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Woodland period ceramic provenance and the exchange of Swift Creek Complicated Stamped vessels in the southeastern United States

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ABSTRACT

Results of instrumental neutron activation analysis (INAA) of Middle and Late Woodland pottery ($n = 313$) and clay ($n = 22$) samples from northeastern Florida and southeastern Georgia are presented. Assemblages in this region include Swift Creek Complicated Stamped pottery that preserves unique evidence of social interactions through the inimitable qualities of designs stamped into vessel surfaces. Archaeologists have proffered various hypotheses to explain movement of ceramic vessels or the carved wooden paddles used in the manufacture of these vessels. This study tests these hypotheses and indicates that nonlocal vessels, particularly complicated stamped ones, were deposited almost exclusively in mortuary contexts, a pattern that requires new explanations for the role of pottery in social interactions. These data are being integrated with a larger project that aims to reveal the social processes that were tied to the manufacture, use, and distribution of pottery.

This article presents the results of instrumental neutron activation analysis (INAA) of raw clay samples and Middle and Late Woodland pottery of the Swift Creek archaeological culture from northeastern Florida and southeastern Georgia (Fig. 1). This archaeological context is particularly compelling for exploring social interactions through provenance studies because of the occurrence of Swift Creek Complicated Stamped pottery that provides compelling evidence of social connections between sites due to unique qualities of the designs that were stamped into vessel surfaces. Previous considerations of Swift Creek interactions through petrographic analysis and INAA of small samples have determined that both ceramic vessels and the carved wooden paddles used in their manufacture were carried across the lower southeastern United States and beyond (Mainfort et al., 1997; Ruby and Shriner, 2006; Smith, 1998; Stoltman and Snow, 1998). In the context of several paddle matches ($n = 21$) between sites on the Atlantic coast, the much larger dataset presented in this article is used to build on these studies, test alternative hypotheses, and emphasize the particular social contexts of production and exchange that are critical to understanding past social interaction. Specifically, the distribution of pottery samples among two chemical groups determined by INAA indicates that nonlocal vessels were deposited almost exclusively at mortuary mounds and very rarely at habitation sites on the lower St. Johns River, Florida. These nonlocal vessels share chemical signatures with vessels made and discarded in villages on the Altamaha River, Georgia, over 100 km to the north. Technological attributes of nonlocal vessels within mortuary mounds on the St. Johns River corroborate their similarity to domestic-use utilitarian pottery that was used for cooking and deposited in middens on the Altamaha River. Based on these data we interpret the occurrence of nonlocal vessels at sites along the Lower St. Johns River not as the de facto refuse of moving people with their cooking pots, but as the intentional emplacement of foreign-made cooking vessels as gifts during ceremony.

1. Swift Creek pottery and social interaction

Swift Creek Complicated Stamped pottery was produced between ca. AD 100 and 900 in the lower southeastern United States across most of Georgia and major portions of adjacent states. The designs were achieved by impressing a wooden paddle, carved with renditions of various flora, fauna, faces, or seemingly abstract shapes, into the surface of still-wet vessels before drying and firing (Snow, 1998). Unique attributes of these designs have allowed archaeologists to trace social interactions across the landscape with high spatial and temporal resolution (Ashley and Wallis, 2006;

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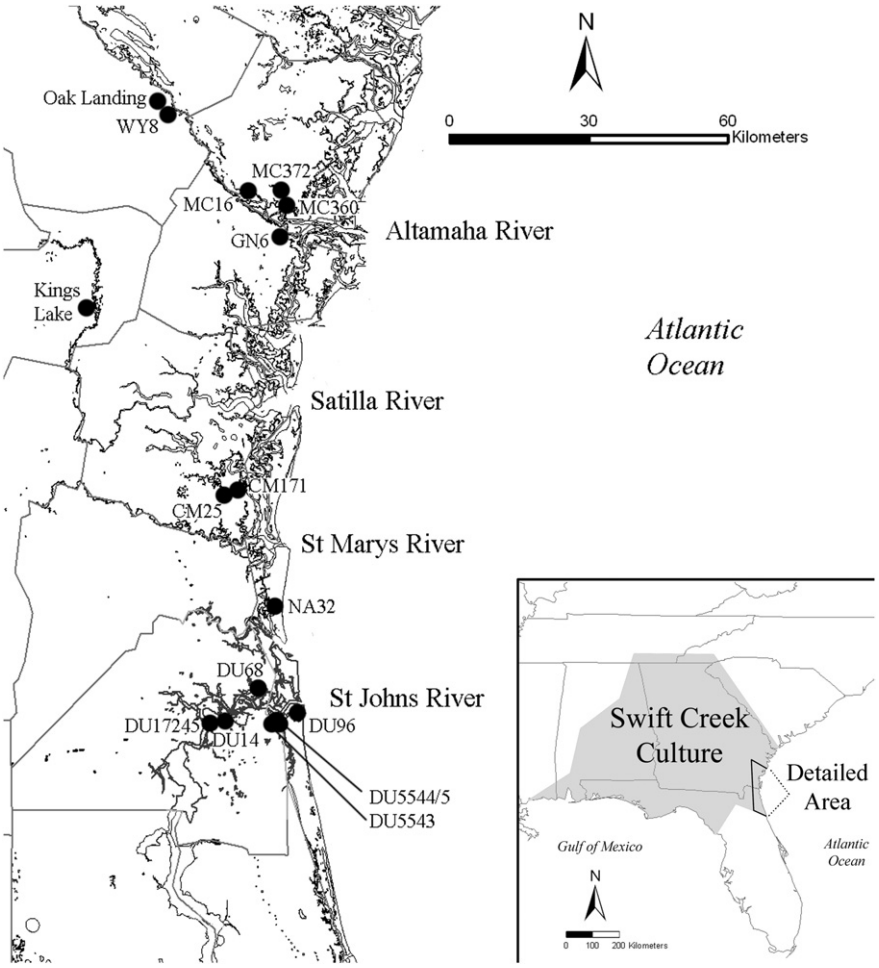

Fig. 1. Sites with Swift Creek assemblages used in the analysis.

Kirkland, 2003; Snow, 1975, 1977, 1998; Snow and Stephenson, 1998; Stephenson et al., 2002; Stoltman and Snow, 1998).

Preserved on vessel surfaces are the inimitable signatures or "fingerprints" of particular carved wooden paddles comprised of minute striations of the wood grain, wood crack patterns, or asymmetrical design "flaws." Although variation in the execution of stamping and finishing of vessel surfaces resulted in some differences in the markings of a single wooden paddle, identification of these unique signatures have allowed archaeologists to identify paddle matches, that is, vessels sometimes hundreds of kilometers apart that were stamped with the same paddle (Figs. 2 and 3). Hundreds of these paddle matches have been identified through sherd-to-sherd comparison (e.g. Snow, 1998); therefore, either vessels or the paddles that were used to stamp them were frequently transported. Although making up only a small percentage of most pottery assemblages, paddle matches between Swift Creek sites provide direct evidence of some form of social interaction (Snow, 1998; Snow and Stephenson, 1998). On a regional scale, the identification of paddle matches or merely Swift Creek pottery outside of its primary distribution can be combined with provenance studies to help determine whether pots or paddles were transported. Limited petrographic analyses and INAA assays have suggested that both paddles and vessels were transported across the lower Southeast and perhaps as far as Indiana (Mainfort et al., 1997; Ruby and Shriner, 2006; Smith, 1998; Stoltman and Snow, 1998).

Several social and behavioral explanations may pertain to the distribution of local and nonlocal Swift Creek pottery at sites. First, group residential mobility might explain the movement of both paddles and pots across the landscape as groups carried them during seasonal rounds and other migrations. This may indeed have been the case where sites consist mostly of small campsites of hunter-gatherers that were used intermittently and dispersed across various ecological zones, such as the Ocmulgee Big Bend region of southern Georgia (Snow, 1977:22; Stoltman and Snow, 1998:152). Second, long-distance paddle matches with local paste have been hypothesized to correspond with patterns of post-marital residence among presumably female potters who curated their wooden paddles (Snow and Stephenson, 1998; Stoltman and Snow, 1998). Finally, nonlocal paste among Swift Creek vessels may be the result of exchange and feasting, with exchanges consisting of the vessels themselves and/or their contents (Ashley and Wallis, 2006; Stoltman and Snow, 1998). Of course, these explanations are not mutually exclusive. If Swift Creek descent groups formed marriage alliances and practiced matrilocal residence then we might expect to find both the movement of objects owned by women with their changes in residence and gifts exchanged to foster these relationships and repay associated debts. Further, the "marriage alliance" and "gift exchange" explanations have been posited with implicit assumptions about the social context of wooden paddle and earthenware pot production and use. For instance, wooden paddles are assumed to have been owned and used exclusively by female potters, though this was not necessarily the case. Instead, paddles may have been produced and owned by wood-carving specialists or owned by descent groups rather than individuals. Evidence for the movement of wooden paddles does