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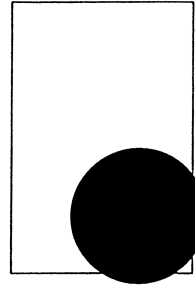
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Practice and history in archaeology

An emerging paradigm

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Abstract

A new paradigm is emerging in archaeology herein dubbed 'historical processualism'. A review of three contemporary approaches to the study of the past – neo-Darwinism, cognitive-processualism, and agency theory – suggests that the standard notions of 'behavior' and 'evolution' are being replaced in archaeological explanations by 'practice' and 'history'. Behavioral analogies, commonly used to construct inferences about 'why' cultures changed, are problematic. In their place, archaeologists should substitute the study of cultural practices – what people did and how they negotiated their views of others and of their own pasts – as these were and are the actual processes of cultural change. The emphasis on practice entails the elevation of historical explanations, in the process altering the questions that archaeologists ask and the data that they must gather to address those questions. The importance of this paradigmatic shift is exemplified by contrasting contemporary explanations of Mississippian pottery and political change in the pre-Columbian American midcontinent.

Key Words

agency • archaeology • Cahokia • history • Mississippian pottery

In archaeology today, history is a growing concern of more than just historical archaeologists. This concern may seem practical enough, as archaeology deals with long stretches of time. However, the archaeological study of the processes of history has been, well, a long time in coming. It is not that repeated calls to bridge history, ethnohistory, and archaeology have not been made; they have (e.g. Kohl, 1984; Trigger, 1982, 1984, 1989). Rather, there has been a reticence to abandon a commitment to science and ultimate causality for the less positivistic and proximate explanations of history. This is understandable, as many of today's practicing archaeologists were trained during a time when history was disdained as the antithesis of science, that stuff-left-over-after-explanation (e.g. Bamforth and Spaulding, 1982; Binford, 1983).

Nonetheless, today, American archaeologists, having once turned their backs on

history, may now be ready to make a theoretical about-face. Historical archaeology, of course, has been gaining ground for some years now. In addition, a plethora of historically oriented approaches has emerged (Bintliff, 1991; Hodder, 1987; Knapp, 1992; Leone and Potter, 1988; Lightfoot, 1995; Lightfoot and Martinez, 1995; Little, 1994; McGuire, 1992; Rogers and Wilson, 1993; Shackel and Little, 1992). There are even rumblings of returning in some fashion to the tenets of an older 'Culture-Historical Paradigm' (Barker and Pauketat, 1992; Lyman et al., 1997; Shennan, 1996). This is what one recent commentator called an emerging new paradigm – the study of historical processes – that promises to reunite American archaeology (Stein, 1998). Today, history matters in archaeology.

This emerging paradigm bridges the theoretical positions of the recent past and the present. A general willingness to reconcile disparate positions – a renewed spirit of inclusiveness – is archaeology's version of a bridge to the 21st century (see Maschner and Mithen, 1996; Schiffer, 1996). Certainly, the once common opposition of 'processual' archaeology's science to 'postprocessual' archaeology's interpretations has subsided (Cowgill, 1993; Hodder, 1995; Trigger, 1991; VanPool and VanPool, 1999). And rightly so, as anyone can observe that most archaeologists – whatever their position in the great processual-postprocessual debate – study processes of one sort or another, and they tend to do this in a systematic manner.

Then again, if processualism and post-processualism are not perceived to be so different any more, what is so distinct about an archaeology of historical processes to warrant calling it an emerging paradigm? The answer, I argue here, lies in its relocation of the locus of social change and, consequently, in what constitutes a satisfactory explanation. An older processualism (and some neo-Darwinism) relied on simple linear causality: a stimulus elicits a response. Usually, a functionalist logic ran through the entire causal chain. Material culture changed as a response to some human need, making it adaptive (but not creative). Material culture 'expressed' some process; archaeologists searched for 'material correlates' of those processes. Likewise, attributes of social life (e.g. leadership, subsistence, gender, etc.) were explained in terms of their roles in a larger social system (e.g. band-level, tribal, etc.). Centralized societies, for instance, were caused by inequities in resource distribution or by the innate tendency of growing populations to war, aggrandize, cultivate, or trade with remarkable efficacy. In this example, or in any such arguments, causality was somehow external to the historical settings in which centralization occurred. Archaeologists sought the 'system' behind individuals and their material culture even into the 1990s (see Brumfiel, 1992).

The new historical processualism is increasingly centered around a theory of practice (see later). From this perspective, people's actions and representations – 'practices' – are generative. As I will argue later, practices *are* the processes, not just consequences of processes. Thus, they generate change. That is, practices are always novel and creative, in some ways unlike those in other times or places. This means that practices are historical processes to the extent that they are shaped by what came before them and they give shape to what follows. These historical processes are quite different from what used to be called 'cultural processes' (Binford, 1965). Explaining history, most would agree, entails seeking the proximate causes of *how* a certain social feature, say centralization, developed in a particular time or place. What used to be called 'cultural processes' were abstract, law-like principles of *why* something occurred. These ultimate explanations

tended to leapfrog over historical data, making them reductionist to the point of being trivial or easily debunked (e.g. Flannery, 1972).

An archaeology of historical processes, then, quite clearly involves a paradigmatic shift. This emerging historical-processual paradigm reorients the questions that we ask, relocates the processes that we seek to explain, and revises how we understand cause and effect. My purpose here is to highlight this paradigmatic reorientation. I will begin by reviewing three archaeological approaches to explanation in the 1990s: neo-Darwinism, cognitive-processualism, and agency theory. I am not concerned here with explicating in detail any of the three approaches. My purpose in examining them is to excise and discard problematic parts of the three contemporary approaches, the offending parts including functionalism, mentioned earlier, and essentialism, the reliance of explanations on irreducible phenomena ('essences') that themselves go unexplained. In this latter regard, 'behavior' is the principal bugaboo, antithetical as it is to an archaeology of historical processes. In discarding it, we are left with actions and representations that are best labeled 'practices'. The three reviewed approaches all share qualities with practice theory (following Bourdieu, 1977, 1990; Ortner, 1984). I highlight these shared elements and then, in order to illustrate the paradigmatic importance of a practice-based approach, I review explanations of pottery technological change and the emergence of Cahokia in the pre-Columbian midcontinental United States. I conclude with some thoughts on practice theory, proximate explanations, and the emerging historical-processual paradigm.

NEO-DARWINISM, COGNITIVE-PROCESSUALISM, AND AGENCY THEORY

To begin, I will briefly review neo-Darwinian and cognitive-processual approaches to explanation. These, more than agency theory, have served both as a critique or revision of processualism and as a reaction to post-processualism (see Dunnell, 1980, 1992; Renfrew, 1994). Neither approach can claim to be an integrated program, especially cognitive-processualism, but both contribute to the construction of an archaeology of historical processes. Of the two, the neo-Darwinists have made the greatest strides in formulating and standardizing a research agenda. This is the case despite the fact that neo-Darwinists are actually a diverse lot of archaeologists that includes what I will label 'selectionists', 'individualists', and 'transmissionists' (see Barton and Clark, 1997; Maschner and Mithen, 1996; Teltser, 1995).

The selectionists are at once the most dominant and problematic of the three sub-groups of neo-Darwinists. Selectionists espouse a rather strict adherence to Darwin's concepts of variation and selection as applied to human technologies. From their perspective, technologies change via selective forces that act on artifacts. Quite simply, the design or performance characteristics that best fit the conditions of use have selective advantages over other characteristics, and are disproportionately 'reproduced' through time (see Barton and Clark, 1997; Lyman and O'Brien, 1998; Neff and Larson, 1997; O'Brien and Holland, 1990, 1992; Rindos, 1989). To understand why change has occurred, however, they contend that the genealogy of a technology must first be understood. It seems largely irrelevant to selectionists whether or not selection was intentional or contingent on human agency or whether or not technological 'know-how' was affected by social change outside the technological dimension.

Human agency and social change are not considered by selectionists since, it is thought, these notions are reliant on 'essentialist' abstractions – i.e. those arbitrary constructs that are seen, erroneously, as real and irreducible entities (see Lyman and O'Brien, 1998; Lyman et al., 1997). In their words, 'only in rare cases can we, with any degree of certainty, know anything about how prehistoric peoples organized themselves socially and politically' (O'Brien and Wood, 1998: 2). Only inferences about the gradual (unintentional, uninstitutionalized) evolution of technology and the behavior that produced it are seen as legitimate in the selectionist agenda. Punctuated transformations in social life or technology, if these rely on higher-order changes in organizations or institutions, are not even thought possible (contrast Gould, 1987: 196). For instance, certain apparent shifts in pottery technologies in the Old and New Worlds, such as the spread of shell temper in the pre-Columbian Mississippi valley, have been explained as selection operating over centuries on chance, innovative, mechanical-performance characteristics (Dunnell and Feathers, 1991; Neff, 1992; Neff and Larson, 1997: 84; O'Brien and Holland, 1990, 1992; O'Brien et al., 1994). This gradualist, behaviorist agenda is not tenable from other viewpoints, not in the least part because it ignores data (Clark, 2000; Gosselain, 1998; see *Tempered Arguments*, below).

Nonetheless, selectionism does possess conceptual advantages over other explanations of material change. In downplaying intentionality, selectionism begins to consider technological change in a way that is congruent with some definitions of 'practice' and 'cultural tradition'. Practice and tradition here are *not* the same things as essentialist notions such as ideologies, economic strategies, or political institutions and organizations.¹ Instead, practice and tradition are *what* people do and *how* they do it, with no strings attached to functionalist equations of why people do it. In paralleling such notions, selectionism also emphasizes change as historically contingent on that which has come before. Selection, in other words, *is* a historical process by virtue of the fact that change in arrays of some features of analytical interest is contingent on other and antecedent arrays. Moreover, selection is a universal process – present everywhere – even though any particular case of selection can only be explained with reference to a unique genealogy of change.

Conceptual advantages aside, however, the problem with the selectionist agenda lies in its extremely narrow approach to technology. While selection may be a historical process, it applies only to the 'functional attributes' of technologies. Non-functional 'stylistic' attributes, such as the decorative motifs on pots, are said to be inert (following Dunnell, 1978). In this instance, selectionism's processualist roots are bared: their stuff-left-over-after-explanation is style, not history. Selectionists arbitrarily isolate what *they* think are functional attributes, and then assume that such attributes are the result of behavior, the repetitive and invariable sets of actions that typify human beings. This is quite a leap of logic and one that essentializes behavior (Gosselain, 1998: 81). Indeed, it is the idea of behavior that allows selectionists, again like their older processual fore-runners, to avoid thinking about the variability of human actions (which in turn might lead them to consider the higher-order origins of such variability). While selectionists recognize different kinds of behaviors, such as various pottery-making recipes within a single community, these behaviors are each seen, in essentialist terms, as real and internally homogeneous. Consequently, behaviors are construed as something akin to phenotypes (O'Brien and Holland, 1990: 35). Selection at the level of behavior results in

changing proportions of behaviors through time, but the phenotypes themselves do not change (except through innovations, which are compared to genetic 'mutations' [O'Brien et al., 1994: 294]).

The second group of neo-Darwinists – the 'individualists' – *are* concerned with human 'agency', at least as they define it. However, individualists are not concerned with the agency of *all* people, nor are they free of the behavioral essentialism that characterizes their selectionist counterparts. Individualists theorize that those few charismatic or aggrandizing individuals who competed for prestige were, by themselves, responsible for changing societies. These were the players of the past, those whose actions could affect scores to thousands of others. Perhaps it is no surprise that archaeologists studying the Northwest Coast and California, with its social ranking, competitive exchanges, and specialists, emphasize these few charismatic or aggrandizing players (Ames, 1995; Arnold, 1995; Hayden, 1995; Maschner and Patton, 1996). Perhaps it is also no surprise that individualists such as Maschner and Patton (1996) seek the ultimate explanations of aggrandizing behavior in sociobiology. However, in so doing, these particular neo-Darwinists abandon any claim to the study of historical processes by reducing change to a vitalistic equation: all populations naturally have aggrandizers who behave in predictable ways that, in turn, induce political complexity (see criticisms in Clark, 2000).

Agency is of concern to other neo-Darwinists who seek to isolate the mechanisms by which ideas were reproduced, transmitted, and transformed. Some of these neo-Darwinists, of course, explain idea transmission using abstract notions of 'fitness' and 'heritability', treating meanings – long recognized in cultural anthropology for their ambiguous, polysemic, and even 'maladaptive' character – as coded information subject to selection (see Barton and Clark, 1997; Mithen, 1997; Neff, 1992; but contrast Rappaport, 1979; Turner, 1967). However, other 'transmissionists' do not lose sight of symbols as the media of people's experiences and interpretations. Of the neo-Darwinists, transmissionists come closest to a theory of practice, free of behavioral essentialism.

For Braun (1995) and Shennan (1993), human actions are not reduced to behaviors, then subject to selection. These transmissionists, particularly Shennan (1993), emphasize variation (in practice) over selection (of behavior) in a way that runs counter to the stated tenets of selectionism. Shennan (1993) recognizes human actions and representations, or 'practices', to be constrained in some ways by meanings, ideologies, identities, traditions, and various other 'macroscale' phenomena. These macroscale phenomena are not bounded things with a reality and a dynamic all their own, but – in various guises and at various scales (part of the reason why different concepts are used in different explanatory contexts) – are themselves products of practices. Practices in turn are not motivated by deep cultural meanings, but nonetheless enact or represent a cultural heritage or a tradition (Shennan, 1993: 58, drawing on Bourdieu, 1977, and Boyer, 1990). How this occurs is critical to our present consideration. To wit, words, shapes, gestures, dances, recipes, or even social spaces – what Shennan (1993) calls 'surface phenomena' – do not necessarily reveal their deep, meaningful referents – if indeed such referents exist – to the actors involved (see also Wagner, 1986). When one learns a language or performs a dance, for instance, one is perpetuating the surface form without necessarily understanding the ultimate meanings of the words or movements. This situation can produce variation in practices by actors who have imperfect or idiosyncratic understandings of what they do and the consequences of what they do.

This emphasis on variation in practice is shared with the loosely delineated 'cognitive processualists' (Renfrew and Zubrow, 1994). Unlike earlier processualists, tethered as they were to ecosystems explanations, the cognitive processualists profess a concern with how cultural information was 'transmitted', 'emulated', and 'transformed' from one point in time or space to another. In practice, understanding mechanisms of transmission often seems to take a back seat to simply demonstrating that archaeologists can deduce generic characteristics of religion and ideology from archaeological residues (Hill, 1994; Marcus and Flannery, 1994; Renfrew, 1994). In so doing, these cognitive-processualists are apt to rely on a teleological rationale when attempting ultimate explanations of social evolution. These attempts might begin with tool-manufacturing, artifact-distribution, or settlement-location evidence and extrapolate to the cognitive templates of whole populations (e.g. Zubrow, 1994). They might also explain how information was transmitted from group to group as a function of some macroscale behavioral system (e.g. Renfrew, 1987).

Then again, at its best, cognitive processualism breaks into the sequences of rudimentary human actions and sorts out the extent to which these actions were contingent on traditions, cognition, or the physical properties of that which was acted upon. These are the increasingly popular studies of technical-operational sequences, or *chaînes opératoires* (e.g. Dietler and Herbich, 1998; Dobres, 2000; Dobres and Hoffman, 1994; Schlanger, 1994). Prime examples of this sort of study are Dietler and Herbich's (1989, 1998) and van der Leeuw's (1993, 1994) analyses of pottery production. Dietler and Herbich (1989, 1998), bordering on what could be termed practice theory, point to the macroscale implications of seemingly mundane pottery technological practices with respect to social identity. Van der Leeuw analyzes each step of production and the possible options available to the potters. Importantly, a point of reference for van der Leeuw's assessment of options is the pottery tradition – Michoacan, Mississippian, or otherwise – not abstract behavioral laws about technological efficiency (van der Leeuw, 1993: 241; contrast Schiffer and Skibo, 1997 for a behavioral approach to a similar level of analysis). In fact, he 'implies a complete dynamical redefinition' of the idea of tradition (van der Leeuw, 1993: 242). The analysis of operational chains tethered to such a 'dynamical' tradition concept can help us interpret technological change as change in traditional know-how at microscales – in the realm of practice – and at macroscales, in the milieu of cultural traditions.

Such analyses of technologies as routinized, cognized, tradition-bound practices are promising to free us from the problems of the behavioral essentialism and functionalist reductionism noted earlier to be lurking in some neo-Darwinian and cognitive-processual approaches. Drawing on Ingold (1990), Lechtman (1993), Lemmonnier (1992, 1993), and others, Dobres and Hoffman (1994: 213) have linked the study of *chaînes opératoires* with a larger focus on technology, with the latter defined as 'a meaningful and socially negotiated set of material-based *practices*, as well as a technical means by which to make things' (emphasis in original). This view of technology, especially the 'meaningful and socially negotiated' part, is considerably different from a purely behavioral position (see also Dietler and Herbich, 1998; Dobres, 2000). For one thing, it implies that *technology is not more readily accessible to archaeologists* than 'prehistoric social and political organization, religious institutions, and the like' (contra O'Brien and Wood, 1998: 2–3). Human agency, social history, and traditions of various sorts exist simultaneously

at microscales and macroscales (see especially papers in Stark, 1998). *All are equally accessible to archaeologists*

This line of reasoning is testimony to the infiltration of ideas about human agency into archaeology. This is not to say that, today, there is a single, uniform agency approach in archaeology (following Archer, 1996; Giddens, 1979, 1984). Instead, there is a diversity of archaeological applications of the concept of human agency that have filtered in from various sources, especially political-economic ones (see Pauketat, 2000a). Various neo-Marxist, post-processual, and feminist studies have forwarded the notion that, to paraphrase Marx, people make their own history (e.g. Gero and Conkey, 1991; Hodder, 1986; Leone, 1985; McGuire, 1992; Nelson, 1997). Oddly, this intellectual heritage has produced a situation where merely invoking the idea of a human agent seems the criterion for being arrayed under the banner of agency theory (see Dobres and Robb, 2000). In some cases, those who have claimed to be using agency theory are doing nothing of the kind (Johnson, 1989; see respondents to Roscoe, 1993). These misguided claimants tend toward methodological individualism, often overlooking the central importance of the process of 'structuration', the continuous creation of the conditions that govern practice, as opposed to particular agents (see Giddens, 1979: 55, 66). Consequently, agency theory has been misconstrued as top-down and androcentric (Gero, 2000), as exaggerating the roles of goal-oriented decision makers (Tainter, 1988), and as embodying post-processualism's rejection of science (Milner, 1996; but see Maschner and Mithen, 1996: 12; Shennan, 1993, 1996: x). These parallel older criticisms of 'action theory' by anthropologists more interested in 'symbolic action' and practice (see Cohen, 1974: 40–43; Ortner, 1984; Vincent, 1990: 341ff.).

A corrective to the theoretical ambiguity surrounding archaeological applications of 'agency' is the recent explicit focus on practice and structuration (e.g. Brumfiel, 1994; Clark, in press; Dietler and Herbich, 1998; Dobres, 2000; Dobres and Hoffman, 1994; Emerson, 1997a; Hendon, 1996; Johnson, 1996; Jones, 1997; Lightfoot et al., 1998; Pauketat, 1994, 2000a; following Bourdieu, 1977 and Giddens, 1979, 1984). In the studies of technology already mentioned, Bourdieu's concepts – particularly his elaboration of 'habitus' (people's dispositions) – have found currency (see Dietler and Herbich, 1998; Dobres and Hoffman, 1994; Hegmon, 1998). His idea of 'doxa' – those second-nature, taken-for-granted ways of doing or knowing (which, when politicized, are heterodoxies and orthodoxies) – remains underdeveloped by archaeologists despite its promise alongside Foucauldian and Gramscian notions of 'power', 'governmentality', and 'hegemony' (see Bradley, 1996; Clark, 1998; Comaroff and Comaroff, 1991; Dietler and Herbich, 1998; Emerson, 1997a; Pauketat, 1994, 2000b; Pauketat and Emerson, 1999). However, there is no practice-theory cookbook, nor should archaeologists simply reify Bourdieu's concepts as ready-made interpretations rather than as jumping-off points for building theory.

The gist of both Bourdieu's (1977) practice theory and Giddens's (1979) agency theory is that all people enact, embody, or re-present traditions in ways that continuously alter those traditions (see also Archer, 1996). Alteration of tradition in this sense is not simply a tactical decision or a strategy. Here we need to disconnect the idea of strategy or behavior from the idea of intentionality in order to properly understand motivation, practice, and unintended consequences. The motivations to act were not the same as the end results that may be observed, so enacting, embodying, or representing

traditions is not 'teleological' action as implied by the concept of behavior (Habermas, 1984). A teleological, behavioral view scientizes human actions. Cooking becomes 'cooking behavior'. Taking out the garbage becomes 'disposal behavior' (e.g. Schiffer, 1995). Behaviorism of this sort denies variable, situation-specific and culture-specific ways of doing or knowing even as it makes inferring 'dynamics' from 'static' remains a simple linear equation (see Binford, 1983).

Once we drop the pretense to invariate, goal-oriented action, behavior becomes practice (Hendon, 1996, exemplifies this nicely). As opposed to behavior, practices are, quite literally, the embodiment of people's 'habitus' or dispositions. Critical to practice theory is the realization that the dispositions that guide practice have 'doxic' referents ('unconscious', 'spontaneous', 'nondiscursive', 'practical', or 'commonsensical' forms of knowledge [Bourdieu, 1977, 1990; Giddens, 1979, 1984; see Comaroff and Comaroff, 1991: 22-7]). As Shennan (1993) has noted, such referents are the surface forms, not the deep cultural meanings. These doxic referents are, in a sense, non-ideological (but still cultural in the broadest sense of that term). Dispositions, in turn, are inculcated through one's experiences vis-à-vis these doxic referents in fields of action and representation ranging from relatively private, daily routines to colossal political rituals and mass media.

Importantly, the fields of action and representation, the dispositions of people, and practices themselves are not hermetically sealed. They are open to the potentially unpredictable circumstances, surroundings, and mix of participants (e.g. Sahlins, 1985). In this larger sense, practices are always 'negotiations' to the extent that power, the ability to constrain an outcome, pervades fields of action and representation (see Giddens, 1979; Foucault in Rabinow, 1984; Wolf, 1990, 1999: 4ff.). Negotiations, in turn, always recreate traditions. Traditions, in other words, are always in the process of becoming (Sztompka, 1991; e.g. Barth, 1987). They exist as 'real' entities only in practice (see Giddens, 1979: 5; Robb, 1998: 337), where they take any number of historical forms known to us elsewhere as accommodation, collaboration, communalization, creolization, domination, hierarchization, revitalization, syncretization, transculturation, etc. Any form of this practical, negotiative process of becoming is a historical process, and its explanation can only be made with reference to the genealogy of practices or the tradition of negotiations.

To be sure, seeing practices as both the medium of tradition and the medium of social change runs counter to the common assumption that, on the one hand, tradition (and ritual) is conservative while, on the other hand, political behaviors and technological innovations are dynamic (cf. Bell, 1997). So be it. From a historical-processual perspective, the essentialism wrapped up in the tradition-behavior dichotomy is simply untenable. Perhaps we should make a distinction here: there is tradition – the ex post facto rationalization of one's heritage (which is really more akin to Comaroff and Comaroff's [1991] definition of ideology) – and then there is tradition as I have used it here (see Pauketat, in press). In this latter sense, tradition is the medium of change. In Bourdieu's (1977) terms, doxic elements of practice can be politicized to varying degrees, giving us 'orthodoxies' or, in other terms, cultural hegemonies or even ethnicities. Such co-optation of traditional themes is the lifeblood of politics (see Kertzer, 1988). Truly, tradition is part of a 'dynamical' process, even beyond van der Leeuw's (1993) more restricted meaning.

Once cleansed of essentialism, the three contemporary approaches to archaeological

explanation do share a growing sense of urgency in considering the traditions of practice, the genealogies of production, and the proximate details of how things changed. There is a sense, among the practitioners discussed, that knowing how things changed will lead us toward more encompassing – dare I say ultimate – explanations of the cumulative effects of practice. Those cumulative effects, the cultural creations at microscales and macroscales, are what we typically call history.

SHELL TEMPER, CAHOKIA, AND HISTORICAL PROCESSES

Lest one think the theoretical considerations of behavior, practice, tradition, and history insignificant for explanation, I will present an archaeological case in which change is alternately explained based on behavioral analogies versus homologous practices. The assumptions and explanations of each differ markedly, allowing us to distinguish an emerging paradigm of historical processes from the general background of contemporary approaches to archaeological explanation. There are two parts to this case study. The first part is a consideration of shell-tempered pottery technology in the central Mississippi valley, with special reference to the largest ‘Mississippian’ chiefdom, Cahokia. The second part is an elaboration of two alternate explanations of this pre-Columbian giant, one dependent on a behavioral theory of change, and the other historical, underlain by a theory of practice.

Tempered arguments

For well over a century, archaeologists have used crushed mussel shell temper (aplastic admixture) as a hallmark of ‘Mississippian’ tradition earthenwares in the American mid-continent (see Holmes, 1903; Milner et al., 1984; Morse and Morse, 1983; Phillips et al., 1951). During this century, the question of why shell temper was adopted across the Mississippi valley in the latter part of the first millennium AD has been posed repeatedly. The answers have focused either on style, shell temper being fashionable and widely emulated in the midcontinent and southeastern United States, or on function, as the chemical and mechanical properties imparted by mussel shell in certain ceramic pastes are thought to have improved pot utility and durability (Cobb and Nassaney, 1995; see Dunnell and Feathers, 1991; Morse and Morse, 1983: 208–10; Steponaitis, 1984).

For O’Brien and Holland (1990, 1992), shell temper was an innovative behavior introduced in southeast Missouri at or before AD 700. Whatever the origin for this innovation, the next several centuries saw the gradual diffusion of this behavior through the unintentional selection of the superior mechanical and chemical qualities by potters. By about AD 900, the argument goes, most potters had switched or soon would switch to this superior technology (see also Neff and Larson, 1997; O’Brien et al., 1994). I say most potters because, even as O’Brien et al. (1994: 295–6) realize, there were hold-outs in various pockets up and down the Mississippi river at AD 900 and later. In one area near modern-day St. Louis, the ‘American Bottom’, coeval traditions of shell temper users and non-shell temper users occupied the same floodplain for some two centuries (see Cobb and Nassaney, 1995; Kelly, 1990, 1993). From the selectionist camp, there is no explanation of this empirical problem, save the plea for more engineering studies and the speculation that localized clays or localized uses may have offset this otherwise desirable additive (O’Brien et al., 1994: 296–7).

This selectionist conundrum, rooted in an essentialist notion of behavior, does not

consider technology as 'a meaningful and socially negotiated set of material-based *practices*, as well as a technical means by which to make things'. It ignores the other aspects of technology, the idea of cognitive processualists and agency theorists that technology is traditional know-how, and that this traditional know-how is transmitted and altered through the contingent contexts of negotiation. In other words, the selectionist explanation is too selective! The selectionist explanation, oddly, collapses centuries worth of context-contingent pottery production-and-use variability into one grand assertion about gradual behavioral change.

In fact, once we look closely at one locality's pottery-making history in the Mississippi valley (and base our observations on actual excavated data), we see anything but an even and gradual process of shell-temper adoption. The best documented archaeological case of this process in the Mississippi valley is that of the American Bottom's Mississippian emergence (AD 800–1050). In this well-documented case, and likely elsewhere in the valley, shell-tempered pottery was initially exotic and rare at AD 800 (Kelly, 1980, 1990). Local pottery manufacture and use practices featured distinctive cooking jars and bowls fashioned in localized microstylistic modes and tempered with grog, grit, and limestone. Whether the pots themselves or the know-how (and perhaps the potters) were exotic is uncertain at present (see Emerson and Jackson, 1984; Kelly, 1991; Pauketat, 2000a). In either case, however, a complicated process of technological hybridization was instigated by the exotic know-how, a technology that seems most closely associated with the Cahokia site proper (Pauketat, 1998a).

By AD 1000, shell-tempered wares comprised between 10 and 30 per cent of those broken and discarded at most settlements in the vicinity of Cahokia, most of the shell-tempered pots probably being made in this same vicinity (e.g. Emerson and Jackson, 1984; Kelly, 1980; Pauketat, 1998a). However, around AD 1050, and within a span of a few decades at most, shell temper was adopted by most potters at large riverine settlements, especially Cahokia, where it comprises over 90 per cent of all sherd assemblages (and 100 per cent of some, see Holley, 1989; Milner et al., 1984; Pauketat, 1998a). Perhaps the most important sherd assemblages excavated to date are those from a series of rural sites several kilometers southeast of Cahokia (see Pauketat, 1996b, 1998b). Farmers at these 'Richland' settlements began emulating the early Cahokian shell-tempered technology within just a few years of Cahokia's abrupt beginning. They did this in over 75 per cent of their cooking wares in spite of the preliminary evidence (seen in the especially high breakage rates) that the local ceramic fabric was not chemically or mechanically improved by the addition of crushed mussel shell (Alt, 1999).

To begin appreciating why a possibly 'maladaptive' attribute, in this instance shell temper at certain rural sites, might have been 'selected', we should be clear that, as Hendon (1996) notes, pottery is a part of an everyday dialogue in which power and tradition are negotiated through food preparation, distribution, and consumption. Gender, ethnicity, cosmology, and political allegiances are routinely negotiated in the contexts of pottery production, use, and discard. Such negotiations were 'microscale' to be sure, and yet even in the Cahokia-Richland settlements we begin to see the macroscale patterning associated with domestic practices as potters emulated an initially exotic and later politically potent technology (and perhaps one inseparable from the meanings and contexts of the foods with which the pots were associated).

With regard to understanding how a microscale process such as tempering or using a

pot was related to macroscale change, Shennan (1993: 55) gives archaeologists a thoughtful application of the notion of practice. He states that the 'practices of which archaeology provides a record are at two extremes: important events which affected the way social space was structured and the routinized activity of individuals'. In so distinguishing, Shennan represents a stance diametrically opposed to the selectionist dismissal of people as active agents with their insistence on gradual change through selection. Shennan realizes that historical change may be punctuated and large-scale, like the building of Stonehenge, because transmission events – although microscale in a sense – have macroscale aspects as well. Recognizing such a punctuated, large-scale shift as practice 'does not necessarily imply a reduction of all social phenomena to a concern with individuals and their motivation, but it does imply a dependence of the higher levels on the level of the individual' (Shennan, 1993: 55). In fact, the elevation of the routine and everyday in a theory of history avoids an overly mechanical structure-agency feedback loop. What is transmitted through practice is not a whole cultural structure, an ideology, organization, or institution. Here, many of the agency theorists, cognitive processualists, and neo-Darwinists agree: incomplete and often unconscious bits of 'tradition' are reproduced, be they called technologies or something else (see Pauketat 2000a).

In the Cahokian case, the premier 'event' in which 'social space was structured' was the founding of a political capital in about AD 1050. Elsewhere I have discussed this dramatic regional change as having occurred within a short period of years in which capital grounds were constructed, the population was nucleated, villages were abandoned or relocated, and novel material symbols were produced, possibly under subsidized conditions (Pauketat, 1994, 1997a, 1997c, 1998b). Among the novel material-symbolic productions were pottery vessels, presumably including those used in the large-scale public events of the newly constructed central plazas. It is at this same time (roughly between AD 1050 and 1100) that shell-tempered pottery was rapidly adopted by Cahokians and by the Richland potters.

While a definitive 'causal' relationship between the centralized Cahokian changes and shell-tempered pottery production is not clear, it would seem ill advised to ignore – as does the selectionist story – the implications of evidence that the Mississippian chiefdom of Cahokia was consolidated over the same short span of time that shell-tempered pottery technology was widely adopted in this pocket of the Mississippi valley. It also seems ill advised to ignore the evidence that shell-tempered wares (or perhaps the potters who made and used them) were among those featured in the large-scale collective rituals at places like Cahokia's Grand Plaza (Emerson, 1989; Pauketat, 1997b, 1998b; Pauketat and Emerson, 1991). In ignoring such matters, a historical process wherein microscale change is articulated with macroscale change is overlooked.

Alternative explanations of Cahokia

As the argument for an abrupt Cahokian consolidation is founded on multiple lines of largely independent survey and excavation evidence (see Dalan, 1997; Emerson, 1997a, 1997b; Pauketat, 1993, 1994, 2000a; Pauketat and Lopinot, 1997; Pauketat et al., 1998), the outline of events has been largely accepted even by researchers of other theoretical persuasions (e.g. Mehrer, 1995; Milner, 1998). Nevertheless, at present, there remains a vast gulf between researchers' explanations of these events. The distance between the two

camps, those who favor an older processualist explanation (called 'minimalist' in Mississippian literature) and those who favor a revised historical-processual explanation, reveals the central importance of a theory of practice in an emerging paradigm of historical processes (Pauketat, 1998b: 52).² My presentation here is intended only to outline the explanatory rift relative to the problems of explanation.

Elsewhere, I have reviewed the general principles behind the older processualist mode of thought with reference to Cahokia in general (Pauketat, 1998b: 52–3):

[M]inimalist thought elevates local demographic and environmental factors as determinants in the development and dissolution of Cahokia, thereby projecting change as gradual, denying the possibility of a highly centralized political economy and minimizing the political and economic impacts of greater Cahokia beyond the American Bottom. [S]ubsistence-sufficient rural Mississippian farmers in the immediate vicinity of Cahokia could not have been reliant on or beholden to Cahokia; each farm family was politically autonomous (Mehrer, 1995, p. 164). In fact, for minimalists, political dynamics were irrelevant to long-term development, since communal organizations or adaptations were resistant to top-down change unless population or environmental pressures forced change upon people. Mississippianism, including the Cahokian variety, is seen as a uniform adaptation to floodplain environments across the Southeast regardless of variant regional conditions or iconographic manifestations (Milner, 1990; Muller, 1989; Muller and Stephens, 1991).

In this mode of thought, households are isolated as static features of pre-Mississippian and Mississippian society and assumed to have behaved according to universal agrarian rules of risk reduction and subsistence production (see Muller, 1997). Households 'on average would have aimed toward some overproduction as a cushion for lean years' (Milner, 1998: 175). This surplus, then, was available for expropriation by 'high ranked people', gradually leading up to the founding of Cahokia (or any other such capital). Once established, such chiefdoms were unstable, subject to fracture along various old cleavage planes. Any physical-environmental problem of sufficient magnitude would provide the wedge to split the chiefdom into its component parts, those loosely articulated households with their low-order administrations. To stave off such political disasters, it is reasoned that chiefs must have taken on near-Machiavellian qualities (e.g. Milner, 1998).

This is a common political-behavioral model, akin to the models of Blanton et al. (1996), Earle (1991, 1997), Hayden (1995), and many others. This model's faults stem from the unquestioned acceptance of the idea of behavior such that (1) the actions and representations of people other than those 'high ranked people' are irrelevant, (2) behaviors do not change, so that forces of change are external to people's actions and representations, and hence (3) all complex societies (including Mississippian chiefdoms) are seen to have been alike (Milner, 1998: 176). As to the causes of Cahokia's meteoric rise, the 'particular combination of circumstances that started Cahokia on the path to regional dominance *will never be known*' (Milner, 1998: 168, emphasis added).

Such a pessimistic assessment of causation is consistent with the older processualist disavowal of proximate causation and historical detail. These proximate details presumably were insignificant in the past, as 'Cahokia's chiefs owed their ultimate success largely

to an especially favorable physical setting and the numerical superiority they enjoyed over similarly constituted groups elsewhere' (Milner, 1998: 168). However, the proximate causes and historical details of Cahokia's rise are not so unknowable and not so insignificant for all researchers, particularly those who do not begin with an essentialist view of human behavior.

A revised historical-processual explanation of Cahokia's emergence does not assume a standard set of pre-Mississippian household behaviors. In fact, even the idea of households as basal economic units cannot be assumed, much less their uniform behaviors (Pauketat, 2000b). Likewise, it is an error to seek the causes of Cahokia in the pre-Mississippian physical environment, subsistence 'system', or demographic profile. This is because, from a practice perspective, causes do not exist as abstract phenomena outside the realm of practices. The actions and representations of people at Cahokia *were* the processes that built Cahokia. Mound construction, for instance, was not a *consequence* of a process. Mound construction itself was part of the 'political' negotiation process (Pauketat, 1993, 1996a, 2000a).

The construction of the capital grounds, or any ritual landscape, would have constrained the practice of many people and would have continued to constrain future actions and representations contingent on how the space was continuously reconstructed (see Bradley, 1996). It is insufficient to conclude that such spaces were the 'expression' or 'materialization' of a pre-existing ideology (contra DeMarris et al., 1996). After all, construction events were dependent on coordinated action by people whose accommodation, resistance, or compliance shaped to some extent the meanings of the grounds. For instance, the construction of the central 'Grand Plaza' at Cahokia, which was undertaken as a short, large-scale labor project around AD 1050, was probably an integral part of the early Cahokian 'negotiations' in which incoming residents and rural visitors took part (see Dalan, 1997). The settings for such negotiations would have included, at a minimum, collective rites at which feasts, religious ceremonies, craft production, and plaza, mound, and building construction occurred (see Emerson, 1989; Pauketat, 1994, 1997a; Pauketat and Emerson, 1991). Given the scale of the central undertakings and the attendant, dramatic social shifts, these negotiations were likely enormous and continuous (Pauketat et al., in press).

We now have evidence of these rituals from the Cahokian capital's earliest phase. In a large stratified refuse pit adjacent to the Grand Plaza were piled the rich deposits of broken pots and animal parts from feasts along with remnants of magico-ritual plants and paraphernalia from the same public events (Pauketat, 1998b: 60; Pauketat et al., in press). Here, people deployed pottery vessels during large-scale collective rituals in ways that broadcast their meaning and would likely have enabled emulation by potters inside and, ultimately, outside the region (see also Renfrew, 1987). We also have evidence from rural localities of village abandonments and resettlements coeval with the founding of Cahokia and its plaza rituals (Pauketat, 1998b; Pauketat et al., 1998). Such abandonments and resettlements, especially if large-scale, would have broken up, reformed, or removed people who supported, accommodated, or resisted Cahokian centralization. Thus, these demographic reconfigurations constrained coordinated action and representation in ways that would have directly affected the giant ritual aggregations and, thus, the history of Cahokia.

That Cahokian history was affected in this way is further evident in the single most

apparent characteristic of Cahokia: from house-life and craft goods to monuments, it seems, Cahokia was always in a state of becoming. It regularly incorporated the labor and cooperation of large segments of the regional population. Nothing was built or made just once. That is, Cahokian history – and the component actions and representations that defined it – was based on a continually redefined and revalued cultural logic (Pauketat, 1997a).

The upshot of this observation is that Cahokia cannot be explained with reference to an abstract behavioral logic, such as employed by Milner (1998), because that logic completely misplaces the locus of long-term change. The locus of change was practice, set in the context of a continually redefined and revalued tradition. If, in a counterfactual vein, we could somehow have changed the mix of actions and representations that gave shape to Cahokia, then Cahokia would have developed differently. The same applies to other peoples whose own histories were defined in some measure by contact with Cahokia (see Pauketat and Emerson, 1997b). The processes of Cahokia's emergence, and all such historical processes, must be understood through detailed and large-scale studies of who did what when and how. This historical view of Cahokia, that is, shifts the locus of explanation away from the invisible causes that 'will never be known' to the actual structuring events in which all people's actions and representations were brought to bear (following Sahlins, 1985). When this is done, the burden of explanation moves to the negotiations through which Cahokian social space was structured (Pauketat, 1998b). These negotiations themselves 'caused' Cahokia.

TOWARD A NEW PARADIGM

Older processual explanations (of shell-tempered pottery and Cahokia), based on abstract notions of how people everywhere behaved, are untenable. Cultural processes from outside the field of human actions and representations do not set in motion a societal course independent of those actions and representations. The clear alternative to this older processualism is a historical-processual archaeology that adopts elements of a theory of practice. This alternative argues that how all people embodied their traditions, how they acted and represented themselves, shaped history (see Bradley, 1996; Burke, 1992; Hobsbawm and Ranger, 1983; Toren, 1999). The critical distinction boils down to the fact that behavior (abstract, goal-oriented human activity) is not practice (homologous actions and representations that vary between contexts or events even if the routinized forms – say cooking in pots – seem to remain the same). From a practice perspective, the locus of microscale *and* macroscale change is people acting out or representing their dispositions in social contexts. Even the selectionists and perhaps the individualists would agree that such processes of change are historical, contingent on the unique genealogies of development.

In recent years, others have considered the time-honored questions of archaeology in limited historical terms; the origins of agriculture, social inequality, and the state, for instance, are now commonly assumed to have been equifinal processes lacking single prime movers (e.g. Earle, 1991; Feinman and Marcus, 1998; Fritz, 1990). However, these and other diachronic questions still essentialize macroscale phenomena to the detriment of explaining historical processes. History is not a succession of cultural structures, institutions, or elite dynasties, and historical processes are not the abstract transitions or freak events between structures, institutions, and organizations.

History is the process of cultural construction through practice. Cultural construction may proceed in a relatively overt manner, as Polly Wiessner (1997: 173) explains for the !Kung San, whose intentional selection of traditionally meaningful beadwork represents their changing identities (see also papers in Costin and Wright, 1998 and Stark, 1998). Or it may operate less conspicuously, as Shennan (1993: 58) understands this process, in the realm of 'surface phenomena'. In either case, understanding history is a matter of understanding the undirected and creative negotiations of people whose dispositions were affected by their experiences (be they political, religious, gendered, technological, etc.). To study historical processes does mean accepting the commitment to the intensive study of homologies and regional, cultural-production genealogies (see Clark, 1998: 231; Shennan, 1993).³

A historical-processual paradigm in archaeology, combining the various approaches mentioned, pursues *how* change occurred – that is, *how* meanings or traditions were constructed and transmitted, not necessarily what those meanings or traditions were. A historical-processual paradigm rejects the use of behavioral analogies to infer the reasons that actions, representations, and technologies followed the courses that they did. It does not reject the search for causes as a legitimate goal of historical inquiry. However, answers to ultimate 'why' questions will be found only through the cumulative, painstaking, data-rich, multi-scalar studies of proximate causation (which, incidentally, tend to be more in demand by public audiences, see Weimer, 1995). The minimalist account of Cahokia, or the continued comparative study of states – seeking political-behavioral regularities – is less productive than considering the historical processes of *how* cultural orthodoxies were created and resisted, or how a communal ethos or a corporate organization was co-opted or perpetuated through transformations of identity and scales of negotiation.⁴

In asking such proximate 'how' questions, the traditional boundaries between pre-historic archaeology and historical archaeology, or anthropology and history, are nearly invisible. In fact, the cross-fertilization of pre-Columbian archaeology and historical archaeology in the North American Southeast is one outstanding example of the utility of transcending those old boundaries (see Deagan, 1990; Ferguson, 1992; Little, 1994; Nassaney, 1992; Pauketat, 1998b; Pauketat, in press; Rees, 1997). In these cases, while the historical contexts and scales of social change may be dramatically different in some ways, pre-Columbian, colonial, and post-colonial research is targeting a common problem: how were traditions appropriated within fields of social action to produce or resist central cultural orders? Few of these researchers reduce history to an ultimate explanation of *why* change occurred. But neither do they reconstruct cultural meanings or deep structures as if they caused long-term changes. Rather, they seek generalizations about processes that, perhaps counterintuitively, led to very different histories.

A theory of practice, I submit, makes perfect history. The idea of practice focuses attention on the creative moments in time and space where change was actually generated. This generative process assumes no essentialist organizations, institutions, or belief systems, but is located instead in microscale actions and representations. And yet, depending on the context of the practices, microscale processes exist simultaneously at macroscales as well. Such processes as domination, transculturation, communalization, creolization, and ethnogenesis are examples. We have seen how others – such as hybridization, emulation, revaluation, and construction – bridge the two scales in historical developments like Cahokia.

Clearly, to approach historical processes, archaeologists must grapple with the scales and histories of surface-phenomena transmissions, with technical-operational sequences, with negotiations, and with the *veneers* of uniform cultural structures that these transmissions, sequences, and negotiations did or did not produce (e.g. Braun, 1995). In archaeology, this means seeing material culture itself as the embodiment or active representation – intentional or unintentional – of cultural traditions. Material culture, as a dimension of practice, is itself causal. Its production – while contingent on histories of actions and representations – is an enactment or an embodiment of people's dispositions – a social negotiation – that brings about changes in meanings, dispositions, identities, and traditions.

In the new historical-processual archaeology, what people did and how they negotiated their views of others and of their own pasts *was and is* cultural process. This relocation of explanation may deprive archaeologists of direct and easy access to the ultimate *why* questions that we like to think we can answer. But in so doing, we will cease deluding ourselves that we can know – especially with our present limited databases – the ultimate truths behind complex histories simply by reifying the ideas of Darwin and Machiavelli. In realigning our theoretical basis for understanding long-term change, we will begin a new phase of theory building and regain the potential to explain the historical processes that affect all of humankind.

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Notes

- 1 Ideologies, strategies, institutions, and organizations may be essentialist constructs of questionable utility when they are treated as if they exist outside the contexts of their continuous enactment and representation.
- 2 This does not make those who favor a historical-processual approach 'exaggerationalists' (as dubbed by Muller, 1997: 184).
- 3 It does not mean that anthropology ceases to be, in large part, a comparative enterprise. To the contrary, cross-cultural comparisons of technological change or global comparisons of political-cultural development (of the sort exemplified by the Cahokian case) enable the evaluation of historical significance. The comparative, analogical approach is also the only way to avoid the counterproductive forms of relativism and nihilism which hardly merit mention in this historical-processual scheme.
- 4 Chiefdoms or states, in the end, did not exist separate from such negotiations, and they never existed as static structures outside the continuous, active revaluations of tradition.

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