3500 ± 60	-28.0	3460 ± 60	1936-1931 (p = .003)	Sassaman 1997
						1923-1620 (p = .997)	
9	Beta-92522	38BR813, SC	3440 ± 60	-24.0	3460 ± 60	1936-1931 (p = .003)	Sassaman 1997
						1923-1620 (p = .997)	
10	Beta-93458	9RO20, GA	3430 ± 80	-26.3	3410 ± 80	1914-1902 (p = .009)	Stanyard 1997
						1893-1519 (p = .991)	
11	AA-19136[b]	Hunter's Home, NY	3420 ± 60	-26.5	3420 ± 60	1882-1600 (p = .948)	Truncer 2004
						1586-1582 (p = .003)	
						1571-1530 (p = .050)	
12	Beta-126945	31CK6, NC	3400 ± 70	-25.6	3390 ± 70	1878-1839 (p = .075)	this report
						1829-1788 (p = .059)	
						1784-1521 (p = .866)	
13	Beta-126946	40RE179, TN	3360 ± 70	-25.3	3360 ± 70	1876-1841 (p = .038)	this report
						1826-1820 (p = .003)	
						1814-1797 (p = .014)	
						1779-1495 (p = .939)	
						1470-1463 (p = .005)	

14	Beta-84698	Hitchcock Woods 26, SC	3340 ± 60	-26.2	3320 ± 60	1740-1491 (p = .970) 1478-1454 (p = .030)	Sassaman 1997
15	Beta-95681	38AK224, SC	3320 ± 50	-25.8	3300 ± 50	1727-1722 (p = .005) 1689-1489 (p = .947) 1481-1450 (p = .048)	Sassaman 1997
16	Beta-141720	8DU5544/45, FL	3220 ± 50	-25.0	3220 ± 50	1618-1403 (p = 1.00)	this report
17	Beta-116287	36DA162, PA	3190 ± 50	-24.9	3190 ± 50	1601-1559 (p = .047) 1533-1374 (p = .929) 1337-1319 (p = .025)	Sassaman 1999
18	Beta-81405	38BK984, SC	3200 ± 60	-26.1	3180 ± 60	1604-1367 (p = .922) 1362-1311 (p = .078)	Poplin et al. 1997
19	Beta-89079	38CH1609, SC	3180 ± 40	-26.7	3160 ± 40	1519-1374 (p = .947) 1337-1319 (p = .053)	Sassaman 1997
20	Beta-79986	38AK224, SC	3160 ± 60	-25.0	3160 ± 60	1599-1587 (p = .009) 1581-1568 (p = .010) 1529-1289 (p = .965) 1281-1262 (p = .017)	Sassaman 1997
21	Beta-116286	Upper Bare 1, PA	2950 ± 50	-25.6	2940 ± 50	1367-1362 (p = .004) 1312-999 (p = .996)	Sassaman 1999
22	Beta-148379	Newnans Lake, FL	2870 ± 40	-23.7	2890 ± 40	1254-1244 (p = .010) 1212-1198 (p = .028) 1193-1138 (p = .126) 1133-970 (p = .795) 959-935 (p = .040)	this report
23	Beta-133395	9LI444, GA	2810 ± 40	-27.1	2770 ± 40	999-831 (p = 1.00)	Markham and Holland 2000
24	Beta-89077	John Island, FL	2710 ± 40	-28.2	2660 ± 40	898-793 (p = 1.00)	Sassaman 1997
25	Beta-130125	1BT15, AL	2650 ± 80	-25.2	2650 ± 80	1000-742 (p = .800) 723-538 (p = .196) 529-522 (p = .003)	this report
26	Beta-89078	1BT15, AL	2590 ± 40	-26.5	2570 ± 40	825-756 (p = .522) 702-541 (p = .478)	this report
27	AA-19135[b]	Christiana, PA	310 ± 65	-26.0	310 ± 65	A.D. 1442-1674 (p = .963) A.D. 1777-1800 (p = .033) A.D. 1941-1946 (p = .004)	Truncer 2004

[a]Calibrated ^{14}C dates were derived from CALIB 4.4.2, the most recent radiocarbon calibration program available online from the University of Washington Quaternary Isotope Lab, based on the 1998 international decadal atmospheric and marine calibration curves (Stuiver et al. 1998). Dates are listed as cal B.C. (except where noted) with 2-sigma error terms and associated probabilities.

[b]It is not clear from Truncer's Table 2 (Truncer 2004:498-504) if the AMS dates he lists from his own work are measured ^{14}C or conventional ^{14}C ages, the latter corrected for fractionation. Those listed in his table with attribution to Sassaman (1997, 1999) are measured (uncorrected) 14C, and from these Truncer obtained the calibration dates listed in his table. CALIB recommends that corrected assays be used for calibration whenever possible. Because the majority of assays on soot corrected for fractionation decrease the ^{14}C age, Truncer's use of uncorrected assays biases the results toward greater age.

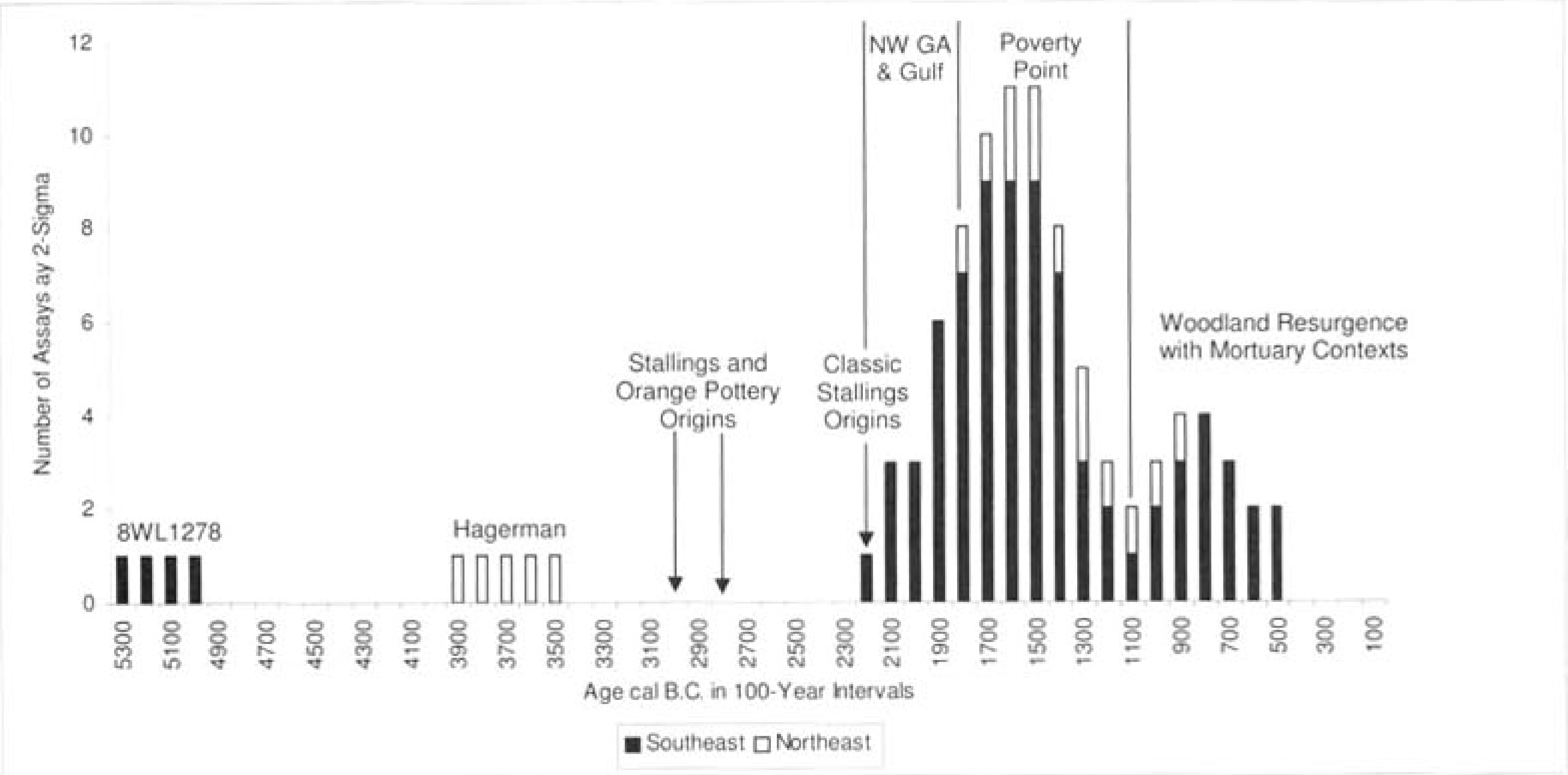

Figure 2. Absolute frequency of all of the AMS assays on soot/residue at the 2-sigma range of calibrated age B.C., with annotations of key samples, historical events, and related archaeological phenomena. Note that each assay with calibrated date ranges exceeding 100 years accounts for two or more adjacent intervals; for example, with a 2-sigma range of 3940–3523 ca. B.C., the Hagerman assay occupies five adjacent intervals (i.e., 3500–3900 cal B.C.).

one in Georgia (Falcon Field). I assessed the reliability of these three conventional assays in an earlier paper (Sassaman 1997) and made what I believe to be sound judgment in dismissing them for lack of good association between dated charcoal and soapstone vessels sherds. Truncer (2004:506) has resurrected these assays as three of the four "oldest reliable dates" through arguments of assertion and unfounded dismissal of my assessments. I show in the paragraphs that follow why on this count Truncer is incorrect.

Assessing the Associations and Contexts of the Oldest Conventional Assays

Gaston

The primary context in question is one that has been especially influential in supporting a prepottery age for soapstone vessels in North Carolina and beyond. The Gaston site in Halifax County, North Carolina was one of the key sites used by Joffre Coe (1964) to construct the cultural sequence of the "formative cultures" of the Carolina Piedmont. Stratified archaeological remains at Gaston were contained in the upper two meters of levee deposits fronting the Roanoke River. A prepottery (Savannah River) Late Archaic stratum was observed in a buried humus (brown sand) some 90–120 cm below the surface, underlain by an additional 43 cm of Middle Archaic deposits in alluvial sands with lamellae. Capping the Late Archaic stratum was a 35-cm thick stratum of sand variously described by Coe as "yellow" (1964:92, 112) or "orange" (1964:89, 95), and "sterile" (1964:94, 95). In overlying sands developed an organically enriched midden with abundant Woodland-period sherds, other artifacts, a variety of pit features, and post holes of a palisade ("stockade"; Coe 1964:94). Many of the 200+ pit features penetrated into the "sterile" sand below, and were, in fact, identified at the contact of the Woodland midden and the underlying yellow sands after bulldozing away the midden across eight large areas of the site. A trench five by 15 feet in plan along the riverbank and 21 five-by-five-foot squares placed randomly across the site were excavated to the top of the yellow sand to identify the best areas for stratigraphic separation of the Woodland components, and to provide controls for the bulldozing operation. After removing all features identified at the top of the yellow sand, some 65 square meters were dug through the Archaic levels to a minimum depth of 198 cm below surface in eight separate units across the site (Coe 1964:94–96).

Sixty-two soapstone vessel sherds were recovered from Gaston. In his brief discussion of the context of these items, Coe (1964:112) admits that most came from Woodland contexts. Thirty-five of the sherds came from pit features, 10 came from excavated levels of the Woodland midden, and 13 came from the yellow sand below the midden. Coe does not indicate where the remaining four were found, although one illustrated in his report (Coe 1964:112) is labeled as a "surface" find. Nowhere does Coe provide evidence or even passing mention of the recovery of soapstone vessel sherds from the Late Archaic stratum (i.e., brown sands). Nonetheless, he asserts that the "majority of the evidence, therefore, indicated that the point of origin of these steatite pot fragments was the Savannah River level" (Coe 1964:112–113). The 3900 ± 250 B.P. (uncalibrated, two sigma) age estimate for the combined charcoal of three hearths in the Late Archaic stratum has been uncritically accepted by Truncer, and others before, as a reliable date for soapstone vessels.

Truncer (2004:497) disagrees with my skepticism about Gaston, concluding that "steatite vessel sherds at Gaston appear to be in good stratigraphic association with the radiocarbon dated sample." In a footnote rebutting my skepticism, Truncer (2004:513) quotes Coe's (1964:113) account of the distribution of soapstone sherds in the yellow sand and overlying midden. Inexplicably, Truncer asserts that the yellow sand *is* the Savannah River level, cobbling together two phrases from Coe to make it appear *as if* Coe made this assertion. He did not, and the yellow sand is *not* the Savannah River level, it is the overlying sand that caps the Savannah River stratum. This point is unassailable.

To further clarify the context of soapstone sherds from Gaston, I consulted the primary source—the lengthy tome that is Stanley South's 1959 M.A. thesis. With the assistance of Lewis Binford in 1955, South conducted the majority of the work in the Roanoke Rapids area, including excavations at Gaston. The detailed tables of South's thesis give the complete account of soapstone sherd contexts at Gaston. He provides a breakdown of sherds in Woodland pits (South 1959:343–345, 347) as well as a table showing the frequency distribution of sherds in the excavated Woodland midden levels from the control units. The ten sherds Coe (1964:112) indicates came from Woodland levels are evident in South's tabulation for Levels 1–3 (0–20 inches [0–51 cm]), but South adds another eight from the next level (Level 4; 20–24 inches [51–61 cm]), which occupied the interface between the Woodland midden and yellow sands (South 1959:360). A passage elsewhere in the thesis makes it clear where the remaining soapstone sherds came from: "the largest specimens were located after the bulldozer had scraped off the black midden accumulation on the site down to the yellow sand level. In following the bulldozer, several large sherds were found in this yellow sand" (South 1959:199, 204). It is clear that the majority of sherds in nonfeature contexts came from the upper portion of the yellow sand, in close proximity to the Woodland midden and stratigraphically separated from the Savannah River stratum below. It is equally clear that no sherds came from features in the Savannah River or deeper strata, and, perhaps most important, none came from the excavated levels of the Savannah River or deeper strata, according to South's (1959:370) Table 21.

As indicated in my 1997 criticism of the Gaston account, I do not think that Coe deliberately misrepresented the contexts of soapstone sherds at this site, but it seems clear that he drew a conclusion about the association of the sherds in Late Archaic contexts not on the basis of evidence from Gaston but on presumptions about the prepottery age of stone vessels in general. I believe that Coe's influence in this regard was formidable, as perhaps was the case in the interpretation of soapstone sherd contexts at another North Carolina site, Warren Wilson.

Warren Wilson

One of the largest collections of soapstone sherds from excavated contexts came from the Warren Wilson site in Buncombe County, North Carolina (Keel 1976:159–212). Truncer's perspective on the contexts of these sherds is based on a literal reading of the stratigraphic distribution of artifacts from at least three major components in only 65 cm of sandy sediment (Keel 1976). Like Gaston, Warren Wilson contained a buried anthropogenic soil (Zone C) with Late Archaic stemmed bifaces and rock-filled hearths, two of which contained sufficient charcoal to supply (uncorrected) radiocarbon assays of 4865 ± 280 and 3535 ± 140 B.P. Unlike Gaston, Warren Wilson indeed contained soapstone vessel sherds in this Late Archaic stratum, a total of 138. However, soapstone sherds were also retrieved in even greater frequency from the thin, overlying Zone B of Early Woodland Swannanoa age ($n = 408$), and Zone A, a plowzone containing a late-prehistoric Pisgah component ($n = 211$).

Despite the presence of scores of soapstone sherds in a bona fide Late Archaic stratum, I became suspicious of Keel's (1976:187) assertion that "there is little doubt that the majority of the steatite vessels was made by the Savannah River (Late Archaic) folk" because I could not replicate his calculation of sherds per unit excavation. Keel was clearly concerned that the majority of sherds at Warren Wilson came from the Swannanoa stratum, and he rightfully attempted to correct for the numerical bias posed by unequal sampling of the three strata. In calculating ratios of soapstone sherds per unit area (square feet) excavated, Keel arrived at a density of .02 sherds for Zone A, .05 for Zone B, and an impressive 1.3 for Zone C. This latter figure would certainly appear to support Keel's assertion, but unfortunately it is off by a factor of 20. This may simply be a typographical error of .13, although my calculations using Keel's published data result in site-wide figures of .063 and .066 sherds per square foot for Zones B and C, respectively.

The relative density of soapstone sherds across strata is especially revealing in a portion of Warren Wilson dug completely through Zone C (200 Trench; 1200 square feet; Keel 1976:168). Of the 227 sherds recovered in this area, 25 (11 percent) came from Zone A, 133 (59 percent) came from Zone B, and 69 (30 percent) came from Zone C. If we adjust for differential thickness of strata and consider the density of sherds per unit volume, the proportion of sherds in Zone B increases to 70 percent, and Zone C drops to 22 percent. Furthermore, soapstone sherds consistently covary with Swannanoa sherds in the horizontal distributions of these artifacts across all excavated area.

Truncer (2004:513) agrees with my adjustment to Keel's figures but goes on to assert that these measures of vertical and horizontal variation are "irrelevant in assessing the strength of association between the dated organic matter and the occurrence of steatite vessels in Zone C." I disagree vehemently. The "strength" of the association Truncer refers to is the distribution of sherds across three strata, not feature context. The occurrence of soapstone sherds in Zone C is unequivocal, but along with these items are 95 Swannanoa sherds. Following Truncer's logic, these latter sherds would likewise be estimated to date as much as 4800 B.P. Clearly they do not, as the vast majority of Swannanoa sherds came from the overlying stratum, as did the soapstone sherds. None of the five listed features at Warren Wilson with soapstone sherds contained diagnostic Late Archaic bifaces (Keel 1976:Tables 28 and 29). Each of these five features did, however, contain at least 15 and as many as 68 Swannanoa sherds, and two also contained Swannanoa Stemmed points. The lone whole soapstone vessel that sports the cover of Keel's book is reportedly from Zone C, but the details of its context are not published. Rather than imagining this whole vessel sitting on the surface of a Late Archaic floor that was rapidly buried by alluvium, I think it more likely that it was lying in a Woodland-period pit whose outline was indiscernible.[6] As shown in Keel's report (1976:165) the contact between Zones B and C at Warren Wilson was undulating, diffuse, and riddled with mottles. The strata were not separated by sterile alluvium, and, despite Truncer's (2004:505) assertion for "a lack of extensive downward mixing," the profile apparently suffers from substantial bioturbation and cultural disturbances, as do most shallow sites. Warren Wilson is no Pompeii and cannot be read so literally.

Even if Warren Wilson were a Pompeii, is it wise to rely on the older of the two radiocarbon assays to estimate the age of Zone C? Keel (1976:180) himself was dubious about this older estimate for the Savannah River Late Archaic occupation, and rightfully so, for we know today that Savannah River Stemmed points in the Carolinas and Georgia date from ca. 4200–3800 B.P. (Sassaman and Anderson 1995:32). The 280-year sigma of the older Zone C assay is grounds enough to dismiss it as a benchmark age estimate. At its two-sigma calibrated range (4240–2920 cal B.C.), this assay comprises more than half the units of the early tail of Truncer's (2004) Figure 6, giving the distribution of early assays an unjustifiable appearance of continuity.

The balance of the evidence from Warren Wilson points to an Early Woodland (Swannanoa) age for the soapstone sherds (ca. 3000–2300 B.P.) and a strong, if not exclusive, association with pottery. If soapstone precedes pottery at Warren Wilson it is by only a few centuries, not the 1,300 years implied by uncritical acceptance of the earliest assay.

Falcon Field

The only feature context for soapstone vessels purportedly predating 3700 B.P. anywhere in the Eastern Woodlands is from the Falcon Field site in west-central Georgia (Elliott 1989). Fifty-seven soapstone sherds were found in excavations of 126 m^2 to a maximum depth of 40 cm. Excavations "revealed a shallow, mixed stratigraphy consisting of a disturbed plow-zone above a loose, sandy subsoil" (Elliott 1989:25). Most of the cultural material was contained in the upper 20 cm (i.e., the plow zone). Represented by diagnostic artifacts are components of the Early, Middle, and Late Archaic periods, as well as Early and Middle Woodland periods, all co-occurring in the upper 20 cm of the profile. Eight cultural features were found, each a cluster of rocks varying from 26 to 85 cm in diameter and with basal depths ranging from 23 to 51 cm below surface (Elliott 1989:49–55). Only two of these features had diagnostic artifacts in association: Feature 9 with a Savannah River Stemmed point, and Feature 4 with a single soapstone vessel sherd.

Feature 4 was a large, compact rock hearth composed of 218 fire-cracked rocks ranging from 18 to 33 cm below surface. The soapstone sherd was found on *top* of the hearth on the edge of the cluster some 20 cm below surface. Beneath the cluster was a purported basin-shaped pit that was identified by a slightly reddish soil discoloration. The general matrix of the sand at the basal depth of the rock cluster is described as brownish yellow-sand (10YR6/6). The outline of this reddish stain is not included in the plan and profile drawings of this feature (Elliott 1989:54), but small flecks of charcoal are illustrated in a profile drawing of the eastern margin of the feature. These small flecks are shown at a depth of 10–12 cm below the maximum depth of the rocks in the profile, which are another 10 cm below the depth of the soapstone sherd. Extended counting on these small flecks returned an assay of 4170 ± 150 B.P. At the time of publication of his report, Elliott (1989:iii) considered this assay to be "the earliest radiocarbon-14 date for soapstone vessels that has been obtained in the Southeast," although in his discussion of the chronology of soapstone vessels in general, he uses a phrase ("if this date is valid" [Elliott 1989:86]) that suggests a healthy skepticism. Well aware that soapstone vessels postdated fiber-tempered pottery in the Savannah River valley, Elliott was curious why Falcon Field did not also contain Late Archaic pottery. When I began to receive AMS assays on soot from soapstone sherds across Georgia and South Carolina, none in excess of 3700 B.P., Elliott agreed that the association between the soapstone sherd and the charcoal flecks at Falcon Field may be suspect (Daniel T. Elliott, personal communication, 1996).[7]

The age estimate for soapstone sherds at Falcon Field may very well be correct, but not because its feature context is sound. I have excavated at many shallow, sandy sites in the South Atlantic Coastal Plain, and I am especially familiar with the sorts of rock clusters Elliott uncovered at Falcon Field (e.g., Cabak et al. 1996; Sassaman 1993b). These are generally surface features, not pit features, and if associated with pits, the outlines of these subterranean features have not survived in the well-drained, acidic sands of Coastal Plain soils. The reddish coloration Elliott describes is most likely oxidation from thermal uses of the cluster, not the fill of a subhearth pit. The charcoal collected from the reddened sand 10 cm beneath the rock cluster is thus not unequivocally associated with the rock cluster. Even if the two were associated, the likelihood for misascription of the soapstone sherd with the cluster is great, considering it was found atop the rocks at the base of a plowzone containing artifacts from virtually the entire sweep of prehistory. It is not "clear that the steatite sherd was contained within the pit fill," as Truncer (2004:497) claims, because nowhere in the description of Feature 4 is it clear that the "pit" extended to the top of the rock cluster. I seriously doubt it was a pit at all.

Not all features are created equal, and not all features warrant "reliable" status simply because they are classified as such. The Falcon Field hearths are a far cry from the sorts of pit features that penetrate deeply into sterile soil at sites in physiographic provinces with basal clays. Not that these sorts of pit features are beyond reproach, but they clearly have a better chance of accurately representing associations between datable organics and "target events" than do shallow, amorphous rock clusters in 20-cm deep sandy sites with multiple components. The Falcon Field feature does not warrant the high reliability rating given to it by Truncer.

Anomalous AMS Assays on Soot

Having reiterated my criticism of three of the four "oldest reliable dates" (Truncer 2004:506), I urge readers to evaluate these alleged associations for themselves. I am not asserting that soapstone vessels *never* predated 3700 B.P. or the local inception of pottery across all the East; all that I am saying is that these three purported associations of soapstone with prepottery Late Archaic assemblages do not constitute sufficient proof and must be dismissed as unreliable age estimates.

I cannot, however, dismiss the two ancient AMS assays from soot on the grounds of poor association. The Hagerman assay obtained by Truncer and the one from Mitchell River 1 (8WL1278) obtained by me are truly anomalous in that they are not corroborated by other reliable contexts. The latter assay is a remarkable outlier. The soapstone sherd from which soot was sampled was provided by Greg Mikell, who personally collected this specimen near the base of what appears to have been a large shell-filled pit 50–70 cm below surface in Excavation Unit 3 (EU3). Mitchell River 1 was one of several sites in the Choctawhatchee Bay area of northwest Florida that was occupied during periods of higher-than-present sea level. A complete report on the work at Mitchell River 1 is not yet available, but principal investigator Rebecca Saunders provided for review a conference paper coauthored with Mikell (Saunders and Mikell 2003), as well as their report to the National Science Foundation, sponsors of the research (Saunders and Mikell 2004). Three radiocarbon assays were obtained from samples collected from the stratum from which this shell-filled pit feature emanated (Stratum III), but unfortunately, none came from the same excavation unit as the feature with the soapstone. One sample of charcoal returned an age estimate of 4178 ± 48 B.P.; two additional samples were marine shell, whose ^{13}C corrected assays are 4278 ± 48 and 4143 ± 49 B.P. Occasional plain fiber-tempered sherds were found in Stratum III of EU3. Assays in the range of 4000–4200 B.P. are consistent with the onset of the fiber-tempered pottery traditions of Florida, at least in northeast Florida (Sassaman 2003a). Samples of marine shell from strata immediately beneath Stratum III returned assays in the range of 5200–5500 B.P.

Thus, the 6260 ± 40 B.P. age estimate for the soapstone sherd is 2,000 years older than the stratum from which the pit emanated, and nearly 1,000 years older than the deposits the pit penetrated. To corroborate the assay, I requested from Mikell a sample of charcoal from the pit feature and submitted it to Beta Analytic for conventional dating. This sample returned a ^{13}C -corrected assay of 5950 ± 70 B.P., still early compared to the other dates from this site but closer in age to the dated soot.

I must leave it to Saunders and Mikell to square these results with their reconstruction of shifting estuarine biomes in the Choctawhatchee Bay area. As they note, "even at 6000 (years B.P.), this is the earliest date for estuarine shell exploitation in this area of the coast" (Saunders and Mikell 2003). For now I will add that other dates for soapstone vessels in the immediate area come from Elliott's Point complex sites in and around Choctawhatchee Bay, dating roughly 4000–2600 B.P. (Thomas and Campbell 1991). One of the AMS assays on soot came from a vessel found in a feature 40–50 cm below surface at 8WL1005. Estimated at 3740 ± 50 B.P., this specimen bears strong resemblance to the small vessels found at other Elliott's Point sites in the region (e.g., Thomas and Campbell 1991:111). Elliott Point sites typically contain small quantities of fiber-tempered pottery.

As regards the anomalous Hagerman date, Truncer (2004:497) takes exception with my pointing out a lack of corroboration in the greater Northeast (Sassaman 1999:81). The only two purported dates predating 3700 B.P. are from Millbury III (Massachusetts) and Bennington Acres (Vermont), neither of which has good association with soapstone, according to the principal investigators involved (see Sassaman 1999:83). Excepting these two, as does Truncer, the earliest reliable assays (values 5–7, following Truncer's scale) are ca. 3550 B.P. at two sites (Carrier, 294A-AF) in Connecticut (Truncer 2004:499), 14 centuries removed from the Hagerman assay. Still, Truncer (2004:497) insists that "the Hagerman date is simply an early date that is neither 'ambiguous' nor in need of 'corroboration' to assess its veracity" (contra Sassaman 1999:81, 83). As the word "ambiguous" does not appear in the two pages Truncer cites from my 1999 paper, I suppose he is referring to the quote wherein I state: "the radiocarbon inventory for the Northeast, like that of the Southeast, includes no unambiguous assays predating 3700 B.P., Hagerman notwithstanding" (Sassaman 1999:83). The "notwithstanding" clause means that I regard Hagerman as a valid date; I do not question its veracity. I do, however, question its relationship to the larger suite of assays, and in this the record is clear: nothing yet corroborates (i.e., independently confirms) the Hagerman date. I am troubled that Truncer would suggest that Hagerman needs no corroboration, as I would hope that most archaeologists would be loathe to hinge any argument of chronology on a single radiocarbon date whose closest independent support is over 14 radiocarbon centuries removed. The same is true for the incredible Mitchell River 1 date for we have not yet ruled out the possibility of contamination from the combustion of "old wood."

Concluding Remarks

The three sites with purported pre-3700 B.P., prepottery contexts for soapstone vessel technology in the Southeast that I rejected in 1997 and that Truncer resurrects must be set aside on grounds of poor association. Truncer (2004:497) suggests that because I dismiss these early dates I tend to "support the prevailing view that steatite vessels do not predate 3700 radiocarbon years B.P." This is not the prevailing view, it is *my* view, and it is a minority view because standard works on the subject place soapstone vessels prior to the adoption of pottery, which, in many parts of the Eastern Woodlands, means before at least 3500 B.P. and in some places before 4000 B.P. Gaston and Warren Wilson have been particularly instrumental in perpetuating this misconception in the Southeast. I would hope that most colleagues would now agree that the neither of these sites warrants the sort of empirical credibility as regards the association of soapstone vessels with organic materials greater than 3700 B.P. The Falcon Field association may be sound, but it is hardly unassailable and should be treated with caution.

I will allow that Truncer (2004:506) may be right in suggesting that soapstone vessels were around at low frequency for at least 1,800 years (even 3,000 years considering Mitchell River 1) before increasing in popularity, but we must recognize that this is based on only two assays from sites spaced widely apart. Datable organics or not, soapstone vessels sherds ought to at least occasionally turn up in secure contexts as old as 3800–6000 B.P. or older, but they simply do not. Consider, for instance, the extensive excavations of Ledbetter phase sites in Tennessee (McCullough and Faulkner 1978), Benton phase sites in Alabama and Mississippi (Bense 1987), Mount Taylor sites in Florida (Wheeler et al. 2000), Stallings sites in Georgia and South Carolina (Sassaman 1993a), Lamoka and Snook Kill sites in New York (Funk 1993; Ritchie 1965), and Atlantic phase sites in southern New England (Dincauze 1972) to name but a few of the more prominent phases of this time frame. Soapstone vessels do not occur at any sites of these phases even though they occupy areas that were eventual recipients of soapstone vessels after ca. 3600 B.P.

As for explaining the subsequent peak in frequency of soapstone vessel use, Truncer maintains that it was due to a change in selective conditions that favored the use of stone vessels for processing mast resources. If intensification of mast use is taken as an independent measure of conditions favoring the adoption of more efficient mast processing technology, one would have to wonder what prevented the inhabitants of Lamoka Lake from adopting soapstone vessels. Trough-like features up to 15 m long at this site attest to some of the most intensive acorn processing known for eastern North America (Ritchie 1965), but not a single soapstone vessel sherd has been found in secure Lamoka contexts. I suggest that Lamoka residents did not use soapstone vessels for processing acorns for the simple historical fact that such technology was several centuries to come. Linking the subsequent burgeoning use of soapstone vessels to intensified mast processing, as Truncer does, presupposes empirical support for the varying relative intensity of mast use before, during, and after soapstone vessel use. Truncer provides no such data but instead cites a secondary source that generalizes about mast use for all of Eastern Woodlands prehistory.

I have no doubt soapstone vessels were used for mast processing, but so too were a variety of alternative technologies, notably pottery. It is indeed remarkable that Truncer mentions pottery only in passing when in so many places in the Eastern Woodlands pottery predated or coincided with the first uses of soapstone bowls. He no doubt is correct in arguing that soapstone was superior to early pottery in its durability and heating efficiency, but that these advantages outweighed the high acquisition and transportation costs of soapstone is a hypothesis in need of testing, not a foregone conclusion.

Truncer points to a general correlation between soapstone vessels and mast forest environments east of the Appalachians to support his argument. I am curious if this includes the Atlantic coastal zone of the Southeast, the interriverine uplands of the Sandhills, and the piney flatwoods of the middle Coastal Plain, all areas known to contain sites with soapstone vessels but generally poor in hardwood species other than scrub oak. Conversely, how is one to explain the large quantities of hickory and occasional acorn that fill the midden deposits of sites lacking soapstone vessels throughout the mast forests of the Eastern Woodlands? Populations of all the Archaic phases listed above that were without soapstone vessels routinely procured and consumed mast resources. Some, such as the occupants of Ledbetter phase sites of Tennessee (Bentz 1988; Chapman 1981) and Stallings phase sites of the middle Savannah River valley, also engaged in intensive storage of mast, the former without durable containers, and the latter with early pottery. How would variations in ground stone technology factor in, or the availability of rock for indirect-heat cooking? I raise these issues to ask the simple question: can one profitably reduce an explanation for variations in soapstone bowl technology to a single independent variable?

An explanation for the rise and fall of soapstone vessels centered on the domestic economy of nut processing is even more suspect when we consider nonsubsistence uses of soapstone vessels and their role in interregional exchange and alliance. Truncer is certainly aware of the remarkable caches of soapstone vessels at Poverty Point and Claiborne, and the mortuary contexts for soapstone in the middle Tennessee River valley and at Mansion Inn and Orient phase sites in southern New England. Following Dunnell (1999), he attributes these nonsubsistence uses of vessels to "waste" behaviors, those extraneous actions that divert energy away from reproduction and thus keep populations in check during times of stress. At a time when archaeologists are beginning to make progress in understanding the complexity of Archaic populations in the Southeast (Sassaman 2004), attributing a cache of 3,000 soapstone sherds at Poverty Point (not to mention its remarkable earthworks and those of its predecessors [Hamilton 1999]) to "waste" behavior alone is unnecessarily reductionist and dehistoricizing.

I indicated at the outset that I did not intend this commentary to represent an alternative to Truncer's model, for I can refer the reader to alternative viewpoints by myself and others (Gibson and Melancon 2004; Hoffman 1998; Klein 1997; Sassaman 1997, 1999; Versaggi and Knapp 2000). However, to underscore the relevance of historical and cultural contexts to any understanding of soapstone vessels, I close with brief discussion about my annotations in Figure 2. Shown in this figure is the point I began with: pottery of the Orange and Stallings cultures of peninsular Florida and the South Atlantic Slope preceded the appearance of soapstone vessels anywhere in the Southeast (expect perhaps at Mitchell River) by at least 600 and as much as 900 years. We can add to this list prior occurrences of pottery in the intervening Georgia Coastal Plain, coastal and perhaps Coastal Plain North Carolina, the middle Tennessee River valley, the Poverty Point area of northeast Louisiana, and possibly Coastal Plain Virginia and other parts of the mid-Atlantic, western New York, and southern New England. As I have discussed elsewhere (Sassaman 1997, 1999), the juxtaposition of groups using pottery and those using soapstone vessels is especially curious given evidence for interaction between them and generally similar subsistence economies. Examples include Stallings-Mill Branch in the middle Savannah, late Frost Island-Meadowood in western New York, and Orient-Meadowood in southern New England (Sassaman 1999). I believe it is profitable to consider whether these divergent patterns of technical choice signify deliberate actions to assert contrastive identities as a means of enabling interaction (i.e., render unambiguous the identity of parties involved).[8]

The first sustained and archaeologically visible use of soapstone vessels in the Southeast coincides with the genesis of Classic Stallings culture in the middle Savannah River valley (Sassaman 2000), an event followed shortly thereafter by the abandonment of the area by indigenous Mill Branch groups, who appear to have relocated west into north-central Georgia (Stanyard 1997). AMS assays in Figure 2 ranging from 2200–1800 cal B.C. came from sherd soot samples from northwest Georgia and the Florida Gulf Coast. These oldest dates on soapstone signify the beginnings of the prodigious commerce in vessels that peaked during Poverty Point times (Gibson and Melancon 2004), and they are geographically rooted in one of the largest sources of soapstone in the east, near present-day Atlanta.

These nascent beginnings of interregional exchange were directed down the Chattahoochee River to involve, among other Gulf Coastal groups, resident populations of the Elliott's Point complex and the Claiborne site. The volume of production and exchange grew rapidly in the ensuing centuries as Poverty Point earthworks were erected and trade expanded to include raw materials from far-flung locales of the Eastern Woodlands. Even though it does not include any assays from Poverty Point itself, the largest mode in Figure 2 coincides with peak developments at Poverty Point, suggesting that processes underwriting long-distance exchange had local ramifications in the supply and demand of vessels. The drop in modal frequency at ca. 1200 cal B.C. coincides with the collapse of Poverty Point trade. Without dates from the cache of some 3,000 sherds at Poverty Point we can only speculate as to whether the deliberate removal from circulation of so many vessels coincided with Poverty Point's waning years and eventual abandonment. It is certainly likely to have coincided with the regional decline in production and use of these items.

The subsequent resurgence in frequency seen in the second, smaller mode of Figure 2 involves diverse mortuary contexts. Such contexts include the middle Tennessee River region, where graves of Early Woodland age (e.g., Rooney 1998)[9] have long-been mistaken as Late Archaic (Sassaman 1997:13) and in southern New England, where Orient phase burials culminate the long-standing trend for soapstone grave inclusions (Dincauze 1968, 1974).

None of these broad historical trends can be understood apart from the experiences of humans in generational-scale time. When detailed reconstructions of specific historical sequences and the cultural landscapes of group formation and alliance are available for observation, it becomes clear that technical choices over things as mundane as cookware depend directly on patterns of ethnicity, gender, marital arrangements, and the like—the very structures and processes that define who has access to which technical alternatives, how social demands are manifest in labor allocation, and even the ideology of the proper way and time to prepare acorns. When the use of items such as soapstone vessels includes obvious ritual contexts like large caches and graves, it hardly stretches reason to ask that social, political, and ideological factors be considered. That over half of the 12,000+ sherds of soapstone vessels documented in Truncer's study came from the locale farthest removed from geological sources of soapstone, and with a preceding pottery technology to boot (Gibson 1996; Gibson and Melancon 2004), suggests in not-so-subtle ways that we can not reduce any explanation for its occurrence to mast processing alone.

I believe we will advance our understanding of soapstone vessel technology through the dynamic interplay of opposing models and theories, but this has to be done on a solid empirical foundation, not the house of cards built from the uncritical use of benchmark studies. The archaeologists who conducted these early studies were among the best of their era, but they were also subject to the biases of the day, which, in an extension of unilineal evolutionary theory and the Old World Three-Age system, assumed a priori that stone vessels preceded pottery because pottery was among the "advances" of more settled, food-producing societies. Their interpretation of archaeological contexts should always be questioned, as should mine and all that follow. I look forward to continuing research in this aspect of eastern North American archaeology.

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References Cited

Bense, Judith A. (editor)
 1987 *Final Report: The Midden Mound Project*. Report of Investigations 6. University of West Florida, Office of Cultural and Archaeological Research, Pensacola.

Bentz, Charles
 1988 The Late Archaic Occupation of the Bailey Site (40GL26), Giles County, Tennessee. *Tennessee Anthropological Association Newsletter* 13(5):1–20.

Bullen, Ripley P.
 1972 The Orange Period of Peninsular Florida. In *Fiber-Tempered Pottery in the Southeastern United States and Northern Colombia: Its Origins, Contexts, and Significance*, edited by R. P. Bullen and J. B. Stoltman, pp. 9–33. Florida Anthropological Society Publications No. 6. *Florida Anthropologist* 25(2), part 2.

Cabak, Melanie A., Kenneth E. Sassaman, and J. Christopher Gillam
 1996 *Distributional Archaeology in the Aiken Plateau: Intensive Survey of E Area, Savannah River Site, South Carolina*. Savannah River Archaeological Research Papers 8. South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Caldwell, Joseph R.
 1958 *Trend and Tradition in the Prehistory of the Eastern United States*. American Anthropological Association Memoir 88. Menasha, Wisconsin.

Chapman, Jefferson
 1981 *The Bacon Bend and Iddins Sites: The Late Archaic Period in the Lower Little Tennessee River Valley*. Report of Investigations 31. Department of Anthropology, University of Tennessee, Knoxville.

Coe, Joffre L.
 1964 *The Formative Cultures of the Carolina Piedmont*. Transactions of the American Philosophical Society 54(2), Philadelphia.

Dincauze, Dena F.
 1968 *Cremation Cemeteries in Eastern Massachusetts*. Papers of the Peabody Museum of Archaeology and Ethnology, Vol. 59, No. 1. Harvard University, Cambridge, Massachusetts.
 1972 The Atlantic Phase: A Late Archaic Culture in Massachusetts. *Man in the Northeast* 4:40–61.
 1974 An Introduction to the Archaeology of the Greater Boston Area. *Archaeology of Eastern North America* 2:39–67.

Dunnell, Robert C.
 1999 The Concept of Waste in Evolutionary Archaeology. *Journal of Anthropological Archaeology* 18:243–250.

Elliott, Daniel T.
 1986 Two Years Before the Bear: The Savannah River Watershed. Paper presented at the 12th Annual Conference of the Archaeological Society of South Carolina, Columbia.
 1989 *Falcon Field and Line Creek: Two Archaic and Woodland Period Sites in West Central Georgia*. Southeastern Archaeological Services, Athens, Georgia.

Elliott, Daniel T., and Kenneth E. Sassaman
 1995 *Archaic Period Archaeology of the Georgia Coastal Plain and Coastal Zone*. Georgia Archaeological Research Design Paper No. 11. Report Number 35, Laboratory of Archaeology Series, University of Georgia, Athens.

Funk, Robert E.
 1993 *Archaeological Investigations in the Upper Susquehanna Valley, New York State*, Vol. 1. Persimmon Press, Buffalo, New York.

Gibson, Jon L.
 1996 The Culture That Did Not Fit: Poverty Point and Greater Southeastern Prehistory. In *Archaeology of the Mid-Holocene Southeast*, edited by K. E. Sassaman and D. G. Anderson, pp. 288–305. University Press of Florida, Gainesville.

Gibson, Jon L., and Mark A. Melancon
 2004 In the Beginning: Social Contexts of First Pottery in the Lower Mississippi Valley. In *Early Pottery: Technology, Function, Style, and Interaction in the Lower Southeast*, edited by R. A. Saunders and C. T. Hays, pp. 169–192. University of Alabama Press, Tuscaloosa.

Hally, David J.
 1983 Use Alteration of Pottery Vessel Surfaces: An Importance Source of Evidence for the Identification of Vessel Function. *North American Archaeologist* 4:3–26.

Hamilton, Fran E.
 1999 Southeastern Archaic Mounds: Examples of Elaboration in a Temporally Fluctuating Environment? *Journal of Anthropological Archaeology* 18:344–355.

Hemphill, Keith, L. Janice Campbell, and James R. Morehead
 1995 *Completing the Evaluation Process at Eglin Air Force Base, Okaloosa, Santa Rosa and Walton Counties; Volume XXII: Testing and Evaluation of the Stone Vessel Site - 8WI1005*. Report of Investigations No. 290. Prentice Thomas and Associates, Mary Esther, Florida.

Hoffman, Curtiss
 1998 Pottery and Steatite in the Northeast: A Reconsideration of Origins. *Northeast Anthropology* 56:43–68.

Keel, Bennie C.
 1976 *Cherokee Archaeology: A Study of the Appalachian Summit*. University of Tennessee Press, Knoxville.

Klein, Michael J.
 1997 The Transition from Soapstone Bowls to Marcey Creek Ceramics in the Middle Atlantic Region: Vessel Technology, Ethnographic Data, and Regional Exchange. *Archaeology of Eastern North America* 25:143–158.

Markham, Virginia M., and Jeffrey L. Holland
 2000 *Fort Stewart Site Testing D.O. #3 and 4 Archaeological Testing at Fort Stewart in Evans, Liberty, and Long Counties, Georgia*. Submitted to the National Park Service, Atlanta by TRC Garrow Associates, Atlanta.

McCollough, Major C. R., and Charles Faulkner
 1978 *Sixth Report of the Normandy Archaeological Project*. Report of Investigations 21. Department of Anthropology, University of Tennessee, Knoxville.

Phelps, David S.
 1980 *Archaeological Salvage of the Thorpe Site and Other Investigations along the U.S. 64 Bypass, Rocky Point, North Carolina*. Archaeological Research Report 1. Archaeology Laboratory, Department of Sociology and Anthropology, East Carolina University, Greenville.

Poplin, Eric C., Connie M. Huddleston, and Todd A. McMakin
 1997 *Archaeological Date Recovery at 38BK984, U.S. 52 Widening Project in Berkeley County, South Carolina*. Report submitted to South Carolina Department of Transportation by Brockington and Associates, Atlanta.

Ritchie, William A.
 1965 *The Archaeology of New York State*. Natural History Press, Garden City, New York.

Rooney, Clete A.
 1998 *Archaeological Monitoring at Site 1Mg300 in Association with a Proposed Hydrogen Generating Plant Site*

in Morgan County, Alabama. Report submitted to Carbonyl, Baton Rouge by the Office of Archaeological Services, University of Alabama Museums, Tuscaloosa.

Sassaman, Kenneth E.

1993a *Early Pottery in the Southeast: Tradition and Innovation in Cooking Technology.* University of Alabama Press, Tuscaloosa.

1993b *Early Woodland Settlement in the Aiken Plateau: Archaeological Investigations at 38AK157, Savannah River Site, Aiken County, South Carolina.* Savannah River Archaeological Research Papers 3, South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

1997 Refining Soapstone Vessel Chronology in the Southeast. *Early Georgia* 25(1):1–20.

1999 A Southeastern Perspective on Soapstone Vessel Technology in the Northeast. In *The Archaeological Northeast,* edited by M. A. Levine, K. E. Sassaman, and M. S. Nassaney, pp. 75–95. Bergin and Garvey, Westport, Connecticut.

2000 Agents of Change in Hunter-Gatherer Technology. In *Agency in Archaeology*, edited by M. A. Dobres and J. Robb, pp. 148–168. Routledge, London.

2003a New AMS Dates on Orange Fiber-Tempered Pottery from the Middle St. Johns River Valley and Their Implications for Culture History in Northeast Florida. *The Florida Anthropologist* 56:5–14.

2003b *Crescent Lake Archaeological Survey 2002, Flagler and Putnam Counties, Florida.* Technical Report 5. Laboratory of Southeastern Archaeology, Department of Anthropology, University of Florida, Gainesville.

2004 Structure and Practice in the Archaic Southeast. In *North American Archaeology*, edited by T. R. Pauketat and D. D. Loren, pp. 79–107. Blackwell, London.

Sassaman, Kenneth E., and David G. Anderson

1995 *Middle and Late Archaic Archaeological Records of South Carolina: A Synthesis for Research and Resource Management.* Savannah River Archaeological Research Papers 6. Occasional Papers of the Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Saunders, Rebbecca, and Gregory Mikell

2003 Coastal Dynamics and Cultural Complexity on Choctawhatchee Bay. Paper presented at the Annual Meeting of the Florida Anthropological Society.

2004 Coastal Dynamics and Cultural Complexity on Choctawhatchee Bay. Report submitted to National Science Foundation, Award 0003933.

Skibo, James M.

1992 *Pottery Function: A Use-Alteration Perspective.* Plenum Press, New York.

Smith, Bruce D.

1986 The Archaeology of the Southeastern United States: From Dalton to de Soto, 10,500–500 B.P. In *Advances in World Prehistory*, Vol. 5, edited by F. Wendorf and A. Close, pp. 1–92. Academic Press, Orlando.

South, Stanley A.

1959 A Study of the Prehistory of the Roanoke Rapids Basin. Unpublished M.A. thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

Stanyard, William F.

1997 *The Big Haynes Reservoir Archaeological Project: A Perspective on Native American History of North-Central Georgia between 8,000 B.C. and A.D. 1838.* Report submitted to Conyers-Rockdale-Big Haynes Impoundment Authority by Garrow and Associates, Atlanta.

Stuiver, Minze, Paula J. Reimer, Edouard Bard, J. Warren Beck, G. S. Burr, Konrad A. Hughen, Bernd Kromer, F. Gerry McCormac, Johannes van der Plicht, and Marco Spurk

1998 INTCAL 98 Radiocarbon Calibration 24,000-0 cal. BP. *Radiocarbon* 40:1041–1083.

Thomas, P. M., Jr., and L. J. Campbell

1991 The Elliott's Point Complex: New Data Regarding the Localized Poverty Point Expression on the Northwest Florida Gulf Coast, 2000 B.C.–500 B.C. In *The Poverty Point Culture: Local Manifestations, Subsistence Practices, and Trade Networks,* edited by K. M. Byrd, pp. 102–120. *Geoscience and Man* 29, Louisiana State University, Baton Rouge.

Truncer, James

1997 Steatite Vessel Function. Paper presented at the 62nd annual meeting of the Society for American Archaeology, Nashville, Tennessee.

2004 Steatite Vessel Age and Occurrence in Temperate Eastern North America. *American Antiquity* 69:487–513.

Versaggi, Nina M., and Timothy D. Knapp

2000 Steatite, Interaction, and Persistence: The Transitional Period of New York's Upper Susquehanna. Paper presented at the 65th Annual Meeting of the Society for American Archaeology, Philadelphia.

Webb, Robert S.

1997 *Archaeological Investigations at Three Prehistoric Sites (9CK713, 9DW64, and 9DW77), Cherokee and Dawson Counties, Georgia, Cherokee County Raw Water Supply Reservoir.* Report submitted to Cherokee County Water and Sewage Authority by R. S. Webb and Associates, Holly Springs, Georgia.

Wheeler, Ryan J., Christine L. Newman, and Ray McGee

2000 A New Look at the Mount Taylor and Bluffton Sites, Volusia County, with an Outline of the Mount Taylor Culture. *The Florida Anthropologist* 53:132–157.

Yates, William Brian

2000 Implications to Late Archaic Exchange Networks in the Southeast as Indicated by the Archaeological Evidence of Prehistoric Soapstone Vessels throughout Florida. Unpublished M.A. thesis, Department of Anthropology, Florida State University, Tallahassee.

Notes

1. This age estimate refers to uncalibrated radiocarbon years. Most of the discussion of age estimates throughout this paper likewise refers to uncalibrated radiocarbon years before present (noted throughout as B.P.) to be consistent with the literature of the past 40 years. However, in Table 1 and Figure 2, where AMS age estimates on soot from the surfaces of soapstone vessel sherds are presented, estimates are given as calibrated years B.C. (cal B.C.) following Truncer (2004) and the editorial guidelines of this journal.

2. This is *not* to suggest that AMS dating of soot is the *only* reliable association-based dating method for soapstone vessels, for I agree that some of the feature and stratigraphic contexts for this class of artifact are indeed reliable (Sassaman 1999). The intent of this comment, however, is to reiterate my skepticism of association-based assays for soapstone vessels purportedly in excess of 3700 B.P., particularly the three assays Truncer (2004:506) includes in his subset of "oldest reliable" age estimates (i.e., Gaston, Warren Wilson, and Falcon Field).

3. Table 2 in Truncer's article lists Hagerman as a CSE

sample, meaning a carbon, soot, excavated sample. Elsewhere Truncer (2004:497) indicates that the Hagerman sample was from an interior residue, which was my understanding (Sassaman 1999:81) from an earlier paper by Truncer (1997).

4. Truncer (2004:513) uses the CALIB 4.1 program to calibrate all the dates in his database, but he usually calibrates the measured radiocarbon age instead of the conventional ages that were corrected for ^{13}C fractionation. Because wood charcoal is the standard by which adjustments for fractionation are made, the use of measured ages on soot has only miniscule effects on calibration. Still, the better approach is to calibrate corrected ages, which is what I did with the assays reported in Table 1. The calibrated ages in Table 1 were derived from CALIB 4.4.2, the most recent radiocarbon calibration program available online from the University of Washington Quaternary Isotope Lab, based on the 1998 international decadal atmospheric and marine calibration curves (Stuiver et al. 1998).

5. Excluded from Figure 2 is the extremely late assay from Christiana, Pennsylvania. At the cal A.D. range of 1442–1946, the Christiana sample is a full two millennium later than the next oldest AMS assay. Whereas this may signify occasional late instances of soapstone manufacture and use, it is just as likely that the late age reflects either the use of a scavenged vessel sherd or contamination at the surface context from which the sherd was collected. Either way, it goes to show the risk of sampling interior residues, as opposed to exterior soot on upper vessel rims. Note that Truncer rates this assay and two of my assays (9TF5 and 38CH1609) as less than reliable (i.e., <5) because they were from surface contexts, but inexplicably includes as reliable the assay from a fourth surface find from 8DI52. The three assays on surface finds obtained by me were from samples of soot from exterior surfaces of vessel walls. I find no reason to reject any assay based on exterior soot so long as the criteria for soot formation are followed. Buried contexts are not inherently better than surface finds because in many cases buried contexts consist of formerly exposed surfaces (i.e., living floors). The context of each sherd needs to be evaluated on its own merits. Finally, I do not reject the Christiana assay as totally unreliable (I allow the possibility that soapstone vessels may have occasionally been made and used in the protohistoric/historic era), but simply exclude it from Figure 2 to avoid a graphic that is another 40 percent wider. The reader can imagine that including the Christiana date range would result in a distribution with an outlier that is the recent counterpart to the ancient outlier represented by the Hagerman date range.

6. A similar vessel was found in a presumed but truncated pit context by Phelps (1980) at the Thorpe site near Rocky Mount, North Carolina. In this case the vessel was apparently reworked from an earlier form with lug handles. Directly beneath the overturned bowl was a sherd of Early-Middle Woodland Vincent ware (Phelps 1980:75).

7. Truncer (2004:513) apparently doubts that Dan Elliott agreed with me about the weak association between dated charcoal and the soapstone sherd at Falcon Field, because Elliott "has published no retraction to date." A monograph on the Archaic Period in Coastal Plain Georgia published by Elliott and me in 1995 states with reference to the Falcon Field assay that "this single date deviates from the norm, however, and it needs to be corroborated before the antiquity of the stone bowl industry can be firmly established" (Elliott and Sassaman 1995:64).

8. Perhaps the best example of prepottery uses of soapstone is found at Iddins phase sites in eastern Tennessee (Chapman 1981). Dating to ca. 3600–3400 B.P., the Iddins phase involved intensive use of storage pits, hearths, and soapstone vessels, but no pottery despite being within 200 km of communities that routinely made and used fiber-tempered pottery of the Wheeler and Stallings series. There is nothing to suggest that residents of Iddins phase sites routinely interacted with pottery-using communities, but if they acquired their soapstone from sources in northwest Georgia, it would be hard to imagine they were unaware of pottery and those who made and used it.

9. This example from a site in Morgan County, Alabama (1MG300) involves a soapstone vessel in the pit of an isolated human burial containing charcoal that returned a conventional assay of 2590 ± 60 B.P. (Beta-113697; 898-415 cal B.C.).

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