Woodland-period mound building as historical tradition: Dating the mounds and monuments at Crystal River (8CI1)

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ABSTRACT
Changes in monumental architecture are fundamental to the theory and practice of archaeology in eastern North America, yet we have rarely examined these changes at spatial and temporal scales commensurate with the lived experience of the people of the past. The problem is exemplified by the transition from conical burial mounds to truncated pyramids, or platform mounds. We report a combined total of 24 radiocarbon dates (10 reported here for first time) and four OSL dates from mounds at the Crystal River site (8CI1) in west-central Florida, among the most diverse Woodland-period mound complexes in the US Southeast. We then review the results of Bayesian modeling of mound construction episodes indicated by geophysical survey, small-diameter coring, and reviews of previous excavation. Finally, we synthesis the modeled start dates for mound construction episodes into a five-phase Bayesian model that allows us to approach mound building at Crystal River as a form of historical tradition characterized by both stasis and rapid change in architectural form.

1. Introduction

Changes in monumental architecture are fundamental to the theory and practice of archaeology in eastern North America (Anderson, 2012: 85–86), yet we have rarely examined these changes at spatial and temporal scales commensurate with the lived experience of the people of the past. The problem is exemplified by the transition from conical burial mounds to truncated pyramids, or platform mounds. Cultural historians saw these forms as markers of broad-scale temporal patterns, specifically the Burial Mound and Temple Mound stages, respectively (Ford and Willey, 1941; Griffin, 1946, 1952). Processualists considered them indicative of evolutionary stages of organizational complexity, from the simple, relatively egalitarian societies of the Woodland period (ca. 1000 BCE to 1540), respectively (Peebles and Kus, 1977; Steponaitis, 1976; Fischer and McNutt, 1962; Mainfort, 1986, 1988a, 1988b; Mainfort and McNutt, 2013; Mainfort et al., 1982). Neither was concerned with variation from historical sequences or evolutionary trajectories, or the manner in which the transition played out over shorter time frames in specific localities. Nevertheless, over the years a number of exceptions to the general pattern were documented, in the form of anomalously early platform mound construction at sites such as Anneewakee Creek (Dickens, 1975); McKeehen (Milanch et al. 1997); Swift Creek (Kelly and Smith, 1975); Mandeville (Kellar et al., 1962a, 1962b; Smith, 1975); Garden Creek (Keel, 1976); Toltec (Rolinson, 2012); and Pinson (Broster and Schneider, 1976; Fischer and McNutt, 1962; Mainfort, 1986, 1988a, 1988b; Mainfort and McNutt, 2013; Mainfort et al., 1982).

By the 1990s, a broader theoretical landscape had emerged, favoring historical understanding of specific settings over chronological and typological generalization. This expansion of archaeological thought coincided with the growing recognition that the progression from burial- to platform-mound architecture was not as tidy as previously assumed. Knight (1990, 2001) presented evidence for Woodland-period platform mound building at the Walling site and, drawing from a roster of 55 mounds on 30 sites, went on to describe this as a “generalized phenomenon,” albeit with great variability in time and form. Jeffries (1994), in a slightly later synthesis that included documentation of another example at the Cold Springs site, reached similar conclusions. Lindauer and Blitz (1997) contrasted early (primarily Woodland) and late (primarily Mississippian) platform mounds in the Southeast. Several additional descriptions of pre-Mississippian platform mounds have followed (Boudreaux, 2011; Kimball et al., 2010; Pluckhahn, 1996; Rafferty, 1990; Seinfeld and Bigman, 2013; Sherwood et al., 2013).

Yet a true historical perspective on the diversity of mound architecture during the Woodland period has remained elusive, owing to limitations of both the archaeological record and our approach to it. Regarding the former, relatively few extant Woodland-period sites encapsulate the full diversity of mound forms. The problem is exacerbated by the modern-era destruction of several prominent mound centers; perhaps most unfortunate is the loss of the 13 mounds at the Troyville site, including one of considerable size and formal complexity (Neuman, 1984: 170–171; Walker, 1936). Of the major Woodland-period mound complexes that remain, many are poorly dated or lack absolute dates entirely. Many of these—such as the Kolomoki (Sears, 1956) and Marksveille (Toth, 1974) sites—were principally excavated before the development of radiocarbon dating, or at least before the retrieval of samples for radiocarbon dating became standard practice. Compounding the problem, newer field investigations of the largest and most architecturally-diverse Woodland-period mound complexes are relatively infrequent, owing partly to deference to Native American
preferences. Archaeologists have also been slow to implement minimally-invasive methods or alternative dating techniques, such as the optically-stimulated luminescence dating (OSL) that contributed to new understanding of Archaic-period mound building (Feathers, 1997; Saunders et al., 1997).

While many of these limitations remain, recent advances in Bayesian modeling present archaeologists with unprecedented opportunities to understand changes in monumental architecture at scales approaching the lived experience of the people of the past. Drawing from Bayes’ Theorem, data relevant to a specific problem (standardized likelihoods), such as radiocarbon assays associated with a mound we wish to position chronologically, are considered in the context of our knowledge (prior beliefs), such as the stratigraphic or phase-based ordering of the dated contexts, to arrive at a new understanding of the problem (posterior beliefs) (Bayliss et al., 2011: 19). OxCal 4.2 (©Christopher Bronk Ramsey 2013; Bronk Ramsey, 2009) allows users to develop Bayesian models that, depending on the quality of the prior beliefs and standardized likelihoods (see Bayliss et al., 2007), can help us understand monument construction at generational or decadal scales with relatively high certainty (e.g., Chirikure et al., 2013; Culleton et al., 2012; Schilling, 2013).

We present new evidence for the dating of mounds at the Crystal River site (8CI1), a Woodland-period mound complex on Florida’s central Gulf Coast (Fig. 2). Crystal River is among the most diverse Woodland-period mound complexes in the US Southeast, with two burial mounds (Mound G and Mounds C–F—the latter a complex consisting of several parts), one large platform mound (Mound A), and two or three smaller platform mounds (Mounds H, J, and K). Ten years ago, the site was virtually undated. As a result of new field excavations, as well as new analyses of previous collections, it is now among the most thoroughly dated Woodland-period mound and village complexes in eastern North America.

As described elsewhere (Pluckhahn, Thompson, et al., 2015), recent investigations included the retrieval of 36 radiocarbon dates from midden contexts; Bayesian modeling of these and the handful of previous dates identified four phases of village growth and decline. Briefly, habitation began in Midden Phase 1, modeled to between 69 and 265 cal CE (95%), probably between 125 and 242 cal CE (68%) (Pluckhahn, Thompson, et al., 2015) (in keeping with the convention [Bayliss et al., 2011: 21] we use italics to differentiate modeled date ranges from simple calibrated dates). Isotopic studies of oysters from these contexts suggest the initial settlement was likely seasonal, occurring in cooler months and perhaps in association with ceremonies (Thompson et al., 2015). The village grew rapidly in permanence and size during the second midden phase, modeled to the interval between 238 and 499 cal CE (95%), probably between 221 and 544 cal CE (68%) (Pluckhahn, Thompson, et al., 2015). Settlement declined at Crystal River in Midden Phase 3, modeled between 478 and 810 cal CE (95%), probably between 521 and 747 cal CE (68%). In the fourth and final midden phase, modeled between 723 and 1060 cal CE (95%), probably between 779 and 982 cal CE (95%), the occupation at Crystal River declined even further, perhaps reflecting only a continuing caretaker.
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