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Some Thoughts on Spalling on South Carolina Colonoware

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Spalling has been documented on the colonoware from a number of South Carolina slave sites including Yaughan (Wheaton et al. 1983), 38BK202 (Zierden et al. 1986), Mepkin plantation (Ferguson 1992), Hampton plantation (Lewis and Haskell 1980), and the Pinckney Landing slave row (Pietak et al. 1998). Ferguson (1992) reports that nine of the 67 whole colonoware vessels from South Carolina are spalled. Some caution must be exercised here because the majority of the whole vessels were derived from river contexts by sport divers, and failures might be more likely to have been thrown away in the river than usable vessels. Nevertheless, there is a high frequency of spalling in slave-made pottery in South Carolina, significantly higher than seen in Woodland and Mississippian pottery of the state.

Spalling is interesting in two regards. First, spalling that was severe enough to render a vessel useless should indicate on-site production (Ferguson 1992; Wheaton et al. 1983). Damaged pots probably would not have been transported away from the site of their production. Archaeologists, then, should be happy to see the technological failures represented by spalling, in that spalling helps delineate the locations of production.

A second point is that spalling may indicate a general lack of familiarity with local ceramic resources. A number of factors can contribute to spalling:

- incomplete drying of the vessel before firing, resulting in steam jets as the internal water is heated and expands.
- overly rapid heating of the vessel during firing, not allowing time for the internal water to seep through the pore structure rather than expanding in place.
- insufficient voids within the paste to facilitate the release of chemically combined water in the body.
- purposeful compression and/or sealing of the vessel surfaces, precluding the natural escape of steam during the initial firing.

The first factor reflects directly on the familiarity of the potter with her or his materials. Compared to colonoware collections, spalling is relatively uncommon in Native American assemblages in South Carolina. The Native Americans probably had a similar firing technology to that of the slaves, but the former may have better understood the limitations of the local clays.

The second factor deals with resistance to thermal shock. Traditional potters are generally very familiar with the stress that can be placed upon the clay bodies they use. Relative newcomers would have been less familiar with the performance of local clays and may have suffered higher losses as a result.

The third factor is related to recognizing problems and finding technological solutions. For example, Native American potters in the Southeast added coarse-very coarse quartz, grog, or
fiber to enhance the performance of their pottery. The addition of any of these would decrease the likelihood of spalling, but the slave potters used untempered clays. Again, this suggests an unfamiliarity with the local resources, their problems, and the associated technological solutions.

The last factor might be seen as ironic. The slave potters chose the worst possible mode of surface finish relative to spalling. Burnishing compresses the vessel surface, inhibiting the flow of gasses and liquids. As chemically combined water is released during the firing, it naturally seeks exit from the clay body. On burnished sherds, the exit is at least partially blocked. The result can be spalling, as the blockage is literally blown out of the way. Informal replication has shown that under similar production, drying, and firing conditions, a burnished bowl is more likely to spall than a lightly smoothed bowl. Thus, it appears that the colonoware decorative tradition was not well suited to local ceramic materials and firing conditions.

On the surface, the reader may wonder, "So what?" It makes sense that potters shipped across the ocean from their homeland would be unfamiliar with local materials. This unfamiliarity is not logical, however, if a Native American and African-American creolism is seen as the source of South Carolina colonoware. Put another way, if Native Americans had shared their pottery-making knowledge with enslaved Africans (sensu Steen et al. 1996), they did not do a very good job. They seem to have failed to discuss the limitations of the local materials, and they failed to suggest temper additions or changes in decorative modes that would have lessened firing loss.

More sensibly, the relatively high rate of spalling among colonoware from slave contexts in South Carolina can be seen to indicate a foreign (i.e., African or African-Caribbean) technological and decorative tradition dragged to a South Carolina setting. The high incidence of spalling is not consistent with a genesis of colonoware in an African-American and Native American creolization.

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Espenshade: Some Thoughts on Spalling on South Carolina Colonoware

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