Star Performances and Cosmic Clutter

Timothy R. Pauketat & Thomas E. Emerson

> [T]he people took their way of living from the stars…
> [Alice Fletcher 1903]

Are there long-term processes invisible over short spans? And if so, how might they relate to the loci of long-term social change, those performative or practical moments wherein agents enact, embody, or otherwise engage traditions, landscapes, or structures (Pauketat 2001, 86; e.g. Ingold 1993; Tilley 2006)? Here, we are particularly concerned with the experience of starry skies as these were historically reckoned through cluttered object fields and cosmic events. These are key to understanding the emergent properties of ethnoastronomies and cultural landscapes that, in certain moments, may be described as leading to historical conjunctures (see Bentley & Maschner 2003; Bintliff 2004).

Our brief case study revolves around Cahokia's so-called 'Big Bang,' an apparent historical convergence *par excellence* (Pauketat 2004). Among other things, a supernova at AD 1054 may have marked the beginning of a new cultural universe with enduring effects across the American midcontinent. Then again, this case also points to the necessity of understanding the long-term as a palimpsest of repeated engagements of things — celestial and material — in multi-sited and multi-dimensional cultural space.

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Palimpsests of repeated performances

We assume, based on recent studies with cognitive-psychological or neuro-phenomenological bents, that different experiences create different sensations that, through performance, have divergent historical implications (e.g. Bailey 2005; Dornan 2004; Herzfeld 1991; Tilley 2006). Smoking tobacco, or ingesting any psychotropic substance, and physical exertion, as in participatory sports, can produce biochemical and emotional states with practical effects. Brightly coloured paint excites optical nerve endings. Gazing at a starry night sky or an imposing monument does likewise, engendering a sense of awe or timelessness in the viewer. Owing in part, perhaps, to such reasons, non-human agents were recognized by various native peoples of the Eastern Woodlands and Great Plains of North America (Pauketat 2008b, 63):

> Fire, earth, water, and certain feathers, tobacco, and paint (made from earthen minerals) were believed to possess agency. They were 'spirits' or … 'witnesses' because they could inform the deities that which people on earth had been doing…. Men and women made offerings both to earth and fire, or the Evening and Morning Stars….

Importantly, given their presence in things, substances, and unseen phenomena, agents so conceived could also be redistributed or divided in various ways depending on the practices or performances in which they were indexed or cited (see Chapman 2000; Gell 1998; Gosden 2005; Joyce 2004; Meskell 2005). And depending on the disposition of such agentic forces, cultural change could vary in kind, scale, and degree. For instance, in pre-Columbian North America as elsewhere, social persons were probably comprised of agentic materials and unseen spirits gathered into objects or places and, sometimes, embodied by living human beings. For certain American Indians, such gatherings and emplacements referenced ancestral or supernatural powers and, in this way, seem to have defined history in mythic terms.

But these mythic qualities have been overplayed, because all social experiences, performances, and practices are 'repeated citations' of 'culturally situated precedents' embedded within larger social fields that, in turn, shape subsequent experiences, performances, and practices (Joyce 2004, 84). In a sense, then, a social field (or landscape) is a citational network, where citations are references to things, places, narratives, practices, or other powers and wherein meanings are secondary (Bailey 2005; Joyce 2000; following Butler 1993). Citations may be multiple, indirect, and reconfigurable in ways that give the fields enchained, composite, and provisional qualities.

The results are not reproduced meanings or durable traditions that transcend the everyday but are instead more akin to mosaics comprised of pieces of material that are arrayed to form larger structural composites (Robb 1998, 337). There is durability to the pieces owing to their materiality and that durability imparts 'to human awareness a sense of time extending beyond individual lives and perceptions' (Bailey 2007, 198; see also Thomas 1996, 80). Depending on the configuration of the field, it might also lend a very ordered structure to the overall pattern of the arrays or fields at a certain scale of analysis (Gosden 2005, 209).

In addition, such citational networks are in reality complex 'inter-artefactual' domains, thick palimpsests of object biographies, genealogies of places, or histories of engagement that are cited in ways that change, overwritten in subsequent moments by human agents here or there with other memories or dispositions and with divergent anticipated outcomes (Gosden 2005, 194; Harding 2005, 98; Lazzari 2005). Since they were already inscribed repeatedly in the past, any present moment is 'a series of past durations' to be analysed as biographies, genealogies, or citational palimpsests (Olivier 2001; see Bailey 2007; Joyce 2000; Meskell 2005; Rowlands 1993). And that 'series of past durations' consists of networks of things that must be considered as accretional, inter-referential, and sensuous qualities of assemblages or entire fields of things engaged (Bailey 2005, 79; Gosden 2005, 208).

Native American history

In the past, some discussions of Native American history have merely homogenized peoples or periods by describing them as having a 'cosmic' rhythm wherein human experience was said to be timeless (compare Martin 1987 with Harkin 1988). Such views fail to recognize the temporality of experience (e.g. moments can have cosmic qualities) and the transformative potential of moments and agents, even in performance (e.g. Brown 2006; Diaz-Granados 2004; Reilly 2004). Yes, many Mississippian people in the American Midwest and South between AD 1050 and AD 1600 or so may have recognized the cosmos as divided into discrete realms. They may have considered certain prominent planets or stars to be the souls of ancient ones, including a powerful feminine Evening Star and a similarly endowed masculine Morning Star (Hall 1997; Lankford 2007). Finally, many doubtless believed the Milky Way to be a trail travelled by the souls of the dead, entered through the great hand constellation, Orion (Lankford 2007). But surely such views varied across space and through time.

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Figure 1. *Chief Pawhukatawa of the Skidi Pawnee. (Bureau of American Ethnology, Washington; Hyde 1974, 238.)*

The historic Pawnee in the eastern Plains are often used to exemplify such beliefs. Like other Prairie-Plains peoples, the Pawnee did not differentiate time and space from cosmology and materiality (Dorsey 1997; Weltfish 1965). They organized their villages according to the stars, possessed sacred bundles from each of the principle stars, dressed in ways that cited these stars, and practised the Morning Star sacrifice (Fig. 1). The latter practice ordinarily involved the sacrifice of a young captive woman — designated to impersonate the Evening Star — by a male actor, who shot arrows into her in a manner that recapitulated the penetration of the Evening Star's dark-sky realm by the Morning Star's dawn light (Hall 1997). However, this and other Pawnee practices are probably historically linked to the founding city of Cahokia, since Pawnee ancestors (archaeologically the 'Central Plains Tradition') lived only a modest canoe ride up the Missouri River from that premier Mississippian place (Hall 1997; O'Brien 1986).

Certainly, celestial objects, especially stars, were probably understood as ancestral or superhuman entities well back in time. From a phenomenological point of view, this makes sense, as the night sky was a naturally recurring cultural experience to be seen virtually every night thousands of times over the course of one's lifetime. As such a repetitive experience, especially in the Great Plains with its few trees, level topography, and big open skies, cultural rhythms would have been constituted nightly by the stars, not unlike the effects of habitual bodily movement. Of the best known and relevant in native North America are the multiple citations to solar alignments and stellar constellations at Chaco in the Southwest and Cahokia in the mid-continent. At Cahokia, these are best known from the earliest of its anomalous ridge-top mortuary mounds (Alt & Pauketat 2007; Fowler *et al*. 1999; Pauketat 2008a). And the appearance of these mounds, historically unprecedented and unknown outside the greater Cahokia region (with one or two possible exceptions), coincides with Cahokia's Big Bang.

A Cahokian conjuncture

Multiple lines of evidence anchored to radiocarbon assays point to a moment, or an event horizon, dating to about AD 1050, when a large village was physically rebuilt into a planned Indian city, Cahokia, centred on great new constructed plazas and earthen pyramids. During the centuries prior to that time, in the greater Cahokia region, semi-sedentary horticultural peoples were intensifying crop production, including maize, by the ninth century AD (Simon & Parker 2006). After that followed a century or two wherein some villages grew large in part through the influx of migrants, identified through their non-local technological styles (Pauketat 2004). The largest of these occupied part of the space that would later be Cahokia (Dalan *et al*. 2003; Kelly 1990).

The social history of pre-Mississippian village life before AD 1050 must certainly be part of the explanation of the subsequent phase transition in the region and beyond. Recent explanations focus on the increasingly dense populations of immigrants and the transformative potential of the convergence of their diverse, cultural practices and identities (e.g. Alt 2006; Pauketat 2003). Just as reasonably, we

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should suspect that particular objects of great power (e.g. medicine bundles and red figurines) or formerly dispersed supernatural agents (e.g. the coloured earth in Mississippian mounds), once gathered or emplaced at Cahokia, gave sensory experience new dimensionality and directionality (Pauketat & Alt 2003). Lastly, there are objective reasons to suspect that Cahokians were co-opting and embodying, for the first time, previously non-human supernatural beings and, in so doing, constructing a new historical narrative that was not so timeless (see Emerson 2003; Emerson *et al*. 2003).

To be certain, the subsequent transition to the Mississippian period was abrupt and large-scale around Cahokia. And it corresponds closely in radiometric time with two natural phenomena: several decades of wetter conditions, between AD 1050 and AD 1100, more favourable to maize production intensification (Benson *et al*. 2008) and the unpredictable appearance of a supernova, or 'guest star,' in the Taurus constellation (Mitton 1978; Stephenson & Green 2002). The sequence of events with regards to the former is difficult to sort out, while the causal role of the latter remains speculative.

As recorded by a Chinese astronomer, the supernova was a brilliant new luminary that appeared in the sky on the morning of 4 July 1054. One of 50 supernovas known in human history, the exploding star was four times brighter than Venus (the Evening Star). For the next 23 days, it was visible in the sky both night and day around the world and remained a prominent feature of the night sky for the next two years. Some believe that this particular cosmic event, which left behind the Crab Nebula, was commemorated in architecture and iconography at the time or in subsequent years. The most compelling evidence for this comes not from the Cahokia region but from the American Southwest, where a tree-cutting date places the construction of the largest and most isolated ceremonial building in Chaco Canyon, Casa Rinconada (noted for its many astronomical alignments) to AD 1054 (see Kantner 2004, pers. comm. 2007; Robinson *et al*. 1974; see Van Dyke, this issue). Nearby and still in the Canyon, a pictograph above one Great House (called 'Penasco Blanco') is frequently interpreted to be a commemoration of this event (Fig. 2; Mitton 1978). There are other possible rock-art depictions of this singular event in southwestern and Midwestern North America.

So, was the supernova of AD 1054 also the reason for Cahokia's Big Bang? Was a new star in the sky viewed as a new ancestor or a new god, a fact requiring some ex post facto reconciliation with the extant social-citational situation?

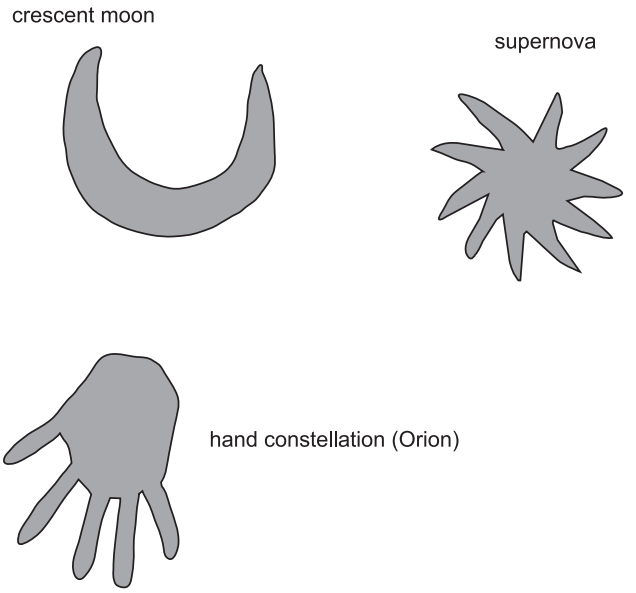


Figure 2. *Pictograph panel above Penasco Blanco, Chaco Canyon, New Mexico: a crescent moon is left of the supernova and the hand constellation (Orion) is below.*

Star performances and cluttered fields of view

Without knowing the answers with any degree of finality, it is still useful to ponder another hypothetical question: If a stellar event such as a supernova caused a major historical conjuncture, then why did it do so at Cahokia and not elsewhere in the world? And, once realized, why did Cahokia begin to disintegrate just a century and a half later (Pauketat 2004)? As already noted, sedentism, agricultural intensification, and population concentrations — particularly involving a mix of migrants and locals — had probably led to a series of emergent social properties in the Cahokia region by the mid-eleventh century. One could argue that there existed a uniquely dense localized palimpsest of citational practices, performances, and experiences with the potential for the reinvention which then happened around 1050. Minimally, based on later American Indians in the Plains and Eastern Woodlands, we can suggest that stars were probably central to the mid-eleventh century re-imagining of Cahokia. In any case, at *c.* AD 1050, along with the 'ruralization' of the hinterlands and the concomitant 'urbanization' of Cahokia, the population of the new city and the greater Cahokia region surged dramatically, with many more immigrants arriving from outlying regions (Emerson 1997; Pauketat 2004; 2007). In the face of the heterogeneous population, a series of centralized performances overlaid meanings or cited new referents throughout the Cahokia region and beyond (Pauketat 2008b).

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Key to some of these were pole-and-thatch temples, sometimes built atop earthen pyramids and used to curate the bones of select ancestors. Also key and closely connected to the ancestral temples were large upright marker posts that probably embodied or in some ways allowed access to the starry ancestors in the night sky (Hall 1997; Pauketat 2008b; Alt & Pauketat 2007). Closely connected to temples and upright posts, and among the most spectacular of Cahokian performances, were a series of central mortuary practices that cited the past and present, cosmic and genealogical, and living and dead. These were, some think, the historical antecedents of the Morning and Evening Star gods among the Pawnee and others (Hall 1997; Pauketat 2008a).

The Cahokian mortuary celebrations, as evidenced in a series of ridge-top mounds, were performed repeatedly in each of a dozen or so locations at and near downtown Cahokia (Alt & Pauketat 2007). If one excavated example (Mound 72) is representative, then for a period of 150 years or more (AD 1050–1200), groups of several to several score women were periodically immolated during sacrificial rites that cited ancestral figures, posts, temples, and various celestial powers, if not superhuman star-god impersonators (Fowler *et al*. 1999; Hall 2000). Such spectacles and other ceremonial rites were probably attended by thousands of people, as evidenced in prominent festival deposits (Pauketat *et al*. 2002). Pilgrims from far and wide likely attended the unusual happenings or other great ceremonial events where hundreds to thousands smoked large amounts of potent native tobacco, played a rigorous team sport ('chunkey'), built mounds, and danced out the new rhythms of social life (see Laubin & Laubin 1977).

Many Cahokian ceremonies featured the bodies of actors, alive and — in the case of the ridge-top mounds — dead, coloured earth and earthen construction fills, temples, posts, and a suite of portable objects — Cahokia-style arrows, crystals, mollusc-shell beads, bead necklaces, or bead-studded garments, and gaming stones of the so-called 'chunkey' sport (Alt & Pauketat 2007; Pauketat 2008a). The various objects might be understood as pieces of a central Cahokian narrative that drew on the biographies and agentic powers cited and emplaced here for effect. Moreover, those pieces were probably imbued with animate powers closely connected to the ancestors and, by extension, to stars (Pauketat 2008b).

In any event, through such dramatic theatrical performances involving suites of cultural objects, Cahokia's Big Bang had far-reaching impacts on outlying peoples similar to the ways that cosmic events might have affected Cahokia or that major environmental perturbations, celestial anomalies, culture contacts, or colonial encounters might have impinged on the citational fields anywhere in the world. To the north, researchers have recognized Cahokian emulators, missions, outposts, or expatriate colonies through the arrays of Cahokia-made things or imitations. There were new temples, posts, platform mounds, Cahokia-style mortuary practices, and portable pieces of Cahokia (e.g. Emerson 1991; Green & Rodell 1994; Hall 1997; Riley & Apfelstadt 1978; Stoltman 1991). At about the same time in the north, pre-Mississippian homage to local ancestor beings — evident through mound constructions and painted pictographs in animal forms — ceased (see Salzer & Rajnovich 2000; Theler & Boszhardt 2000); Cahokian superhuman gods or starry ancestors may well have supplanted them (Pauketat 2008b).

To explain how, we cannot underestimate the clutter of citational references to Cahokia across the trans-regional landscape. Many local and foreign people came into the possession of Cahokian sculpted figural smoking pipes, feasting pots, and the series of agentic objects also gathered for or cited in Cahokia's mortuary theatre (arrows, gaming pieces, crystals, special ear ornaments, and mollusc-shell beads, beaded garments, or necklaces). Such things were not inert consequences of a cultural phenomenon but were the phenomenon itself. Presumably, such things re-animated the rich dimensionality of the bodily experiences and temporality of Cahokia elsewhere, and they did so not individually but as an inter-referential series of things and places (Fig. 3).

As discrete objects, we can get some idea of how this happened. A Cahokian 'Ramey Incised' pot, for instance, entailed a user moving between dimensions (sky and earth) and through the design field of the pot's rim, metaphorically locating the user in space and time (Pauketat & Emerson 1991). Likewise, playing the 'chunkey' game in later centuries (a sport now believed to have been politicized or redefined by Cahokians in *c.* AD 1050), from all reports, recapitulated the story of the cosmos — the relationship between the sexes, celestial beings, and the animate forces of the universe — and presenced the agentic forces of the sky-world in the moment and at the site of play (see Culin 1992).

Conclusion

Explaining a Cahokian conjunction as a consequence of a supernova (or a wet and warm period) cannot be done apart from the pre-Mississippian palimpsests of repeated performance in a number of localities across the Midwest. Even more evident is the manner in

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which Cahokian practices and performances altered the histories of distant peoples: they interpenetrated the ancestry and identities of people through a routinely engaged and seamless field of celestial and material objects, made durable by temple buildings, posts, arrows, chunkey stones, etc. As it turns out, the proof of the case study might lie in Cahokia's demise.

Cahokia ceased being an expansive political-cultural phenomenon after only a century and a half. After AD 1150, there were few to no new Cahokian outposts, missions, or contacts. Indeed, as Emerson (1991) has summarized, Cahokians or Cahokian things arrived *en masse* in most northern locales without resupply. And while temples, arrows, stones, and posts have a certain durability, the facts of repeated citationality led to the subsequent animation of non-Cahokian objects, as Cahokians and their converts or emissaries seem to have been unwilling or unable to accomplish more than one-off proselytizing or colonizing events.



Figure 3. *Pieces of Cahokia (clockwise from upper left: chunkey stones, mollusc shell beads, chipped-stone projectile points, Ramey Incised pot rim section.*

Thus, rates of social change may correlate with the particular configuration if not density of palimpsests of citations in the constantly re-imagined fields. The event horizon of AD 1050 involved the export of a distinctive set of Cahokia's three-dimensional objects that enchained peoples, places, and things to a Cahokian ethnoastronomy if not also to one particular new star. Distributed outwardly, these would have added citational complexity to the networks and social experiences of surrounding people that had been, perhaps, less cluttered with material citations up to that point.

To the extent that we are talking about the centring of historical narratives at Cahokia, we might conclude that engaging Cahokia through its decorated pottery, chunkey games, tobacco smoke, dance grounds, and packed earth altered peoples' temporal sensibilities in ways unlike that which came before or after the AD 1050 horizon. And yet they, like their descendants, may have taken 'their way of living from the stars' (Fletcher 1903). To understand how such stellar lives led to historical conjunctures, we must simultaneously (1) open the door to considerations that other non-human processes — namely stochastic celestial events and climatic shifts — were bound up in the repeated experiences, practices and performances that otherwise seem insufficient to account for long-term processes of change; and (2) begin to analyse citationality and object agency in terms of large-scale trans-regional assemblages and landscapes (see Lazzari 2005).

This seems to us a necessary step toward a productive rapprochement between what are often viewed as divergent schools of thought. Ultimately, we must understand that living in certain streams of social life, surrounded variously by things in spaces with histories, including the night sky, atmospheric conditions, and geoclimatic events, is both a short- and long-term process always with its own distinctive emergent conditions recursively related to the engagement of all with complex fields and palimpsests of citations.

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