

The Archaeology of Commoner Social Memories and Legitimizing Histories

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Abstract In recent years, archaeologists have productively exploited historical documents and monuments as evidence for social memory and the selective writing, rewriting, and silencing of history for instrumental purposes. However, for a variety of theoretical and methodological reasons, less consideration has been given to such powerful uses of the past in the past by commoners in domestic contexts. In this article, we present a case study that demonstrates how the household remains of commoners can be used as rich, direct sources of evidence for the conscious manipulation and deployment of social memory. Our case study focuses on multiple lines of evidence from burials interred under a household patio at the pre-Aztec and Aztec site of Xaltocan between C.E. 1290 and 1520. Archaeological burial data, osteological analyses, a fine-grained chronology created with Bayesian statistical modeling of radiocarbon dates, and ancient DNA analyses are combined to reconstruct the household genealogical history inscribed by residents. This history—perhaps motivated by power and claims to land—entailed selective remembering and forgetting and the rewriting of the past of life on this house mound and was enabled by material mnemonics in the form of buried bones. Interestingly, this inscribed, instrumental genealogical history may have been structured by some of the same principles and representational canons that shaped pre-Hispanic pictorial genealogies used as evidence in colonial legal disputes.

Keywords Social memory · History · Power · Household archaeology · Commoners · Ancient DNA · Xaltocan

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Archaeologists working in regions with written histories, myths, and other documents have long been interested in how people perceived of, constructed, and memorialized the past. The twenty-first century has seen investigations into the topic of collective or social memory (Halbwachs 1980, 1992; Connerton 1989) expand to contexts without documentary evidence through the interpretation of archaeological remains (Alcock 2002; Borić 2010a; Bradley and Williams 1998; Chesson 2001; Hendon 2000, 2010; Hodder and Cessford 2004; Mills and Walker 2008b; Schmidt 2006; Schortman and Urban 2011; Stanton and Magnoni 2008; Starzmann and Roby 2016; Van Dyke 2004, 2009; Van Dyke and Alcock 2003; Williams 2003, 2004; Yoffee 2007).

In the infancy of such research in the early 2000s, archaeologists commonly turned to burials—the same archaeological context explored in the case study presented here—to recover evidence of social memory. Contributors to the volumes edited by Meredith Chesson (2001) and Howard Williams (2003), for instance, productively examined social memory as it related to identity and place in funerary rituals, as did Lynn Meskell's (2003) contribution to the edited volume *Archaeologies of Memory*. Rosemary Joyce (2001, p. 13) demonstrated how “ancient burials can be viewed as particularly charged sites where living survivors inscribed the dead into social memory in particular ways, as part of an ongoing process of spinning webs of social relations between themselves and others.” The histories and biographies of deceased peoples built up through these social relations were the “raw material” that could be used to construct more extended histories of the social house, with individual burials equivalent to “episodes in unfolding stories” (Joyce 2001, p. 13). In the same volume, Ian Kuijt (2001) similarly linked burials in household contexts with the creation of collective social memories that, maintained over time, would have contributed to the continuity and stability of the house across multiple generations. The case study presented here builds on this research in examining household histories as they are inscribed within household space through the deposition of deceased family members, and we borrow Joyce's terminology of historical episodes, in particular.

A small subset of early scholarship on social memory in archaeology was concerned with social memory as it relates to power (e.g., Sinopoli 2003), and this area of inquiry has grown over time, as this special issue's title of *Webs of Memory, Frames of Power* suggests. Norman Yoffee's (2007) edited volume with the illustrative title of *Negotiating the Past in the Past* contained several contributions that reconstructed memory practices of forgetting and erasing that were instrumental in asserting or maintaining power (see also 2007, pp. 221–223).

However, as the introduction to this special issue on collective memory and power suggests, “with a few exceptions (e.g., Hendon 2010; Lucero 2008, 2010; Wilson 2010), applications of memory studies in archaeology are often applied in a top-down fashion. This perspective regards collective memory as a coherent body of ideas that can be manipulated by rulers, community leaders, or social collectives to legitimize positions of power or historicize claims to the landscape.” In contrast, there has been a lacuna in archaeological research on social memory and commoners or social memory and household contexts, as several scholars have lamented. For example, Meskell (2007, pp. 223–224) suggested, “Perhaps what is now needed in archaeology is an attention to the memory [...] practices of ordinary individuals, the bulk of ancient and contemporary populations, rather than an intensified consideration of elite monuments and structures, moments of stress and cultural transition.” Similarly, Gregory Wilson (2010, p. 4) complained that “most archaeological studies of social memory have been

restricted to investigations of specialized elite contexts and material culture assemblages rather than [...] domestic architecture and everyday objects.” And Julia Hendon (2010, p. 94) conjectured that “It is as if the home is *too* everyday, too routine, too natural,” and “as a result, the contributions of everyday life to social identity are more widely appreciated than those to remembering and forgetting. Halbwachs (1992) certainly argued that the family was one crucial social environment in which these processes took place. Yet, others have assumed that the very features of everyday life that give it such an important role in forming identity preclude it from becoming a locus of memory-making through which a historical consciousness is expressed.”

Hendon pointed to a widely assumed dichotomy between social identity and history making, which has played an important role in limiting some avenues of archaeological investigation. In particular, case studies of commoner social memory have largely focused on issues of social identity rather than the power-laden and political aspects of memory-making. In his edited volume of elite and non-elite social memory case studies, for example, Nicola Laneri (2007, p. 8) applied Halbwach’s (1992) bipartite typology, first, *either* a local, “autobiographical” type “linked to how individuals are structured within a smaller social group through relations of kinship” *or* a trans-local “historical” type that “transcends the social framework of the family and in which ‘the past is stored and interpreted by social institutions’.” Laneri (2007, p. 8) suggested that these types overlap only in certain instances, such as when “the ideological and political strategies of these social institutions can embrace a discourse of remembrances, traditions, and ideas connected to those of specific ruling families.” Accordingly, the volume’s case studies pertaining to elites (*e.g.*, Pollini and Schwartz) addressed power and political statements, while those discussing the broader population considered social memory in relation to memorialization and personhood, for example, the forgetting and transforming of social persons from known individuals to anonymous ancestors (Chesson).

While we can now point to a small but growing number of excellent case studies of social memory in commoner and non-stratified contexts (Borić 2010a; Borić and Griffiths 2015; Chesson 2007; De Lucia 2010; Gilchrist 2012; Kuijt 2008; Lucero 2008, 2010; Porter and Boutin 2014), it is still difficult to find case studies of non-elites manipulating the past for their own instrumental purposes (but see Wilson 2010). A survey of the archaeological literature shows that archaeologists have routinely recognized elite texts and monuments as materializing the official versions of the past that rulers, community leaders, or social collectives propagated to legitimize positions of power or to historicize claims to the landscape. Scholars of social memory are now beginning to consider the agency of a wider range of actors in the construction of political monuments and structures (*e.g.*, Hutson *et al.* 2012), but commoner household remains have rarely been described in the social memory literature as political tools that legitimize claims to power by ‘writing history.’ For example, of the case studies in the edited volumes of Ruth Van Dyke and Susan Alcock (2003) and Barbara Mills and William Walker (2008b), only one—that of Lisa Lucero’s (2008) example of the ancient Maya—examined commoner household histories. This chapter and a follow-up article (2010) presented careful archaeological reconstructions of how families might write and even update histories through ongoing stratigraphy making, including how the burial of household residents might have “established place” and “affirmed continuance or regeneration” (Lucero 2010, p. 160). However, these studies did not consider possible ways that commoners might have manipulated their representations

of the past. Ian Hodder and Peter Pels (2010) also treated non-elites in their argument for “history houses” in repeatedly rebuilt domestic structures that contained large numbers of burials but focused on social networks and social identities without treating issues of power. Similarly, in a recent article, Kristin De Lucia (2010) reconstructed the important role of infant and child burials in social memory and the transmission of household social identity at pre-Aztec Xaltocan, but did not discuss power or the manipulation of social memories. Thus, even when social memory is acknowledged within commoner domestic contexts, there is little discussion of manipulating the past—no inventing, silencing, misrepresenting, or presenting falsehoods; there is only personhood and collective identity.

This article strives to better understand this trend and to expand the array of archaeological approaches to social memory. Here, we interrogate several of the assumptions that guide interpretations of archaeological evidence for social memory. We focus in particular on how we value, interpret, and utilize archaeological evidence indicative of social memory, the writing of history, and the negotiation of power in commoner households. The documents and monuments created by elites may appear to be the most accessible lines of evidence for discussions of social memory and power (see Mixter and Henry, 2017); as Van Dyke and Alcock (2003, p. 3) explained, “In archaeological contexts it is easiest to see the top-down machinations of elite groups using memory to these ends.” However, we argue that archaeologists ought to also recognize the household remains of commoners as potentially rich, direct sources of evidence for power-laden selective social memory or, in the words of this volume’s co-editors, “material reservoirs of memory.” This memory work of commoners entails not only remembering, but also forgetting. Moreover, we contend, it includes memory work not only to create a social collective (Borić 2010b; Jones 2010)—such as in selective burial wherein the “intense commemoration of some go hand in hand with the forgetting of others” (Whittle 2010, p. 43)—but also politicized, instrumental forgetting, and the manipulation of memory for political and social legitimation. We echo Gregory Wilson (2010, p. 4), who proposed that “social memory is a political resource widely available to all social groups for the related purposes of negotiating their social and economic interests” and that “social memory played an important role in the way a variety of social groups negotiated their kin-based identities and their corresponding socioeconomic claims.”

To ground this discussion, we discuss findings from our own research on social memory and occupational histories at one specific household at Xaltocan, a central Mexican city-state capital that was conquered and incorporated into the Aztec empire. The excavated remains of this commoner household—specifically the human remains interred under the patio over a century and a half—evinced the selective writing and rewriting of history, family genealogies, and social memory that may have been consciously manipulated and deployed in negotiations of status and land rights.

Social Memory and Power in Archaeological Research

For decades, there was a general consensus among archaeologists that the reliability or accuracy of social memory (including oral histories and written histories) decreases with time. Memories decay over time, perhaps becoming “unstable” within one or two

centuries (Bradley 2003, p. 221; citing Henige 1974 and Vansina 1985; but see Schmidt 2006, Sect. 4). However, recent work on social memory has shown that oral and written histories are affected by more than just faulty memory, and that in particular, we should see them as always constructed and subject to political manipulation.

For example, nearly three decades ago, Susan Gillespie's influential ethnohistoric book, *The Aztec Kings* (1989), demonstrated how imperial Aztec histories were manipulated by indigenous elites in the early colonial period to account for and make comprehensible the Spanish conquest and colonial rule. Similarly, Carla Sinopoli's (2003) research on the unstable, transitory states in India during the seventeenth and eighteenth centuries highlighted inflated, exaggerated claims and kingly rhetoric that drew on the crumbling Vijayanagara empire as a "memory and source of authority" (Sinopoli 2003, p. 29). This case study, she concluded, provides "a cautionary tale for archaeologists: the most monumental constructions of a state may refer as much to memories of power as to its actual presence" (Sinopoli 2003, p. 31). More recently, Mills (2008, p. 82) drew on Hobsbawm's (1983) concept of invented traditions, wherein new traditions are created, but social memories claiming great historical depth to those traditions are concocted in order to legitimate them. Finally, Gillespie (2008, p. 132) and Overholtzer (2013) both drew on Michel Trouillot's (1995) framework of the silencing of the past, wherein writing a history is seen as a power-laden selective process that necessarily entails the privileging of certain narratives and the silencing of others. Others (e.g., Meskell 2003) have drawn on Adrian Forty and Suzanne Küchler's (1999) similar concept of the "art of forgetting" (see also Küchler 1987, 2002).

As Lynn Meskell (2003, p. 51) suggested, "the waning, renewal, and revisioning of memory" is now far more compelling to archaeologists working on social memory than the fictive concept of memory as "inherently authentic." The resultant scholarship has thus productively allowed us to see how those in power—those who write history—have manipulated textual or monumentally inscribed accounts of the past. They have created memories *de novo* or have intentionally forgotten others in order to legitimize their own role, maintain social status and power, or lay claim to land or labor. However, as discussed earlier, scholars have given less attention to the possibility that commoners may have also made powerful use of the "past in the past" (Bradley and Williams 1998) in domestic contexts. Here, we suggest that there are at least two reasons for the dearth of studies on the power-laden use of the past in the past by commoner households. Understanding these reasons might help eliminate constraints on our thinking.

First, archaeologists often see domestic deposits as offering evidence of ahistorical social memory but not constituting historical records *per se*. Consequently, fewer archaeologists have tended to apply concepts such as the erasing or rewriting of history—at a basic level, the idea that history is written by the victors—to household social memory. Furthermore, archaeologists have frequently assumed that it is more difficult or more problematic to infer social memories from archaeological evidence than from written documents. As Howard Williams (2003, p. 17) argued for studies of death and memory, in particular, scholars "have tended to underestimate the potential for archaeological evidence to reveal the uses of material culture in strategies of remembering and forgetting the dead and the past."

This dichotomy in how archaeologists perceive the accessibility of historical documents and domestic deposits has several important implications. Most notably, archaeologists may easily investigate power-laden actions as the rewriting or silencing of the

past within written documents, inscribed sculptures, and so on, but looking for the same in household archaeological remains is tricky business. In addition, the inherent privileging of text here is problematic for its implicit modern, Western assumptions that writing is different from, and indeed better than, a mnemonic device and that less interpretation is required when investigating social memories embedded in texts. However, like many writing systems, Postclassic central Mexican documents were pictorial and included ideograms, logograms, and phonetic rebuses arranged in structured compositions; in cartographic histories, for example, the map provides the narrative structure (Boone 2000). As such, these documents require significant background knowledge to “read.” Elizabeth Hill Boone (2000, p. 164) wrote, “the places in the cartographic histories become mnemonic cues to the events that occurred there,” with those places serving as “sites of memory.” Thus, once we begin to acknowledge how all media for social memory are “mutable” (Van Dyke and Alcock 2003, p. 2) and created through selective remembering and forgetting, this dichotomy begins to break down. In fact, historical documents must be subjected to significant source-side criticism (Wylie 1989; see also Bennet 1984; Morrison and Lycett 1997; Stahl 1993) and often compared with other lines of evidence to “see” these selective memory processes at work.

Given the interpretation, source-side criticism, and comparative work needed to understand Postclassic central Mexican documents and the power-laden selective memory processes that shaped them, archaeological deposits may actually be no less directly accessible. Reconstructions of social memory and power from archaeological deposits may require similar kinds of source-side criticism, interpretation, and perhaps most importantly, a stronger argument built using a cable composed of multiple independent lines of evidence, following Alison Wylie (1996, 2000). In this sense, it may be that our methods have not kept up with theoretical developments, and standard archaeological practices are not up to the task.

For example, outside of regions with tree ring dates (*e.g.*, Kovacic 1998; Van Dyke 2004) or chronologically precise historical ceramics, archaeological deposits generally do not feature the kind of high-resolution chronologies that make documents and monuments seem so directly accessible. Consequently, social archaeologies of the household have often suffered from a lack of precise chronological data (Overholtzer 2015), although tools such as Bayesian statistical modeling of radiocarbon determinations from stratified contexts may allow us to create chronologies on the scale of a single human generation (Bayliss *et al.* 2007; Whittle *et al.* 2007; Whittle and Bayliss 2007; Whittle *et al.* 2008). We suggest that these tools may provide one way to help bridge the gap between the short-term time scales of everyday life and our interpretations of the archaeological record as a palimpsest and representing the *longue durée*, as noted by Lin Foxhall (2000). Archaeologists concerned with inscribed histories *have* begun reconstructing practices of stratigraphy-making, which may include cutting into, covering, or erasing previous deposits—layering here being “seen as a construction of genealogies and histories, memories, and relationships” (McAnany and Hodder 2009, p. 20; see also Mills and Walker 2008b; Pauketat and Alt 2005; Tringham 2000). Many scholars have also exploited methods such as spatial multi-element soil chemical analysis and micromorphology to reconstruct these memory-making practices (*e.g.*, Boivin 2000). However, far fewer have invested in detailed chronology building that would make it possible to identify the historical timing and tempo of such events.

Without such detailed chronologies, social memory in the household archaeological record can *appear* ahistorical. The recent work of Dusan Borić and Seren Griffiths (2015) on continuity and endurance of social memory, using Bayesian modeling to consider the temporal duration, timing, and chronology of stratified burial sequences, may demonstrate that this is changing (see also Borić 2010b; Whittle 2010). We hope the work presented in this article will do the same.

The second factor contributing to the lacuna in scholarship investigating commoner power-laden use of the past in past domestic contexts is a recent shift in theoretical assumptions about power dynamics and individual agency in the past. Interest in social memory rose with the theoretical shift from instrumentalist to constructivist positions in the social sciences (Mills and Walker 2008a, p. 8). Instrumentalist approaches, some owing a theoretical debt to Marxism, emphasize how people construct pasts and identities to serve particular political ends and advance their own interests. Constructivist positions, on the other hand, emerged with the social turn, and emphasize socially situated and contested practice, multiple meanings and experiences of social life, and unintended consequences. Following the shift from instrumentalist to constructivist positions, evidence for collective remembering has been frequently mined by archaeologists for insights into the forging of social relations and the claiming of individual or group identity, but social memory has not as often been seen as a strategic, instrumental tool. For example, a recent edited volume on burials in anthropology focused on the former but not the latter, as evidenced by the title *Social Memory, Identity, and Death* (Chesson 2001).

By drawing attention to this focus, we do not mean to suggest that the construction of identity through social memory is not important—it is, and household identity is entirely relevant to the case study presented here. Rather, we wish to also emphasize that social memories within the household are not always neutral or value free, a simple chronicling of what transpired. It is perhaps only when we are confronted with political documents or monuments that we consider how memory-making can simultaneously serve both instrumental and constructivist purposes, specifically by serving as rewritten or selective histories that legitimate the present. It is unlikely that we will be confronted with either in the archaeological study of ancient commoner households, since in many past societies, non-elites were not literate.

We suspect that other theoretical assumptions may have also contributed to a focus on certain lines of evidence and not others, leading some researchers to not consider the possibility that commoner household remains may provide evidence of the manipulation of social memory to legitimize histories. For example, when Gillespie (2008) reconstructed how members of a single elite La Venta house performed and inscribed its own history in the context of the Ceremonial Court known as Complex A, she suggested that “only powerful rulers could have accomplished the cessation of such long-standing traditions to enforce ‘a rupture between past and present,’ which is how we think of history (Hoskins 1993, p. 307)” (Gillespie 2008, p. 133). But, as Hendon (2010, p. 99) remarked, “Claims that only certain members of society cause things to happen or are powerful are in fact an attempt by the very people promulgating them to make a particular narrative hegemonic. This narrative attempts to argue that only certain people—those holding certain titles, able to trace or claim a particular genealogy, doing specific kinds of things, or of a specified gender—are historical actors in ways that others are not (Comaroff and Comaroff 1992).” Thus, researchers are less

likely to consider commoners as historical actors or to look at commoner household remains for evidence of the manipulation of social memory and the legitimization of certain histories.

Theoretical assumptions regarding commoner agency may be a particularly important contributing factor here. While archaeologists have been excavating and studying houses since the late 1970s and early 1980s (Flannery 1976; see Carballo 2011 for a recent summary of household archaeology research in central Mexico), less attention has been given to the theoretical and empirical importance of households, particularly commoner households. When we have studied the domestic lives of ordinary people, whether from processual, Marxist, or agency perspectives, we have generally assigned them a passive role in society (Brumfiel 1992; see also Robin 2013). Though written more than a decade and a half ago, there is still significant truth in Timothy Pauketat's (2000, p. 113) complaint that "Archaeologists typically deny that non-elite actors did anything of such consequence [as acting to establish a ruling order] on their own, despite a recent heightened awareness of commoner resistance, accommodation, or compliance."

Even more recent concessions that commoners hold or exercise power—to resist, for example—have generally cast non-elites in a responsive and reactive, but not active, light, as Marc Levine (2011, p. 23) argued. Commoners have often been seen as controlling hidden transcripts (Scott 1990) and contributing to public ones only when they respond to narratives produced by elites. Thus, commoners may engage, avoid, or resist dominant discourses, as Arthur Joyce *et al.* (2001) suggested, but it is commonly thought that they do not produce their own discourses independent of elite ones. In this regard, commoners are seen as having *power to*, but not *power over*—where *power over* refers to domination, and *power to* refers more broadly to agency and transformative capacity, "[including] the positive, productive, and creative aspects of cultural knowledge and social relationships that create social identities and which people draw on in practice" (Joyce *et al.* 2001, p. 347).

The case study we present from our research at Xaltocan suggests that these prevalent assumptions can be problematic. We, like Levine (2011, p. 23; see also Hutson *et al.* 2012 for a case study centered on social memory), follow a growing group of archaeologists, "many influenced by post-structural theory," who "are reconsidering social relations of class and power in more dynamic terms, as the outcome of ongoing negotiation among different social collectivities." We agree that "all social groups, to a certain extent, participate in social 'debates' or discourses that affirm, modify, contest, or reject the terms of their relationships with other social segments" (Levine 2011, p. 23). However, here we emphasize how commoners may have actively begun such negotiations on their own terms, not only in response to elite discourse.

The Case of Structure 122 at Xaltocan

We now present a case study employing evidence from burials interred under a household patio at Xaltocan between 1290 and 1520 C.E. We argue here that household members inscribed a genealogical history there that was selective and rewritten, perhaps motivated by claims to power and land, and structured by the same principles and representational canons as pre-Hispanic pictorial manuscripts. Just as ancient

Mesoamerican elites wrote inscriptions and texts that revised and rewrote history in order to assert status or negotiate power (Gillespie 1989; Overholtzer 2013), our evidence suggests that commoners may have as well, in the form of inscribed household genealogical histories.

Household Genealogical Histories

Before delving into the evidence, we briefly develop the concept of household genealogical histories used here, drawing on the body of funerary and social memory literature discussed earlier. As recognizable social occasions, funerary contexts offer the possibility of examining a short temporal scale not easily accessed in the archaeological record—that is, the specific moment of a funerary event, or, in the case of primary interments, the time of an individual's death. As culminations of individual life histories, and as physical manifestations of past individuals, burials facilitate a more “peopled” perspective. A household burial, in particular, can be considered an event within the depositional sequence or chronology of domestic structures. Following scholars working on materiality, memory, and social reproduction, we can see such household chronologies as family histories inscribed in the material record. The sequence of house building and rebuilding “embodies histories of the people who lived and died within its walls just as much as it chronicles building, razing, and rebuilding” (Lucero 2008, p. 204). As Lucero explained about her Maya case study, one of the few case studies of household histories, social memory, and depositional sequences in household contexts, “the chronology of residential construction ... is a history that fellow Mayas recognized and could read because everyone in Maya society used the same means to record their family histories and their place in society” (Lucero 2008, p. 188). Similarly, at Xaltocan, household histories inscribed in domestic space through practices of deposition would have been recognized by other people in Postclassic central Mexico, who recorded their own family stories in a similar fashion (c.f. De Lucia 2010).

Echoing Michael Parker Pearson's refrain (Parker Pearson 1993, p. 3; 1999, p. 203) that “the dead do not bury themselves,” scholars focusing on burials have recently shifted attention to the context of the living and to mortuary ritual as a resource for the promotion of group solidarity and social identity (e.g., Cannon 1989; Gillespie 2001; Laneri 2007). Work on residential burials (Adams and King 2011b; Hodder and Cessford 2004; R. A. Joyce 1999, 2001; Kuijt 2001, 2008; McAnany 1995) has emphasized careful consideration of the relationships between the living and the dead and the effect that such close proximity of people and their ancestors had on social memory, social reproduction, and power relations.

As Ron Adams and Stacie King (2011a, p. 5) explained, “The placement of burials in residential contexts can provide the living with a direct, ongoing connection to ancestors and a constant reminder of their place in what can be a long line of descendants originating from the founding ancestor of a household or larger group.” Similarly, Patricia McAnany (1995, p. 65) wrote that the placement of burials in household space creates a “genealogy of place that links descendants to that land.” The connections that households have with the deceased (sometimes, but not always, conceived of as ancestors) may be associated with claims to property and membership in social groups (Ashmore and Geller 2005; Buikstra and Charles 1999; De Lucia 2010; Gillespie 2000, 2002; Kuijt 2001; Parker Pearson 1999; Philip 2003). Returning to the theme of social memory, residential

burials may also serve as a “mnemonic device” (Adams and King 2011a, p. 4) or “technology of memory” (Gillespie 2010).

Scholars have also highlighted how burials allow us to consider individuals (e.g., R. A. Joyce 2001; Meskell 1998) and explore the “finer variation of individual practices,” thereby producing “an account of this past society more in line with ethnographically observed social realities” (R.A. Joyce 2001, p. 14). Burials may index social ties, sometimes indicative of biological relationships (Haak *et al.* 2008). From this perspective, Duncan Sayer (2010) suggested that we can move closer to lived human experience by considering the ages, life course, and contemporaneity of individuals and developing what he calls “generational chronologies.” This dimension of “social time” allows archaeologists “to see the mechanisms through which social identities and social memories were transmitted” (Sayer 2010, p. 60).

Household Genealogical Histories on the Structure 122 Mound at Xaltocan

We turn now to a group of household burials interred at the edge of the island of Xaltocan in the Postclassic period to examine the generational genealogies of place inscribed there. This corner of the human-made island of Xaltocan did not exist before about 1240 C.E., when the island was expanded through the labored mounding of earth to accommodate more houses. Here, on one house mound called Structure 122 in Brumfiel’s (2005) site survey, 6 months of excavations by Overholtzer (2012) revealed the remains of a series of houses built, rebuilt, and occupied from approximately 1240 C.E. through the early colonial period (Fig. 1). Three stratigraphically superimposed single-roomed domestic structures were recovered, plus a single remaining wall from a fourth. Also recovered were a number of household features located to the north and west of the houses, two small circular structures, possibly maize bins; fragmentary remains of adobe patios, informal hearths, and other architectural features; four dense middens; and the intact burials of 17 household members. These burials—all interred in a remarkably small space of less than 5×7 m within the patio—included males and females and represented individuals from the entire life course, from neonate to over 50 years of age. No burials were interred under colonial rule, but one early colonial midden dug in the patio area disturbed four additional likely pre-Hispanic burials, as indicated by the partially articulated bones of one juvenile, two young adults, and one adult. These disturbed burials bring the total number of individuals interred in the area excavated to at least 21. Excepting disturbance from the midden and the destructive tunneling of gophers, the burials were in a remarkable state of preservation.

Though the existence of additional structures that would have formed part of an extended household cannot be ruled out, the architectural, material, and human remains recovered are suggestive of a single house (*calli* in Nahuatl) rebuilt over time (see Overholtzer 2015 for further details on the stratigraphy and chronology of this household). Moreover, the remarkable degree of continuity in the form and placement of houses and burials, as well as the pattern of deposition with few gaps in radiocarbon dating, suggests a degree of social continuity through time (Overholtzer 2013). Though there are some short gaps of up to 40 years in radiocarbon dates from interments, radiocarbon dates from features such as middens fill these gaps and indicate that occupation—if not burial—was continuous. The nearly continuous use of such a small burial area also stands out, since burial location likely would not have been marked

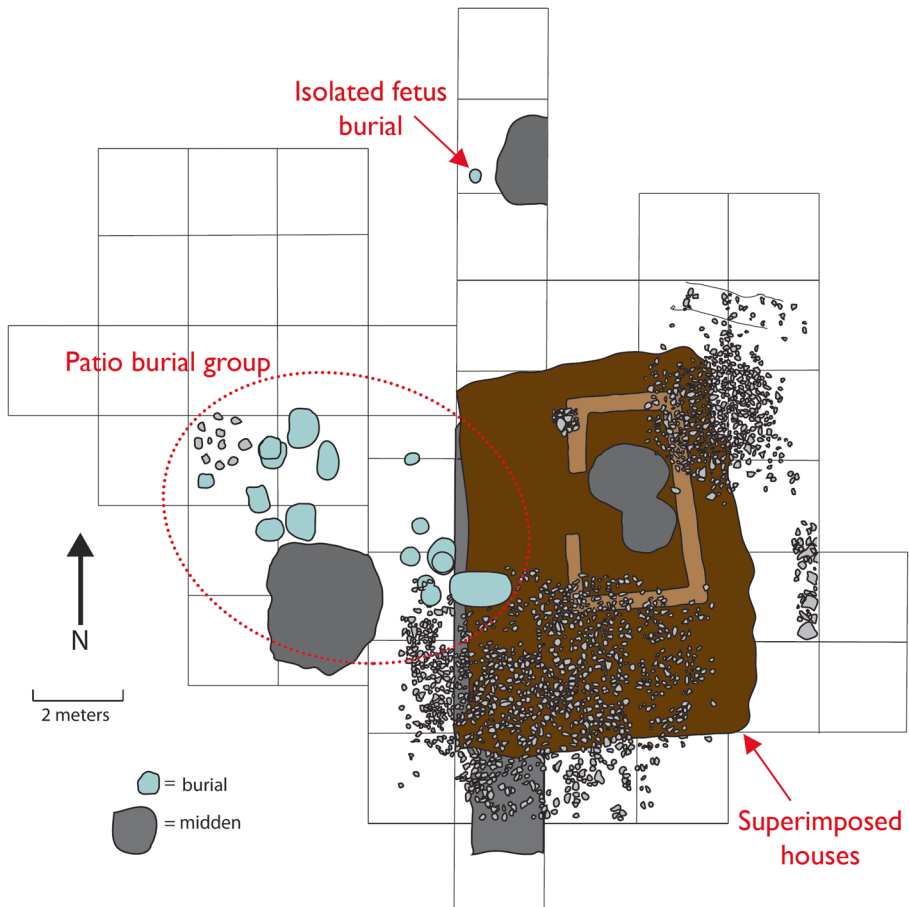


Fig. 1 Plan of superimposed houses, features, and burials excavated on Structure 122

long term. In excavation, filled grave cuts were not visible from the interface that would have been the ground level at that point in time, no durable grave markers were recovered, and grave markers are not known from ancient Mesoamerica, though it is possible that impermanent grave markers may have been used (see also King 2011). Thus, knowledge of the use of the burial area—and of the pattern of burial within, as we will see—seems to have been passed down over time. Altogether, these domestic remains reflect relatively continuous household occupation. Members of the household interred many deceased family members under the patio, where food was produced and consumed, where most household activities took place, and where people would be remembered in daily life.

However, not all family members were interred under the patio—there simply are not enough burials given the length of occupation. As Alasdair Whittle (2010, p. 43) suggests, in selective burial practices, the “intense commemoration of some go hand in hand with the forgetting of others.” Scholars who have examined such “forgetting work” have often followed Suzanne Küchler’s (1987, 1988, 2002) argument for forgetting as a generative process that in fact facilitates remembering; the *malanggan*

funerary effigies she describes were made and destroyed by peoples in Papua New Guinea in order to enable the forgetting of the deceased individual and facilitate the formation of a social collective. While such *social* processes are important, in the case study presented here, we highlight that the inclusion of some individuals in the stratigraphic history of the household implies the forgetting and silencing of others in a selective process that was also *instrumental* and may have had implications beyond the domestic realm.

This selective memorialization or remembering—and the associated selective forgetting or silencing—appears to have been the norm in much of ancient Mesoamerica. At sites with extensive household excavations, such as Teotihuacan in the state of Mexico, the number of individuals recovered does not meet our expectations from a demographic perspective, given occupational length. Martha Sempowski (1999) estimated that each domestic compound with continuous occupation over four centuries at Teotihuacan would have had 1600 residents, but the interments in the hundreds of excavated compounds totaled just 1647 (Manzanilla and Serrano 1999)—what we would expect for just one (Uruñuela and Plunket 2002, p. 30).

Similarly, at the site of Tetimpa in the state of Puebla, Gabriela Uruñuela and Patricia Plunket (2002, 2007) cited the stratified interment within Operation 19 of 19 individuals, far too few for its 300-year history, but comparable to the Structure 122 household at Xaltocan. Most of the burials recovered at Tetimpa were adult males between 25 and 40 years of age. Citing ethnographic (Goody 1962, pp. 143–155) and ethnohistoric (Durán 1971, pp. 121–122 and 267; de Sahagún, 1969, Vol. 1, pp. 293–297, Vol. II, pp. 180–181) sources reporting that the treatment and placement of corpses varied depending on an individual's age, sex, occupation, and cause of death, they argued that the men interred in houses at Tetimpa may have been family heads in what was a patrilineal, patrilocal lineage-based society.

Likewise, at the Maya site of Caracol in Belize, Diane and Arlen Chase (Chase 1991; Chase and Chase 2004, 2011) also recovered evidence of selective memorialization in residential burials. Precise chronological data from their excavations revealed 4–5-decade-long gaps in the interment of sequential burials, indicating that burials may have been timed in accordance with calendrical cycles, such as the passage of two k'atuns (40 years) or one calendar round (52 years).

As Uruñuela and Plunket (2002, p. 30) remarked, while we cannot know what happened to those individuals who were not interred in the house—those who we might label as “forgotten”—we can examine patterns in the characteristics of individuals who were included or, in social memory terms, “remembered.” It is difficult to understand this selective process in the Structure 122 household, as it does not correlate with simple gender or age divisions, nor do burials seem to correlate with calendrical cycles.

However, comparative research at Xaltocan suggests that not all Xaltocan households followed the same selective process (De Lucia and Overholtzer 2014; Overholtzer and De Lucia 2016). This research identified the emergence of two subpopulations at the site around 1240 C.E.—one in the site core, which represents the town's original inhabitants and their “legacy” descendants, and one on the periphery of the island, postulated to be an immigrant or “settler” group. Settler households such as Structure 122 interred select men, women, and children under the patio, while the site's earliest inhabitants and their legacy descendants buried only infants and children under the age of 4 under house floors (see also De Lucia 2010). Other aspects of household life—domestic architecture, spatial

patterning, and ceramic consumption practices—also differentiate these subpopulations, suggesting that the new settlers who arrived at the site had distinct traditions and customs and were poorer than Xaltocan’s existing residents (De Lucia and Overholtzer 2014; Overholtzer and De Lucia 2016). Moreover, ancient DNA research suggests that the new periphery settlers were genetically differentiated from households that dwelled in the site core, while genetic relationships were identified among the residents within each subpopulation (Mata-Míguez 2016).

It may be precisely their status as newcomers—as poorer families without social ties to the existing residents, and as people who had labored to create entirely new land—that encouraged the new settlers’ household interment of the dead to stratigraphically inscribe their history there. Such a burial practice may have allowed them to tangibly link the family to the land and stake a claim to property. Consequently, ties to the household’s predecessors, possibly perceived as ancestors, seem to have been a more significant component of how these settlers at the edge of the island wrote their household histories. These households may have more actively engaged in writing histories based on genealogies, or in Hendon’s (2010, p. 18) words, on “long-term being in one place,” to support the claim that their forebears were present and thus that they belonged there. This fits within sociologist Eviatar Zerubavel’s (2012, p. 8) framework of how mnemonic communities often attempt to “claim historical priority” and political or land rights by “exaggerating” their antiquity. As he explained (2012, p. 62), generally people only work to put forward a genealogical claim or pedigree when they can gain something from it. In this case, the Xaltocan newcomers dwelling on Structure 122 may have had more to gain, given their recent arrival and somewhat precarious social and economic positions in the town.

Here, we consider the Structure 122 burials as genealogical episodes forming one history of long occupation, inscribed as social memories in the ground, that seem to present the illusion of mnemonic continuity; this history of occupation may have contributed to political negotiations of power and the staking of a claim to a place—precisely the earth and household space that humans had created. To reconstruct these inscribed genealogical histories as they are preserved in part today, we combined several lines of evidence, including burial data from excavations; osteological determination of age, sex, and pathologies; Bayesian modeling of AMS radiocarbon dating of human remains; and ancient DNA analysis of human remains.

Burial Data

Sixteen of the 17 individuals had been buried within a small 5×7 -m area interpreted as a patio based on the presence of informal hearths and an adobe floor in at least one phase (Table 1). Notably, the exception to the pattern of burial in this very small area was a fetus who had been interred without any durable grave goods outside the patio to the north of the house (Fig. 1). This burial was also exceptional in being the only fetus recovered and the only individual interred in an extended position. Adults and children were most often interred in fetal position on either side. Members of this household often placed neonates and infants in seated position within a used cooking jar that was sealed by an upturned bowl or dish; all four infants buried before 1350 C.E. were interred in this manner. Household members buried their dead at right angles, in north-south or east-west orientations, a pattern that was also noted in Formative period

Table 1 Structure 122 burial data

| Burial number | Excavation context | Burial position and orientation | Grave goods | Age at death | Osteological sex | Cranial or dental modification |
|---------------|--------------------|---------------------------------|--|---------------------|------------------|---|
| 1 | Este 14 burial 7 | Seated inside pot | Large cooking jar, comal lid, two black and white on red bowls and one Az II black-on-orange bowl beside jar | 9 months to 1 year | N/A | N/A |
| 2 | Este 14 burial 3 | Seated inside pot | Cooking jar, Aztec II black-on-orange dish as lid | birth to 3 months | N/A | N/A |
| 3 | Este 14 burial 5 | Seated inside pot | Cooking jar, black and white on red bowl as lid | 10 months to 1 year | N/A | N/A |
| 4 | Este 14 burial 4 | Seated inside pot | Cooking jar, black and white on red bowl as lid, small undecorated orange wear bowl beside jar | ~7 months | N/A | N/A |
| 5 | Este 7 burial 1 | Flexed, N-S | Shell pendant | ~5 years | N/A | No |
| 6 | Este 8 burial 2 | Flexed, N-S | None | 50+ | F | No |
| 7 | Este 8 burial 3 | Flexed, E-W | None | 30-40 | F | No |
| 8 | Este 8 burial 1 | N/A (disturbed) | Possible plain plate | 30-40 | M | No |
| 9 | Este 8 burial 4 | Seated inside upturned pot | Cooking jar | 1-3 months | N/A | N/A |
| 10 | Este 8 burial 5 | Seated, facing south | 10 spindle whorls | 30-40 | M | Dental modification |
| 11 | Este 10 burial 2 | Flexed, E-W | None | 50+ | F | No |
| 12 | Este 10 burial 1 | Flexed, N-S | Quartz lip plug | 20-35 | M | Flattening of posterior cranial vault near lambda |
| 13 | Este 14 burial 1 | Seated, facing north | None | 8-9 years | N/A | Parallelo-frontooccipital |
| 14 | Este 6 burial 1 | Flexed, E-W | None | ~14 years | N/A | No |
| 15 | Este 14 burial 6 | Flexed, N-S | Black on red dish | 30-40 | F | No |
| 16 | Este 14 burial 2 | Flexed, E-W | None | birth to 1 month | N/A | N/A |
| 17 | Este 5 burial 1 | Extended, E-W | None | 7-months gestation | N/A | N/A |



Fig. 2 Structure 122 child and adult burial grave goods. **a** Shell pendant. **b** Quartz lip plug. **c** Cotton spindle whorls

Tlatilco (Joyce 2001). There is little to no patterning in burial placement and orientation with regard to gender or age, with the exception of the preference for a seated position for infants, a position that may have simply facilitated placement of the body within a cooking jar. The two direct interments in which individuals were placed in a seated position are female, but the sample is too small to tell whether the pattern is significant.

Many household members were interred without any durable grave offerings, though grave goods did include a shell pendant (Fig. 2a), a quartz lip plug (Fig. 2b), a plain plate, and spindle whorls (Fig. 2c). Lip plugs and spindle whorls were placed with men and women, respectively, reflecting common gendered associations of

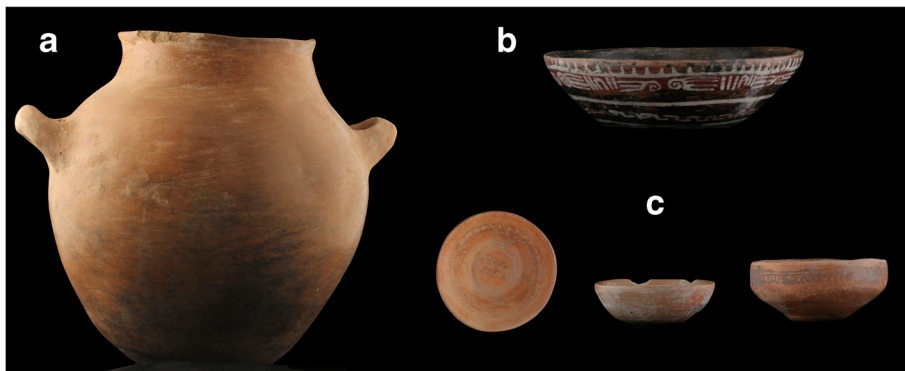


Fig. 3 Structure 122 infant grave goods. **a** Cooking jar serving as interment vessel. **b** Decorated bowl serving as a lid. **c** Small bowls and dishes placed alongside the jar

jewelry and production tools in ancient Mesoamerica. Infants under 1 year of age, especially those interred between 1240 and 1350 C.E., were given the most grave goods, which often included the cooking jar in which they were buried (Fig. 3a), the decorated bowl or dish serving as a lid (Fig. 3b), and sometimes one to three small bowls placed alongside or inside the jar (Fig. 3c). Like the adult burials discussed previously, this pattern contrasts sharply with burial customs of the site's founders and their "legacy" descendants, who interred their infants under 1 year without grave goods and who never buried them inside cooking jars (De Lucia 2010).

Osteological Analyses

Standard osteological analyses (Bass 2005; Buikstra and Ubelaker 1994) provided basic demographic and pathological information (Table 1). Osteological identification of sex, confirmed through ancient DNA analyses, and age at death indicated that the remains recovered are generally representative of a population, suggesting that there were no simple sex- or age-based criteria for burial within household space. No individuals exhibited indicators of chronic stress, such as cribra orbitalia, Harris lines, or dental hypoplasias, though dietary pathologies in the form of dental caries, dental loss, and alveolar reabsorption were noted. Stature estimates from long bone measurements indicate that women and men reached average heights of 156 and 161 cm, respectively, comparable to other ancient central Mexican populations (Márquez Morfín *et al.* 2002). These data suggest that the Xaltocan Structure 122 household members were relatively healthy, though their skeletal remains belied the hard physical labor they undertook during their lifetimes. All adults demonstrated evidence of arthritis and osteophytes, most often in the vertebra, tarsals, and knees. Several individuals exhibited vertebral ankylosis, and one individual (burial 10) demonstrated the complete fusion of two thoracic vertebra and severe kyphosis, a condition that would have been painful, debilitating, and movement inhibiting (Wesp 2015). Finally, the crania and teeth of several individuals had been modified for beautification purposes (see Table 1).

Bayesian Statistical Analysis of Radiometric Dates

As discussed earlier, precise chronologies can be crucial for archaeological interpretations of the duration and timing of remembered and forgotten events, such as the death and interment of specific family members. To better understand the chronology of the Structure 122 funerary practices, Overholtzer (2012, 2015) submitted samples of human bone and teeth from all 16 primary burials interred under the patio to the Accelerator Mass Spectrometry Laboratory at the University of Arizona. Nine of the radiometric dates obtained were included in Bayesian statistical modeling of Structure 122 household occupation (Overholtzer 2015), resulting in more precise estimates for the death of those individuals. The remainder—analyzed in 2015—were added to the Bayesian model, which was re-run under the same conditions for the purposes of this paper (Table 2).

The Bayesian approach to radiocarbon dating (Overholtzer 2012, Table 4.5, 2015) combines archaeological knowledge on the nature of the sample, archaeological context, and stratigraphy, called "prior information" in Bayesian terminology, with explicit,

Table 2 Structure 122 chronological data from Bayesian statistical model of radiometric determinations

| Burial number | Excavation context | AMS sample number | AMS sample type and correction | Unmodeled C14 date ranges (CE) | | Modeled and corrected* to year of death (CE) | | Estimate of year of birth | |
|---------------|--------------------|-------------------|---------------------------------------|--------------------------------|------|--|------|---------------------------|-----------|
| | | | | From | To | From | To | | % |
| 1 | Este 14 burial 7 | AA91370 | Tibia, 0 | 1290 | 1400 | 1300 | 1350 | 95 | 1299–1349 |
| 2 | Este 14 burial 3 | AA91367 | Tibia, 0 | 1300 | 1370 | 1310 | 1350 | 95 | 1310–1350 |
| 3 | Este 14 burial 5 | AA106139 | Ulna, 0 | 1380 | 1430 | 1280 | 1350 | 40 | 1289–1349 |
| 4 | Este 14 burial 4 | AA106140 | Ulna, 0 | 1280 | 1400 | 1290 | 1350 | 95 | 1289–1349 |
| 5 | Este 7 burial 1 | AA91373 | Femur, 0 | 1290 | 1410 | 1300 | 1350 | 95 | 1299–1349 |
| 6 | Este 8 burial 2 | AA106135 | Mandibular first molar, +47 years | 1330 | 1340 | 1400 | 1450 | 7 | 1395–1445 |
| 7 | Este 8 burial 3 | AA106138 | Mandibular third molar, +22 years | 1390 | 1450 | 1400 | 1470 | 89 | 1350–1420 |
| 8 | Este 8 burial 1 | AA106137 | Mandibular second premolar, +28 years | 1290 | 1420 | 1320 | 1490 | 95 | 1375–1455 |
| 9 | Este 8 burial 4 | AA91369 | Tibia, 0 | 1390 | 1480 | 1410 | 1490 | 84 | 1355–1425 |
| 10 | Este 8 burial 5 | AA91374 | Femur, +7 years | 1300 | 1430 | 1390 | 1460 | 95 | 1390–1440 |
| 11 | Este 10 burial 2 | AA91376 | Femur, +7 years | 1310 | 1360 | 1390 | 1440 | 40 | 1365–1415 |
| 12 | Este 10 burial 1 | AA106136 | Mandibular third molar, +14 years | 1390 | 1440 | 1400 | 1450 | 33 | 1360–1400 |

Table 2 (continued)

| Burial number | Excavation context | AMS sample number | AMS sample type and correction | Unmodeled C14 date ranges (CE) | | Modeled and corrected* to year of death (CE) | | Estimate of year of birth | |
|---------------|--------------------|-------------------|--------------------------------|--------------------------------|------|--|------|---------------------------|-----------|
| | | | | From | To | From | To | | % |
| 13 | Este 14 burial 1 | AA106141 | Rib, 0 | 1320 | 1350 | 1390 | 1470 | 95 | 1381–1461 |
| 14 | Este 6 burial 1 | AA91372 | Femur, 0 | 1390 | 1480 | 1400 | 1450 | 95 | 1386–1436 |
| 15 | Este 14 burial 6 | AA91371 | Femur, +7 years | 1420 | 1520 | 1440 | 1520 | 95 | 1402–1482 |
| 16 | Este 14 burial 2 | AA91366 | Tibia, 0 | 1580 | 1580 | | | 0 | |
| | | | | 1590 | 1620 | | | 10 | |
| | | | | 1420 | 1520 | 1430 | 1520 | 95 | 1430–1520 |
| | | | | 1560 | 1630 | | | 24 | |
| 17 | Este 5 burial 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

*Corrections to year of death were made to adult bone and teeth samples based on the research of Hodgins (2009), who found that bone lipid radiocarbon levels lag atmospheric carbon levels by 6.8 years due to bone remodeling during life, while tooth enamel radiocarbon levels approximate atmospheric levels at the time of the tooth's formation

probabilistic modeling of date estimates (Buck *et al.* 1996; Bronk Ramsey 2009). For example, archaeologists can use the information that a set of samples comes from a stratigraphic sequence—sample A is older than sample B, which is older than sample C—to create more precise probabilistic date ranges for each date. This combination of archaeological knowledge and probabilistic modeling results in better estimates for dates and finer chronologies.

After Bayesian modeling, the average range at 95% certainty for the death of these individuals was ± 30 years, a significant improvement over the original calibrated error ranges. The resulting dates indicated that household members were buried in the patio between approximately 1290 and 1520 C.E., spanning the period of Xaltocan's independence, its conquest by neighboring Cuahtitlan and subsequent rule by Tepanecs, and its incorporation into the newly formed Aztec Triple Alliance.

To consider contemporaneity and understand the lifetimes of individuals interred in Structure 122, the age at death was subtracted from the approximate year of death to arrive at an approximate year of birth (following Sayer 2010). The median of the age at death determined by osteological analyses and the 2-sigma confidence interval from Bayesian statistical modeling of radiocarbon determinations were used in those calculations. The resulting estimates are provided in Table 2.

Ancient DNA Analysis

Bioarchaeological analyses have long played a critical role in mortuary studies of human burials. Analyses of non-metric traits, for example, can shed light on patterns of biological relatedness between individuals, helping to clarify the social relationships that may have existed between individuals interred in close proximity, and isotope analyses can indicate migration patterns, contributing important insights into how and why the dead were treated, remembered, and commemorated as they were (Porter and Boutin 2014). Ancient DNA (aDNA) analysis—the tool we use in this case study—also provides the potential to reassemble more detailed household and family histories and memories. Over the last two decades, geneticists have begun to look at the aDNA of individuals in association with their burial locations. Some studies have found no link between burial location and biological relatedness (Bolnick and Smith 2007; Reynolds *et al.* 2015; Stone and Stoneking 1993), while others have. Wolfgang Haak *et al.* (2008), for example, found that the placement and orientation of individuals within multiple burials indexed social ties and biological relationships in life. Within household contexts, aDNA studies also have the potential to elucidate non-kin or fictive kin relationships, which may be of equal importance to those of biological origin.

In order to examine familial relationships and identify the genetic sex of each individual, human teeth and bone samples from all 17 primary burials were sent to the Bolnick Ancient DNA Laboratory at the University of Texas (UT) at Austin. After DNA was extracted from each sample, genetic analyses included sequencing of the first hypervariable region of the mitochondrial DNA (mtDNA), analysis of 23 *Y*-chromosome short tandem repeats (STRs), genotyping of 15 autosomal STRs, and analysis of a length dimorphism in the amelogenin gene on the *X* and *Y* chromosomes (Mata-Míguez *et al.* 2012; Mata-Míguez 2016). These methods allowed Mata-Míguez *et al.* (2012)

and Mata-Míguez (2016) to identify maternal lineages, paternal affiliation, biparental genetic kinship, and genetic sex, respectively. Maternal and paternal lineages were characterized by both haplotype—the specific DNA sequence or set of linked genetic variants exhibited—and haplogroup—a group of similar, closely related haplotypes.

Mitochondrial DNA (indicating maternal lineages) has traditionally been the focus of most aDNA studies because it is more numerous within cells and is thus more likely to be successfully amplified in highly degraded ancient samples (Hofreiter *et al.* 2001; O'Rourke *et al.* 2000). While amplification of nuclear DNA is often less successful than that of mtDNA, nuclear genetic analyses are necessary to characterize close parentage relationships genetically and have recently shown great promise for the analysis of kinship structures (Dissing *et al.* 2007; Gerstenberger *et al.* 1999; Haak *et al.* 2008; Keyser-Tracqui *et al.* 2003; Schultes *et al.* 2000).

Standard laboratory procedures at UT Austin were followed (see Bolnick *et al.* 2012), and in the interest of space, we refer readers to two other papers for further discussion of the laboratory and statistical methods used (Mata-Míguez *et al.* 2012; Mata-Míguez 2016). Ancient DNA preservation was extremely good in the remains of Structure 122 residents, likely due to the young age of the samples (<800 years old), their excellent physical condition, environmental conditions that favored the preservation of DNA, and the analysis of freshly excavated samples that had been directly transferred from the excavation site to a -80°C freezer in the aDNA lab (Burger *et al.* 1999; Pruvost *et al.* 2007).

Mitochondrial DNA was successfully extracted and amplified for all 17 individuals (100%), a success rate even higher than the excellent results reported for other Postclassic central Mexican populations (Mata-Míguez *et al.* 2012). Of the 17, 10 (65%) belonged to haplogroup A, 4 (24%) belonged to haplogroup B, and 3 (18%) belonged to haplogroup D. These haplogroup frequencies are consistent with those reported for Aztec samples from Tlatelolco (De La Cruz *et al.* 2008; Kemp *et al.* 2005). The haplogroup and haplotype data for each individual are listed in Table 3 (based on Mata-Míguez 2016). Because haplotypes represent greater mitochondrial similarity and narrower maternal lineages, they help us reconstruct close matrilineal relationships between individuals.

Genetic sex was also identified for all 17 individuals, enabling the confirmation and correction of sex determinations based on osteological analysis of adults, as well as the determination of sex for pre-pubescent individuals (Mata-Míguez 2016). Of the 17 individuals, 7 were male and 10 were female (Table 3; Mata-Míguez 2016). In only one case did osteological and genetic inferences of sex differ; an older individual with somewhat intermediate traits initially determined by osteological analysis to be a possible male was identified as genetically female.

Predictably, the Y-chromosome and autosomal STR analyses showed that nuclear DNA was more degraded than mitochondrial DNA in many samples, but allele sizes were still determined for 11–23 Y-STRs in 6 of the 7 male individuals (Table 3; Mata-Míguez 2016). Autosomal STR profiles containing 5 or more autosomal STRs were also obtained for 15 of the 17 individuals (Mata-Míguez 2016). For 9 of the 17 individuals, genotypes were validated for a remarkable 14 or 15 autosomal STR loci. These autosomal profiles are sufficient for the determination of specific close kinship relations with other individuals in many cases.

Table 3 Structure 122 ancient DNA data summary

| Burial number | Excavation context | Genetic sex ^a | Mitochondrial haplogroup (in parentheses) and haplotype ^b | Y haplogroup / haplotype | Autosomal kinship result summary |
|---------------|--------------------|--------------------------|--|-----------------------------|--|
| 1 | Este 14 burial 7 | F | (B2) 182C, 183C, 189C, 217C, 295T | N/A | Unrelated to all |
| 2 | Este 14 burial 3 | F | (D1) 223T, 292T, 325C, 362C | N/A | N/A |
| 3 | Este 14 burial 5 | F | (D1) 223T, 292T, 325C, 362C | N/A | N/A |
| 4 | Este 14 burial 4 | M | (D1) 223T, 292T, 325C, 362C | Q-L54 (xM3) | N/A |
| 5 | Este 7 burial 1 | M | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | Q-M3 / 1 | Full sibling (brother) to 6 |
| 6 | Este 8 burial 2 | F | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | N/A | Full sibling (sister) to 5 and mother to 9, 10, and 11 |
| 7 | Este 8 burial 3 | F | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | N/A | N/A |
| 8 | Este 8 burial 1 | M | (A2) 111T, 183C, 189C, 223T, 290T, 291T, 319A, 362C | Q-M3 / 2 | Father to 9, 10, and 11 |
| 9 | Este 8 burial 4 | M | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | Q-M3 / 2 | Full sibling (brother) to 10 and 11, son of 6 and 8 |
| 10 | Este 8 burial 5 | F | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | N/A | Full sibling (sister) to 9 and 11, daughter of 6 and 8 |
| 11 | Este 10 burial 2 | F | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | N/A | Full sibling (sister) to 9 and 10, daughter of 6 and 8 |
| 12 | Este 10 burial 1 | M | (A2) 172C, 223T, 290T, 319A, 362C | Q-M3 / 3 | Unrelated to all |
| 13 | Este 14 burial 1 | F | (B2) 183C, 189C, 217C, 258C, 260.1T3, (B2) 183C, 189C, 217C, 258C, 260.1Tc | N/A | Unrelated to all |
| 14 | Este 6 burial 1 | M | (B2) 182C, 183C, 189C, 217C, 357C | Q-M3 / 4 | Son of 15 |
| 15 | Este 14 burial 6 | F | (B2) 182C, 183C, 189C, 217C, 357C | N/A | Mother of 14 |
| 16 | Este 14 burial 2 | F | (A2) 111T, 192T, 223T, 290T, 319A, 362C | N/A | Unrelated to all |
| 17 | Este 5 burial 1 | M | (A2) 93C, 111T, 136C, 223T, 290T, 311C, 319A, 362C | Q-M3 / 5 | N/A |

Data from Overholtzer (2012), Mata-Miguel *et al.* (2012) and Mata-Miguel (2016)

^aBased on amelogenin analysis

^bSequences from nucleotide positions (np) 16,011–16,382. Mutations specified by the last three digits (*e.g.*, 111 refers to np 16,111)

^cInsertion between nucleotide positions 16,260 and 16,261

As discussed elsewhere (Mata-Míguez 2016), genetic kinship relationships between individuals were estimated using two statistical programs, Cervus (Kalinowski *et al.* 2007) and Kingroup (Goodnight and Queller 1999; Konovalov *et al.* 2004). Cervus assesses the likelihood of a parent-offspring relationship between two individuals whose DNA has been analyzed, while Kingroup analyzes allele sharing between two individuals to estimate the likelihood of a specific genetic relationship (*e.g.*, how likely two individuals are to be parent and offspring versus unrelated or how likely they are to be full siblings versus unrelated). Many, but not all, autosomal genetic profiles obtained from individuals buried in Structure 122 allowed parent/offspring and full sibling relationships to be evaluated. While Kingroup can also compare the statistical likelihood of other relationships (*e.g.*, full siblings versus half siblings and full siblings versus first cousins), those relationships are associated with more similar levels of allele sharing, and it is thus more difficult to determine which relationship is statistically more likely. In this sample, such relationships could not be identified with statistical significance based on the available STR data, but ongoing genome-wide single-nucleotide polymorphism (SNP) analyses should make it possible to distinguish among such possibilities. In this paper, we include only the final assessments of kinship based on the Kingroup and Cervus results (Table 3), and we refer the reader to Mata-Míguez 2016 for more information.

Synthesis

In what follows, we use the data just discussed to reconstruct the inscribed genealogical history on the Structure 122 mound—which, as we will see, presents groups of related individuals as successive generations via the placement of burials within the patio. Moreover, we suggest that it may have been structurally and functionally similar to the central Mexican pictorial genealogical histories recorded by elites in the colonial period. These family genealogies often served as tools for recalling order, descent, and sometimes royal succession and were presented in court as evidence in litigation over the inheritance of land and houses (Megged 2010, pp. 40–47) (Fig. 4). Of course, such use was not unique to the central Mexican colonial legal context. Halfway around the world, oral family genealogies and memories of births, deaths, and other family events were told by noble women (Van Houts 1999) and ordinary men (Bedell 1999) in medieval Europe in order to create histories used in legal proceedings.

As Dana Leibsohn (1994, p. 161) argued, central Mexican cartographic histories “privilege[d] certain memories,” “structured historical memory,” and “configured identities that were at once corporate in focus and factional in perspective.” Similarly, as we will see, by building their homes in the same place and in the same way, and by burying their dead in the same, small patio area for more than 150 years, families living on Structure 122 inscribed a genealogical history. We might frame this genealogical history as revisionist, as it seems to have intentionally forgotten major genetic discontinuities and presented the illusion of social continuity across the early fourteenth to late fifteenth centuries, even as states and empires rose and fell. In a world of change and chaos, this revisionist story may have been instrumentally used in negotiations over rights to the land.

Alternatively, we could consider this genealogical history as normal history making, since all histories are selective in what they choose to remember; we might then frame it

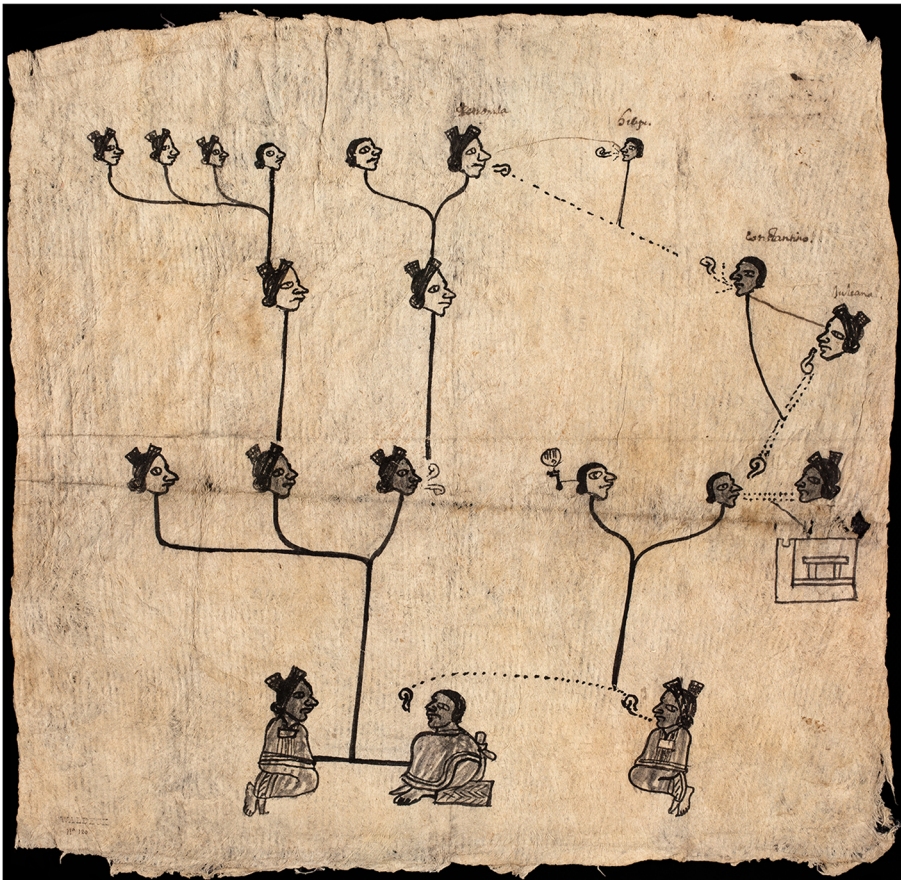


Fig. 4 Pictorial genealogy, Genealogy of Pedronilla Francisca Tenuch and her mother in law, Juliana Tlaco, 1575, Newberry Library. Vault oversize Ayer MS 1902. Courtesy of the Newberry Library

as one of the conventional mnemonic strategies and schematic formats we all use to build coherent historical narratives out of disparate and non-contiguous past events, as discussed by Zerubavel (2012). The various historical “bridges” we construct in order to create the illusion of mnemonic continuity, according to Zerubavel (2012, pp. 7–8), include “genealogical structures of ancestry and descent,” such as dynasties, family trees, and pedigrees. The illusion of continuity that is a crucial element of the genealogical history inscribed in the patio of Structure 122 makes it fit remarkably well within Zerubavel’s comparative framework.

We contextualize the household genealogy with one individual likely excluded from it or at least marginalized within it: the solitary burial interred outside of the patio group (burial #17) sometime during the *Tlalli* phase of 1350–1521 C.E. Ancient DNA analyses revealed that this fetus of approximately 7-months gestation buried to the north of the house was male, though his Y-chromosome haplotype shows that he was not the son of any of the adult males buried in Structure 122. However, he did exhibit the same maternally inherited mtDNA haplotype as six other children and women interred in the patio (Table 3). It is possible that he was the stillborn baby of one of

these women. Kinship analyses failed to reach statistical significance for a mother-offspring relationship with any of these individuals due to poorer genetic preservation in the skeletal sample from the fetus. Nonetheless, we were able to exclude burials 6 and 7 from being candidate mothers because they do not share an allele with the fetus at all genotyped loci. Burials 10 and 11, however, do share an allele with the fetus at all genotyped loci, so the available data are compatible with one of them being his mother. These genetic and burial patterns suggest that kinship alone was not sufficient to warrant inclusion in the household genealogy inscribed through residential burial under the patio. This individual was thus forgotten within the formal household genealogy, though his burial on the house mound suggests that he may have been remembered for specific individuals, such as burial 10 or 11.

Given Aztec concepts of the human body and soul (Furst 1995; López Austin 1984), it is possible that family members did not yet consider the fetus to be fully human and therefore worthy of a place in a genealogy. The Aztecs believed the gods implanted the *tonalli*, the animating force or one aspect of the soul in Nahuatl, in the body of the fetus in a process that was evident to family members as the infant dropping in the womb (Furst 1995, pp. 64–66). In first pregnancies, this descent or lightening, as it is called, often happens about 2 weeks before birth, but in subsequent pregnancies can occur just before birth. Since the fetus was born at approximately 7-months gestation, it had likely not yet dropped, and it may not have had a *tonalli* to curate under the patio and pass on to the next infant. However, the fact that his tiny body was still interred suggests the possibility of personal ties or emotion surrounding the loss. This burial evokes the importance of grief, emotion, and personal bereavement (Tarlow 1997), but our focus here is predominantly on power and politics as they relate to social memory. This burial also points to the potential of the methods presented here to further examine the intersectionality of the life course and social memory (e.g., Gilchrist 2012), though due to space constraints, unfortunately, this topic is largely outside the scope of this paper.

Employing traditional, widely used methods, archaeologists generally separate burials into groups based on stratigraphy and ceramic chronologies. Individual burials are rarely all directly radiocarbon dated, and ancient DNA analyses have yet to be widely incorporated into household archaeology, perhaps because of cost and a lack of familiarity with these newer techniques. In the case of the Structure 122 burials, traditional analysis would separate them into a group of earlier interments dating to the Hai phase (1240–1350 C.E.), when Aztec II black-on-orange pottery was used, and a group of later burials dating to the Tlalli phase (1350–1521 C.E.), when Aztec III black-on-orange pottery was used. In doing so, the Structure 122 patio appears as an undifferentiated group of individual burials, with Hai phase interments in the central-eastern part, and later, Tlalli phase burials spread across the entire zone. It would appear, based on widely used methods, that the household began burying their deceased family members in the patio, and later generations simply continued interring their dead in the same space, adding to the inscribed family history on the mound.

However, spatial patterning of the additional data just presented—dates of birth and death, age, sex, and ancient DNA—reveals interesting patterns (Fig. 5). It is the combination of burial locations, precise chronologies, and ancient DNA data that allows us to appreciate the clustering of individuals into groups that we suggest are meaningful. These data reveal four clusters of individuals who lived and died at around

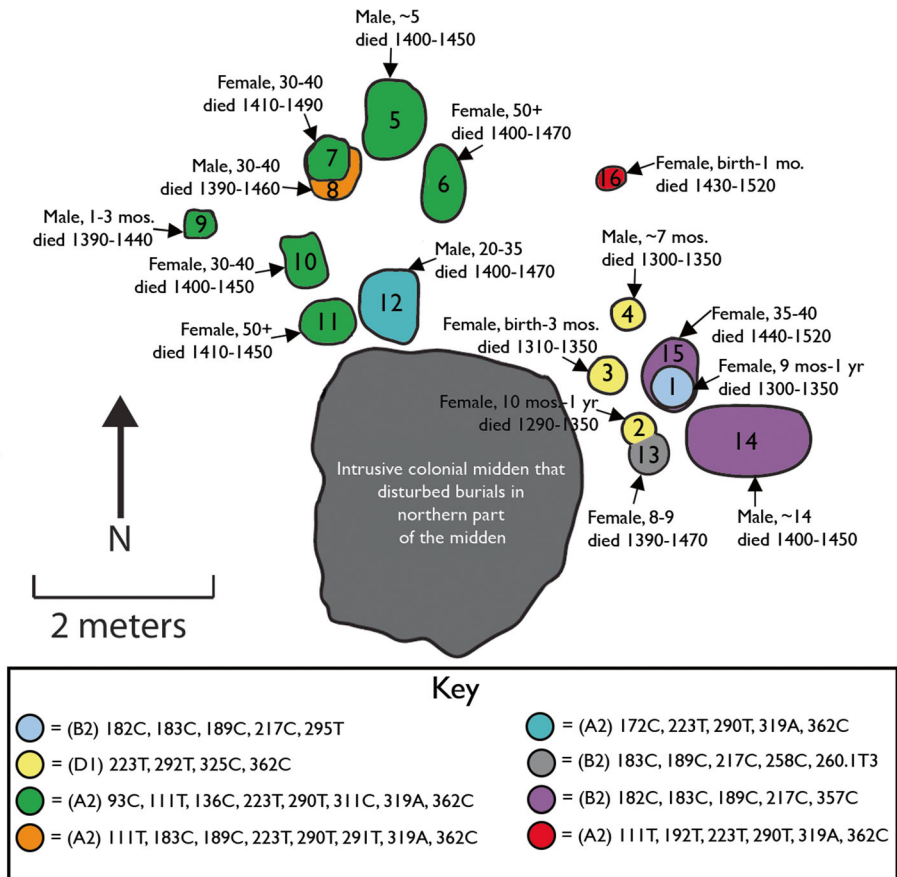


Fig. 5 Map of mitochondrial haplotypes of Structure 122 burials

the same time, many of whom were genetically related (Fig. 6). These four clusters—which we interpret here as genealogical episodes in a history of household occupation, a terrestrially inscribed version of genealogical history like those pictorially depicted in colonial documents—seem to follow a counterclockwise circular movement. By the middle to late fifteenth century, a full circle had been reached, and burials (numbers 13 and 15) began to disturb those placed a century earlier. We consider each of the four genealogical episodes to be somewhat akin to the depiction of a single generation in a pictorial genealogy, where individuals were placed in a row with lines connecting them (Fig. 4). Of course, these histories are not the same—they took very different forms, and were transmitted using very different means (*i.e.*, written versus largely oral transmission)—but they may have served similar purposes. Furthermore, like documentary records in Mesoamerica, inscribed household narratives would have had material mnemonics in the form of buried bones but required significant background knowledge to understand.

We move now to reconstruct the inscribed household genealogical history of Structure 122. We begin with the four burials interred in the early to middle fourteenth century (burials 1–4). Of these, three exhibit the same maternally inherited

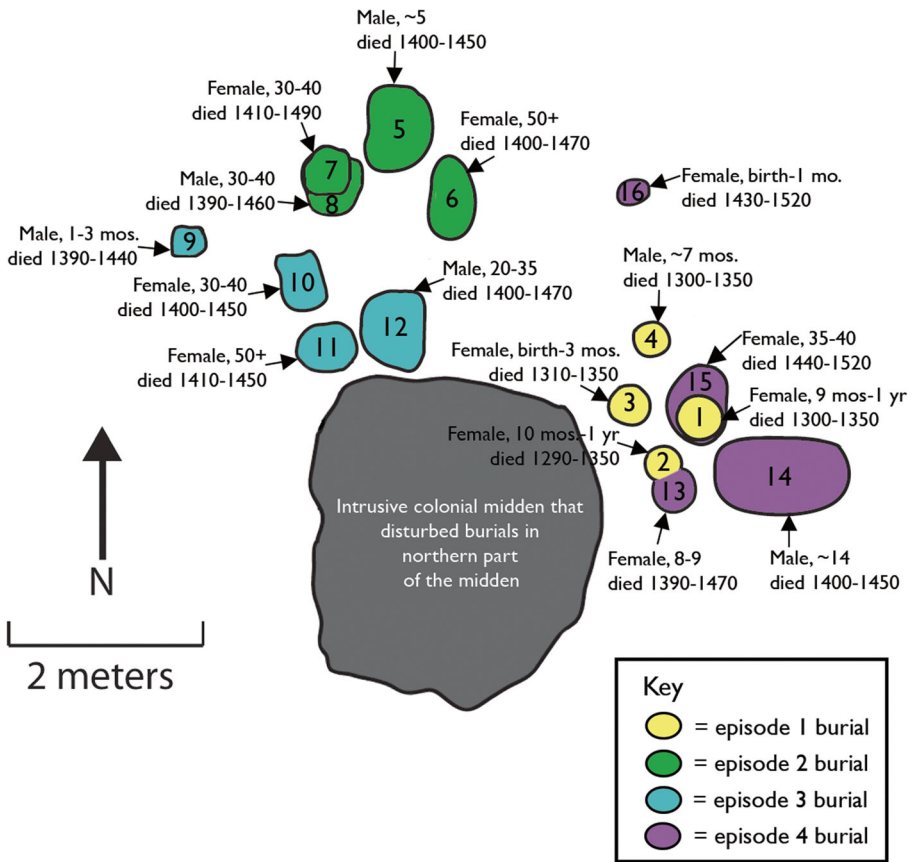


Fig. 6 Map of genealogical episodes in the Structure 122 inscribed history. Episode 1 includes burials 1–4, episode 2 includes burials 5–8, episode 3 includes burials 9–12, and episode 4 tentatively includes burials 13–16

mitochondrial haplotype (Fig. 5). While the autosomal STRs were unfortunately poorly preserved in these individuals, and thus we cannot calculate the likelihood that they are siblings, a sibling relationship is plausible given the proximity of their burials, the overlapping radiocarbon dates, their ages at death, and their close matrilineal relationship (Table 2). Alternatively, an aunt/uncle-niece/nephew relationship is also possible, though statistically less likely given their entirely overlapping radiocarbon dates. Though their parents were not interred here, we can infer their presence through the burial of these three related infants.

Thus, ancient DNA analysis suggests that on at least three occasions, one matriline of settlers buried their children in their household patio on the edge of the island. These infants lived briefly and died during the height of the Otomí state centered at Xaltocan, during a period of prosperity, growth, and increased trade (Nichols *et al.* 2002), but also an era of uncertainty in which their town was at war with neighboring Cuauhtitlan. A maternally unrelated baby girl (burial 4) was buried next to them (although we note that our current data do not allow us to determine if she was paternally related). This suggests either that kinship may have been defined along both maternal and paternal lines or that one’s place in the household genealogy did not solely depend upon

biological relatedness to the other inhabitants (Table 3). This group of burials forms the first genealogical episode in a household history of long occupation that may have laid claim to this place (Fig. 6).

The next genealogical episode was inscribed to the northwest, following a counterclockwise movement (Fig. 6). At the beginning of the fifteenth century, two adult women (burials 6 and 7) and a young boy (burial 5)—all of the same mitochondrial haplotype and thus maternally related—were interred near an adult man (burial 8) who was maternally unrelated to them (Fig. 5 and Table 3). This genealogical episode likely dates to the period when Xaltocan was described in historical documents as vacant, following conquest by the neighboring Cuauhtitlan, and thus, this is one of the families whose histories were silenced by elites in the pre-Hispanic and/or colonial periods (Overholtzer 2013). Analysis of *Y* chromosomes indicates that the adult male (burial 8, a 30–40-year-old man) and the young boy (burial 5, approximately 5 years old) exhibit different haplotypes and were thus also unrelated paternally. Autosomal DNA further reveals burials 5 and 6 to be full siblings (Table 3). Although burial 7 (a 30–40-year-old woman) shares the same specific mitochondrial haplotype and many autosomal alleles as burial 6 (a woman over 50 years old) and 5 (individual 6's 5-year-old brother), analysis of a full sibling relationship with them failed to reach statistical significance. It is possible—though currently not possible to verify with existing data—that she was their full or half sister, aunt, or maternal cousin. The relationship of the adult man (burial 8) to this group only became clear upon analyzing the next genealogical episode, again positioned following a counterclockwise movement.

Four individuals also interred during the first half of the fifteenth century form the next cluster (Fig. 6); these individuals may have been interred during Xaltocan's supposedly vacant period (statistically more likely) or perhaps during the beginning of Aztec imperial rule (statistically less likely). Again, two adult women (burials 10 and 11) and a juvenile male (burial 9) share a mitochondrial haplotype, and it was the same mitochondrial haplotype as the women and child of the previous genealogical episode (Fig. 5 and Table 3). Again, the adult male of the group (burial 12) exhibits a different, unique mitochondrial haplotype (Fig. 5 and Table 3). *Y*-chromosome analysis indicates that the baby boy interred in this cluster (burial 9, 1–3 months old) has a distinct haplotype from and was thus paternally unrelated to the adult male (burial 12, a 20–35-year-old man), but this child shares the same *Y*-chromosome haplotype as the adult male of the previous cluster (burial 8), buried not far away (Table 3). Finally, autosomal STR markers further clarify these results, indicating that the baby boy (burial 9) and two adult women (burial 10, a 30–40-year-old woman, and burial 11, a woman of more than 50 years) were full siblings and were the children of two adults in the previous genealogical episode (burial 6, the 50+ year old woman, and burial 8, the 30–40-year-old man) (Figs. 6 and 7 and Table 3). The third cluster thus represents the next generation of this household. As we mentioned earlier, it is possible—though not currently possible to determine with statistical significance—that the male fetus buried outside the patio area (burial 17) was the son of either burial 10 or burial 11. If so, it would confirm that one of those adult women inherited and lived in the house. Further genetic analysis indicates that the adult male of this generation (burial 12) was unrelated to all, both paternally and maternally (Table 3); that is, he was not born into this family. It is possible—and we think, likely—that he married into the household and may have been the husband of one of the adult women of this generation.

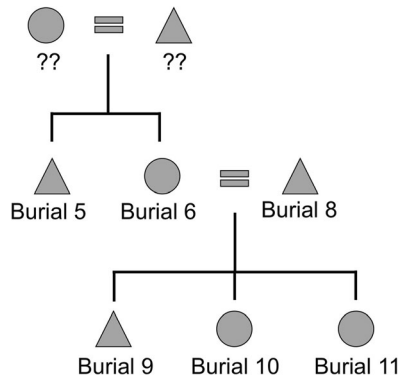


Fig. 7 Kinship chart of individuals from the second and third genealogical episodes

The spatial differentiation between genealogical episodes 2 and 3 is striking, because it was not visible without ancient DNA evidence (the radiocarbon dates of the two episodes overlap entirely), and because it appears to reflect spatial separation or segregation by generation. For example, burial 9 (the infant boy buried in the third cluster) must have been interred before burial 6, his mother who died when she was over 50 years old. Yet, he was buried not with his mother's generation, but rather, his body was interred farther south, forming a new genealogical episode where his sisters who lived to adulthood would be buried many years later. Thus, burial location for this family appears not to have been based solely on genetics—for we would not expect a spatial separation between episodes 2 and 3—or by date of death—since burial 9 would have been placed in the second cluster if that were the case. Instead, generational ties were emphasized and stratigraphically inscribed in this burial space.

It is worth noting that part of the inscribed history of household occupation of Structure 122 was disturbed, or erased, by the digging of a trash pit in the colonial era (Fig. 6). In the northern half of this midden, located in the southwestern portion of the patio, we recovered evidence of at least four burials that were likely placed after this last episode and then disturbed in the colonial era. The bones of these individuals were not analyzed using C14 dating or ancient DNA analyses, so we do not understand the nature of interment directly southeast of burials 11 and 12.

After this interruption, the next set of burials was interred in the southeastern portion of the patio in the middle to late fifteenth century, and thus, most of these individuals likely lived under imperial Aztec rule. This fourth cluster of four individuals disturbed two of the burials in the first genealogical episode and contained a girl (burial 13, approximately 8–9 years old), a boy (burial 14, about 14 years old), an adult woman (burial 15, 35–40 years old), and a baby girl (burial 16, less than 1 month of age). In this group, the adult woman and 14-year-old boy share a mitochondrial haplotype (Fig. 5 and Table 3), and analyses of their autosomal STR profiles indicate that they are mother and son (Figs. 6 and 8 and Table 3).

However, mitochondrial DNA data presents a more complex picture for the other individuals buried here (burials 13 and 16), as these two juveniles were maternally unrelated to all other burials, including each other (Fig. 5 and Table 3). Autosomal STR profiles also suggest that these individuals were not closely related to the other individuals. It is tempting to speculate that burial 13 might have been related to the people whose graves were disturbed by the digging of a midden in the colonial period—those graves are very close

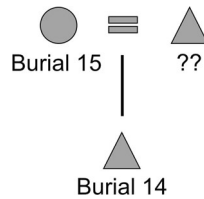


Fig. 8 Kinship chart for the fourth genealogical episode

to her—but we must also consider non-genetic kinship, or what is sometimes called fictive kinship, as a possibility. It is also possible that burial 16, located a meter and a half from the others, and likely the last to be interred on this mound, was the beginning of a new genealogical episode. That episode may have been interrupted by Spanish colonialism, which banished household burial practice, leading in some cases to excavations underneath houses to look for graves as part of idolatry trials (Hamann 2011, pp. 484–498). No colonial period burials were documented on either of the house mounds, despite significant colonial occupation, and thus, this baby girl’s burial may have been the only event of a last episode in this stratigraphically inscribed history of household occupation.

Among the four genealogical episodes, we see genetic relatedness only between the second and third. That is, in the sample of individuals recovered in excavations, it appears that there were two disruptions in genetic descent within the house, one in the middle to late fourteenth century between the first and second genealogical episodes and another in the mid-fifteenth century between the third and fourth genealogical episodes. It bears noting that these disruptions roughly coincide with the two major political transitions described historically—the site’s conquest by the Tepanec city-state in 1395 and the town’s incorporation into the newly formed Aztec Triple Alliance in 1428–1430 (Mata-Míguez *et al.* 2012).

It is possible that at the junctures between these clusters, the house passed down through fictive kinship relations. Though archaeological evidence suggests that there was never a protracted period of abandonment, it is also possible that the family line died out, or the family moved elsewhere in the town, and a new family moved in. The land could have been sold or redistributed by political authorities or tribute administrators, as colonial documents seem to suggest was common in Morelos (Smith 1993; Carrasco 1976). The pattern in this household might also reflect broader population dynamics—migrations or other significant population shifts at some or all of these points in history—but our data do not allow us to determine the nature of this household transition.

Discussion

Regardless of the nature of the transitions marked by burial clusters, it is remarkable that household residents placed burials in the same incredibly small area and in a relatively continuous circular pattern over the centuries, even as they constructed new houses and even as there were significant genetic disruptions. This practice might have helped establish claims to the land, perhaps by asserting some degree of household continuity even when genetic continuity did not exist. If the house was sold or passed down through fictive kin relationships, then the occupants

might have known the placement of previous burials, and social memories of the placement of the deceased may have been maintained over time. Alternatively, if the house was abandoned and resettled immediately, the new occupants may have been able to see some of the graves, perhaps as depressions in the soil (formal grave markers seem unlikely, as mentioned earlier, and excavators noted that the soil inside burial pits was largely indistinguishable from the surrounding matrix at the then-ground surface). This new generation of household occupants continued to bury their dead in the patio, perhaps in an attempt to assert kinship relationships with them. As Voltaire famously quipped, history—in this case, an inscribed genealogical history—is a set of tricks the living play on the dead. These inscribed histories appear to have elided familial shifts, seemingly instrumentally forgetting genetic disruptions and asserting continuity within the household through the maintenance of a single burial area and spatial patterns of burial within that area for a century and a half.

Zerubavel (2012, p. 61) noted that “genealogical chains often seem more seamless than they actually are” and suggested that “achieving such seamlessness may involve strategically glossing over not only genealogical gaps but also various ‘problematic,’ continuity-defying links in the chain.” According to him (2003, pp. 40–41), “constancy of place”—“establishing a connection that allows them to literally touch one another”—is one of the most compelling ways to establish connections and weave a mnemonic thread across such gaps. Thus, as the residents of Structure 122 continued to inter their dead in the same small patio area of only 5×7 m, their adding of new generations to the Structure 122 household genealogy, despite genetic disruptions, may have involved such strategic glossing over or what we might call intentional “forgetting” of these family transitions.

The intrinsic, material properties of the burials and bones—the form in which household histories were inscribed—were crucial in enabling selective, instrumental genealogical histories. Scholars of social memory have often pointed to the role of the material world as a mnemonic, as “it is the material presence of the physical traces of the past which provides the conditions for remembrance” (Jones 2007, p. 107). Heirlooms have been a commonly cited material mnemonic (e.g., Gilchrist 2012; Joyce 2000; Lillios 1999), but in this case study, buried bones appear to have served that function. Of course, “bones” were not interred. Bodies were, and this difference matters. The bones from bodies interred whole feature arrangements and positions that attest to their having been an intact body, far less portable than a bundle of bones and requiring interment not long after death. However, bones were the materials that remained as a testament to household burial and thus were what would have been marshaled as symbolic resources in the construction of long-term family histories. Human bones were symbolically powerful in ancient central Mexico; their power was used not only in monumental skull rack displays in the Aztec capital, but also locally in the carved musical instruments displayed on household altars at Xaltocan (De Lucia 2014; Overholtzer 2016).

At least three material characteristics—durability, symbolic power, and the malleability of identity—made this use of skeletal remains for rewritten, instrumental household histories possible. First, bones are durable and transcend time, lasting in Xaltocan soils for more than a millennium. Second, as Katherine Verdery (1999, p. 27) demonstrated, bodies are self-referential objects that serve as potent symbols, evoking feelings of

uncertainty, fear, and awe relating to the meaning of life and death. Furthermore, as material objects, bodies have a corporeality, a concreteness that makes them important to localizing claims. Third, the identifying characteristics of individuals are embodied in flesh, hair, and eyes, but not bones, making their identities malleable. This characteristic allows them to stand for ancestors in general, or even for other specific individuals, as a number of fake religious relics worldwide demonstrate. As protestant reformer John Calvin (2002, p. 293) remarked, if all relics were brought to one place, “it would be made manifest that every Apostle has more than four bodies, and every Saint two or three.” Thus, while bones can be (and often are) remembered as belonging to known, named individuals, they can also be intentionally forgotten and then remembered differently. At Xaltocan, once the flesh had decayed, the bones buried underneath household patios could have been reinterpreted, renamed, and claimed anew, perhaps allowing histories of family relationships and occupation to be rewritten. In this context, a previous cluster of burials, even if completely unrelated biologically and socially, might be claimed as family. Such claims would be subject to competing or rival memories, as is always the case (Burke 1989, p. 107; cited in Hendon 2010, p. 27), but the histories of domestic places, including burials under houses, are “part of a materiality of hidden knowledge” (Hendon 2010, p. 121). Thus, knowledge to the contrary may have been somewhat limited and alternative claims somewhat less convincing.

The placement of durable and symbolically powerful bones within the patio area exhibits a spatial patterning that reflects both time and genetics and is somewhat reminiscent of representational canons in Postclassic central Mexican pictorial manuscripts that intrinsically link time and space (De La Cruz *et al.* 2008; Kemp *et al.* 2005). In those manuscripts, as Ellen Baird (1995, p. 37) explained, “two-dimensional space is often used to convey the passage of time, as in a sequence of actions, the intervals between generations, or elapsed travel time between generations.” Postclassic central Mexican histories often portray events spread over time as events separated by space (Fig. 9); they are, as Federico Navarrete (2000) argued, “visual narratives.” In genealogies, for example, the space-separating generations, indicated by thin lines between individuals, mark the passage of time (Fig. 4). In map-based pictorial histories, time and space are further blurred, as Leibsohn (1994) explained, through the use of footprints to refer to both travel and genealogical ties. Navarrete moreover likened these pictorial histories to Mikhail Bakhtin’s (1981, p. 85) “chronotopes,” literally “time-space”: “In the literary artistic chronotope, spatial and temporal indicators are fused into one carefully-thought out, concrete whole. Time, as it were, thickens, takes on flesh, becomes artistically visible; likewise, space becomes charged and responsive to the movements of time, plot and history. This intersection of axes and fusion of indicators characterizes the artistic chronotope.”

Following Bakhtin’s definition, Navarrete (2000, p. 38) argued that the continuous lines and footprints that link historical events in time and space “were meant to represent the specific shape of time and space within the migration, and thus, they defined the nature of this journey itself.” This journey featured not only the “displacement” of ancestors in space and time, but also the many stopovers along the way, which had both spatial dimensions (geographical locations) and temporal dimensions (length of stay).



Fig. 9 Pictorial history, Techialoyan land records, San Juan Tolcayuca, Mexico. Footprints guide the reader through space and time on the map. Jay I. Kislak Collection, Rare Book and Special Collections Division. Courtesy of the Library of Congress

These migration chronotopes are somewhat reminiscent of the arrangement of genealogical episodes within the patio that we have reconstructed here, as the placement of burials in the patio also reflects the passage of time and intervals between generations or families. The physical space between generational clusters can be seen as moments of silence in this inscribed genealogical history, since we know from radiocarbon dates of other household features (such as middens) that the houses were occupied even when no interments were made. This may be similar to spaces of blankness on pages of pictorial documents, which according to Leibsohn (1994, p. 173), represent “all the quiet moments in the historical record,” “the periods for forgetting rather than remembering.” In this regard, we see the selective nature of social memory within Structure 122, the way in which some individuals and some generations were forgotten and excluded from the household history inscribed in the patio.

Like the Mexica migration histories recorded as visual narratives or chronotopes, the inscribed history of Structure 122’s four (or more) episodes “describes the rhythm of a single, yet discontinuous, journey” (Navarrete 2000, p. 39) of household descent over a century and a half at Xaltocan. This history would have taken an oral form—with mnemonics in the form of buried bones—but we suggest that it is no less historical than the pictorial histories, which in Mesoamerica also functioned as mnemonics and relied on significant knowledge on the part of the scribe to read.

Finally, like the Mexican pictorial manuscripts, the genealogical history inscribed in the patio of Structure 122 presents a complex constructed narrative. As Navarrete (2000, p. 41) wrote about the migration histories,

“All this has the ring of a highly elaborated, and ideological, version of the past. The codices do not present a direct depiction of the facts (no history ever does)

but do present a coherent, highly complex narrative. And, as Hayden White has pointed out, narrative histories provide an image of life that has a coherence, an integrity, a fullness, and a closure that can only be imaginary (White 1992, p. 38).”

Amos Megged (2010, p. 21) similarly argued, “This means that what appear to be coherent, canonical tales were always the invention and the product of powerful, often tyrannical, groups who wished to control the different ways people remembered things.” Commoner historical narratives at Xaltocan would also have been coherent but constructed stories that were fashioned by individuals or groups who wished to control how the past was remembered. These ideological narratives represent selective remembering and forgetting, the assertion of “gaplessness” and “constancy of place,” and the writing and rewriting of the past in an instrumental fashion, demonstrating that such narratives are not solely the invention of powerful, tyrannical groups.

Conclusion

We hope that the findings of this case study show the potential for archaeological research to shed light on the power of the past in the past beyond the confines of elite monumental inscriptions. To ensure that these investigations reach their full potential, we suggest that we must carefully consider the nature of both historical and archaeological lines of evidence, including their processes of production, which may entail inventing or forgetting, as in our case study’s forgetting of specific individuals and perhaps household transitions. And we must not overlook household remains, especially those of commoners, as potentially rich, direct sources of social memory, the writing and rewriting of history, and the negotiation of status. It is not that commoners in the past did not manipulate history, selectively remembering, forgetting, and inventing, particularly when it yielded them some benefit; it is that today we may fail to recognize those narratives as histories at all.

We have presented one way to recognize those inscribed narratives and reconstruct them using recent advances in archaeological science. In the case study presented here, we combined standard burial and osteological analyses of materials recovered in detailed household excavations with fine-grained chronologies permitted by Bayesian statistical modeling and a microlevel understanding of genetic relationships enabled by ancient DNA analyses. The Bayesian modeling required a large suite of radiocarbon determinations directly dating the deaths of household members. Precise genetic relationships between individuals were reconstructed only via the combination of mitochondrial, Y-chromosome, and autosomal DNA analyses. These methods are time-consuming and expensive, and rely on excellent preservation, and thus are not feasible for all contexts.

While it is clear that not *all* commoners instrumentally employed, revised, and manipulated the past in the past, this case study has focused on archaeological evidence from a site where such instrumental uses of the past may have been more likely. In the Xaltocan context, it appears that poorer migrant populations may have done so, while wealthier, more stable populations did not—as evidenced by household construction materials, household size, and imported polychrome pottery. Additional lines of evidence on household land tenure or landholdings, such as ethnohistoric data or archaeological evidence of field size, for

example, would complement the largely bioarchaeological datasets presented here and help clarify the proposed relationship between wealth or land access and instrumental uses of the past. It is also certain that memory work changes over time, such that we ought to expect some variability across Xaltocan's occupational history, not only in response to Spanish colonialism, but also perhaps in relation to the ebbs and flows of regional politics and politics—how ordinary people “lived the big changes around them” (Stahl 2001, p. 9). Additional excavation contexts within the site would complement the small sample presented here, perhaps allowing us to appreciate such diachronic variability.

Our case study has focused on the in-depth, multi-method analysis of a single Xaltocan household and related genealogical histories to land tenure. We have done so in order to highlight the specific combination of theory and method that allowed us to reconstruct one instance of the power-laden use of the past by ancient commoners. We hope that the joining of archaeological theory and method exemplified here might encourage the development of similarly cabled arguments for instrumental social memory and history in commoner households—that is, composed of multiple, independent lines of evidence, including bioarchaeological and precise chronological datasets or perhaps featuring other techniques appropriate for such examinations elsewhere.

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Compliance with Ethical Standards

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Conflict of Interest The authors declare that they have no conflict of interest.

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