

# The missing femur at the Mitla Fortress and its implications

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*The authors explore the practice of extracting the thighbone from burials in Mesoamerica, making use of a newly excavated Classic period Zapotec burial at the Mitla Fortress, where the femur had been carefully removed and the interment resealed. They conclude that the femur acted as an ancestral emblem and could be used by families of relatively low social rank. This function contrasts with the Aztec, where the large bones could also be used as war trophies. Archaeological readers studying ancestor worship and the cult of relics in other continents will find much of value here.*

**Keywords:** Mexico, Oaxaca, Classic period, Zapotec, Aztec, Maya, burial, rank, ritual, relics, ancestors

## Introduction

When Alfonso Caso excavated Tomb 7 at Monte Albán, in the Valley of Oaxaca, Mexico, he discovered one of the most richly furnished tombs ever found in the Americas (Caso 1932). Although most of the tomb's elaborate contents, including metal objects, pertained to the Postclassic period, just prior to the Spanish conquest (AD 1520), the subterranean chamber itself was constructed and first used much earlier, during the Late Classic period (c. AD 600-900). The remains of at least nine individuals were found, yet femora were over-represented (Rubín de la Borbolla 1969). Three of the human femora, which seemingly did not belong to any of the nine individuals, were cut and painted (Caso 1969: 60-61). Drawing on Sahagún's accounts of Aztec practices (Sahagún 2.22; Anderson & Dibble 1950-82), Caso interpreted the extra painted femora as war trophies that belonged to the principal tomb occupant.

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Decades later in the eastern (Tlacolula) arm of the Valley of Oaxaca, another Late Classic period tomb (Tomb 6) was excavated at Lambityeco (Rabin 1970; Lind 2003; Lind & Urcid 2010). The bone assemblage inside the tomb was scattered and incomplete, with only three of 12 femora present for the six individuals who were interred (Lind & Urcid 1983, 2010: 174-6). The subterranean tomb, which was associated with a palatial residence, was adorned by modelled friezes that displayed the faces of marital pairs, who have been viewed as a sequence of local rulers, probably buried in the tomb. Two male figures in the friezes carry femora that have been interpreted as symbols of office legitimising noble descent from their immediate forebears (Rabin 1970; Lind & Urcid 1983, 2010: 153-62; Miller 1995; Marcus 2006: 225-6).

These two interpretations outline distinct practices for obtaining femora, one through the sacrifice of war captives, whose bones were then used as trophies, and the other involving the removal and curation of bones taken from the interments of honoured or venerated ancestors. Both customs illustrate the symbolic significance associated with human bone in pre-Hispanic Mesoamerica. Yet does the evidence associated with these elaborate burials sustain two different explanations? Given the clear importance of the principal individual interred in Tomb 7 (Marcus 1983), is it possible that data accrued since Caso's discovery now make the interpretation advanced for Lambityeco a better fit for Tomb 7 than Caso's reliance on an Aztec analogy, especially since the most common war trophies were defleshed heads and not femora (e.g. Berryman 2007: 380)?

In this paper we present findings from a recent excavation at the Mitla Fortress, in the Tlacolula arm of the Valley of Oaxaca (near Lambityeco), which yielded new evidence relevant to the two alternative interpretations of curated human femora (Figure 1). At the fortress, we excavated an extended burial that was complete except for one missing femur. The bone was clearly retrieved well after initial interment, probably by a descendant. The context of the burial at the fortress in conjunction with the depictions of femora at Lambityeco lead us to question Caso's interpretation for the presence of the painted femora in Tomb 7 and to propose that those were also symbols of legitimacy associated with venerated ancestors of the interred rather than war trophies.

## **The importance of femora**

A common belief across pre-Hispanic Mesoamerica was that an individual's power – good or bad – was concentrated in the femur or thighbone (Klein 2002; Marcus 2006). The earliest example of curated femora accompanying an elaborate burial context dates to *c.* AD 100 at Chiapa de Corzo, where two sets of worked human femora were recovered with an individual in Tomb 1 (Agrinier 1960). In a much later Terminal Classic burial at Ek Balam in the northern Maya lowlands, the interred ruler held a human femur on which a carved glyph identifies the physical bone as belonging to a specific individual, thought to be the ruler's father (Grube *et al.* 2003; Fitzsimmons 2009: 169).

In art, human femora are also placed in the hands of powerful lords. For example, Stela 1 at Aguas Calientes illustrates an elaborately adorned ruler with a carved human femur in his left hand (Morley 1937: pl. 50, 99). Beyond the Maya region at Terminal Classic Cacaxtla,

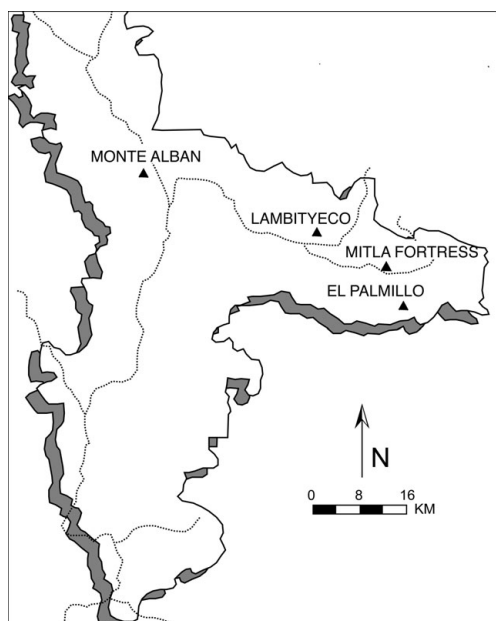


Figure 1. Map of Oaxaca, showing the places mentioned in the text.

in Puebla, a famous polychrome mural features an ornately attired elite figure carrying a femur splashed with red dots (Foncerrada 1993: pl. XII).

Several contexts from which femora may have been extracted have been excavated in the Maya region. During the Late Preclassic, the centre of Tikal underwent a major expansion a few decades before the death of an important ruler (*c.* AD 75) (Jones 1991: 107). This individual was interred in a tomb (Burial 85) that was missing femora at the time of excavation (Welsh 1988: 84). Haviland (1967) has argued that the male found in Burial 85 may represent the beginning of a distinct ruling lineage at Tikal. The femora removed from this burial may later have been wielded as symbols of legitimacy by the descendants of the interred. Likewise, at El Perú-Waka, the richly accompanied Late Classic tomb

of a royal woman was missing its cranium and both femora (Lee *et al.* 2004).

In contrast, for the Aztec, the context of the retrieval process for human femora relates more directly to war, human sacrifice, and rituals associated with the well being and commemoration of warriors (not exclusively of high rank or status). Victorious Aztec warriors removed the femora of sacrificed captives and kept them as war trophies (Sahagún 222; Anderson & Dibble 1950-82). The possession of the femur from a vanquished foe was a sign of military valour. The belief was that femora provided protection for their new owners, kept at home where the warriors' wives prayed for the safety of their spouses while they were away at war (Klein 2002).

In central and west Mexico during the Late Postclassic period (AD 1300-1520), human femora were worked into musical instruments (Pereira 2005). Rattles and drumsticks were fashioned from the bones of recently dispatched sacrificial victims or enemies killed during battle (Pereira 2005) and were decorated with a series of notched grooves or elaborate carvings (von Winning 1959; Klein 2002; McVicker 2005). A key use of these instruments was to provide musical accompaniment for the funerals of fallen warriors (von Winning 1959; Klein 2002).

These examples provide two distinct customary pathways for the procurement and use of pre-Hispanic Mesoamerican femora. In the latter, war trophies were obtained following the butchering of fresh cadavers and were used in rituals, including later funerary practices, associated with victorious warriors. In the former, femora were retrieved (after an interval) from the burials of key genealogical figures and wielded as revered symbols of dynastic continuity. Clearly, both means to secure (postmortem) and symbolically employ femora were practised in pre-Hispanic Mesoamerica. Our evidential challenge is to decide which

set of customs best aligns with each archaeological case. For example, regarding the Cacaxtla murals, the femur has been interpreted as coming from a slain captive (Miller 2007: 180), in part because the murals illustrate a military battle. Yet we have no independent information to establish that the femur was actually procured in that manner, especially as it is part of the adornment for a victorious lord whose accomplishments are displayed in the mural to promote his legitimacy and power.

We now turn to a discussion of Lambityeco, where we can interweave dual streams of data – from carved tomb façades and missing thighbones – to support the use of human femora as curated heirlooms and symbols of authority.

## **Lambityeco**

By the Middle Classic period (*c.* AD 500), Monte Albán had long been the political and demographic centre of the Valley of Oaxaca. Although the city monopolised the display of writing in civic-ceremonial settings until that time (Marcus 1989, 1992, 2006), there are relatively few depictions of leaders to accompany the written media. By the Late Classic, as Monte Albán began to lose power, the city no longer maintained a monopoly on written texts, and art depicting powerful individuals began to appear at second-tier sites across the region, including Lambityeco. Emphasis was placed on personal biography and the bilateral ancestry of high-status individuals as exemplified by genealogical registers (Marcus 1992, 2006; Urcid 1992, 2003; Urcid *et al.* 1994; Masson & Orr 1998). The scenes have been recorded at Monte Albán, but also possibly at as many as a dozen other valley sites. Through time, local rulers and settlements began to assert greater autonomy. By the end of the Classic period, the reins of political power had partly diffused from Monte Albán (Winter 2001: 297).

With the shift of political influence away from Monte Albán and the vesting of some of that power in local nobles, there was a rise of ruling lineages in Tlacolula. One of those lineages is portrayed in a series of friezes associated with Tomb 6 at Lambityeco (Figure 2). A ruling couple is portrayed as two faces, modelled in lime plaster, which were placed in the façade above the tomb's entrance (Rabin 1970: fig. 18). Other generations of marital pairs are shown in two modelled friezes that flank the tomb, one to the south and one to the north (Marcus 2006: 225-6; Lind & Urcid 2010: 157-62). The male in each frieze brandishes a human femur, probably from his father, his most immediate male ancestor, in a display that asserts hereditary rights and dynastic continuity (Marcus 2006: 226; Lind & Urcid 2010: 157-62).

The remains of six individuals were recovered from the two chambers of the Lambityeco tomb, yet nine of 12 femora were missing (Lind & Urcid 1983: 81). Only the last interred individual, a female, was complete, with both thighbones. The remains of the other five skeletons, thought to be her husband and his parents and grandparents, were fragmentary and disturbed by subsequent re-entering of the tomb as each individual was interred (Lind & Urcid 1983, 2010: 175-7). Based on their size and robustness, the missing femora were almost certainly extracted intentionally. Many bones in addition to the femora were not accounted for, especially small hand and foot bones, which are not as durable (Lind & Urcid 2010: 175-77). The drawing of the burials (Lind 2003: fig. 7) shows only one extended, complete individual; the remains of the other individuals were scattered and partial, making



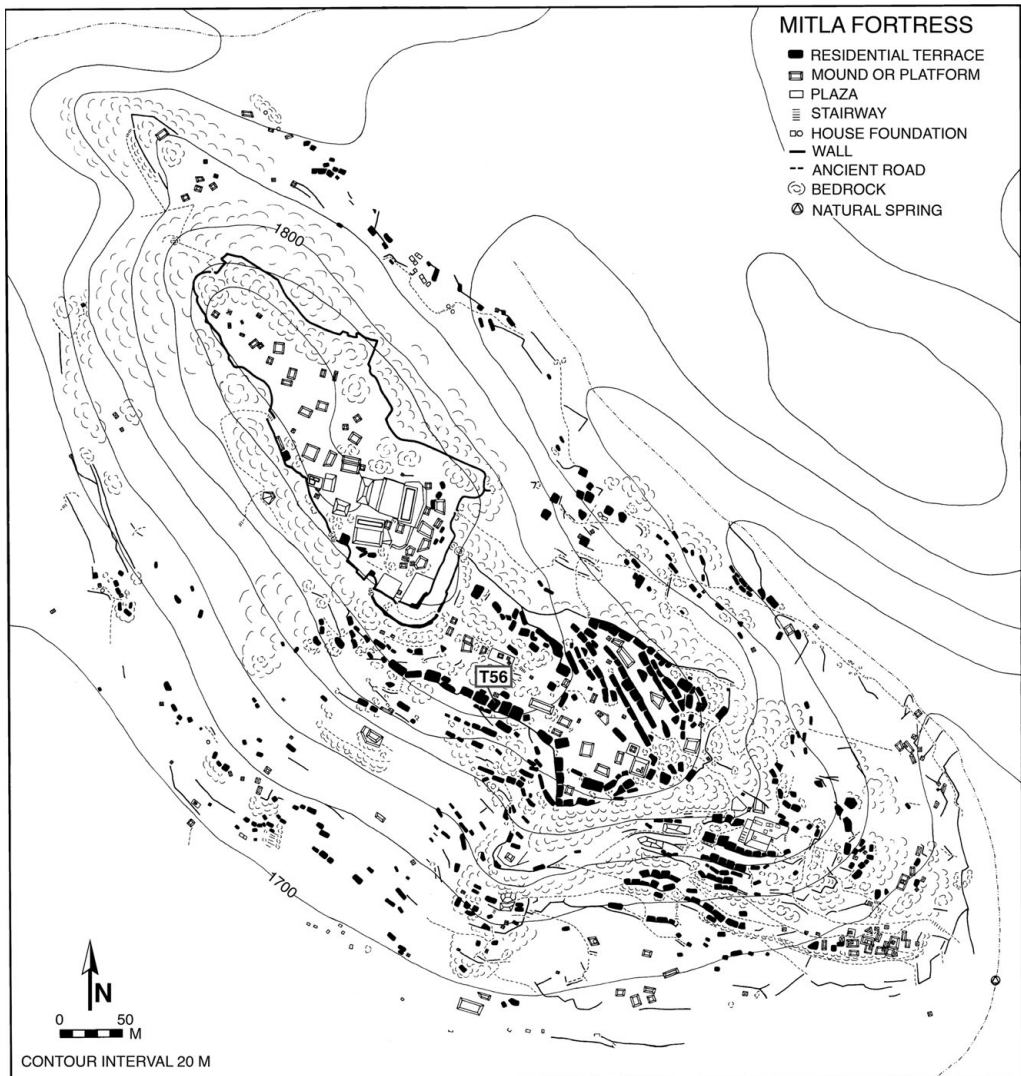
Figure 2. The south frieze above Tomb 7 at Lambityeco, showing a male figure holding a human femur.

it less clear exactly when and how the femora were removed. The human remains in two other elaborate tombs at Lambityeco (Tombs 2 & 3) were more complete, yet among the missing elements in those multiple interments are two femora from each tomb (Lind & Urcid 1983: tab. 1). For Tomb 2 (Paddock *et al.* 1968: fig. 16), the map reveals piled bones and no extended, articulated individuals.

The most straightforward explanation for the Lambityeco tombs is that the femora were extracted post-interment (Lind & Urcid 2010: 171-82), yet this cannot be established definitively. Because of the large number of individuals interred in the Lambityeco tombs, they appear to have been opened and reused numerous times, increasing the opportunity for bones to be crushed or lost (e.g. Middleton *et al.* 1998). The state of preservation of the human remains in the tombs does not provide clear evidence of a *donor context* in which a specific individual's femur was removed for subsequent use as a curated heirloom. But during excavations on a residential terrace at the Mitla Fortress, 12km east of Lambityeco, we uncovered and documented such a donor context.

### Burial 13 at the Mitla Fortress

The Mitla Fortress is situated on a steep rocky hill approximately 2km west of Mitla, in the extreme eastern end of the Valley of Oaxaca. Although the fortress is best known for huge stone walls that ring the summit of the hill, the site was more than just a defensible location or military garrison. The stone walls were added late in the occupational history of the site, and for most of the Classic and Postclassic periods the Mitla Fortress was a residential community, with hundreds of houses spread across artificially flattened terraces on the slopes and ridgetops of the hill (Figure 3) (Feinman & Nicholas 2004). Public architecture was constructed on the hill's summit, in the area later enclosed by the huge defensive walls.



*Figure 3. The Mitla Fortress. Public architecture is concentrated on the hill's summit, with residential terraces dispersed across the lower ridgetops and slopes.*

In the spring of 2009, we excavated one residential terrace at the fortress (Terrace 56; T56 on Figure 3) that is situated below the defensive walls at the top of the hill (Feinman & Nicholas 2009). We exposed a sequence of four superimposed house floors that were occupied from the middle/late part of the Classic period to the Early Postclassic (*c.* AD 500-1200). In association with the domestic remains on the terrace we uncovered 16 burial contexts that included 22 individuals. The placement of burials in domestic contexts, especially under house floors and in patios, was a common practice in pre-Hispanic Oaxaca (e.g. Winter 1974).



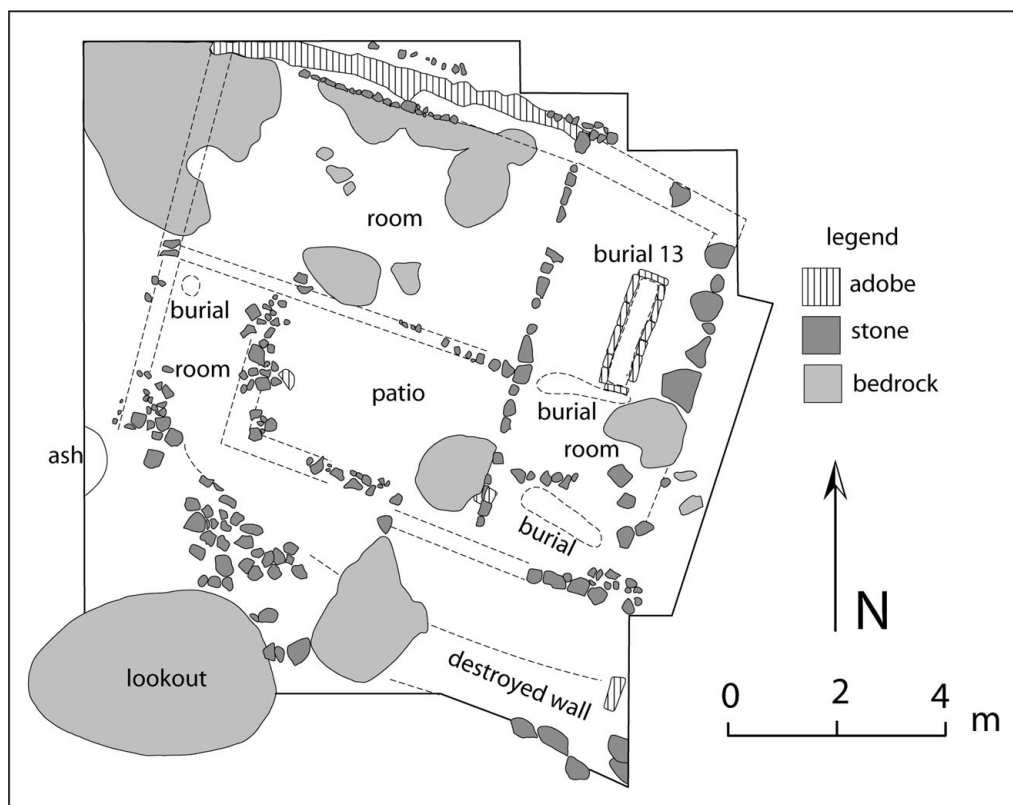


Figure 4. The earliest residence on Terrace 56 at Mitla Fortress.

The earliest male burial on the terrace was number 13, an adult of 44-50 years of age, who was interred at the start or during the occupation of the lowest (earliest) house (Figure 4). This individual was buried under the floor of the north-east corner room in a rectangular burial cist constructed of adobe bricks, the most formal mortuary context associated with the earliest occupation.

As we excavated the burial, it became clear that it had been reopened and disturbed during the subsequent remodelling of the house. The top of the burial was covered with a layer of broken adobe bricks that appear to have formed the original cover of the grave. The bricks lining the sides of the cist had not been disturbed and were still in good condition. Right above the broken bricks we found part of the individual's maxilla and other skull fragments as well as a few other small bones, all clearly out of place (Figure 5). Once we removed this upper layer and all the broken bricks, we found the rest of the skeleton. The body was mostly articulated and complete, although the upper body and skull had been disturbed when the burial was initially reopened in the past (Figure 6). The mandible was still near its expected position, directly above several articulated cervical vertebrae. Except for a few hand and foot bones, however, the only large bone missing was the right femur.

The entire left leg and foot and the lower part of the right leg were well preserved and still articulated in the correct anatomical position, indicating that the femur was removed

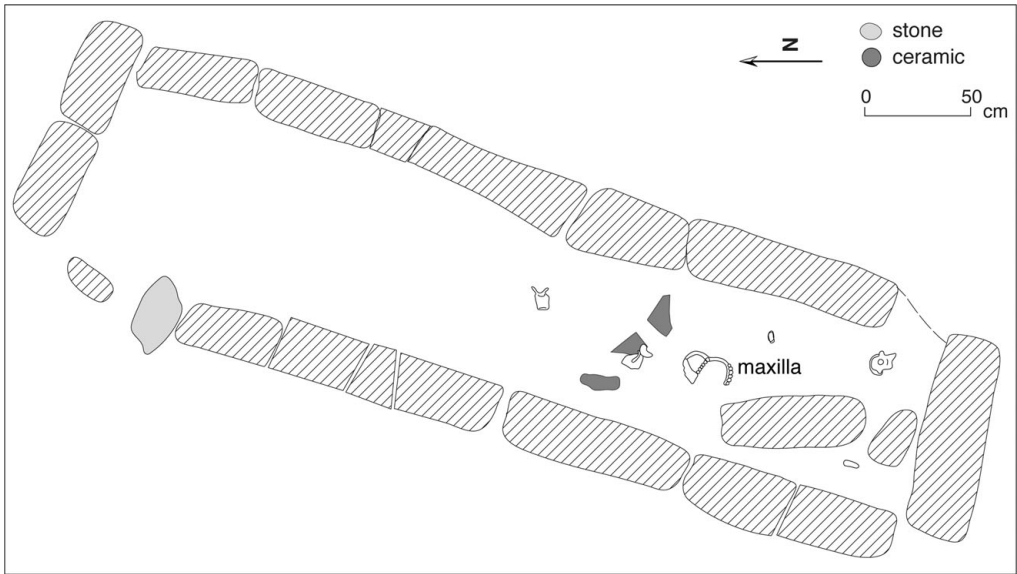


Figure 5. Top layer of Burial 13.

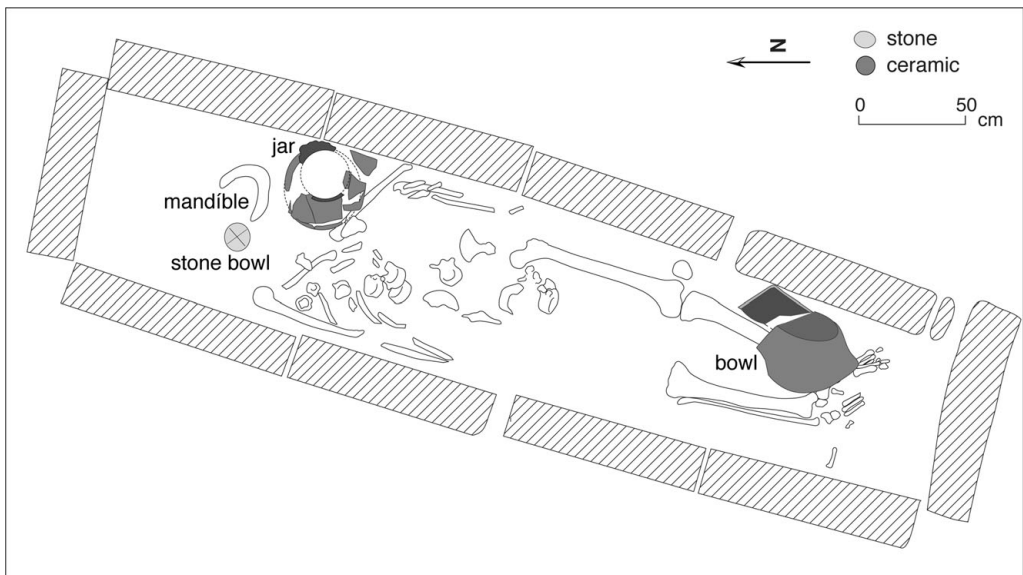


Figure 6. Bottom layer of Burial 13.

after some postmortem interval, after decomposition was complete (Figure 7). The upper body was more disturbed than the lower body. Consequently, the people who opened the grave probably knew the general location of the subfloor burial but not how the body was laid out or precisely where the femur was; this implies a degree of generational lag between the initial interment and the reopening of the grave. At the same time, the completeness of





Figure 7. Extended burial of an adult male missing his right femur.

the rest of the burial indicates that the effort to revisit the grave was directed explicitly at the extraction of the femur.

Some care was taken to close up the burial after the femur was removed. Included in the initial grave offerings were two large ceramic vessels, a jar and a bowl. The jar was made of coarse paste and was burnt, so it may have already broken prior to the reopening; it was left in its original position. The bowl had been placed next to the left tibia (Figure 8). It appears to have broken in half during the reopening of the cist, and the broken piece was carefully placed above the individual's lower legs before the cist was resealed under the rebuilt house floor. The broken adobe bricks that once covered the burial were placed back in the cist, and the maxilla and other skull fragments were left in the fill above where the femur was removed. A small ceramic plate was then added to this fill above the body. All these actions indicate a reverence for the interred individual, consistent with the view that those opening the cist were his descendants. The rebuilding of the house in the exact same location, with the same basic floor plan, and the continuity in material culture with later occupations, also suggests continuity in the familial associations of the terrace's residents. We found no indications that the femur was removed as an act of disrespect as the burial was minimally disturbed during the femur's removal and a new offering was made in its place.

Based on the small size and the nature of the domestic architecture and the associated material remains, the excavated house on Terrace 56 was small, not a palace or the residence of a high-status family (e.g. palaces at El Palmillo [Feinman *et al.* 2008], Monte Albán [Flannery 1983], or Lambityeco [Lind & Urcid 2010]). Architecturally the residence is similar to commoner houses that have been excavated at Monte Albán (Winter 1974) and El Palmillo (Feinman *et al.* 2002). The lack of a formal tomb provides further indication of lower status (Winter 1974). Yet it was situated in the middle of one of the longest strings of residential terraces at the Mitla Fortress, with other (unexcavated) domestic terraces to



*Figure 8. Reconstructed ceramic bowl from Burial 13.*

both the east and west. At the front edge of Terrace 56, a huge bedrock boulder provided a great lookout or vantage in three directions. We suspect that the sequences of houses on this terrace may have been associated with the residence of the head of a ward or neighbourhood. Burial 13 was the earliest adult male interment on the terrace and the most formal mortuary context that was associated with its occupation. Although this individual was not a ruler or of unequivocally high status, he may have been a founding member of a household group that continued to occupy this rather central location over time; as such his descendants retrieved his femur as a physical manifestation of ancestry.

### **Implications for Tomb 7 at Monte Albán**

How does this new information affect the interpretation of the extra femora that were recovered inside Tomb 7 at Monte Albán? We now have evidence that a femur was removed from an important burial in the absence of any indications of conflict. The care with which the femur was removed is more consistent with a curated heirloom than a military trophy. At Monte Albán, the principal individual buried in Tomb 7 was clearly an important person (Caso 1969; Rubín de la Borbolla 1969; Marcus 1983; Hamann 1997), who was accompanied by more than 500 exotic items, including: gold pectorals, beads and lip plugs; objects of jade, turquoise and obsidian; bowls of silver and rock crystal; a trophy skull covered with turquoise mosaic and a series of intricately carved bones (Caso 1969). The scenes on the bones record details of genealogy and historical events, such as marriage, conquest and royal

descent (Marcus 1983), principal trappings of rule in Postclassic Oaxaca. This individual would appear to represent a 'femur recipient' who carried the femora of revered ancestors as symbols of his right to rule, like the scenes represented in the Lambityeco friezes. These heirlooms were then interred with him at death (as described for Ek Balam).

When Tomb 7 was discovered, Caso's (1969) interpretation of the cut and painted femora as war trophies, drawing on Sahagún's Aztec example, was a reasonable inference. Today, after more than 70 years and with evidence from Classic period Oaxaca, his analogy-based suggestion requires reconsideration. The Lambityeco friezes and the missing femora at both the Mitla Fortress and Lambityeco point to an alternative set of practices associated with the retrieval and curation of human thighbones postmortem. Given the exalted status of Tomb 7's central figure and the way femora were used during the Late Classic period in the Valley of Oaxaca, continuity in this tradition into the later Postclassic period seems far more likely today than Caso's Aztec analogy.

## Conclusion

Although femora have been recorded as missing in other burial contexts, in Oaxaca and elsewhere in Mesoamerica, those burials were poorly preserved. Individual skeletons were not complete and other bones were missing as well, so it was impossible to know when or how the femora were removed or if they were part of a primary burial context. Burial 13 at the Mitla Fortress provides documentation of a clear donor context in which the descendants of an important person carefully reopened his burial cist well after death to extract the individual's right femur. This finding provides material support for the process of femur removal that was earlier hypothesised for Lambityeco.

Such curation of human femora has largely been considered an activity associated exclusively with rulers or those of high status. Yet the residence excavated at the Mitla Fortress was not such a context, and so the removal of femora (at least in the Late Classic period Valley of Oaxaca) may not have been a practice limited to rulers. The individual missing his femur at the Fortress may have been a neighbourhood head and/or a lineage founder, who was revered by his descendants. They may have removed his femur in an effort to establish their status in at least the confines of their local community.

Femora were symbolically important body parts in pre-Hispanic Mesoamerica that were procured and curated through at least two distinct processes. One path was associated with warfare; victors taking the thighbone of vanquished or sacrificed captives right after battle or death, displaying them at home, and appealing to the bones for protection, as described for the Aztec. The other means retrieved the bones from burials, with the femora removed from long deceased ancestors and wielded as symbols of lineal descent, as documented for the Classic Maya and the Late Classic in the Valley of Oaxaca. It is perhaps significant that these two contrasting practices regarding femora were associated with different organisational or politico-economic contexts. The symbolic role of femora in Late Classic Oaxaca associated with lineal descent and legitimacy occurred at a time when Monte Albán was declining in power and local ruling families were starting to exert greater autonomy. In the valley, organisational strategies were changing from the more corporate formations that were long practised at Monte Albán to more exclusionary practices, based on personal networks (e.g.

Blanton *et al.* 1996; Feinman 1999). Personal and lineal networks were also important for the Classic Maya.

In contrast, the use of femora as war trophies, recorded for the Aztec, is not related to lineal descent or the legitimacy of specific heirs; rather their activities employed human femora in more domestic and society-focused practices, such as musical performances at funerals and domestic rituals enacted by wives to bring their warrior husbands home safely. Such customs crosscut wide spheres of society and were not restricted to those aiming to legitimate their individual status. Based on these differences in broader societal context, the Tomb 7 femora too would seem to be heirlooms associated with political legitimacy rather than military trophies.

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