

ARTICLE

Understanding the Rise of Complexity at Cahokia: Evidence of Nonlocal Caddo Ceramic Specialists in the East St. Louis Precinct

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Abstract

This article investigates the rise of social complexity of Cahokia's multiethnic city through a robust stylistic grammar analysis of early Caddo fine ware vessels at Cahokia's East St. Louis Precinct. We explore ceramic production and distribution to shed light on whether Caddo-like fine wares were produced by Caddo potters who lived and crafted at Cahokia, were produced by local Cahokia potters who copied Caddo motifs, or were imported to Cahokia from the southern Caddo area. This investigation helps us better understand the nature of Caddo connections at the beginning of Cahokia's development and provides a means of identifying and interpreting new levels of social interactions between the Caddo world and Cahokia. The stylistic grammar results show that the majority of the Caddo-like vessels at Cahokia have identical stylistic grammar as vessels from the Caddo world. This strongly suggests that Caddo craft specialists migrated to, lived, and crafted their homeland vessels at Cahokia and thus were key social actors in its development.

Resumen

Este artículo investiga el surgimiento de la complejidad social de la ciudad multiétnica de Cahokia a través de un sólido análisis estilístico de la gramática de las primeras vasijas de cerámica fina Caddo en el recinto de East St. Louis de Cahokia. Exploramos la producción y distribución de cerámica para arrojar luz sobre si las cerámicas finas similares a Caddo fueron producidas por alfareros Caddo que vivían y elaboraban en Cahokia, si fueron producidas por alfareros locales de Cahokia que copiaron motivos Caddo, o si las vasijas fueron importadas a Cahokia desde el sur de Caddo. área. Esta investigación nos ayuda a comprender mejor la naturaleza de las conexiones Caddo al comienzo del desarrollo de Cahokia y proporciona un medio para identificar e interpretar nuevos niveles de interacciones sociales entre el mundo Caddo y Cahokia. Los resultados de la gramática estilística muestran que la mayoría de las vasijas similares a Caddo en Cahokia tienen una gramática estilística idéntica a las vasijas del mundo Caddo. Esto sugiere fuertemente que los especialistas en artesanía de Caddo emigraron, vivieron y fabricaron las embarcaciones de su tierra natal en Cahokia y, por lo tanto, fueron actores sociales clave en su desarrollo.

Keywords: Caddo; Cahokia; ceramics; style; social complexity; complex societies

Palabras clave: Caddo; Cahokia; cerámica; estilo; complejidad social; sociedades complejas

When archaeologists think about the rise of social, political, and economic complexity throughout ancient history, Cahokia is likely at the top of their list, especially now that archaeological evidence suggests that it was much more than a chiefdom (Holt 2009; Pauketat 2007). Most directly associated with Cahokia's increasing social complexity, on a scale not yet seen north of Mexico, is the rapid and widespread development of monumental architecture, a highly formalized iconographic tool kit, increased maize-based subsistence, and the adoption of similar ways of life across the Midwest and

Southeast (McNutt and Parish 2020). Studies investigating the rise of complex societies and migration across the world have shown that multiculturalism and the migration of multiethnic groups are key ingredients in the development and maintenance of such social complexity (Knapp 1993; Sherratt 1990; Yoffee 1979). However, archaeologists are just beginning to understand how the movement of diverse people into Cahokia influenced the city's social, political, economic, and religious development. A related and equally puzzling inquiry is what some refer to as the "Caddo Conundrum" (Pauketat 2015): strong material evidence, primarily ceramic, of a Caddo connection during the beginning of Cahokia's history. Can this strong Caddo presence shed new light on the rise of complexity at Cahokia?

The movement of Early Caddo pottery did not cease after southern Caddo people produced, used, and deposited them in ritual and domestic contexts nor when northern Caddo people obtained, used, and deposited them in restricted mortuary events. Early Caddo fine wares were also moved, made, imitated, used, and deposited in different ritual and domestic contexts at Cahokia and beyond (Green et al. 2021; Trubitt et al. 2016). When objects are reproduced and used in distant geographical and cultural contexts, they absorb new "assemblages of practices" as they become entangled with new social actors, places, and things within the practices of everyday life (Antczak and Beaudry 2019:10). Likewise, we argue that as Early Caddo potters produced finely made pottery in Cahokia contexts, they became entangled in new social flows of life that altered their historical trajectories, meaning, and use. These early Caddo potters were likely ceramic specialists and played an integral role in the development of what many Cahokian researchers refer to as Cahokia's multiethnic city (Emerson and Hedman 2015; Emerson et al. 2020; Pauketat 1998, 2007; Pauketat and Emerson 1997). Early Caddo fine wares at Cahokia developed a new meshwork of human–thing entanglements and fostered relations of dependence and dependency during their production, distribution, and deposition at Cahokia.

To demonstrate that Early Caddo fine wares were likely made by immigrant Caddo specialists, we first discuss our current understanding of Caddo–Cahokia connections. Then, we consider recent geochemical sourcing research that shows that most Caddo-like fine wares were locally made at Cahokia. Based on the understanding that many of these fine wares, often lumped into a category called Lower Mississippi Valley wares, were locally made, we then explore whether Cahokia potters imitated them or they were produced by migrant Caddo potters who worked and lived at Cahokia. We conduct a robust ceramic design grammar analysis and a series of hierarchical stylistic analyses of 36 Caddo-like fine ware vessels from the East St. Louis Precinct excavations to determine the range of design choices and of manufacturing/finishing techniques used when executing the overall motif. Then, we compare those findings with technical and stylistic data for 300 fine ware vessels from the northern and southern Caddo areas to search for similarities or variations in design choice and manufacturing techniques. We find that more than 90% of the fine ware pottery with Caddo design elements from Cahokia's East St. Louis Precinct have identical design grammar and technological features to the vessels produced in the Caddo world, strongly suggesting that Caddo potters were responsible for their production. The last section of this article discusses the significance of Caddo potters migrating to, living, and crafting at Cahokia. This emerging assemblage of practice, much different from the vessels made in the Caddo world, was an integral part of the development of Cahokia's multiethnic city, which fostered new multicultural entanglements that promoted social, religious, and economic dependence on Caddo materials and maintained relationships with their Caddo neighbors to the southwest.

Caddo–Cahokia Connections

Archaeological evidence shows that Early Caddo people interacted with Cahokia communities, as well as with people in the Plains, Southwest, and Upper and Lower Mississippi Valleys (Trubitt et al. 2016). These relatively strong linkages between Early Caddo communities and Cahokia "may have played a significant role in the historical trajectories between Lower Mississippi Valley and Caddo Areas" (Girard et al. 2014:59). The emergence of the Caddo in the Early Caddo period coincided with the changes at Cahokia that occurred during the mid-eleventh century, which were also called the "Big Bang" in the later Lohmann phase (Pauketat 1994). Cahokia-made objects were found in mass graves in the Arkansas basin of the northern Caddo area and in shaft tombs in the southern Caddo area,

suggesting strong ties to Cahokia (Girard et al. 2014). Much of the Caddo–Cahokia research to date focuses on objects that were brought to the Caddo area; they are theorized to be evidence of a prestige goods economy (Anderson 1997; Trubitt et al. 2016) or to be important for maintaining the production and distribution of a ritual economy (Lambert 2017).

A growing body of evidence emphasizes an earlier history of interactions between Caddo and Cahokia communities during the Early Caddo period and in the Lohmann phase or early in the Stirling phase. Emerson and Girard (2004) studied Cahokia-style flint clay effigy pipes at the Gahagan Mound site (16RR1), an Early Caddo mound site in northwestern Louisiana along the Red River. The effigy pipes were recovered from large tomb burials, along with copper, lithic, ceramic, and leather objects. They took AMS samples in context with the pipes, which date from AD 1021 to 1160, making pipes contemporaneous with the Cahokia Lohmann (AD 1050–1100) and early Stirling (AD 1100–1150) phases. This is much earlier than the dates suggested by Emerson and coworkers (2003) for when Cahokia flint clay figurines left Cahokia. As Girard and colleagues (2014) noted, our current understanding of the social interactions between Caddo and Cahokia communities needs considerable refinement. This article brings us one step closer to understanding why there is such a strong Caddo presence at Cahokia during parts of their earliest overlapping histories.

Early Cahokia and Caddo community interactions likely had significant social, ritual, political, and economic impacts on Cahokia’s development. For instance, researchers posit that Cahokia’s Mound 72 burial contexts have antecedents or parallels to Early Caddo mound sites at Harlan, Spiro, and Crenshaw (Fortier et al. 2006:199; Girard et al. 2014). These interactions also affected the Caddo world. Girard and colleagues (2014:59) stated, “Events at Cahokia are likely to have been important for understanding what we archaeologically recognize as the change from the Formative to Early Caddo periods.” They argued that these persistent interactions may have “stimulated” and transformed Caddo’s social, material, and ritual worlds. They discount previous assertions that Caddo development resulted from Cahokia’s dominant and powerful polity. Regnier (2017) studied how the Caddo became a people in the Red River valley and compared Caddo developments with the emergence of Mississippian communities to the east. She concluded that much of what made Caddo people *Caddo* stemmed not from Mississippian groups to the east nor the political and economic powers of growing Mississippian polities like Cahokia but was instead deeply embedded in Caddo’s local traditions and practices.

Early Caddo Fine Wares at Cahokia: Exchange or Migration?

Early Caddo ceramics at Cahokia provide much of the evidence for a strong Caddo connection at Cahokia. These early fine wares have been identified in Cahokia and in the US Midwest in several contexts dating from AD 1050 to 1200 (Figure 1; Perttula 2020). Kelly (1991:80) posited that much of the Caddo pottery at Cahokia dated to Cahokia’s earlier Edelhardt phase, which coincides with Caddo’s Late Formative and Early Caddo periods. Coles Creek Incised, French Fork Incised, Holly Fine Engraved, Spiro (Iwi) Engraved, Hickory Engraved, Crockett Curvilinear Incised, and Crenshaw Fluted ceramic types have all been identified at Cahokia (Bareis and Porter 1965; Kelly 1991; Pauketat 1994; Pauketat and Emerson, ed. 1997; Perttula 2020). There are also several fine engraved and incised wares that have a mixture of Caddo, Cahokia, and unknown design elements (Girard et al. 2014). These “hybrid” decorative wares can be difficult to distinguish from Early Caddo fine wares made by Caddo potters. However, using a hierarchical stylistic analysis helps solve this challenge.

Such a great diversity of Caddo pottery during Cahokia’s earliest period has primarily been hypothesized to be the result of direct or indirect exchange (Girard et al. 2014; Kelly 1991; Perttula 2002). At first glance, this makes sense because pottery is one of the key artifacts that archaeologists use to study trade and exchange patterns and long-distance relationships (Arnold 2000; Rice 2005; Stark et al. 2000; Tite 1999). However, several researchers think that exchange may not be the primary catalyst for the widespread distribution of Early Caddo fine wares at Cahokia (Alt 2006, 2012, 2018; Brennan et al. 2019; Perttula 2020; Perttula and Ferguson 2010). The assertion that most, if not all, Early Caddo fine wares at other sites resulted from exchange relationships with distant communities,

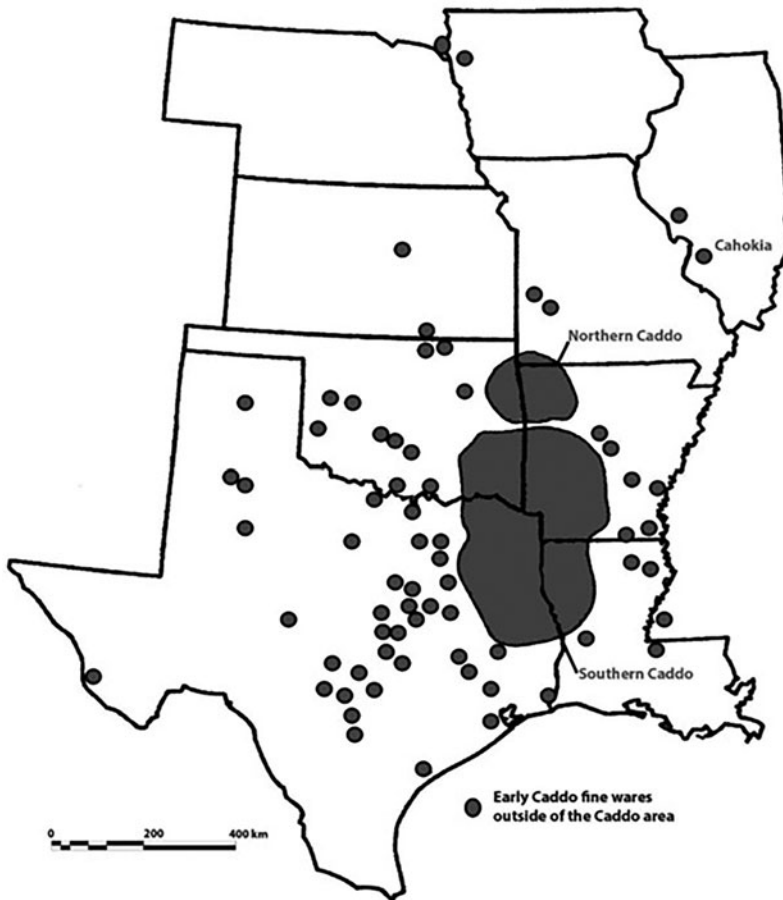


Figure 1. Early Caddo fine wares at sites outside of the Caddo area (adapted from Perttula 2002:Figure 1).

Caddo or otherwise, has begun to erode as archaeologists conduct more fine-grained analyses, like petrographic and geochemical sourcing techniques, to determine whether they were foreign exchange items or locally made. Perttula (2020:103) explained that petrographic work on Early Caddo fine ware vessels, along with instrumental neutron activation analysis (INAA) of their elemental composition (see Perttula 2002; Trubitt et al. 2016), is key to clarifying whether they are local or are nonlocally made. Current research suggests that Caddo ceramic specialists may have immigrated to and lived at Cahokia and produced these early fine wares that were distributed throughout Cahokia. Researchers at the Illinois State University Archeological Survey (ISAS; Brennan et al. 2019:446) conducted a macroscopic analysis on Early Caddo fine wares at the East St. Louis Precinct excavations and found that it “is possible that some were transported as trade goods or as containers for goods, but based on the predominance of local clays, we contend that most of these vessels were most likely constructed in the American Bottom or surrounding region by peoples with knowledge of distant ceramic traditions, morphologies, and decorative designs (e.g., immigrants and imitators of their designs).”

Although many of the Caddo-like pottery vessels seem to be made from local pastes, elemental analyses of clay vessels are needed to determine their composition and whether Caddo pottery specialists immigrated to Cahokia. Trubitt and colleagues (2016) conducted INAA on 16 Caddo-like fine ware sherds recovered from the Cahokia Palisade Project and compared the results with 51 Caddo sherds from Texas, Louisiana, and Arkansas. They found that these Caddo fine wares “came from vessels that were locally manufactured at Cahokia rather than from the Caddo Area” (Trubitt et al. 2016: 101). Perttula (2002) also performed INAA on a single Holly Fine Engraved sherd from the Audrey site

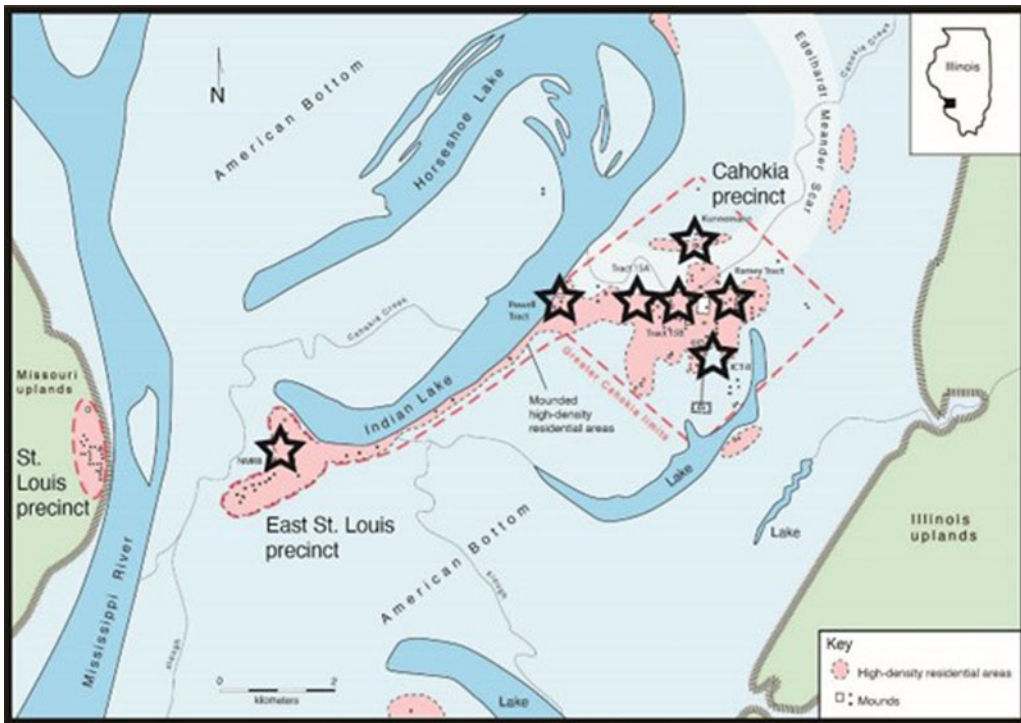


Figure 2. Cahokia region showing the location of the East St. Louis Precinct excavation area. (Color online)

(11GE20), a Mississippian settlement from about the Late Lohmann phase, AD 1050, located just north of Cahokia. The results showed that the vessel was likely manufactured in northeast Texas. It is important to note, however, that the potter tempered this vessel with grog, in contrast to Caddo fine wares recovered at Cahokia that were tempered with fine grog and shell (i.e., grog likely made from broken shell-tempered vessels). There are other robust petrographic analyses of shell-tempered ceramics in the American Bottom (Porter 1964, 1984), and currently researchers are conducting more robust INAA on Early Caddo ceramics recovered from the East St. Louis Precinct excavations and other areas of Cahokia to help strengthen the petrographic data that suggest local manufacture (Tamira Brennon, personal communication 2021).

Now that geographic production locales have been further specified at Cahokia, Pertulla (2020:103) advises that elemental and petrographic analyses should “be accompanied by stylistic, morphological, and technological consideration of the corpus of engraved and fine incised wares from Cahokian sites.” This article is dedicated to doing just that. First, we compare vessel form and manufacturing techniques to see whether the vessels from Cahokia were constructed in the same manner as those made by Early Caddo potters to the west and south. Then, we establish their design grammar (i.e., the range of potters’ design choices) through a hierarchical stylistic analysis (Early 2012; Lambert 2017, 2021a) and an analysis of vessel construction methods; for example, Caddo potters commonly used a slab construction method to construct bottle necks. Then, we compare the results to make the case that Caddo potters most likely immigrated to Cahokia. Thus, we envision Early Caddo pottery taking on a whole new dynamism of meaning: the wares should no longer be seen as exchanged items from the Caddo homeland but instead as entangled things produced or born into a new assemblage of Cahokia practices and traditions.

Early Caddo Ceramics from the East St. Louis Precinct Excavations

Our analyses focus on 34 Early Caddo-like fine wares from the East St. Louis Precinct excavations (Figure 2; Table 1; see Betzenhauser et al. 2018; Brennan et al. 2019). This East St. Louis Precinct

Table 1. Studied Vessels at Cahokia's East St. Louis Precinct with Early Caddo Elements.

Vessel #	Caddo Design	Vessel Form	Vessel Thickness (mm)	Surface Treatment	Temper	Early Caddo	Possible Imitation
5-0062-29	Spiro/Holly Engraved	carinated bowl with scalloped rim	3.3	burnished	grog and shell	x	
5-0479-8	Holly Fine Engraved	beaker	3.0	highly burnished	grog and shell	x	
5-0819-010	Spiro Engraved	carinated Bowl	4.1	highly burnished	grog and shell	X	
5-0819-025	Spiro Engraved	bottle	3.6	smoothed	grog and shell	x	
5-1648-7	Holly Fine Engraved	beaker	2.8	highly burnished	grog and shell	x	
5-4113-01	Spiro Engraved	carinated bowl	5.0	highly burnished	grog and shell	x	
5-4116-01	Spiro Engraved	incurvate bowl	3.0	burnished	grog and shell	x	
5-4138-32	Spiro/Holly Engraved?	straight beaker	3.0	burnished red slipped	shell	x	
6-0004-163	Spiro Engraved	bottle	4.1	burnished	grog and shell	x	
6-0378-085	Spiro Engraved	?	4.8	burnished	grog and shell	x	
6-0378-086	Spiro Engraved?	plate?	5.0	burnished	grog and shell		x
6-0619-029	Spiro Engraved	incurvate bowl	4.3	highly burnished	grog and shell	x	
6-0766-05	Spiro Engraved	possible bottle	3.4	burnished	grog and shell	x	
5-2117-42	Spiro Engraved elements with non-Caddo design influences?	shallow carinated bowl	4.2	burnished	grog and shell		x
4-1821-1	Spiro Engraved	incurvate bowl	4.3	burnished	grog and shell	x	
5-011514	Holly Fine Engraved	beaker	3.0	burnished	grog	x	
5-0858-02	Spiro Engraved	incurvate bowl	3.8	burnished	grog and shell	x	
5-4020-22	Spiro Engraved	simple bowl	3.2	burnished	grog and shell	x	
5-700-163	Spiro Engraved elements with non-Caddo design influences?	spouted beaker	>6.0	burnished	shell?		?
6-0398-007	unknown, likely not Caddo	simple bowl	4.0	smoothed	grog and shell		x
6-0521-018	Spiro Engraved	bottle	3.4	burnished	grog and shell	x	

(Continued)

Table 1. Studied Vessels at Cahokia’s East St. Louis Precinct with Early Caddo Elements. (Continued.)

Vessel #	Caddo Design	Vessel Form	Vessel Thickness (mm)	Surface Treatment	Temper	Early Caddo	Possible Imitation
6-0610-16	unknown, likely not Caddo	indeterminate	4.5	burnished red slipped	grog and shell		x
4-2251-16	Spiro Engraved elements with non-Caddo design influences?	carinated bowl with applique	5.0	burnished	shell		x
5-2248-06	Early Caddo design elements with non-Caddo design influences?	scalloped bowl	5.0	burnished tan slipped	shell		x
5-1699-20	Spiro Engraved	beaker	4.2	highly burnished	grog and shell	x	
5-1897-022	Crockett Curvilinear Incised	incurvate bowl	3.7	highly burnished	grog and shell	x	
5-4020-22	Crockett Curvilinear Incised	simple bowl	3.0	burnished	grog and shell	x	
5-900-827	Spiro Engraved	possible bottle	3.6	burnished	grog and shell	x	
6-0619-036	non-Caddo	bowl with scalloped applique	5.6	burnished	grog and shell		x
6-0378-100	Spiro Engraved	simple bowl	3.1	burnished	grog and shell	x	
5-2437-12	Spiro Engraved	pedestal bottle	4.0	burnished	grog and shell	x	
5-2136-1	Crockett Curvilinear Incised	simple bowl	3.8	burnished	grog and shell	x	
5-1682-2	Crockett Curvilinear Incised	beaker	3.5	burnished	grog	x	

ceramic corpus comprises more than an estimated 15,670 ceramic vessels recovered from domestic, ceremonial, and mortuary contexts dating to the Lohmann, Stirling, and Moorehead (around AD 1200–1300) phases. From this assemblage, 39 vessels (0.25%) have Caddo-like decorative motifs. Betzenhauser and coworkers (2018:298) identified Caddo-like vessels based on decoration, form, and paste, concluding that this assemblage had “Caddo-inspired designs and forms.” Most of the Caddo ceramics ($n = 31$) came from Late Lohmann/Stirling phase contexts. Other ceramics came from contexts during the Lohmann ($n = 5$) and Moorehead ($n = 3$) phases (Brennan et al. 2019). When vessel forms were identifiable, they included carinated bowls ($n = 2$), an important Caddo vessel form; bowls ($n = 15$); beakers ($n = 5$); plates ($n = 2$); jars ($n = 2$); and one conch shell-shaped effigy bowl. Interestingly, Brennan and colleagues (2019) did not identify any ceramic bottles, which is one of the most culturally identifiable Caddo forms. After a careful hands-on study in which we observed each preserved vessel section and motif placement, we demonstrated that bottles ($n = 5$) are, in fact, present at the East St. Louis Precinct.

Manufacturing Techniques of Caddo Vessels at Cahokia

To determine whether Caddo vessels found at Cahokia were imported or locally made, it is necessary to first compare the technological features of this pottery to those from vessels found in the Caddo homeland. As Perttula (2010:18) stated, a productive approach to understanding the technological variability of Caddo pottery is through the study of ceramic practice: a potter’s or a group of potters’ decorative, technological, and formal choices in producing ceramics within a community or network of socially related individuals (see also Eckert 2008:2–3, 10–13). Ceramic practice, when taken as a whole, forms the “technological choices selected in a rich context of tradition, value, alternative, and compromises” (Rice 1996:140). As objects are produced within a specific traditional practice, whether locally or by immigrant craft specialists, “people reproduce their cultural and social positions through daily practice; that daily practice is structured by basic organizational principles and develops as a practical solution to a particular demand within the framework of certain environmental and cultural conditions” (Eckert 2008:10).

Caddo potters’ technical choices can be understood through the rules they used to manufacture and decorate their pottery (Perttula 2010). Thus, studying the range of ceramic practice and technical choices of fine ware pottery found at Cahokia will enable a determination of whether Caddo potters lived at Cahokia or whether Cahokia potters imitated Caddo forms and designs. We can then recognize socially defined groups that closely interacted and transmitted “knowledge among individuals creating pottery” (McClure 2007:486). If Caddo ceramic specialists lived at Cahokia, that means that they were able to maintain a means of social learning. Their knowledge of ceramic manufacturing techniques and design choices was not gained through imitation but from inherited traditions of learning by other Caddo descendant potters from their homeland or from earlier generations of potters who may have also lived at Cahokia. If the technical choices in the Cahokia assemblage of these fine wares are significantly similar to the ways Caddo potters produced vessels in the Caddo homeland, then we can more confidently surmise that Caddo potters lived at Cahokia. This approach identifies key choices and trends in the character of manufacturing techniques of Early Caddo fine wares from the St. Louis Precinct excavations, including vessel forms, temper, and methods of manufacture.

Early Caddo Vessel Forms at Cahokia

An important feature in the manufacturing of Early Caddo pottery is ceramic form. Whereas Middle and Late Caddo potters (AD 1250–1690) produced a wide variety of forms and motifs (Girard et al. 2014), Early Caddo potters used just a small subset of pottery forms on which to place repeating abstract curvilinear motifs. Lambert (2017, 2021a, 2021b, 2021c), working with almost 300 whole vessels in the northern and southern Caddo area, illustrated the range of vessel forms made by Caddo potters (Figure 3). There are five vessel groups: bottles, bowls, jars, beakers, and effigy vessels, with the last group being very rare in Early Caddo contexts.

Within each vessel group, there are some notable variations in vessel form. Bottles and bowls have the widest range in vessel forms and shapes. Simple and more globular bottle forms

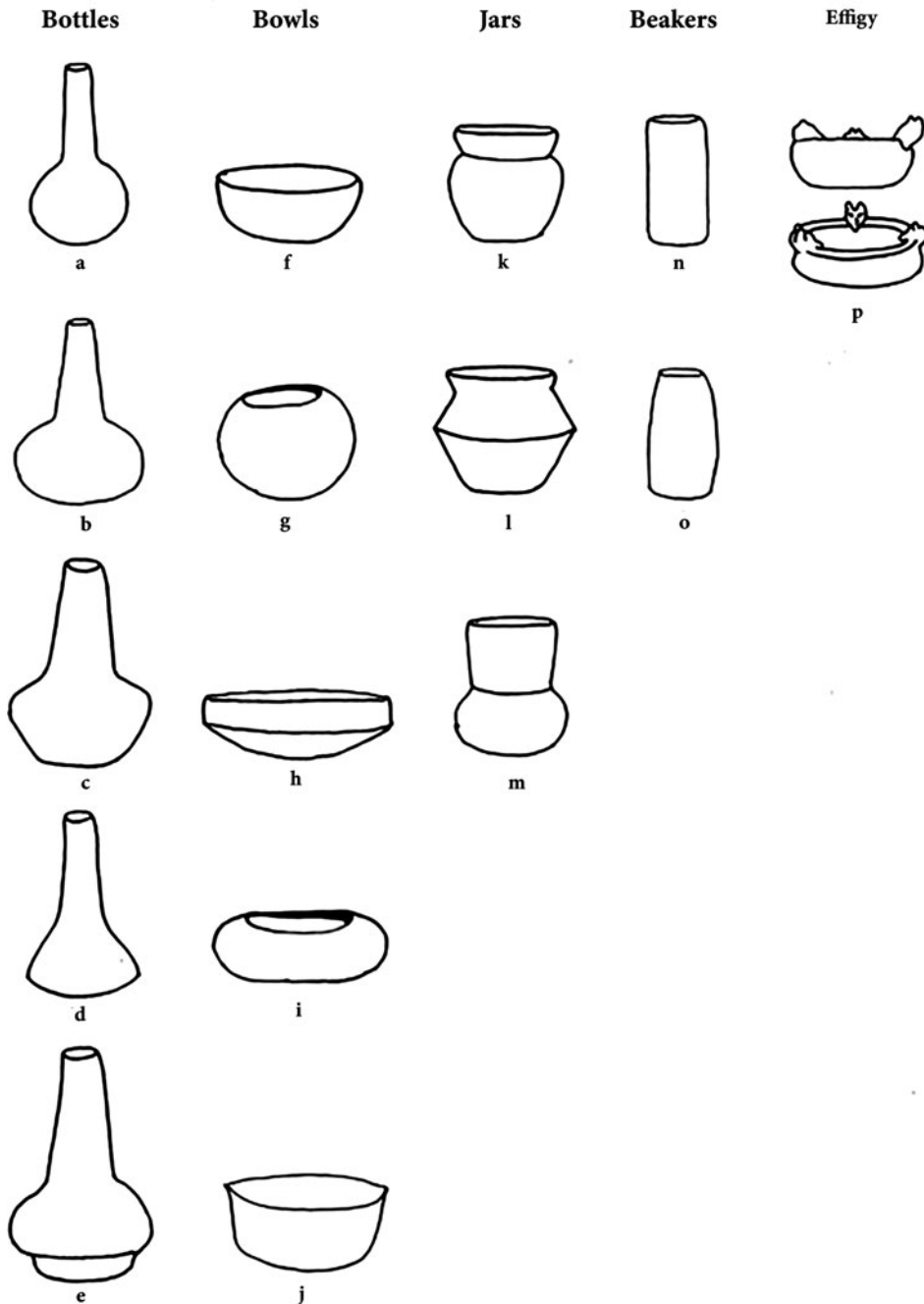


Figure 3. Formative Caddo vessel forms: (a) simple bottle, (b) bottle with globular body, (c) bottle with four shoulder peaks, (d) squatted bottle, (e) bottle with pedestal base, (f) simple incurvate bowl, (g) restricted bowl, (h) carinated bowl, (i) shallow incurvate bowl, (j) “gravy boat” bowl, (k) simple jar, (l) carinated jar, (m) tall neck jar, (n) straight beaker, (o) incurvate beaker, and (p) effigy vessel. (Figure by Shawn P. Lambert.)

(see [Figure 3a–b](#)) are the most commonly produced Early Caddo vessels, representing almost 33% ($n = 99$) of the assemblage that Lambert (2017) used in an earlier study. Another very important bottle form that occurs in both the northern and southern Caddo areas is a bottle with a pedestal base (see [Figure 3e](#)). This bottle type is a distinctly Caddo form with at least 20 whole- vessel examples, most of which are found in southern Caddo contexts at mound sites along the Red

River Valley (see Lambert 2017, 2021a). At first glance, the pedestal base looks like a manufacturing accident, because Early Caddo potters used base molds to construct the bottle base, and it would have been easy for novice potters to cause the coiled clay to form or collapse over the base mold and create this distinct pedestalled look. However, closer observation shows that potters chose to create this distinct shape, because they are incredibly well made, the bases are smoothed and often burnished, and there are exquisite engraved curvilinear and spiral designs around the body of the vessel.

Early Caddo bowls also have notable variations. Although potters primarily produced the simple bowl form (Figure 3f), carinated bowls (figure 3h) are also common and represent one of the most distinguishable Early Caddo forms (Girard et al. 2014). Carinated bowls have an almost vertical rim panel right above the shoulder that makes a perfect canvas on which potters engraved or incised repeated Caddo motifs. Early Caddo potters primarily restricted the execution of their design to the rim panel. Currently there are no examples of Early Caddo carinated bowls in the Caddo region where potters placed designs in the interior or the exterior base. Another interesting bowl form is the shallow incurvate bowl (Figure 3i). These bowl forms are found in mortuary contexts in northern Caddo ceremonial mound centers and in domestic, ceremonial feasting, and mortuary contexts in the southern Caddo area (Lambert 2017). The forms usually have wider diameters, averaging 35 cm, and Lambert (2017) argued that Early Caddo communities used this vessel type as special-purpose serving vessels. The most common Early Caddo designs on this vessel form include Crockett Curvilinear Incised, Spiro (Iwi) Engraved,¹ and Holly Fine Engraved motifs.

Lastly, Early Caddo potters introduced a new vessel form to their manufacturing tool kit: the beaker. Beakers are usually recovered in mortuary contexts in northern and southern Caddo contexts. However, they have also been recovered from nonmortuary contexts in the southern Caddo area, such as at the George C. Davis site in East Texas (Fields and Thurmond 1980). Beakers come in two types, having either straight or slightly incurvate bodies, and Lambert (2017) shows that it was a common practice for potters to produce a slight constricted orifice (Figure 3n–o). These forms represent some of the most finely constructed Early Caddo forms, with walls averaging 2–3 mm in thickness; they have highly smoothed or burnished surfaces, and occasionally red and white pigments are rubbed into the engraved motifs. Potters usually adorned these vessels with Spiro (Iwi) Engraved, Holly Fine Engraved, and Crockett Curvilinear Incised motifs, which were most often engraved or incised single and double spirals or concentric circles (Suhm and Jelks 1962). These motifs are repeated around the vessel vertically and horizontally, making these vessels highly visible, no matter their orientation. Beakers were likely used either to produce or consume ritually charged liquid concoctions, like *Datura* and Black Drink (Crown et al. 2012; Lambert et al. 2022).

Comparing the vessel forms in the Cahokia assemblage with the known Early Caddo vessel assemblage yields striking similarities. In the assemblage discussed here, there are very distinctive Caddo forms present, including bottles, bowls, and beakers (Figure 4). As stated earlier, Brennan and colleagues (2019) did not identify bottles in their investigation of Caddo-like vessels recovered from the East St. Louis Precinct. However, we found at least five bottles present in this assemblage (Table 1; Figure 4). Most bottles are large body fragments. Brennan and colleagues (2019) identified these sherds as indeterminate because most do not have important diagnostic body portions, like fragments of necks or bases, which makes it difficult to ascertain their form. However, based on sherd curvature, fragmentation, and motif placement, we are confident that these sherds are fragments of bottles. For example, the Spiro Engraved sherd in Figure 4a is part of the globular portion of a bottle. The curvature and placement of the motif do not make sense for it to be a bowl or jar. To maintain design symmetry in the repetition of the motif around the vessel, which was very important in Early Caddo design grammar, the globular portion of a bottle form is required (Lambert 2017).

Another notable bottle form discovered in this assemblage is a pedestalled bottle (Figure 4d). This bottle fragment (vessel # 5-2437-12 in Table 1) was initially interpreted as a possible conch shell effigy vessel (Brennan et al. 2019). The vessel fragment had broken in a way so that it does look suspiciously like a conch shell, but bottles commonly break in this same manner in the Caddo region; there have

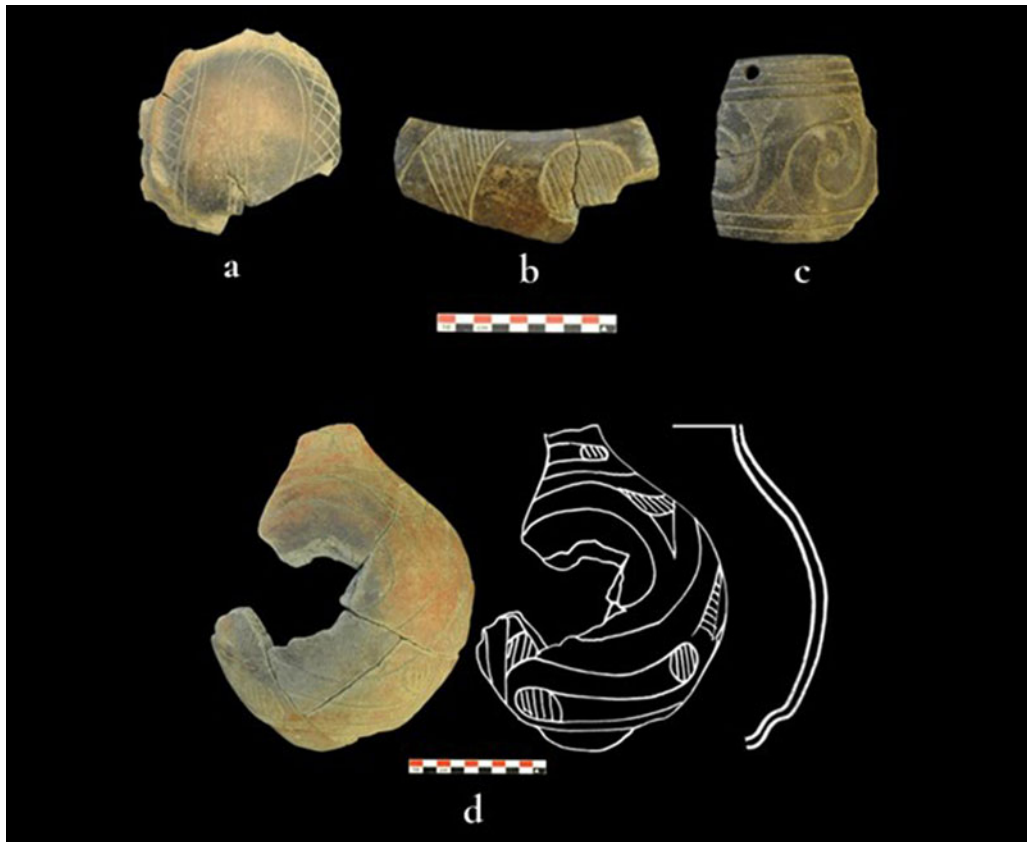


Figure 4. Examples of the variety of Caddo ceramic forms at Cahokia: (a) Spiro (Iwi) Engraved bottle fragment, (b) Crockett Curvilinear Incised incurvate bowl fragment, (c) Spiro (Iwi) Engraved Beaker fragment with mending or suspension hole, and (d) Spiro (Iwi) Engraved pedestal bottle form from Cahokia. (Color online)

also been examples in the Caddo region where bottles broke in half and are subsequently ground down and used as a cup or ladle (Lambert 2017). Therefore, we assert that this is a bottle fragment representing approximately one-third of a whole vessel. A key diagnostic portion of this bottle sherd is the partial base fragment, which is consistent with the distinctive Caddo pedestal base form found throughout the Caddo homeland on bottles (Figure 5). Another diagnostic part is the bottleneck. Early Caddo bottle necks almost always consist of a tapered neck where the neck diameter gradually decreases as it reaches the orifice. This pedestal bottle fragment from Cahokia has such a tapered neck. This example, in conjunction with the other bottle forms found at the East St. Louis precinct, emphasizes the production of bottle forms that have strong ties to Early Caddo traditional pottery-making practices.

Bowls represent the most common vessel form recovered from the East St. Louis Precinct excavations (Table 1; Figure 4b), and the most common type of bowls are shallow incurvate and carinated bowls. There are five shallow incurvate bowls and five carinated bowls, approximately 29% of the Cahokia assemblage (Figure 6a–b). Incurvate bowls are commonly found in the Caddo area. These bowls are usually highly burnished and have Spiro (Iwi) Engraved and Crockett Curvilinear incised and engraved designs just below the rim and above the shoulders of the vessels. Although Early Caddo potters produced these bowl forms in large quantities, they are not distinctive to the Caddo: many Mississippian communities to the east made similar forms. Thus, a combination of technical and stylistic analyses of the bowl forms is necessary to conclude they were made by Caddo potters living at Cahokia.

The last notable vessel form present in the Cahokia assemblage are beakers (Figure 6c–g). Most of the Early Caddo beakers at Cahokia ($n = 6$) have Holly Fine Engraved, Spiro (Iwi) Engraved, and



Figure 5. Examples of pedestal bottle forms from the northern and southern Caddo regions (illustrations produced by Shawn Lambert).

Crockett Curvilinear Incised motifs (Figure 6c–f); one beaker has Caddo and non-Caddo design grammar (Figure 6g). The construction of this anomalous beaker is also significantly different. The ways in which potters constructed six of these beakers share remarkable similarities to beaker production in the Caddo area. As shown in Figure 6, beakers from Cahokia, excluding “beanpot” style beakers, follow the same common form: either they have straight or slight incurvate walls, and some have constricted orifices. Beaker thickness also aligns with traditional Early Caddo beaker construction, from 2.8 to 4.0 mm, and they are tempered with grog from shell-tempered vessels. Cahokia beakers are exact matches of beakers found at Early Caddo sites such as Crenshaw, Reed, Spiro, and George C. Davis (Lambert 2017). From a vessel form perspective, were these Cahokia examples to be recovered in Early Caddo contexts, a claim that they were produced by Early Caddo potters would raise no questions.

The aforementioned anomalous beaker recovered from the East St. Louis Precinct excavations was once interpreted as possibly Caddo produced, but we argue instead that this beaker does not adhere to Early Caddo manufacturing rules (Figure 6g). Compared to Caddo-made beakers, it is a thickly made—from more than 6 to 8 mm—burnished, and a red-slipped engraved and zoned form. This vessel is a straight beaker form that does follow Caddo’s simple beaker form. On closer inspection, there is an intact portion of a spout around the rim that is also inconsistent with Early Caddo ceramic practice. This vessel is not grog tempered but is tempered with fine shell, diverging again from Caddo potting traditions. We assert that Early Caddo potters did not make this beaker, because it is more in line, at least based on its form and temper, with Cahokia-style beakers. It was likely imitated by a non-Caddo potter (for more information on Cahokia-style beakers, see also Brennan et al. 2019; Holley 1989; O’Brien 1972; Pauketat 1998; Washburn et al. 2014).

Early Caddo Temper at Cahokia

Early Caddo polished, engraved, or incised fine wares appear in significant quantities in the Caddo homeland and clearly diverge stylistically and technically from ceramics in Lower Mississippi Valley communities (Girard et al. 2014). At the same time, while many Early Mississippian communities to the east used fine shell as their primary tempering agent, one of the key technical traits of Early Caddo potters was the addition of fine-textured grog temper to their exceptionally well-crafted vessels. Tempering vessels with grog was an ancestral practice of the Caddo that extended back to their Woodland ancestors, and the continued use of grog has been argued to be an important traditional and technical choice that helped maintain strong communities of practice (Lambert 2017). Finely crushed grog allowed Caddo potters to manufacture incredibly thin-walled vessels and to coil very large fine ware vessels, like Holly Fine Engraved bottles recovered at the George C. Davis site in Texas (Perttula 2016).

Almost every Early Caddo vessel at Cahokia was manufactured using local pastes. Brennan and colleagues (2019) stated that of the 39 Caddo-like vessels, 95% are made from local pastes. These vessels are tempered with fine particles of grog or grog and shell. They are commonly “thin walled, and are often decorated, bowls and beakers” used as serving vessels (Holley 1989:11). Early Caddo vessels at Cahokia are most often referred to as fine wares (Brennan et al. 2019) but have also been referred to as “fine grog wares”; their temper may be grog or mixed with fine grog and shell, and temper particles are commonly less than 0.8 mm in diameter (Hamlin 2004; Trubitt et al. 2016; Wilson 1999).

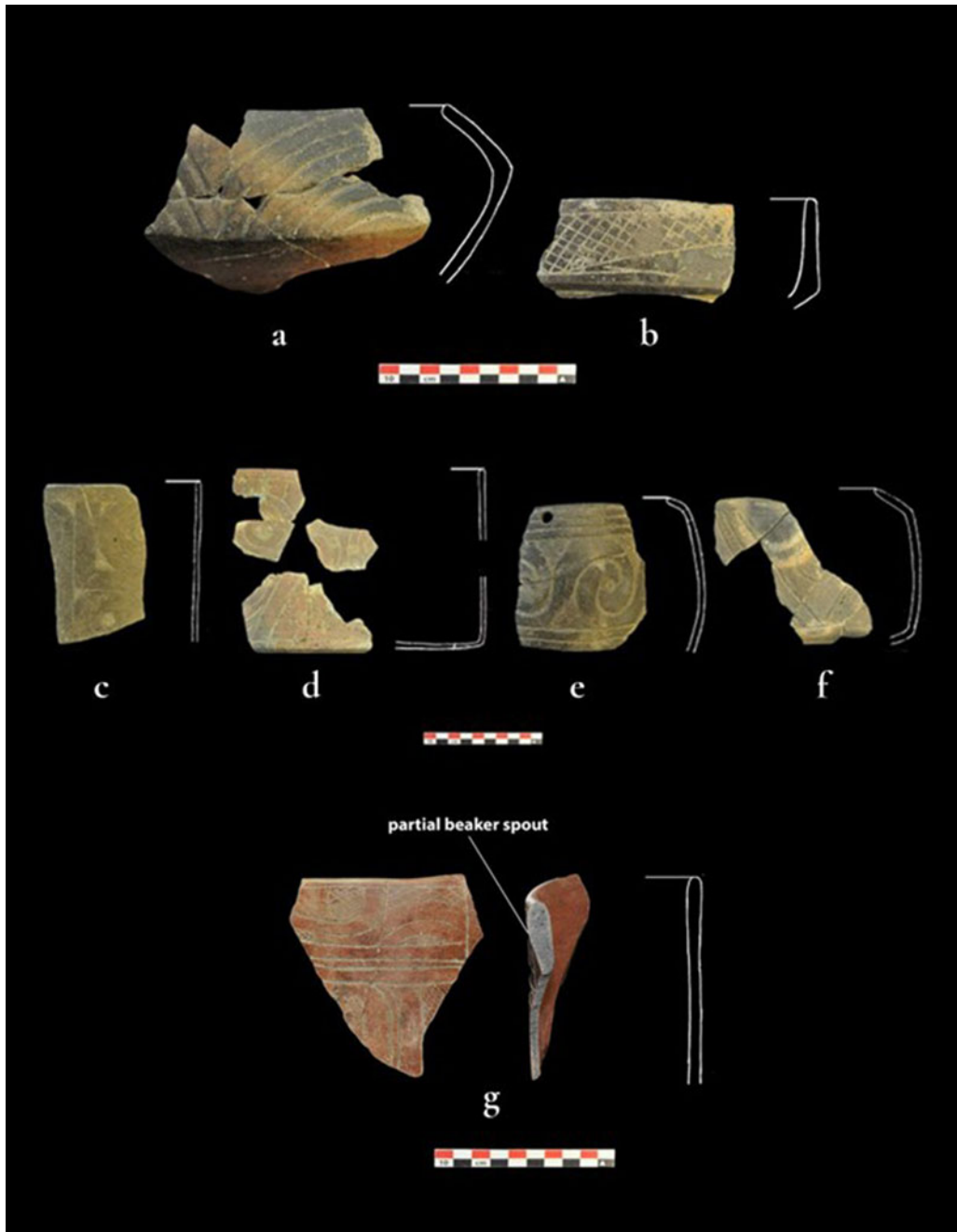


Figure 6. Caddo-like vessel form examples: (a) Spiro (Iwi) Engraved carinated bowl fragment, vessel # 5-0819-010; and (b) possible Spiro (Iwi) Engraved carinated bowl fragment, vessel # 5-4113-01. Example of beakers from the East St. Louis Precinct excavations: (c) Holly Fine Engraved straight beaker, vessel # 5-1648-7; (d) Spiro/Holly Fine Engraved straight beaker, vessel # 5-4138-32; (e) Spiro (Iwi) Engraved incurvate beaker with constricted orifice, vessel # 5-1699-20; (f) Crockett Curvilinear Incised incurvate beaker with constricted orifice, vessel # 5-1682-2; and (g) Cahokia-style beaker with partial spout recovered from the East St. Louis Precinct Excavations, vessel # 5-700-163. (Color online)

Recently, Cahokia scholars have demonstrated that potters likely made grog temper from shell-tempered vessels, the most common manufacturing technique at Cahokia. Therefore, Caddo potters at Cahokia did not add shell in addition to grog (Pauketat and Emerson, ed. 1997; Perttula 2020;

Trubitt et al. 2016). This is an important distinction when distinguishing whether these vessels were or were not manufactured by Caddo potters.

Recognizing that Early Caddo fine wares produced at Cahokia were tempered with a fine grog temper emphasizes an important ancestral Caddo tradition that is a continued Caddo pottery-making practice in locally produced pottery made by Caddo immigrants. Caddo immigrants would have carried with them their traditional ceramic practices, and grog tempering is one of the key manufacturing techniques in the process of making a fine ware vessel. The continuation of grog tempering at Cahokia was likely important to maintaining strong Caddo communities of practice at Cahokia. Grog-tempered vessels also look noticeably different from Cahokian-style shell-tempered vessels and would have been highly visible across the Cahokian landscape. It would have been an “emblematic” practice that may have sent clear messages about group identity (e.g., Wiessner 1983:257) within Cahokia’s multiethnic city.

The Early Caddo Design Grammar Hierarchy at Cahokia

In conjunction with technological analyses, we studied significant similarities in design grammar between Early Caddo fine wares from the Caddo area and Cahokia using a hierarchical stylistic analysis. Analysis of a database of more than 300 vessel designs from over 100 Early Caddo sites and 34 vessel designs from the East St. Louis Precinct reveals a dominating design grammar continuity in the use of Early Caddo central motifs and secondary design element choices. The results strongly suggest that Early Caddo lived and worked as craft specialists at Cahokia, which ultimately transforms what we know about Caddo and Cahokia social connections.

Defining Design Grammar Using Primary Design Motifs and Secondary and Tertiary Design Choices

Ceramic style expresses much more than decorative attributes: it is deeply ingrained within a group’s social process and operational sequence of technological choice. Longacre (1991) has shown that ethnic differences could be inferred from stylistic variations in Kalinga pottery; these variations indicated distinct social and geographical boundaries. In her extensive studies on the designs on Caddo pottery, Early (2012) developed the concept that ceramic designs are made up of specific design pathways that are structured by “design grammar.” By studying the variability in ceramic design pathways, one can reveal cultural signaling of various communities of practice. Moreover, if the grammar of ceramic designs is identical in separate cultural contexts, archaeologists can argue they were produced by the same cultural group (Lambert 2021a). This idea of style is analogous to Joyce’s (2008:26) analysis of pottery as “historicized chains of practice through which humans and non-humans are connected over time in materially substantial ways.” Thus, variation in the production, distribution, and use of pottery plays a fundamental role in historical change within and between a cultural region.

A primary design motif is the basic set of elements that produce a finished image (Figure 7a, far-left illustration). In Early Caddo design grammar, these elements usually included the single and double spiral concentric circles or a mixture of concentric circles and rectilinear elements (primarily on Holly Fine Engraved vessels). In most cases, Caddo potters placed the primary design motif within bounded border panels that helped break up repeating designs around a vessel. Any other design attributes that potters added to the primary design motif we consider secondary and tertiary attributes or finishing options (Figure 7a, middle and far-right illustrations). Some potters chose to add one secondary element, such as punctations. Others may have chosen to add a third design attribute, such as an excised feathered element (Figure 7a, far-right illustration).

Step One: Creating the Border Panels. The first design choice that potters used to decorate Early Caddo fine wares was to divide the body of the vessel by engraving or incising horizontal, vertical, or diagonal border panels or a combination thereof that framed the design area. (Figure 7b). This step was repeated two or more times around the vessel to make the desired number of central motifs inside the border panels. Most Early Caddo fine ware designs, such as Spiro (Iwi) Engraved and Crockett Curvilinear Incised, have one or stacked repeating panels, each panel mirroring the central motif next to it. In the Early Caddo fine ware assemblage in the Caddo area, 96% of the vessels

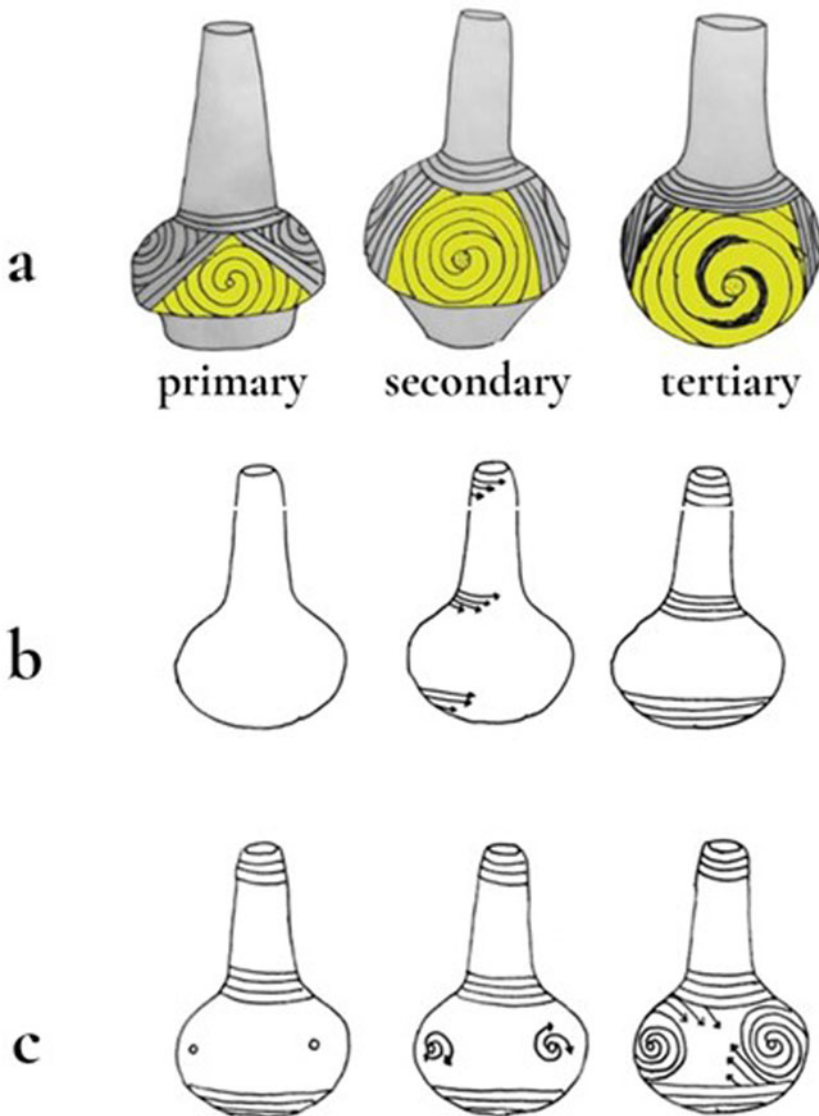


Figure 7. (a) Examples of primary design motif and secondary-tertiary design attributes that characterize Early Caddo design grammar; (b) creating the border panels for the primary design motifs; and (c) placement of the central circle element that equally divides repeating motifs. (Figure by Shawn P. Lambert.) (Color online)

($n = 191$) have one border panel, and 4% ($n = 9$) have stacked borders. Of the nine vessels with stacked border panels, 88% ($n = 7$) of the vessels have Holly Fine Engraved designs. Designs of this nature occur at the Harlan ($n = 1$), Crenshaw ($n = 5$), George C. Davis ($n = 1$), and Boxed Springs ($n = 1$) sites. The only difference in the sequence of steps between single and stacked border panels is that potters repeated the sequence of steps at least two times on vessels with stacked designs.

Step Two: Placing the Central Element. This decorative step takes place in the very center of each framed panel (Figure 7c, far-right illustration). Early Caddo potters commonly incised or engraved a central element on their fine wares; almost always it was a circle. Continuity in this central element in the Cahokia assemblage would be significant because this design step is fundamental to the symmetry of the repeating motifs around the vessel. Potters took extra care to align each element directly in the center of each framed panel. The desired number of repeating motifs significantly influenced

their placement. On bottles, the central element would be carefully placed to equally divide each panel on which it would be executed, again showing that Early Caddo potters knew what design to put on the vessel before forming it.

Step Three: Creating the Primary Design Motif. In this step potters used the central elements from Step 2 as a guide to filling in the rest of the framed panel (Figures 7c, middle and far-right illustration). Lambert (2017) showed that Early Caddo potters followed this design grammar 98% of the time. Thus, potters maintained strict rules in forming and decorating their pottery. One design choice that potters used to expand out from the central element was to use concentric circles (Figure 8a, far-left illustration). Another design choice was using one or two engraved or incised lines that spiral around or begin at the central element (Figure 8a, middle and far-right illustration), which would produce a single or double spiral primary design motif.

Step Four: Making Finishing Design Choices. After potters completed the primary design motifs, they produced and maintained a limited set of secondary design choices (Figure 8b). The options available at this point included (1) filling in the central circle with punctations, (2) excising the center of the primary design motif, (3) cross-hatching the primary design motif, and (4) adding an excised feathered element to the single or double spirals (Figure 8b). It was also common for potters to add these secondary finishing options to corners of the framed panel or the arms of the single or double spiral motif, in addition to the central circle design element (Figure 8b, third illustration from the left).

Step Five: Creating Primary Design Motifs with Tertiary Design Attributes. This step involved potters placing two or three elements on the primary design motif to complete the overall design grammar structure (Figure 8c). In the fine wares from the Caddo region, these design choices took place primarily on Spiro (Iwi) and Holly Fine Engraved designs. Adding three design elements on the primary design motif was less frequently done than having only one additional design choice. Only a few examples have been recovered in both northern and southern Caddo contexts of fine wares with tertiary design attributes.

Early Caddo Hierarchy of Design Choice

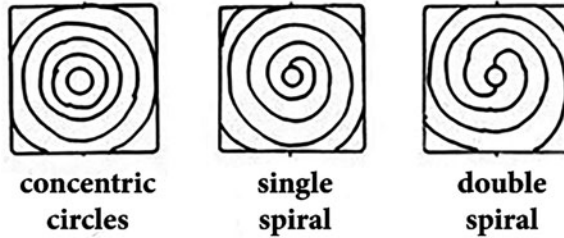
To demonstrate that the vessels from the Caddo region have the identical design grammar as the vessels from Cahokia, we compared six hierarchical tree diagrams (three from the Caddo region and three from Cahokia) for each Early Caddo design type—Spiro (Iwi) Engraved, Holly Fine Engraved, and Crockett Curvilinear Incise—present in the Cahokia assemblage (Figure 9). The hierarchical tree diagrams illustrate the limited range of Early Caddo design choices found within the Caddo area. Each diagram displays the different primary design motifs or the primary elements that constitute the most basic structure of the design (see Lambert 2017, 2021a). Each element added to the primary design motifs is considered a secondary element or a finishing option. Their placement of secondary elements in the overall design configuration is dependent on which primary form is used. Many of the primary design motifs illustrated are the final completed design for a variety of vessels. However, when secondary elements were applied, the potters went through only one to three design steps before their designs were completed.

Cahokia's Early Caddo Hierarchy of Design Choice

Once hierarchical diagrams of design choice and grammar were produced using the vessels from the Caddo area, we produced the same diagrams for vessels from Cahokia (Figure 10). As they highlight, potters who produced the Caddo-like designs at Cahokia used the same design choices as potters from the Caddo area: the overall design grammar is virtually identical. The potters at Cahokia did not go outside the design grammar that had been maintained in the Caddo area for almost 300 years: they used identical primary design motifs and secondary and tertiary design finishing elements. It is important to note that the few vessels that were identified as likely imitations were not integrated into the hierarchical stylistics analysis. Interestingly, the amount of variation in design choice in the Cahokia assemblage decreased compared to the assemblage in the Caddo homeland, with potters choosing fewer primary design motifs and limited secondary and tertiary design finishing elements.

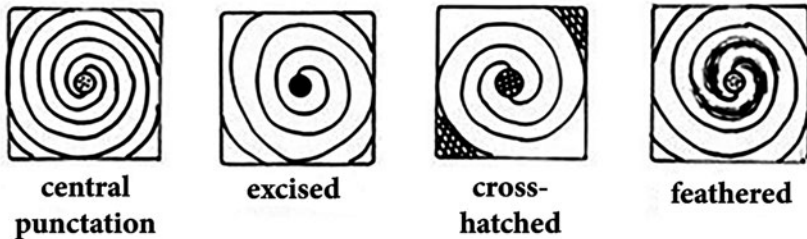
Primary Design Motifs

a



Secondary Design Motifs

b



Tertiary Design Motifs

c



Motif with three design choices

Figure 8. Examples of primary, secondary, and tertiary design motifs of Early Caddo finewares. (Figure by Shawn P. Lambert.)

Archaeologists who conducted similar stylistic and technical research to locate possible migrant communities have shown that local potters who attempted to imitate nonlocal pottery commonly incorporated local and nonlocal design elements but used different pastes and tempers to produce a unique finished product (Washburn and Reed 2011). The fact that potters at Cahokia used the same design grammar further supports the idea that Caddo potters did not just trade their pottery from the Caddo homeland but also migrated to, lived, and worked at Cahokia.

Caddo Craft Specialization at Cahokia?

The discovery that potters at Cahokia used identical Early Caddo technological techniques, morphological elements, and design grammar certainly increases the likelihood that these vessels were

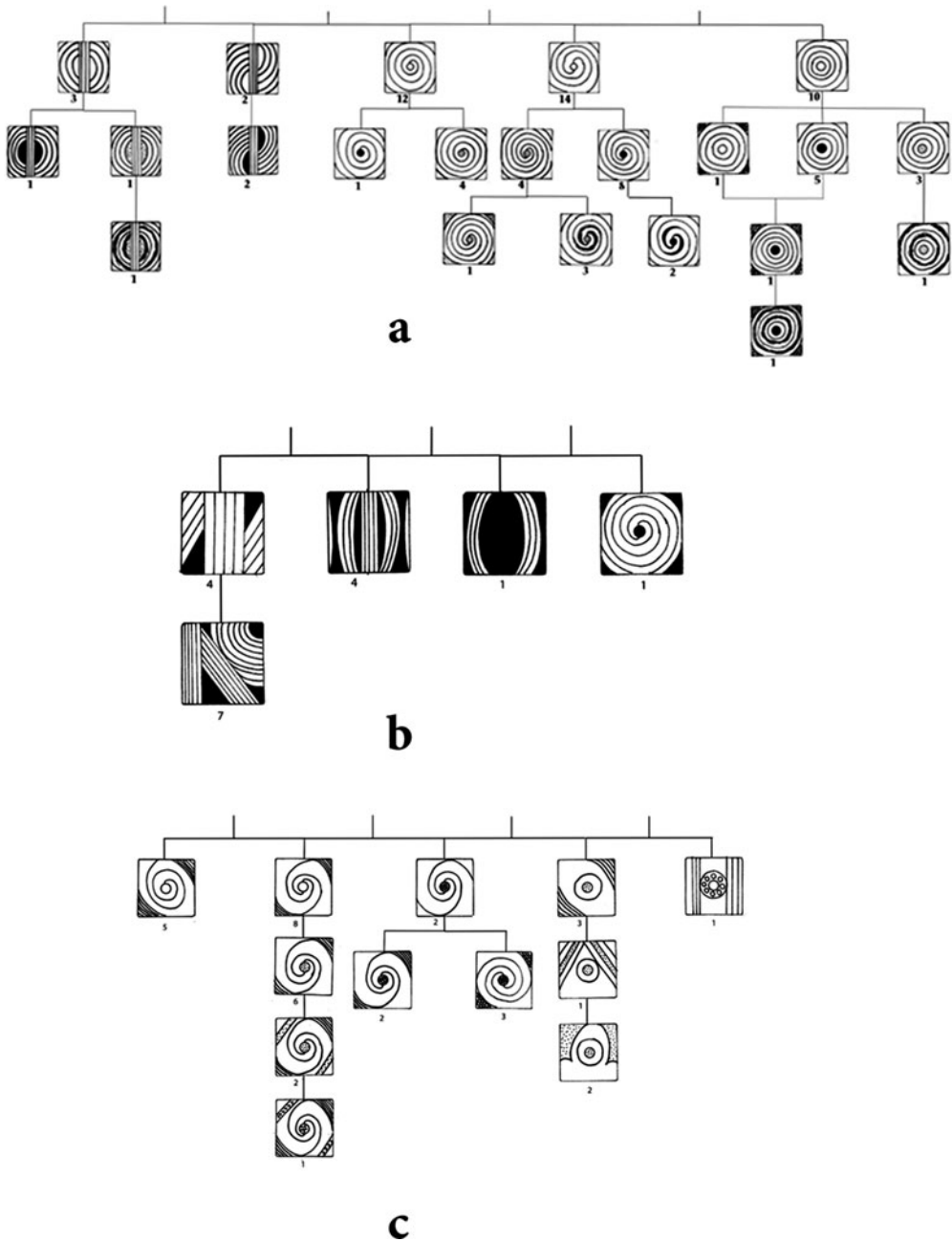


Figure 9. (a) Spiro (Iwi) Engraved Hierarchical Tree diagram, (b) Holly Fine Engraved Hierarchical Tree diagram, and (c) Crockett Curvilinear Incised Hierarchical Tree diagram. (Figure by Shawn P. Lambert.)

produced by immigrant Caddo craft specialists. If this is the case, then these Caddo immigrants associated themselves with the social, political, and ceremonial developments of Cahokia while their ceramic design grammar maintained connections to their Caddo homeland. Even in the Caddo region, Lambert (2017, 2021a) argued that there is evidence that Caddo potters were at least part-time craft specialists. This assertion is based on stylistic and INAA evidence that showed Early Caddo potters were producing fine wares in more localized areas along the Red River Valley and that the fine wares were subsequently distributed across the northern and southern Caddo areas. The strong

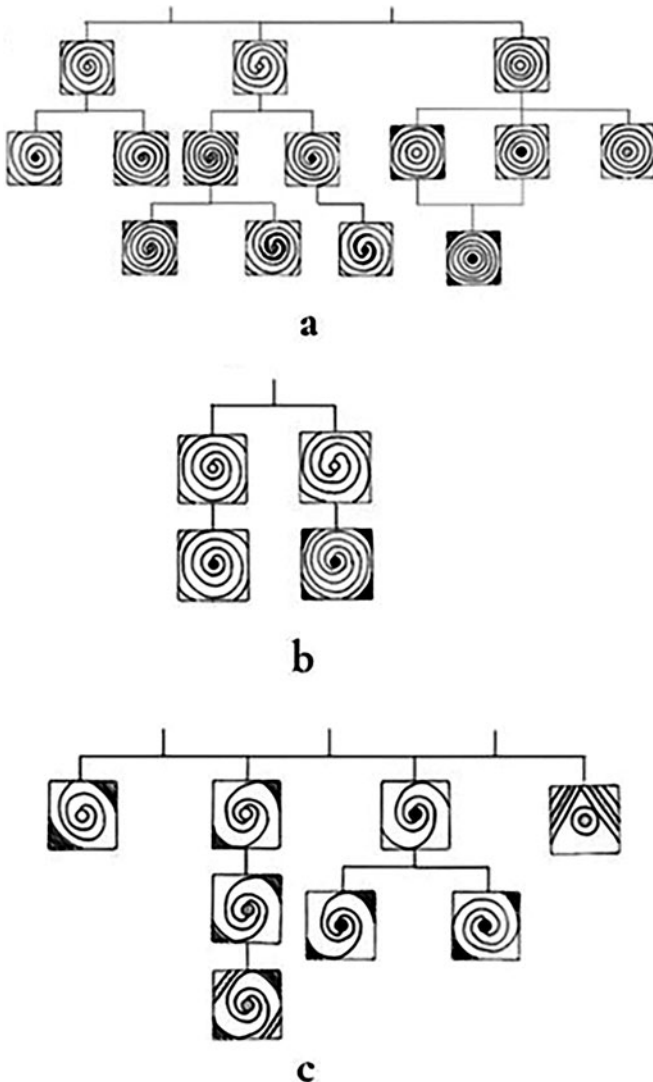


Figure 10. (a) Spiro (Iwi) Engraved Hierarchical Tree diagram showing the limited number of design choices at Cahokia and identical design choices as vessels from the Caddo area; (b) Holly Fine Engraved Hierarchical Tree diagram showing the limited number of design choices at Cahokia and identical design choices as vessels from the Caddo area; (c) Crockett Curvilinear Incised Hierarchical Tree diagram showing the limited number of design choices at Cahokia and identical design choices as vessels from the Caddo area. (Figure by Shawn P. Lambert.)

stylistic, technical, and INAA evidence that Caddo people immigrated to Cahokia and produced pottery for more than 200 years (from the Lohmann phase, AD 1050, to the Moorehead phase, AD 1300) supports the idea that the Caddo made these fine wares and integrated themselves into Cahokia through the production and distribution of their desired craft objects.

In egalitarian societies, household potters living near each other produced their own pottery to sustain themselves at the family level (Costin 1998; Rice 1996). In societies where demand for crafts is higher, households may depend on the production of pottery for economic and ritual purposes, trading and exchanging them within a particular economic system (Washburn and Reed 2011). In contexts where the need for crafting is even higher, as at Cahokia, craft specialists may be attached (Costin 1998) or tethered (Alt 2012) to a developing multiethnic society to produce objects for ritual, ceremonial, economic, and political needs. Specialization has been defined as the “production for use by others” (Costin 2007:50). The emergence of craft production in developing societies is often analogous to changes in settlement patterns, social structures, and the emergence of ritual complexity (Appadurai 1988; Hodder 1982; Weiner 1994). People then transform objects into social facts (Wright 1996) that are continually experienced by others who produced and used them (Lambert 2021b). Crafted objects acquire multiple layers of value, power, and meaning through their production process, the social

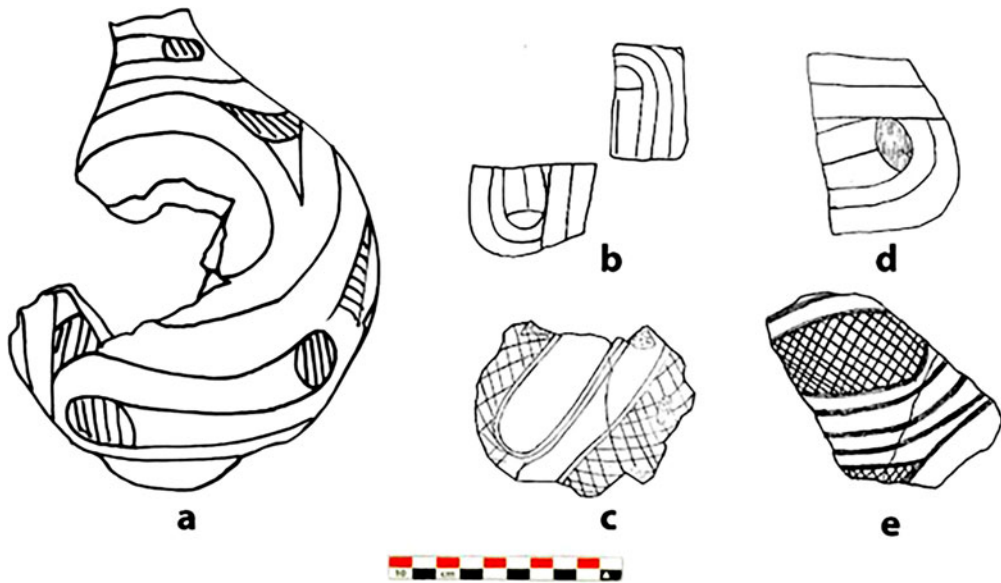


Figure 11. Sherds and vessel fragments from the East St. Louis Precinct excavations that are argued to have been made by Early Caddo potters but do not share Early Caddo's overall design grammar. (Figure by Shawn P. Lambert.)

structure and agency of the artisans, and the diverse groups who use them for discrete practices and traditions (Costin 1998; Spielmann 2002). Therefore, when communities use crafted objects for different domestic and ritual activities, they are in effect materializing their local ideology (Costin 2001).

At Cahokia, craft specialization was a common practice and was likely enacted by many ethnically diverse migrant communities (Alt 2001, 2002, 2006, 2012). Cahokia craft specialists were responsible for producing a variety of objects: shell artifacts like shell beads and marine shell to manufacture a variety of ornaments and shell cups, stone axe heads, Ramey Incised pottery, and other stone tools (Friberg 2018; Kozuch 2022; Pauketat 1997; Trubitt 2005). In this spirit, Cahokia was built on the skills and talents of immigrants, pilgrims, and local inhabitants who interacted in complicated ways, “resulting in [the] creation of new rites and organizations that instilled new senses of personal, communal, and political identity” (Alt 2012:499). Thus, it is not a huge leap to argue that Caddo specialists immigrated to Cahokia and began producing and teaching their craft, likely for generations. Pauketat (1997) argued that archaeologists continue to downplay the scale of economic infrastructure, political centralization, and level of craft specialization at Cahokia. Alt (2006) emphasizes how the migration of people who carried with them their own histories, traditions, and practices heavily influenced the beginnings of Cahokia.

The Early Caddo designs on vessels produced throughout Cahokia indicate a more complex situation of pottery production and that its production met a demand within Cahokia culture, whether it was for ceremonial or domestic use, ritual production, and distribution (Spielmann 2008), or by Cahokia elites to showcase their ability to own and use exotic objects. To further complicate the history of Cahokia, we argue that Early Caddo craft specialists lived at Cahokia and were a vital part of the city's multiethnic cultural milieu that constructed social relationships, communicated ritual status and power, and marked social and ritual variability between those groups.

Discussion and Conclusions

This new research on Early Caddo fine ware ceramics further illustrates and complicates Cahokia's and Caddo's divergent history and the multiple communities who helped write the story of this ever-growing city. By investigating the many movements of people and crafted objects, this study also emphasizes how such objects have attached meanings for people and how these meanings changed. “Transformations can take place when objects change ownership and travel” or as they are moved

by people and produced in new cultural settings (Fontijn 2013:183). Claiming that Early Caddo potting specialists likely lived and produced their fine wares at Cahokia acknowledges that these objects were transformative (subtly or significantly, we do not know for sure) and “lived” differently than the fine wares that were produced and used in Caddo contexts. In this way, Caddo fine wares have many itinerant trajectories and have multiple beginnings as they are now understood as being produced or “brought to life” within different assemblages of practices.

These questions remain: Why would Caddo specialists want to migrate to Cahokia, and how would Caddo craft specialists benefit Cahokia society? For answers, we rely on Alt’s (2006, 2012) work on the importance of migration to Cahokia. Much of the Early Caddo fine wares are recovered from Lohmann and early in the Stirling phase contexts. This is the time when Cahokia experienced a huge population growth: it grew from 1,500 Late Woodland people to up to 15,000 Mississippian people (Alt 2006; Pauketat 2003). Alt (2006:295) explained that this dramatic population increase cannot be explained based on local populations alone but is also due to the movement of nonlocal people into Cahokia. At the same time, Cahokia’s landscape was changing, as migrant communities began moving into the uplands known as the Richland complex, expanding the size of Cahokia considerably. When the population size significantly increased by the end of the Lohmann phase, about AD 1050, people constructed mound centers at the St. Louis and East St. Louis areas, which is where the Early Caddo fine wares in this study were used and deposited.

As Early Caddo potters were producing pottery in the East St. Louis Precinct, archaeological evidence shows significant patterns of diversity in the ways in which multiethnic communities at Cahokia were spatially organized. They constructed diverse architecture and material culture that Alt (2006:295) argued were suggestive of nonlocal origins for upland communities and beyond. Thus, from AD 1050 to 1100, when Cahokia saw rapid increases in population in the region, “it is reasonable to suggest that there were hundreds to thousands of new residents who had immigrated into the American Bottom region” (Alt 2006:300). Pauketat (2003, 2015) studied this diversity and ceramic evidence from the upland sites and contended that immigrants may have traveled as far as 300–400 km away to come and live at Cahokia. What this emphasizes again is that the development of Cahokia was heavily influenced by people with diverse origins.

Alt (2006, 2012) extensively studied the influence of migration and used hybridity theory to understand the development of new cultural forms. She argued that the movements of people across the landscape would have engendered new senses of space and place that themselves helped influence the practices, traditions, and histories of Cahokia (Alt 2006:300). We argue that Cahokia was heavily dependent on the movement of nonlocal people to Cahokia who carried with them the knowledge to produce a wide variety of objects (Alt 2012).

The evidence presented in this article indicates that Early Caddo people moved to Cahokia and produced their fine wares there, adding to the complexity of what we know of Cahokia culture. Early Caddo specialists had to have been an integral part of the very fabric of Cahokian society, especially after AD 1050 and maybe as late as AD 1250. Perhaps the reason why Caddo specialists chose to migrate to Cahokia is that they provisioned Cahokia with fine wares and, in return, were given special access to the political and ritual life of the greater regional community. This way, Caddo–Cahokia people established and maintained important recursive relationships that helped shape one of the greatest pre-European contact polities in North America. These recursive relationships may have also facilitated the development of relationships with nonlocal Caddo communities to the west in the Caddo homeland and spurred trade and exchange of some of Cahokia’s finest made material culture. Caddo people can now be understood as important historical primers of change, rather than relying on the traditional top-down position that Cahokia’s big bang was responsible for the “Mississippianization” of communities to the east and Caddo groups to the west. Pauketat (2015:14) stated, “Perhaps through mutual influence between Spiro and Cahokia, Mississippian culture helped define what we know today as Caddo culture.” We thus take a bottom-up approach and argue that it was Caddo people who helped influence the development of Cahokia. This article showcases the complexity not only of Cahokian craft specialists but also of Caddo craft specialists, who were likely women, and the power of the objects they produced. Understanding the many pathways of Early Caddo fine wares

shows that they were not just trade and exchange items but also were objects ingrained into the meshworks of Cahokian life.

Finally, it is not every day that archaeologists can detect the nuanced inner workings of how ancient complex societies worked and were organized. The broader significance of this study highlights how complex societies developed, how they incorporated multiethnic and multicultural communities from distant locales to produce empowering objects, and how images and symbols with distinctive regional origins functioned within multiethnic centers. Ceramic objects that Early Caddo craft specialist produced can now be understood as more culturally and historically transformative and further entangled into the histories of Cahokia. These objects will thus be now viewed, not as peripheral static objects, but as mnemonic devices that expose Caddo's and Cahokia's complex social flows of engagement.

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Data Availability Statement. Data can be obtained in Lambert's (2017) dissertation, which can be found at <https://shareok.org/handle/11244/52939>. Ceramic data from Cahokia can be obtained at the Illinois Archaeological Survey.

Competing Interests. The authors declare none.

Note

1. Using an Indigenous archaeological approach, Lambert and colleagues (2022) reexamined and renamed Spiro Engraved as Iwi Engraved. Recent research has concluded that potters did not make Spiro Engraved vessels at the Spiro Mound site (34LF40) or at any other northern Caddo ceremonial center, which calls into question the ceramic type's continued utility in archaeological/anthropological research. Allowing Caddo people to rename their ancestral pottery embraces the voices, perspectives, and historical ties of the descendant communities who have meaningful cultural associations with the vessels.

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