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CORPSE TREATMENT IN A LATE FORMATIVE BELL-SHAPED PIT AT LA LAGUNA, TLAXCALA, MEXICO

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Abstract. A bell-shaped storage pit in central Mexico was converted in the fifth century BC into a repository for human corpses. It was used sequentially to place and later selectively remove the remains of at least four adults. The concomitant addition of fill has separated the different funerary gestures with unusual clarity. We use the piece-plotting of individual bones and other pit contents, osteological and stratigraphic analysis, and ceramic refitting to formulate hypotheses regarding the sequence in which different corpses and offerings were placed in the pit, disarticulated, dispersed, and otherwise modified upon reentry, or removed from the pit altogether. We try to reconstruct the logic of the ritual sequence by applying four simple interpretive principles in order to distinguish between a "tomb" and a "charnel" scenario. We conclude that reentry and bone removal were anticipated, and that the pit was used recurrently in the early stages of a prolonged and complex mortuary ritual. Comparisons with other contexts of the Middle and Late Formative lead us to briefly consider the relevance and possible meaning of double burial and the use of certain bones as relics or as raw material to be shaped into artifacts. Some of these practices were probably related to the importance of ancestors in the belief system. Bell-shaped pits were a convenient receptacle for letting corpses decay in a controlled fashion, but the form and function of features used in mortuary rituals do not map onto each other in simple ways.

Keywords: ancestors, Formative, Mesoamerica, mortuary ritual, multiple burial

INTRODUCTION

The purpose of this article is to report the discovery of a single pit whose contents bear testimony to a set of mortuary rituals – involving prolonged manipulation of the remains of multiple individuals – performed at the site of La Laguna in central Mexico (Fig. 1) in the fifth century BC. We deem the feature sufficiently complex

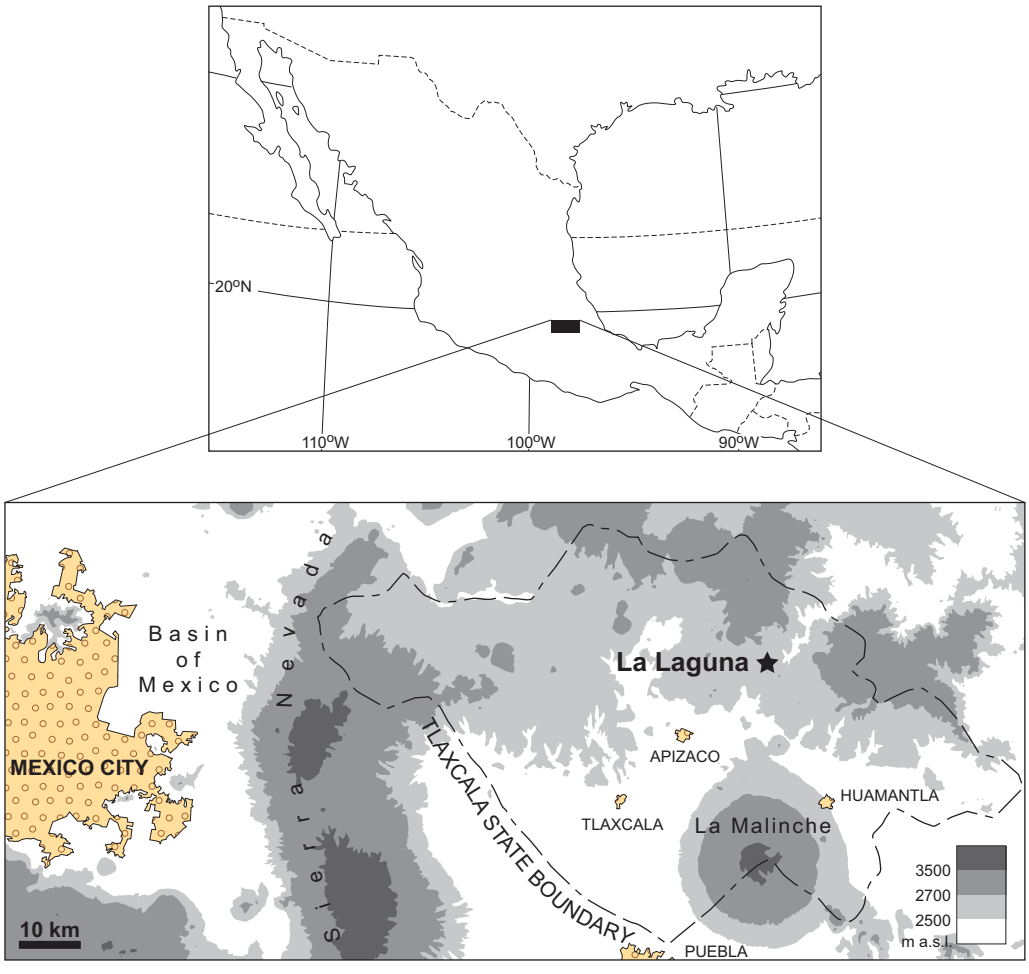


Fig. 1. Location of La Laguna in Mexico

and exceptional in its preservation to merit such detailed reporting. Though this type of feature may be rare in archaeological context, it reflects mortuary behavior that was common in the systemic context of the ranked societies of the Middle and Late Formative periods of highland Mesoamerica. As such, it allows us to open new avenues of inquiry into the meaning of finds of human remains of similar age that have previously been reported in isolation.

Thoughtful syntheses of mortuary behavior have been offered for some Middle and Late Formative sites in central Mexico (Merry de Morales 1987; Uruñuela, Plunket 2002), drawing on both cross-cultural and direct-historical analogy. Most site reports, however, leave off analysis at the stage of classifying mortuary contexts by the idealized position of the skeleton (e.g., "semi-flexed left lateral recumbent"), which is culturally relevant only in the case of undisturbed primary burials. It can also induce archaeologists to forget that what is handled in most mortuary rites are

corpses not bones, and that due to a variety of taphonomic processes the final position of the skeleton may not be a direct reflection of the position in which the corpse was placed. Inferring that treatment from archaeological data is infinitely more complex, and must pass through a reconstruction of what Duday et al. (1990) term *gestes funéraires* (funerary "gestures") – the minutiae of the handling of the corpse before, during, and after burial. This echoes Rowe's (1995: 34) exhortation to invoke a logic of ritual sequence when trying to interpret mortuary contexts. In Mexico, where a large proportion of known Formative burials has been recovered in salvage operations or in projects designed around research questions other than mortuary ritual, the level of attention to taphonomic detail that this requires is generally wanting.

It must be conceded that even under ideal fieldwork conditions, the very nature of Formative mortuary behavior makes it refractory to any attempts at synthesis, or even systematic comparison. Formal cemeteries are rare outside western Mexico. Most human bone is found in domestic contexts, under the floors of houses, or in adjacent houseyards, in features that range from purpose-made graves, through pits re-used as graves, to middens or architectural fill. This means that, even where primary burials are common, it is difficult to target them deliberately during excavation. As a result, burial samples are small, even at extensively excavated sites. When dealing with a small number of burials, it is difficult to decide which of their potentially infinite attributes are significant. This exaggerates our impression of the diversity of mortuary treatments.

Uruñuela and Plunket (2002: 30) point out that, both in Formative and Classic contexts, a large segment of the dead population is simply missing from the archaeological record, to an extent that can hardly be explained by issues of skeletal preservation. This suggests to them that some mortuary rites did not end in interment. Indeed, apart from articulated skeletons interpreted as primary burials, Formative sites contain a bewildering array of "messy" accumulations of human bone that have been interpreted in terms of partial exhumation (e.g., Couoh, Hernández 2008), prolonged curation and display (e.g., Christensen, Winter 1997), the quarrying of bone as raw material for artifacts (e.g., Pijoan Aguadé et al. 2010), or cannibalism (e.g., Pijoan Aguadé, Mansilla 1997). Our critical comment – to the effect that the different cases have not yet been brought together in a synthesis – is not meant to detract from the merits of any of the above studies. What we present below is, after all, also a case study. Our intention is simply to emphasize that there is no explicitly spelled out mortuary program to which we could compare our case. Instead, we assess the fit of the archaeological evidence from our feature with expectations derived from two model scenarios.

TOMB OR CHARNEL?

The pit examined here yielded evidence of multiple funerary gestures involving the placement or removal of human remains. On a largely mechanistic level, acts of reentry into mortuary facilities can be classified into accidental and purposeful, the latter being divided by Chase and Chase (2011) into "traditional" and "transformational." Accidental

reentry typically involves the unearthing of remains whose exact location has been forgotten. This can be excluded in our case because the stratigraphy bears no trace of the fill ever having been dug through. Such reentries as did happen must have taken place before the pit was backfilled. The use of the pit is also chronologically constrained to a century or less, an interval that seems short for burial locations to be effaced from living memory. We thus see the reentries as purposeful. The archaeological signatures that Chase and Chase describe to distinguish between traditional and transformational reentry seem specific to the Maya case that they describe. In order to elevate these terms to more general usage and to the level of mortuary behavior and its meaning, we would define as "traditional" the kind of reentry whose main purpose is the placement of the next corpse, reserving "transformational" for reentries whose main purpose is a substantial re-arrangement or removal of the interments that are already there.

From this dichotomy we derive the two model scenarios that we will use to assess our findings. The first is based on the supposition that, as a rule, the pit was intended as the final resting place for the individuals interred. The disarticulation, dispersal, or removal of the bones or offerings was the incidental disturbance inflicted by later interments and the "cleaning" activities associated with them. As such, the disturbance is expected to be quite variable with each successive reentry, and the cumulative effect may seem almost random. The number of pit entries is the same as the number of interments. We will refer to this as the "tomb scenario," recognizing that it describes mortuary behavior that is common in graves that are used by the same family, lineage or other social group from one generation to the next. Such graves are often architecturally elaborate, among other factors because of the anticipation of prolonged use. But, this is not our case, and "tomb" is not meant here to imply anything about funerary architecture. The second scenario is based on the supposition that, as a rule, the pit was not intended as the final resting place for the individuals interred. The disturbance of their bones was anticipated and planned for, and typically included the removal of much of the skeleton. The disturbance should thus display at least some repetitive patterns. The number of pit entries could be double that of interments. What happened to the bone after removal falls into an ethnographically vast realm that may have included curation, public display, modification of the bone, or a second interment. For the sake of simplicity we will refer to this as the "charnel scenario," without implying a public facility attached to a cemetery.

It is of course possible to conjure up a multitude of different scenarios – well beyond tomb and charnel – that might account for the human remains and other evidence from our feature. In "tacking" towards an interpretive synthesis (Wylie 1989), we shall be guided by four basic principles. First, we favor interpretations that involve the fewest possible distinct mortuary rituals and which posit, as far as possible, similar treatment for each of the multiple individuals whose remains ended up in the pit. In other words, we would not favor an explanation where the beheading of one individual is followed by a primary burial of another, then an offering of human feet, then a secondary burial, etc. This principle is simply Occam's razor, adapted to the interpretive problem at hand. When applied to large samples of burials, such an approach has occasionally allowed archaeologists to see the forest for the trees and

define, even in the absence of written sources, a core of simple rules that explain a variety of mortuary contexts, cutting across several social ranks or classes (Morris 1992: 174–199; Donnan 1995). It is beyond the scope of this article to debate to what extent such principles of parsimony or least effort are applicable to behavior driven by religious belief (see Duday 2009: 116). All we aspire to at this stage are a few hypothetical rules that would explain a single though complex feature, and that could be tested against past and future discoveries of mortuary contexts.

As will become apparent, it proves impossible to fully account for the contents of our pit by referring exclusively to either tomb or charnel. Our second principle holds that the intentional handling of larger bones or body parts still held together by ligaments or other soft tissues is more likely than that of small isolated bones. There is some cross-cultural support for such a focus on larger body parts (e.g., Hertz 1907; Malinowski 1929: 156; McAnany 1995: 46–63). As an extension to Occam's razor, we thus find it more admissible to multiply behavioral rules, or to mix rules generated from the tomb and charnel scenarios, if they serve to explain the presence or absence of crania, long bones, or entire segments of the skeleton than when they explain only the fate of a few carpals or phalanges. The movement of the latter is of course easier to ascribe to natural taphonomic factors.

Our third principle stems from the expectation that similar body parts of the same individual (e.g., all ribs, both hands) be treated in the same way. Since they are obviously exposed to similar taphonomic factors, in cases where some are consistently treated in a different manner, we suspect ritual intention and are willing to add rules even if it means temporarily lifting Occam's razor. We can think here, for example, of cultural distinctions that are often made between the left and the right side of the body (see Chase, Chase 1996: 75, for an application of this very principle).

The consistency of any differential treatment of body parts is of course difficult to substantiate on the basis of a single archaeological feature, which brings us to the fourth principle, which relies on contrasting our finds with those made in archaeological contexts close to La Laguna in time and space. If a particular treatment can be documented elsewhere, we consider it more plausible. As will be seen, the application of all four principles is something of a balancing act, for they sometimes come into conflict with one another. However, they prove helpful in assessing the relative merits of the tomb and charnel scenarios and in moving towards specific hypotheses concerning the sequence of funerary gestures at play.

THE SETTING OF THE PIT

La Laguna is a site with a complex history of human settlement and land use in the Formative, Postclassic, and Colonial periods (Borejsza, Carballo 2014; Borejsza, Rodríguez López 2014). During the Formative, it was occupied twice, between 600 and 400 BC, and again between 100 BC and AD 150. Formative remains cover some 100 ha, spread over the slopes of three contiguous volcanic hills. Most of the visible

architecture, which includes a central plaza, ballcourt, and several mounds, seems to belong to the second Formative occupation, but already during the first La Laguna must have been in the higher tiers of regional settlement hierarchies. Most of the ground surface of the first occupation has eroded away, so that we know it mostly from features that were dug below it.

Prominent among them are bell-shaped pits that flare out from a constricted mouth to a diameter of ca. 1.3 m. Their depth is variable, but in typical cases was originally no less than 1.5 m. Pits of this shape are abundant at Formative sites throughout the highlands of Mesoamerica, and are believed to have served primarily as underground granaries (Winter 1976; Manzanilla 1985; Rodríguez López et al. 2006; López Corral, Uruñuela 2013; Uruñuela, Plunket 2013). When they no longer served that purpose, they were usually backfilled, most commonly with earth or domestic refuse. In several instances they were re-used to dispose of human remains. At La Laguna, the density of bell-shaped pits was particularly high in excavation area F, where at least 15 of them were located close to one another.

Feature 46, the subject of this article, was one of them (Fig. 2). Its mouth lay protected 40 cm below the modern ground surface, buried by the earth and rubble of two superimposed berms of a *metepantle*, a type of agricultural terrace common in the area (Borejsza et al. 2008). This particular berm, Feature 38, was probably piled up

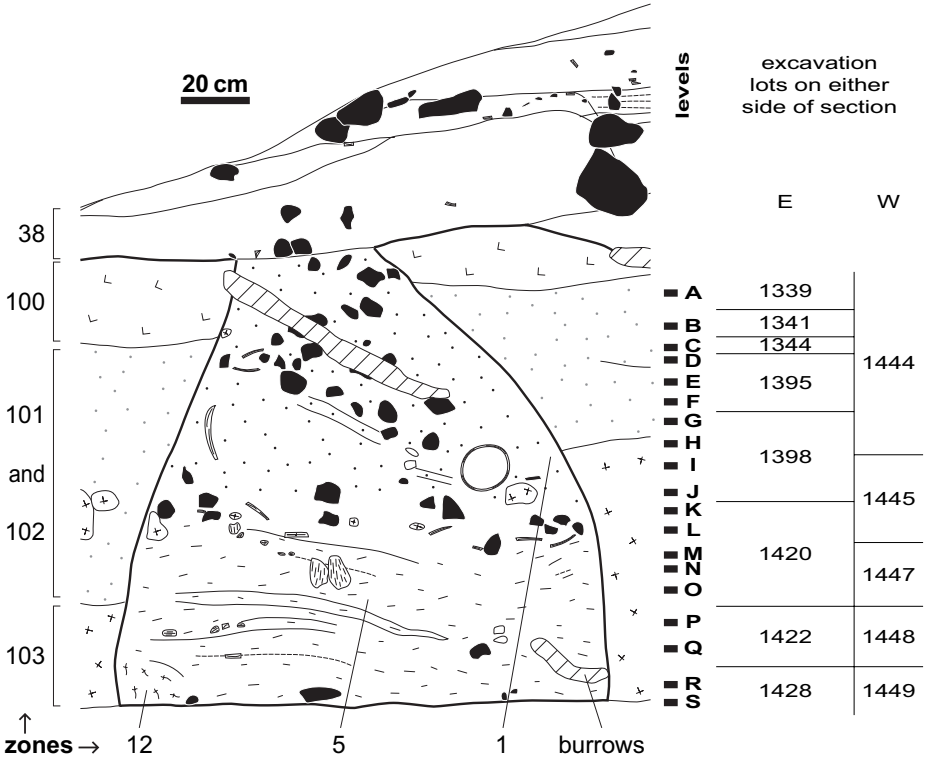


Fig. 2. Stratigraphy of pit and adjacent deposits

in the nineteenth or twentieth centuries. The pit had been dug into stratigraphic zones 100 to 103, all of them natural soil horizons formed prior to human occupation. The floor of the pit rests within Zone 103, an indurated horizon known in central Mexico as *tepetate*. Above it, Zones 102 and 101 are rather loose and sandy, while Zone 100 is clayey and firm. Zones 100-101-102 form a soil profile that can be described in the ABC nomenclature (Birkeland 1999) as BAt-Bw-BC. A true A or topsoil horizon is lacking, and the addition of organic matter in Zone 100 seems to have taken place after the original Bt horizon was exposed at the ground surface by erosion. The upper boundary of Zone 100 therefore marks an erosional unconformity. Since it is flush with the mouth of the pit at present, we can infer that the pit was also truncated by erosion before the metepantle was built. This inference is confirmed by the observation that many intact bell-shaped pits terminate in a cylindrical neck that is absent here. By comparison with such intact features, and on pedostratigraphic grounds, we estimate that the top 20 cm of the original pit are missing.

TECHNIQUES OF EXCAVATION AND ANALYSIS

We excavated the pit in two unequal portions, separated by the plane drawn in Figure 2. The eastern two-thirds were removed first, followed by the western one-third. Using depth measurements taken during excavation, we then stitched together plan drawings of the two portions (Fig. 3). We plotted the position of all inclusions larger than fist-size, including unmodified stone and tepetate blocks. We plotted all sherds that were large, appeared in above-average concentrations, or had other attributes that suggested that they belonged to refitable vessels. All bone, human and animal, was plotted, irrespective of size. Most bones and artifacts that were drawn, were also assigned individual item numbers, in order to keep a three-dimensional record of their provenience. Finds that were not singled out as numbered items, were assigned to one of the volumetric lots into which we divided the pit fill. The correspondence of levels and lots is shown in Figure 2. The pit fill was screened in the field through a 4 mm mesh. A section through the pit fill was drawn and formally described in-between the excavation of the two portions. Different kinds of earth samples were taken at that stage and during excavation. Parts of the pit wall were removed while excavating the eastern portion, to facilitate the task of recording the pit contents.

Animal bone was identified as to taxon and anatomical part by Thomas Wake. Human bone and teeth were identified as to anatomical part, sexed and aged where possible. Signs of ante-, peri- and postmortem modification of bone were observed. A set of basic anatomical measurements was taken on long bones and crania. The crania were lifted with the earth inside them, cleaned of it in the laboratory, and reconstructed where necessary. We were able to assign most post-cranial bones to one of the four crania present in the pit on the basis of articulation or spatial proximity. The few cases where we made such assignments on the basis of body part representation only are pointed out and discussed below.

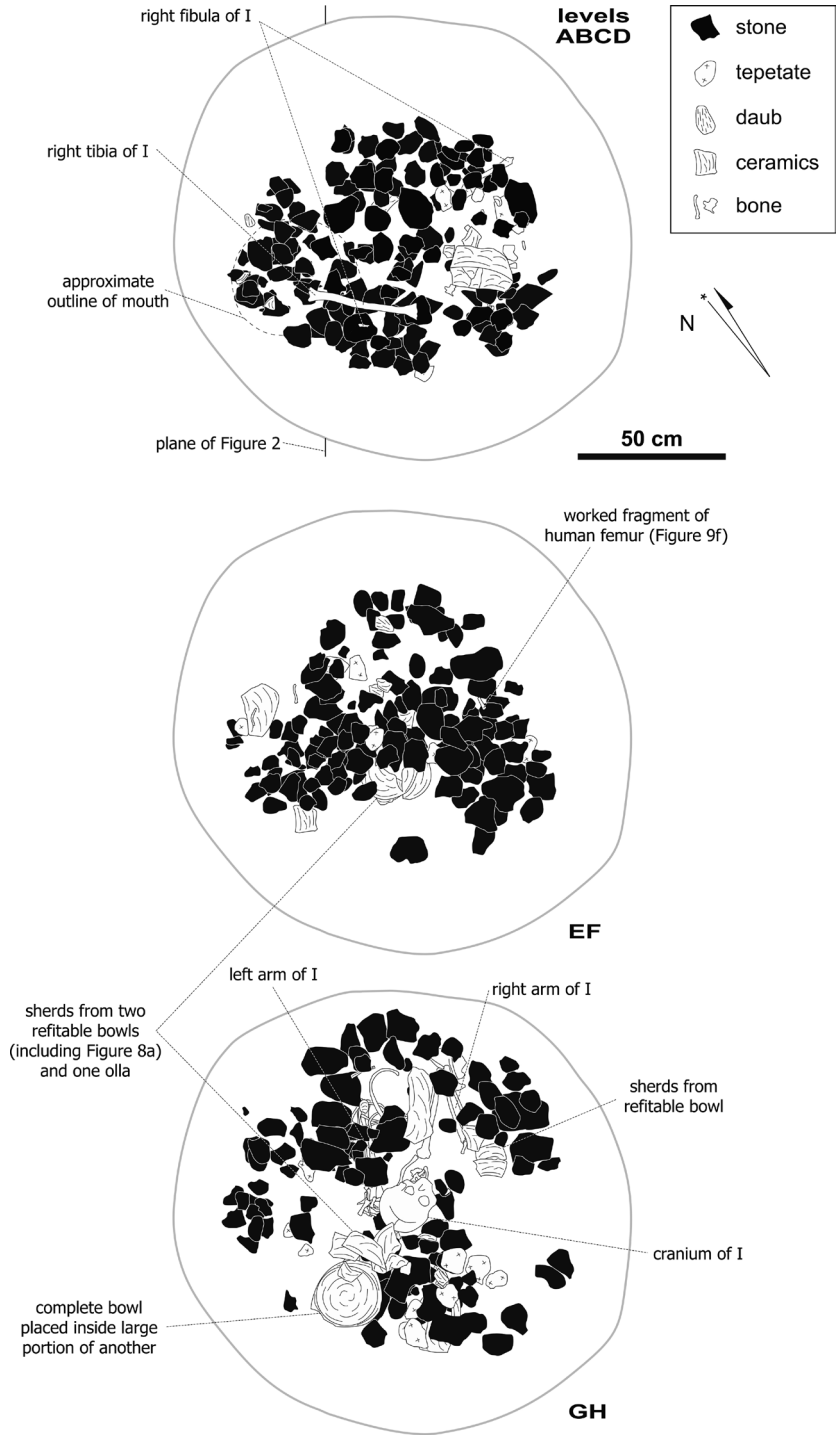


Fig. 3. Distribution of finds in different excavation levels. Roman numerals refer to different individuals

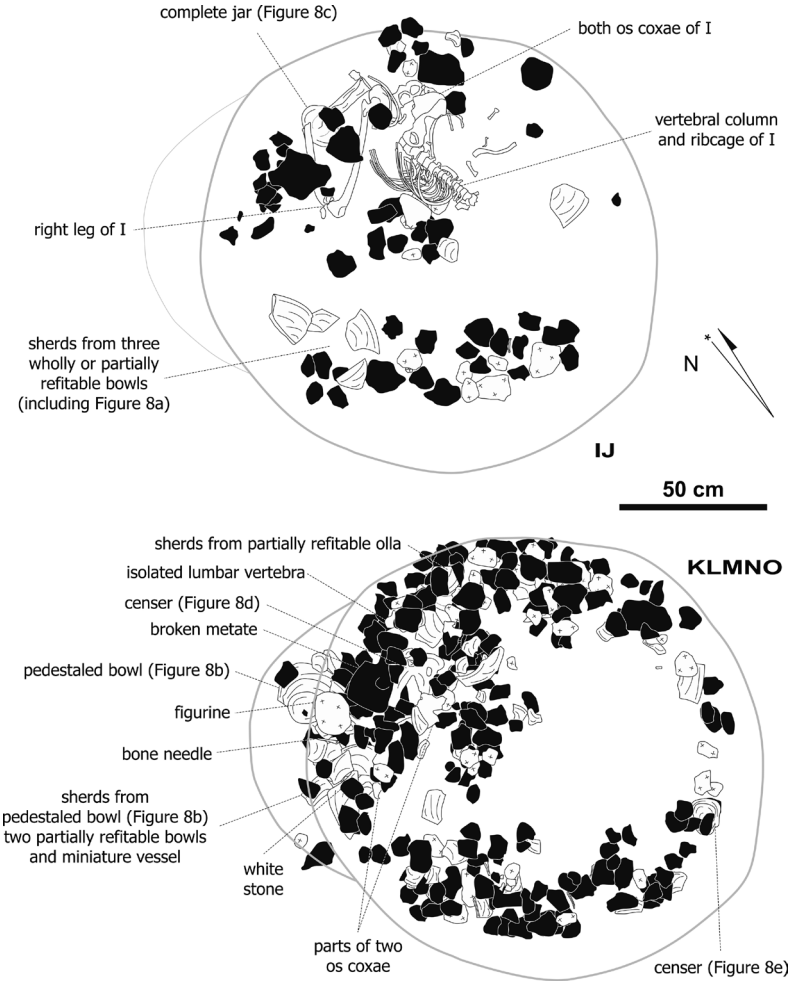


Fig. 3. Continued

We recorded body part representation in a series of diagrams (Figs 4–7) for each of the four individuals, numbered I to IV, in the order of their discovery. Figure 7 shows, apart from the bones of Individual IV, the bones that could not be assigned to any of the four individuals. It does not show fragments too small to be assigned to a specific part of the skeleton. In each diagram bones that were considered still articulated – with the articular facets within 5 mm of one another when uncovered – are connected by a thick line. Those that were not articulated, but close to their correct anatomical position – with the articular facets within 5 cm of one another – are connected by a thin line. The level where each bone was found is identified by the corresponding letter, and bones from the same level are placed on a continuous gray patch. Bones with more than one letter are those recovered on the screen, which

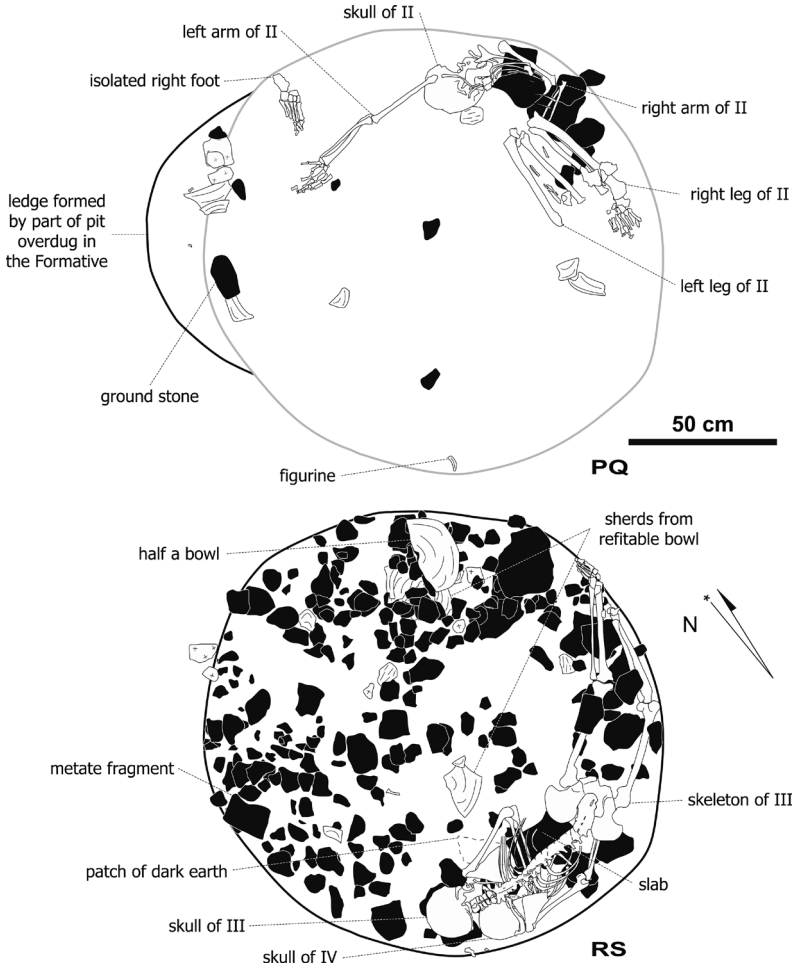


Fig. 3. Continued

could be assigned only to the excavation lot that they came from. Artifacts were analyzed according to site-wide protocols. A prolonged effort was made to establish all possible refits in the sherd collection.

PIT CONTENTS

Summary of findings by Level

The mouth of the pit was offset to the south-west of the central axis of the pit and roughly 40 cm in diameter. Levels A to J contained a high concentration angular stone, including volcanic breccia (*tezontle*) and basalt. There were also tepetate blocks and

chunks of burnt daub of a size similar to that of the stones. All of these, combined with the sherds and bone, were distributed evenly over the whole available surface in Levels A to G. A human tibia and a broken fibula were in Levels A and B, followed by isolated foot bones in B and C. Levels F and G contained seven ceramic vessels, one of which was intact, five broken but refitable, and one refitable with some parts missing. Five are serving-size bowls (Fig. 8a), one is a plate, and one a small olla.

The skull of Individual I, without the mandible, lay among the vessels. It was the first element of a major accumulation of human bone spread through Levels G to J. In Levels H to J the pit contents separated in two clusters. But for a few fragments of a sacrum, all the human bone was in the northern cluster. The bones of two upper limbs were mostly in Levels G and H, those of the vertebral column and ribcage in Levels I and J. Level I also contained a pelvis and bones of the left leg. A heat-spalled stone and a patch of ash were present at the northern edge of the bone accumulation in Levels H and I. Sherds belonging to two of the bowls from Levels F and G appeared in the southern cluster of Levels I and J. In Level I an intact jar lay next to the bones (Figs 8c, 9a). Attached to its globular body is a long cylindrical neck. Two snakes molded in clay wind from the rim to the body of the jar, each with a rattle marked by notches at its tail end. The bones in Levels G to J tended to rest in subhorizontal positions, but the tibia and fibula leaned against the body of the jar, and had each been snapped in two by being levered against it, probably by the weight of the overlying fill.

From Level K to Q the proportion of stones, tepetate blocks, and artifacts in the fill gradually diminished. At the same time they displayed a distribution skewed towards the walls of the pit, with few objects in the center. Isolated bones of the pelvic girdle, a lumbar vertebra, and phalanges appeared in Levels K to O, together with a number of notable ceramic finds. These tend to be more fragmented than those of Levels F and G, and only partially refitable. They included large portions of two zoomorphic censers (Fig. 8d–e) of a type interpreted as representations of coatis (García Cook, Merino Carrión 1988) or opossums (Lesure et al. 2012), of one small human figurine, two ollas and two bowls. Level O produced two complete vessels, one a miniature, and one a serving-size pedestaled bowl (Fig. 8b). An intact needle made of animal bone came from Level M, and part of a metate from Level K. Two large rounded pebbles extraneous to the site were in Levels M and N.

Levels P and Q were almost devoid of artifacts, except for a piece of irregularly ground stone and a few large sherds. The skull of Individual II and four semi-articulated limbs followed an arc along the northeastern wall of the pit, dipping down as a whole from the east to west, from Level P to Q. These were relatively well-preserved, in contrast to a more amorphous scatter of fragmented ribs and vertebrae that extended towards the center of the pit. The left foot was missing altogether. The leg bones were flexed and subhorizontal, while the arms and skull were in more curious positions, in which they could not have maintained their balance without the support of the fill. The long bones of the flexed right arm dipped down from the elbow joint at angles close to 45º. The extended left arm dipped at a lower angle, but the humerus had been snapped by leverage against the cranium. The skull was turned so that its highest point

was on the underside of the left mandibular body. In Level Q, an extra right foot was found, articulated and almost complete. Between Levels I and Q, the western wall flared out more than the rest of the circumference of the pit. This irregularity was probably introduced when the original diggers penetrated the loose fill of an older pit on that side. As the overdug part does not reach all the way down to the floor of pit 46, a low crescent-shaped ledge appears on its western side in Level Q.

Levels R and S were again littered with a large number of stones and artifacts, spread evenly over the whole surface available. Some stones were heat-spalled, and one was a large fragment of a metate. There were parts of an olla in Level S, and half of a large hemispherical bowl in Level R. Another hemispherical bowl was refitted from more than thirty sherds spread over the floor of the pit. The skeleton of Individual III lay in Level R, prone along the eastern and southeastern pit wall, following its circular outline (Fig. 9b). The skull was tilted to the right, facing the center of the pit. The skeleton was fully articulated and complete but for the left foot, of which only the talus, navicular and medial cuneiform were present. There was a contrast in the coloration of the bone on either side of an imaginary line running from the right os coxae across the diaphysis of the left femur. North of this line the bones were whiter, harder and more brittle, south of it they were yellower and softer. The lower right half of the trunk rested on a very large stone slab. A smaller one covered the right knee. Underneath the upper right half of the trunk was a trapezoidal patch of very dark earth.

The skull of Individual IV rested in an upright position on the floor of the pit (Fig. 9c), squeezed in-between the cranium of Individual III and the wall. It lacked a large portion of the cranial vault. It was thus possible to remove the earth from the inside by digging down from the top of the skull. When this was done in the laboratory, an incomplete and disarticulated set of the bones of a right hand appeared just above the foramen magnum (Fig. 9d). The hamate, one phalanx, and a fragmented atlas were found in the earth that adhered to the base of the skull.

Stratigraphy

The main stratigraphic break in the pit corresponds to the limit between Levels J and K. Above it, in what we have lumped in Figure 2 into Zone 1, the fill is made up of stone in a matrix of loose sandy earth, yellowish brown in color. It displays inclined bedding planes. Their dip is commensurate with rapid accumulation of fill tossed into the pit from the asymmetrically placed mouth. Below the break, in what we have lumped into Zone 5, the earth is pale yellow, finer in texture, much firmer and denser. The vestiges of bedding tend to be subhorizontal. This suggests more incremental accumulation, and repeated treading that compacted the earth. When this zone was pried out rather than scraped with a trowel, it came out in the form of subangular lumps that were not very cohesive and varied in diameter from 10 to less than 1 cm. In fresh breaks their interior displays tubular voids a millimeter or so in diameter, with parallel striations along their walls, sometimes coated in white fibrous scraps (Fig. 9e). These seem to be the impressions and siliceous remnants of decomposed stalks or leaves of

some monocotyledonous plant. The same kind of marks and inclusions can be observed in some burnt daub fragments, and must represent the temper added to the mud by the builders. Zone 12 is of similar nature, but darker in color. It forms a wedge between the wall of the pit and the skeleton of Individual III.

One large burrow was evident in the section and microstratigraphic observations suggest some bioturbation and illuviation of clay and organic matter in its upper part. The stones of the upper part of the fill would have made the displacement of larger bones or artifacts by burrowing animals difficult, while in the lower compact part any significant burrowing would be evident. The anatomically and culturally meaningful distributions of bones and artifacts are also proof that the fill has suffered no significant post-depositional disturbance.

Skeletal evidence

The differences in the color and texture of the bones of the articulated skeleton of Individual III indicate that the conditions for bone preservation could vary within the confines of the pit. In this particular case we suspect that they are due to the way irregularities in the tepetate directed percolation through the fill. In general, however, bone preservation in the pit is very good – several specimens could be sawn in the course of laboratory sampling operations without causing any shattering. Only one possible animal tooth mark was observed, on the 5th metacarpal of the articulated foot in Level Q. We could have missed some specimens smaller than the screen mesh size, but this would have hardly affected the representation of adult human bones. The presence of usually underrepresented skeletal elements (Waldron 1987) in our inventory, such as the sternum, hyoid, or sesamoid bones, gives some credence to claims of above-average conditions of preservation and standards of recovery. We are thus confident that the absence of major parts of the human skeleton is not due to postdpositional processes. Among the possibilities to be considered are: (1) their absence from the moment that human remains were placed in the pit; (2) intentional removal by people reentering the pit; (3) severe but unintentional damage inflicted through trampling and handling bone during multiple reentries; and (4) the erosion of the backfilled neck of the pit.

The strict minimum of human individuals in the pit is five, as calculated from the cranial bones recovered. There are the complete or near-complete crania of adult Individuals I to IV, plus eleven fragments of an infant cranium from Level J. The post-cranial skeleton of Individual III is, as mentioned, complete but for the left foot. The skeleton of Individual II is more fragmentary and more disarticulated (Fig. 5). Of the left foot only the first metatarsal remains. Parts of two metacarpals represent the right hand. The other absences, however, are mostly of parts of bones, rather than whole skeletal elements. The portions that are missing or poorly preserved tend to be those that are thin and inherently fragile, such as the scapulae or os coxae, or those that contain a large proportion of spongy tissue, such as the vertebrae or epiphyses of limb bones. In general, the axial skeleton is more affected than the limbs, which still preserved some articulations. The bones display flaking and desiccation cracks

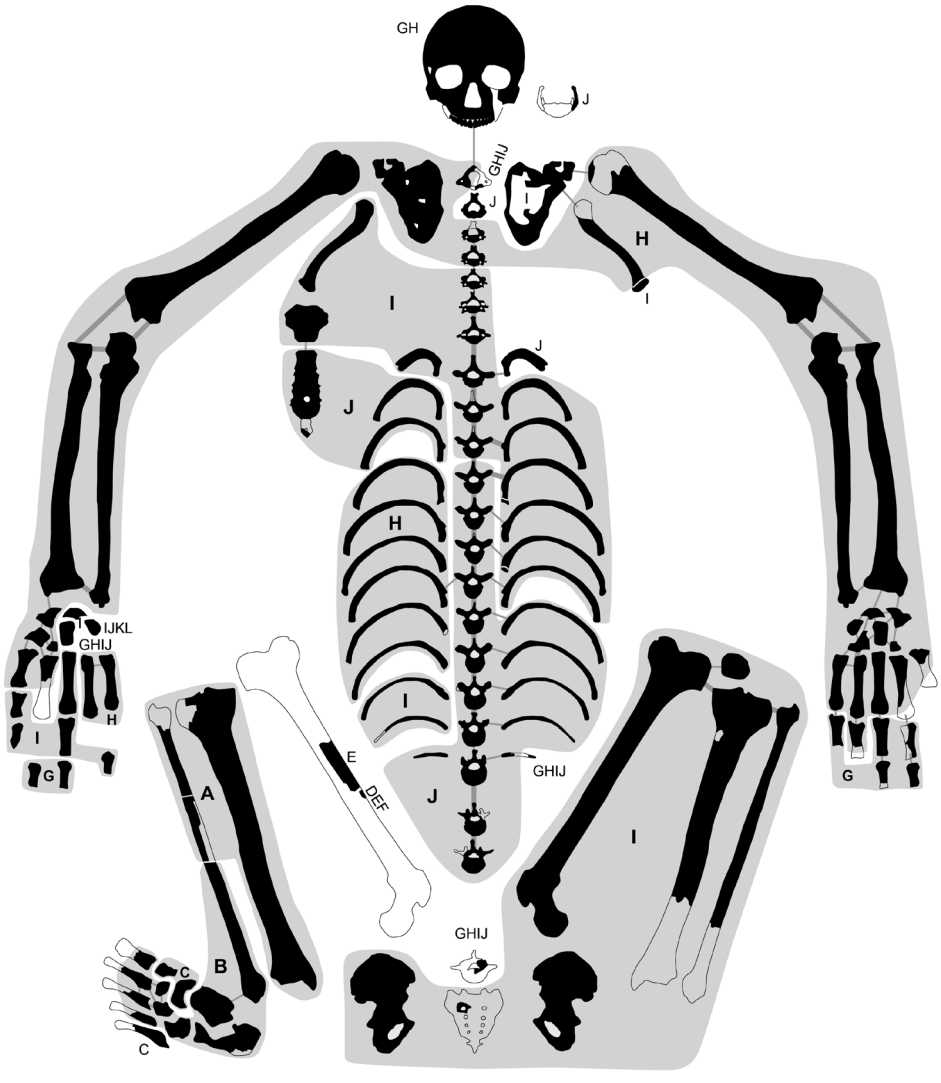


Fig. 4. Graphical index of the bones of Individual I.
See text for an explanation of the conventions used in this and following figures

on their surface, more prominent than in the case of the other individuals. The large amount of small indeterminate bone fragments in Levels P and Q makes us think that many of the bones of Individual II that we could not document were originally present. They were comminuted, probably by trampling, rather than removed. Despite these preservation problems, several joints deemed labile (Duday, Masset 1987; Duday et al. 1990; Duday 1997, 2009) were still recognizable, such as those of the left hand and the mandible. The labile cervical vertebrae were close to their anatomical position. This is particularly noteworthy given the inherently unstable position in which the skull and the entire left arm were found.

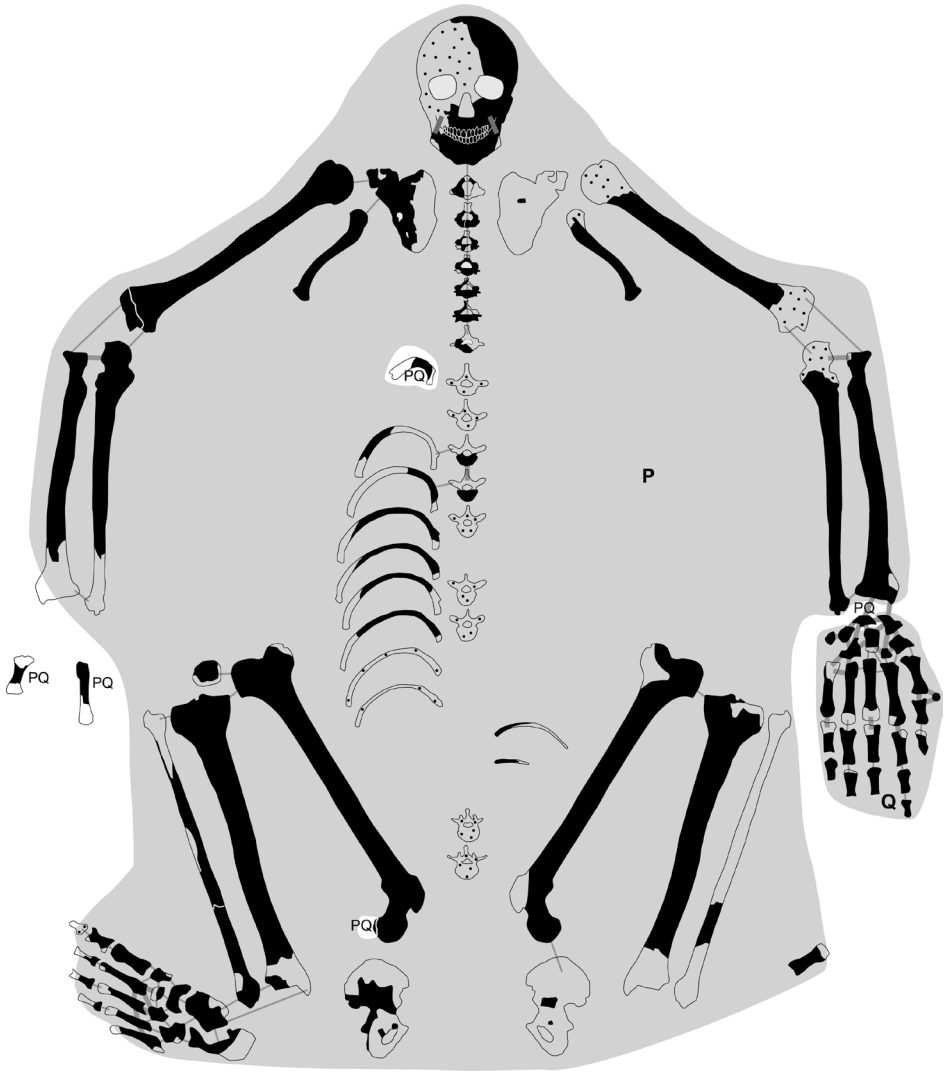


Fig. 5. Graphical index of the bones of Individual II.
Dotted areas denote comminuted or otherwise damaged bone

The skeleton of Individual I is a more complex anatomical riddle (Fig. 4). In Levels G to J, where most of his bones were found, the pattern of disarticulation was similar to that of Individual II, in that the long bones of each limb (arms and left leg in this case) were still articulated. So was the vertebral column in the thoracic, lumbar, and sacral regions. The displacement of the left half of the ribcage was minimal. Its right half, the rest of the axial skeleton, as well as the hand bones, were more dispersed, but still present in the same levels. The left leg was broken off in the distal part of the tibia and fibula, and there was no trace of the left foot. The mandible and the back of the skull (most of the occipital and about a quarter of each parietal) were missing.

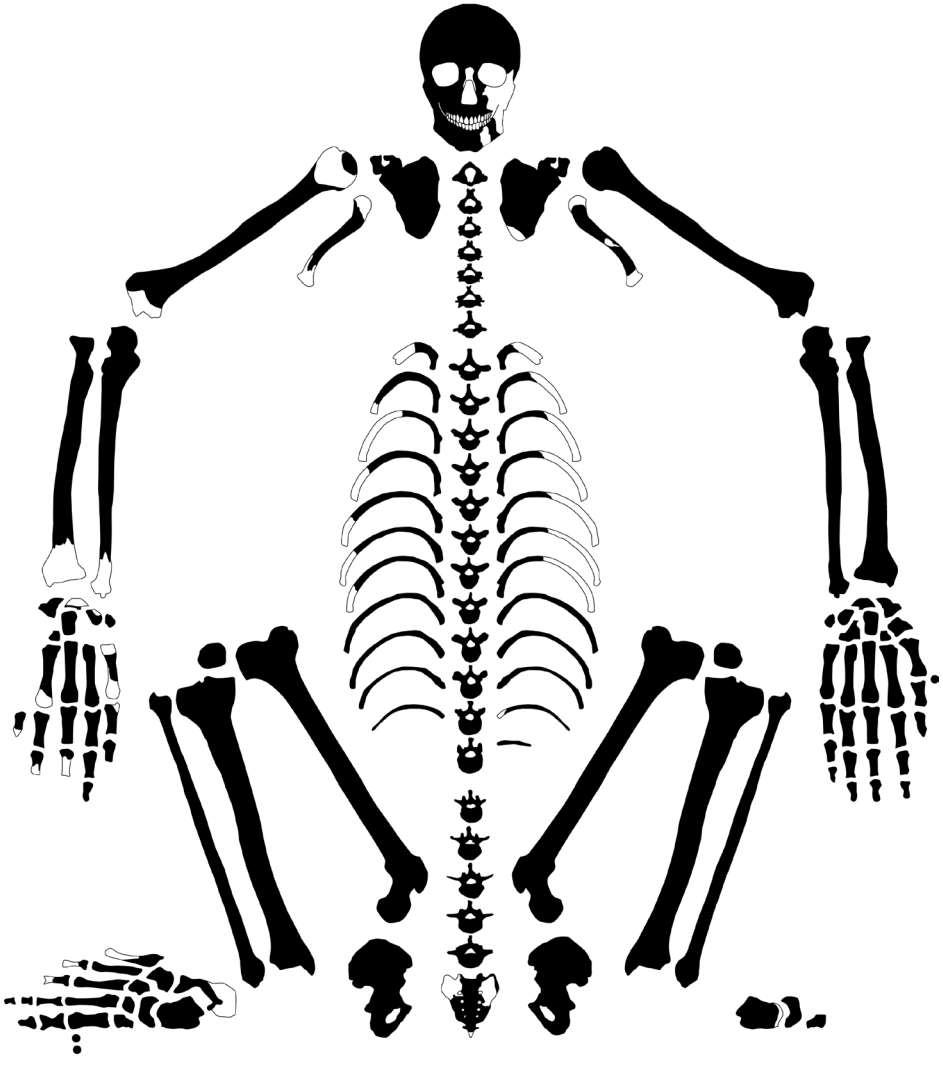


Fig. 6. Graphical index of the bones of Individual III.
The skeleton was found fully articulated in Level R

Such joints as are preserved are found exclusively in Levels G and J. They tend to be those that Duday catalogs as persistent or those that he does not mention as either persistent or labile. The very persistent pelvic girdle, however, was completely disjointed, with one os coxae rotated 180° away from the other. The bones of the right leg, absent from Levels G to J, were completely disarticulated, despite the persistent nature of the knee and ankle joints. These bones were found dispersed much higher up, close to the mouth of the pit, in Levels A to C. The fibula was broken into three separate segments, and the foot bones were preserved from the ankle joint up to the middle of each metatarsal. A 11 cm-long sliver of a femur that had evidently been worked (Fig. 9f) lay in Level E. It had been cut both longitudinally and transversally,

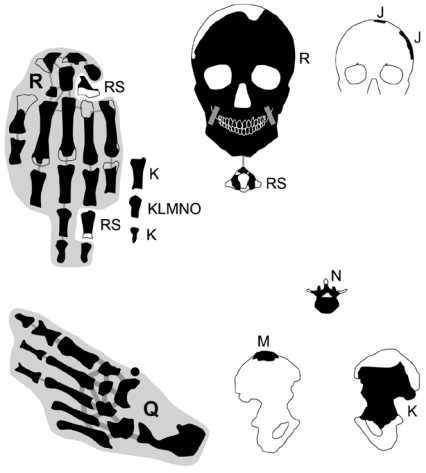


Fig. 7. Graphical index of the bones of Individual 46-IV and other isolated skeletal parts

and at least one of the facets thus created had been polished. To judge by the uniform coloration of the natural and artificial surfaces of this artifact, the bone was still relatively fresh when it was worked. A much smaller fragment of a very thick human femur was recovered on the screen, in a lot spanning Levels D, E and F.

It is difficult to provide absolute proof that these femur fragments and the other leg bones from Levels A to C belong to the same individual as the bones from Levels G to J. The fact that the right tibia from Level A is more robust than the left tibia from Level I would seem to speak against such an association. However, the same bilateral assymetry is repeated in the upper limbs, both of which rested together in Level H. The right scapula, humerus, radius, ulna, and metacarpals are more robust than their left-arm equivalents. Moreover, the epiphyseal fusion lines are equally expressed on both tibiae, and there are signs of periostitis on both sides of the body. The explanation that we find most parsimonious is that Individual I developed a marked bilateral asymmetry of his limbs as a result of pathology or, less likely, the preferential exertion of the right side of his body since an early age (Trinkaus et al. 1994). The inadvertent mixing in of the worked diaphysis of a femur could be imagined in view of the rapid infilling of this part of the pit, but the odds that it should by chance come precisely from the only long bone that is missing, seem low.

The skull of Individual IV also poses some interpretive problems. The fracture across its parietals and frontal seems to have been caused by step-wise percussion with a flat-headed tool. This would have been difficult to perform if the flesh and brain were still there, and there are indeed no defleshing marks. The jagged appearance of the fracture at the back and along the right side of the cranium suggest that the bone was already rather prone to shattering. On the other hand, the smooth appearance of the remainder of the fracture, the uniform coloration of the exposed and natural surfaces, and the beveling of the exposed diploe suggest that the bone was not completely dry. It thus seems that the cranium was modified after some but not

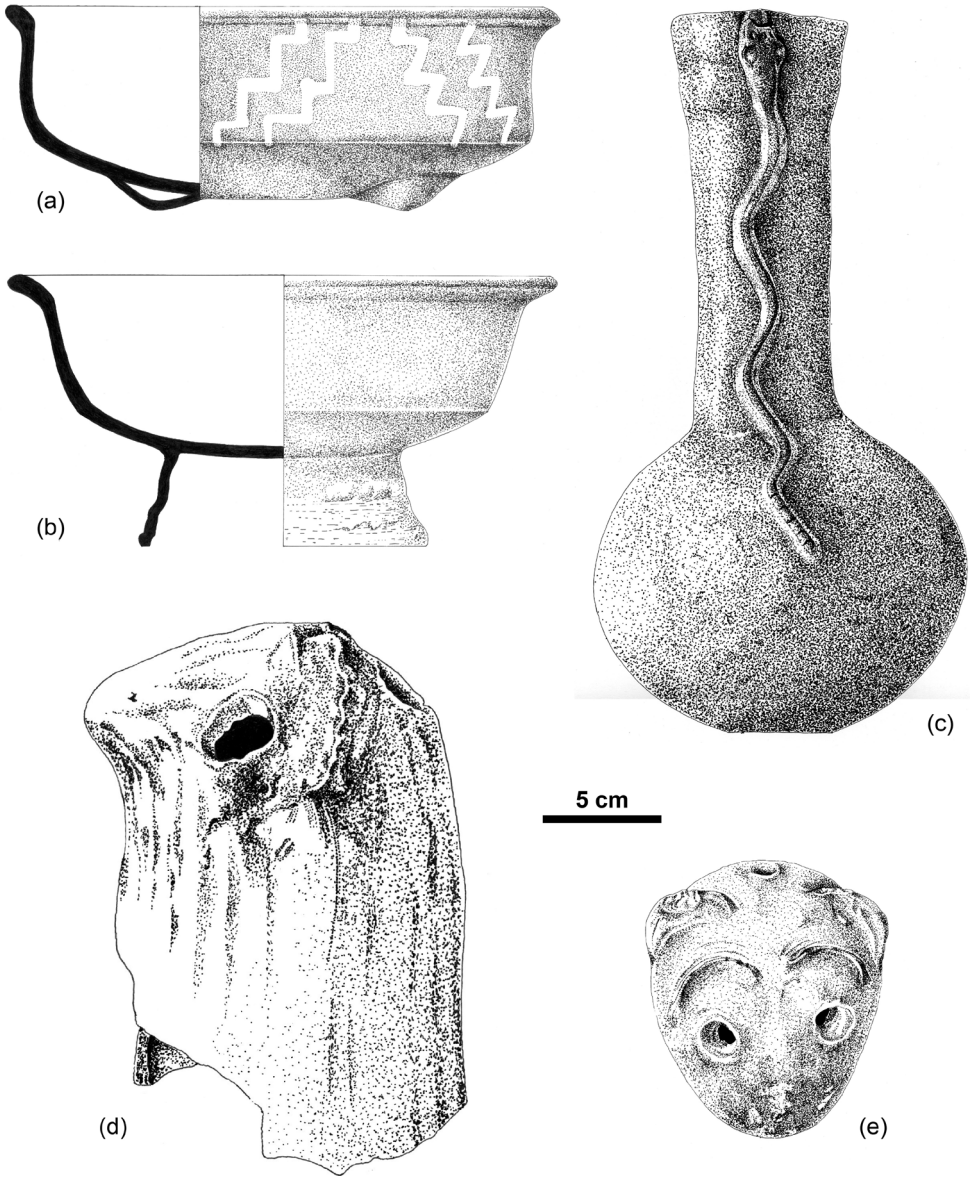


Fig. 8. Selected artifacts from the pit: (a) refitted from Lots 1398 and 1420; (b) Level O; (c) Level I; (d) Level L; (e) Level K. Drawings by Juan Bazán Ortiz

all of the soft tissue had decomposed. It is also worth mentioning that a splinter of bone found under the right hand of Individual III was refitted to the fractured part of the cranium of Individual IV.

Figure 7 indexes other skeletal elements that cannot be safely attributed to any of the numbered individuals. Apart from the infant cranial fragments, any of them could, on osteological principles alone, belong to Individual IV. Most of them probably did

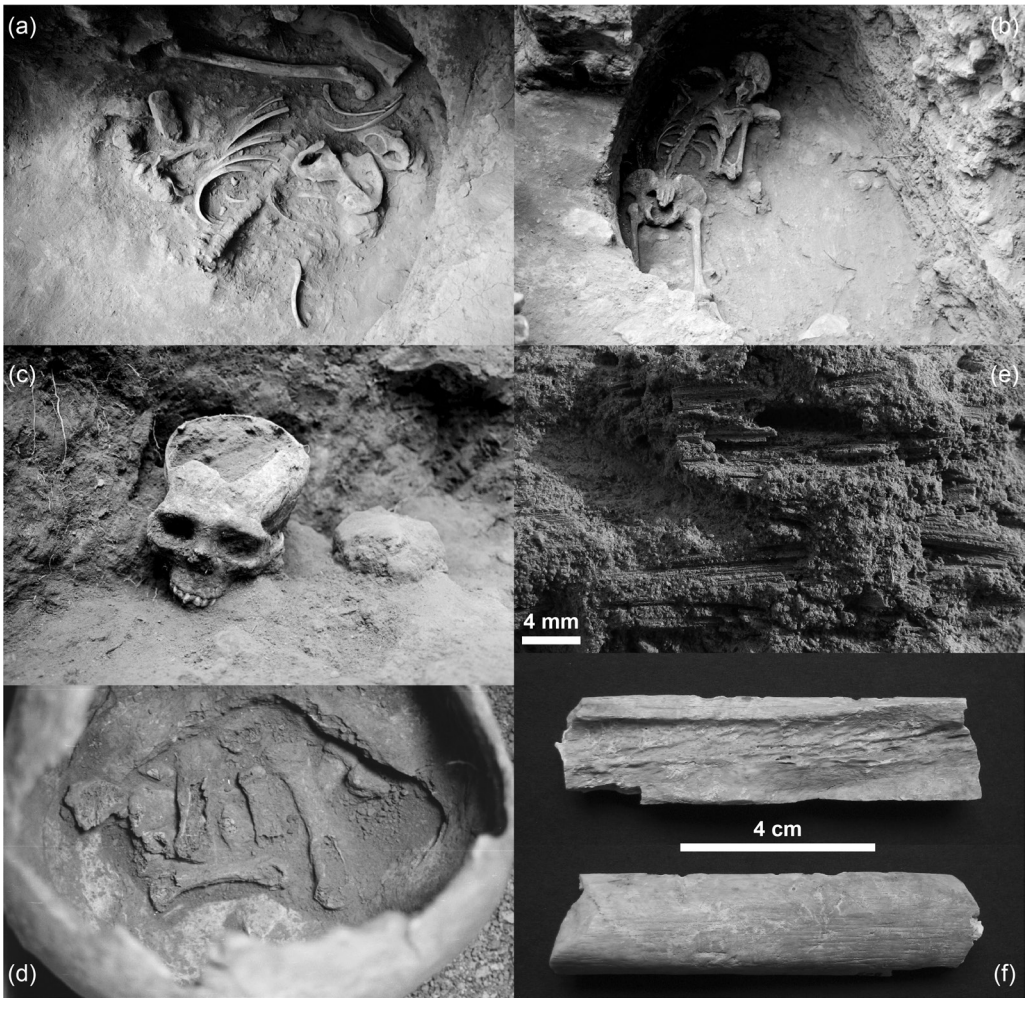


Fig. 9. Photos: (a) bones and jar in Level I; (b) Individuals III and IV; (c) skull of Individual IV; (d) hand bones inside the cranium of Individual IV; (e) close-up of raw daub with impressions of temper; (f) worked femur fragment from Level E

not, but we argue this below on the basis of stratigraphy and ritual logic. The lumbar vertebra and the set of three phalanges could belong either to IV or II. The latter seems more likely in view of spatial proximity. The disarticulated hand from inside the cranium of Individual IV, the left os coxae from Level K, and the articulated foot from Level Q are redundant to all individuals but IV. Any of the post-cranial elements in Figure 7 could of course belong to other unidentified individuals, in which case their total number in the pit would rise above the calculated minimum of five. Some other bone fragments are too small for their proper anatomical identification and thus cannot be shown in Figure 7. The only ones worthy of mention are two cranial fragments that appear to have been thermally altered, a modification that is more obvious and

relatively common among disarticulated human bone excavated elsewhere at the site. They come from the same levels as Individuals II and III, but do not seem to belong to any of our numbered individuals.

The imprints left in the skeletons of Individuals I to IV in the course of their lifetimes are summed up in Table 1. All four were certain (I and III) or probable (II and IV) males. All died as adults. Individuals I and IV had their crania intentionally deformed in childhood (Fig. 10). Individuals II and III may have, too, but their crania

Table 1. Selected osteological attributes of the individuals interred

	Individual I	Individual II	Individual III	Individual IV
Sex[1]:	♂	probable ♂	♂	probable ♂
Based on:	Pelvis Skull morphology	Skull morphology Cementum annulation	Pelvis Skull morphology	Skull morphology
Age estimate[2]:	Young adult	Mature adult	Senile adult	Full adult
Based on:	Epiphyseal closure Pubic symphysis Auricular surface Tooth wear	Tooth wear Tooth annulations	Pubic symphysis Auricular surface Tooth wear	Cranial suture closure Tooth wear
Stature estimate[3]:	1.62 m	1.57 m[4]	1.51 m	-
Cranial deformation:	Tabular-erect	Too deformed by weight of fill to assess	Too deformed by weight of fill to assess	Tabular-oblique
Congenital disorders:			Sacral *spina bifida occulta*. Sacralization of 5th lumbar vertebra. Ectopic eruption of LC in place of LI2.	
Possible activity marks and traumas:	Bilateral assymetry of limb bones, hypertrophy of right scapula, humerus, radius, ulna, metacarpals, and tibia. Orifices joining coronoid and olecranon fossae in both humeri.	Hypertrophy of muscle insertions on clavicles, right scapula, humeri, ulna, femora, and first metacarpal. Loss of LP2, LM1, and RP2, and adjacent maxillar bone.	Hypertrophy of muscle insertions on humeri, ulnae, and femora.	
Pathologies:	Light porotic hyperostosis of ectocranial surfaces of parietals and frontal. Osteolysis of endocranial surface of parietals. Periostitis of right humerus and left femur. Femoral *cribra*.	Enthesites of radii and ulnae. Osteoarthritis of right patella and lumbar vertebra. Periodontitis.	Porotic hyperostosis of parietals. Incomplete unilateral bridging of sacroiliac joint. Periostitis of diaphyses of long bones of legs. Osteoarthritis of third lumbar vertebra and at knee joints. Advanced periodontitis. Resorption of several alveoli.	Periodontitis.

[1] Bass 1995.

[2] Brooks, Suchey 1990; Brothwell 1989; Couoh 2017; Lovejoy et al. 1985; Meindl, Lovejoy 1985; Roksandic, Armstrong 2011; Wittwer-Backofen et al. 2004.

[3] del Ángel, Cisneros 1991. The original measurements are as follows (in centimeters). Individual I: left femur 42.9, right tibia 38.1, right humerus 31.3, right ulna 25.1, left radius 23.8, right radius 23.7. Individual II: right humerus 29.2. Individual III: left femur 38.0, right femur 38.5, left tibia 32.0, left ulna 23.2.

[4] Less reliable than the other estimates because of poor preservation of epiphyses.

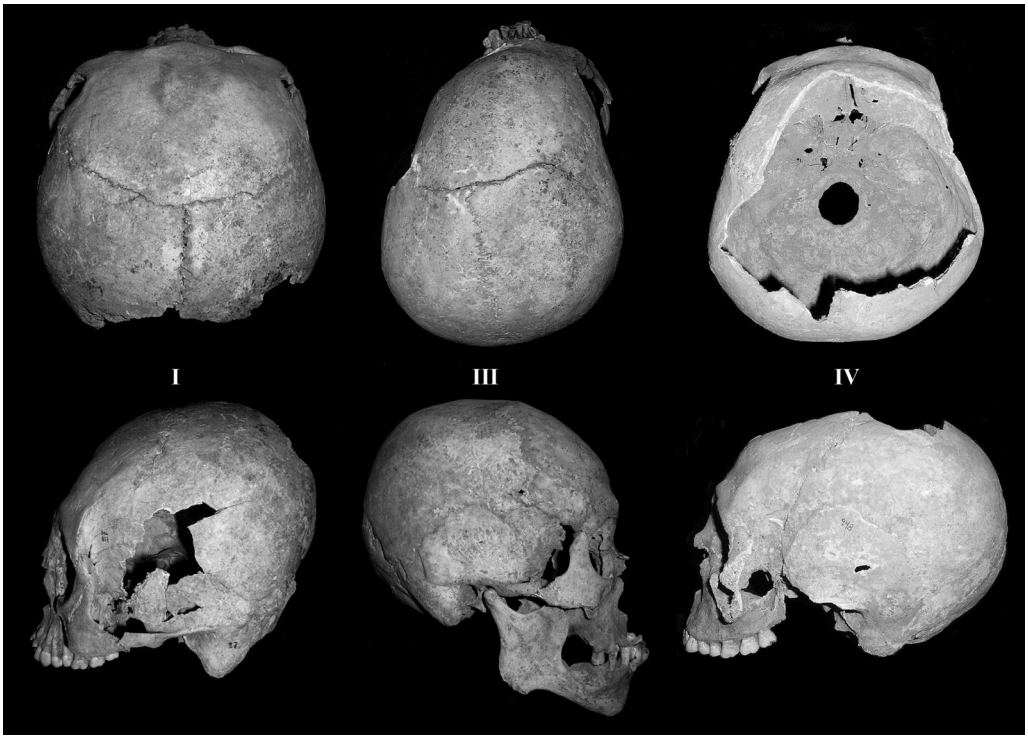
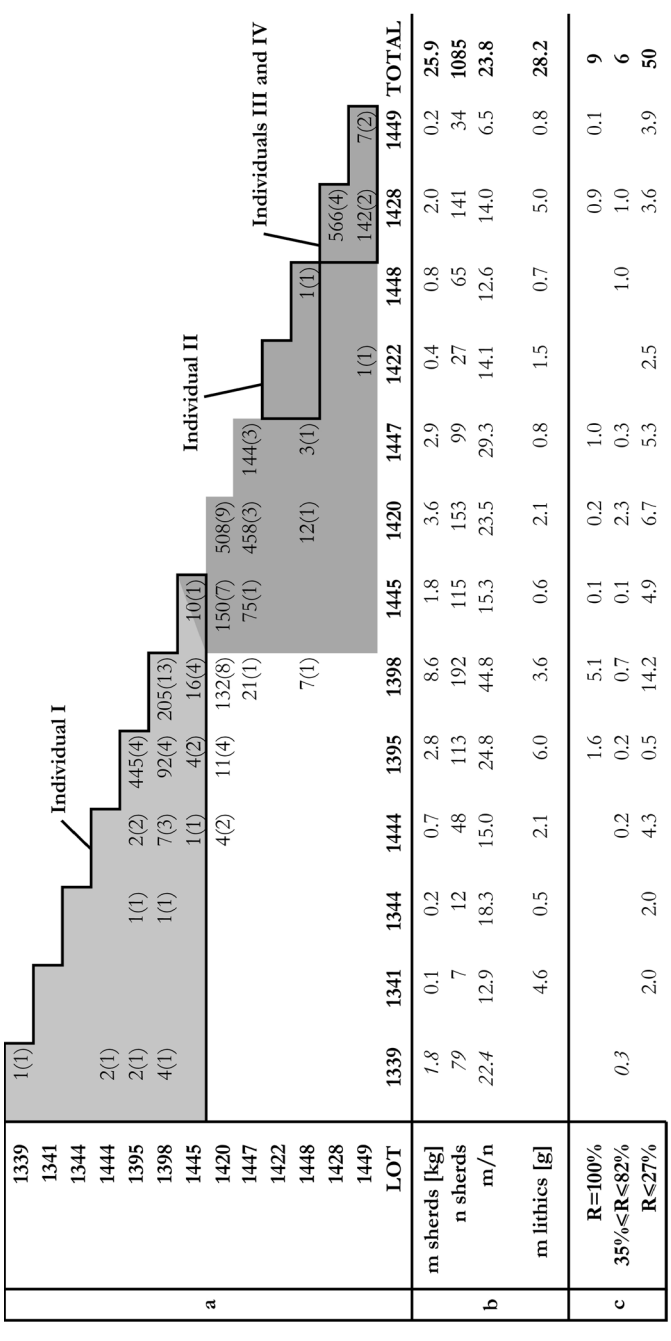


Fig. 10. Different views of the skulls of Individuals I, III, and IV. Not to scale.
The skull of Individual II was more poorly preserved and never fully reconstructed

were too deformed by the weight of the fill to assess that. The practice was common at all levels of society in the Formative (Romano 1974; Tiesler 2010). All four men can be described as robust, and the hypertrophy of several muscle insertions suggests that their lifestyles demanded constant physical exertion. Again, robusticity is common across the social spectrum, and known to diminish population-wide from Preceramic to post-Formative times (Christensen 1998). Individual III was remarkably old. Befitting his age, he was most affected by different pathologies. Individual I was markedly younger than the others, but the pathologies affecting his bone may indicate nutritional deficiencies or other health problems that the older men did not suffer, at least not in a degree sufficient to leave an imprint in bone.

Artifacts and ecofacts

Ceramic sherds were the most common category of artifacts found in the pit. Their overall density was comparable to that of features that were used at La Laguna to discard secondary refuse. Their overall degree of fragmentation was substantially less, with the average sherd weighing 24 g. The size distribution of sherds, however, was very unequal, with some complete or near-complete vessels, and many medium- to small-sized sherds. Their spatial distribution was also very skewed. Figure 11 is an



		1339	1341	1344	1444	1395	1398	1445	1420	1447	1422	1448	1428	1449	TOTAL
a		1339	1(1)												
		1341													
		1344													
		1444	2(1)		4(2)	1(1)	16(4)	10(1)							
		1395	2(1)	1(1)	2(2)	445(4)	205(13)								
		1398	4(1)	1(1)	7(3)	92(4)									
		1445			1(1)	4(2)	16(4)	10(1)							
		1420			4(2)	11(4)	132(8)	150(7)	508(9)						
		1447					21(1)	75(1)	458(3)	144(3)					
		1422									1(1)				
		1448					7(1)		12(1)	3(1)		1(1)			
		1428											566(4)		
		1449									1(1)		142(2)	7(2)	
		LOT	**1339**	**1341**	**1344**	**1444**	**1395**	**1398**	**1445**	**1420**	**1447**	**1422**	**1448**	**1428**	**1449**	**TOTAL**
b		m sherds [kg]	*1.8*	0.1	0.2	0.7	2.8	8.6	1.8	3.6	2.9	0.4	0.8	2.0	0.2	**25.9**
		n sherds	*79*	7	12	48	113	192	115	153	99	27	65	141	34	**1085**
		m/n	*22.4*	12.9	18.3	15.0	24.8	44.8	15.3	23.5	29.3	14.1	12.6	14.0	6.5	**23.8**
		m lithics [g]		4.6	0.5	2.1	6.0	3.6	0.6	2.1	0.8	1.5	0.7	5.0	0.8	**28.2**
c	**R=100%**						1.6	5.1	0.1	0.2	1.0			0.9	0.1	**9**
	35%<R<82%		*0.3*			0.2	0.2	0.7	0.1	2.3	0.3		1.0	1.0		**6**
	R<27%			2.0	2.0	4.3	0.5	14.2	4.9	6.7	5.3	2.5		3.6	3.9	**50**

a. Sherd refits. The number in parentheses indicates the number of vessels that have been refitted between two lots, or within the same lot. The number outside parentheses indicates the number of possible pairs of sherds that these vessels represent. For example, if a vessel has been refitted from one sherd of lot X, two sherds of lot Y, and four sherds of lot Z, it will be scored as follows: X with X = 0(0); Y with Y = 1(1), Z with Z = 6(1), X with Y = 2(1), X with Z = 4(1), Y with Z = 8(1). For the significance of the fields marked by different shades of gray, and those outlined in black, see text.

b. Quantification of artifacts. The weight of sherds is divided by the number of sherds to provide a measure of the fragmentation of the artifacts. The numbers for Lot 1339 are less reliable, as some sherds from outside the pit may have been mixed in. Lithics are chipped stone only.

c. Quantification of vessels. This was performed after refitting. R is the percentage of the circumference of the vessel that is preserved. It allows us to divide the assemblage into complete vessels (R=100%), semi-complete vessels (35%≤R≤82%), and fragments of vessels (R≤27%). No values intermediate between 27 and 35, or 82 and 100% were recorded. Vessels that did not contain enough of a rim to measure R were excluded.
Each entry in the table corresponds to the number of vessels of any of the three categories found in a particular lot. If a vessel was refitted from more than one lot, it was scored in each in proportion to the number of sherds it contributed. For example, if a semi-complete vessel was refitted from three sherds from lot X and two sherds from lot Y, it would be scored as 0.6 in X and as 0.4 in Y.

Fig. 11. Sherd refits and other attributes of the artifact assemblage

attempt to quantify these attributes, as well as the refits of sherds from different excavation lots. Examining this figure in conjunction with Figures 2 and 3 allows us to detect some interesting relationships between the stratigraphy of pit fills, the distribution of human remains, and that of artifacts.

The levels richest in ceramics correspond to the lower half of Zone 1, where most of the bones of Individual I were found (Lots 1398, 1395, parts of 1445 and 1444). A second concentration is in the upper half of Zone 5, in levels almost devoid of human bone (Lots 1420, 1447, and part of 1445). The important distinction between the two is that the former contains the largest share of complete vessels, while large pieces of incomplete vessels are more characteristic of the latter. The bottom of the pit, corresponding to Individuals III and IV (Lots 1428 and 1449), is also relatively rich in ceramics, but they are markedly more comminuted. The topmost part of the pit (Lots 1339, 1341, 1344, and most of 1444) is poor in ceramics, and contains neither complete nor semi-complete vessels. The levels intervening between the bottom of the pit and the artifact-rich top of Zone 5, i.e. those where Individual II was found (Lots 1422 and 1448) are the poorest of all.

The pattern of ceramic refits follows these subdivisions quite closely. The first contrast to be pointed out coincides with the major stratigraphic break in the pit – see the numbers on backgrounds in two different shades of gray. Below the break, refits cluster more strongly near the diagonal of the matrix, meaning that they occur among pairs of sherds recovered from the same or immediately contiguous levels. Above it, there are more refits away from the diagonal, corresponding to pairs separated by a greater vertical distance. This recalls the vertical dispersal of Individual I. The contrast thus points to a multitude of discrete depositional events below the break, as opposed to a single event above it. At a finer scale of analysis, one can see that refits are virtually self-contained in the levels corresponding to Individuals III and IV, virtually absent in those next to Individual II, while very common in the lower half of Zone 1 next to the bones of Individual I, as well as in the artifact-rich but bone-poor levels at the top of Zone 5. The most intriguing refits in the whole matrix are those shown on a white background, as they correspond to pairs found on either side of the stratigraphic break. An explanation is thus required for the carrying-up of parts of some vessels from Zone 5 to Zone 1. Post-depositional sinking of sherds from Zone 1 to 5 can be excluded in view of the compactness of the latter.

The rattle-snake jar is an exceptional piece, and a few of the serving bowls fall towards the finer end of contemporaneous ceramic assemblages. Overall, however, the ceramics from Feature 46 are fairly typical of the Tezoquipan ceramic complex (García Cook, Merino Carrión 1988; Lesure et al. 2014a, b), both in terms of the surface finishes and the vessel forms represented. None of the vessels, zoomorphic censers, figurines, metates or obsidian blades would seem out of place in a domestic midden, although one would perhaps expect to find them broken up a little more. Several vessels bear scratches and other use marks that confirm that they were not intended as mortuary offerings from the moment they left the potter's hands. Two or three vessels, as well as the bone needle, are still in usable condition, which proves that their discard was not motivated by purely utilitarian considerations.

Chipped stone in the pit is mostly obsidian. Its spatial distribution is different than that of ceramics. The largest sample was recovered from the bottommost lots, the second largest from the bottom half of Zone 1. The upper half of Zone 5, rich in ceramics, is poor in chipped stone. Animal bone is scant in the pit, especially in comparison to refuse deposits at the site. The mentioned needle and another possible pin fragment are the only artifacts. A few bones of the mammals commonly eaten at the site (deer, dog, and rabbit) are present, but most are small fragments of parts bearing little meat. It is thus questionable whether any were intentionally placed in the pit. In contrast, the bones of most rodents and burrowing toads (*Spea multiplicata*), are mostly complete specimens of their larger body parts. They may represent whole animals whose carcasses ended up underground post-depositionally, their smaller bones having passed through our screen. We perceive no meaningful association between the distribution of animal bone in different levels of the pit, and that of the other classes of finds. Charcoal fragments are consistently present throughout the pit fill. They are derived from the burning of wood for fuel and appear as inclusions in almost any Formative-age deposit at the site, including the mud used for making daub.

A fragment of wood charcoal from underneath the left scapula of Individual III was dated to 2494 ± 38 BP (Lesure et al. 2014b: 347). Bone extracted from the left femur of Individual I was dated to 2554 ± 47 BP. Because of a plateau in the calibration curve, these dates correspond to a wide range of calendar ages, with the most probable continuous intervals at 2σ being respectively 790–500 and 810–540 BC. Several paired dates on charred plant matter and bone make us suspect that the latter suffer at La Laguna from a systematic error that would make them about 100 radiocarbon years too old. At La Laguna and other Tlaxcalan sites the beginnings of Tezoquipan ceramics have recently been pushed back to 500 BC (Lesure et al. 2014b; Borejsza et al. 2017). Site-wide considerations suggest that La Laguna was abandoned for several centuries after 400 BC. Reconciling all these lines of evidence we would place the mortuary use of the pit in the early fifth century BC.

RECONSTRUCTION OF MORTUARY BEHAVIOR

There are several mortuary treatments that, while common at Formative sites, including La Laguna itself, can easily be discounted as structuring the use of Feature 46. They include undisturbed primary burial, secondary burial, dismemberment of fleshed corpses, and mechanical defleshing. We exclude undisturbed primary burial, because Individuals IV, II, and I were found in positions in which it is physically impossible to place a complete human corpse. Neither could have they settled into such positions by simple gravity during decomposition. The complete articulation of Individual III admits the possibility of a primary burial from which only a foot was removed at a later stage. However, we consider it unlikely that he was originally buried in this position – prone and lining the wall of the pit in an arc. The bones of Individual II were arranged the same way, only that they were partially disarticulated. The skull of Individual IV

was also placed against the wall. Moreover, most artifacts, stones, and other inclusions in Levels S to K were arranged in a ring around a near-empty center. However, there was no size-sorting of sediment from center towards the walls, as would occur if the contents were tossed in from the constricted mouth. An explanation that fits all of these observations is that the pit was repeatedly reentered. Given the constricted mouth and limited space inside, the person entering the pit would naturally tend to land near the center, and make room for himself by pushing any contents encountered towards the wall. This gesture does not seem to have caused much disarticulation of Individuals III and II. In the case of the latter, even though his limbs ended up flexed, none of the elbow or knee angles was completely closed (see Duday 2009: 53). This and the presence of labile joints suggests that each retained some flesh when the pit was reentered, the decomposition probably being more advanced in the case of Individual II than III.

As regards secondary burial, if clean bone was brought in from somewhere else, we would expect almost complete disarticulation, bone shafts touching one another or too close together for any flesh to have been present, and a major bias in favor of the larger bones (e.g., Pereira 1997, 2007). None of this was observed in our case, though we recognize that the skull of Individual IV is one element that could fit the pattern of a secondary burial. The only tool-induced marks are on the parietals, frontal, and femur shaft. They are away from any joints, and of a kind that suggests that rather than dismemberment or defleshing, the modification of the bone itself was the purpose. In sum, it is difficult to avoid the conclusion that a number of human corpses were sequentially placed in Feature 46, then handled again at a stage when some or most of the ligaments had decayed naturally. The crucial question is whether the reentries were traditional or transformational, i.e. whether we are closer to the tomb or charnel scenario. Table 2 demonstrates that all or nearly all the evidence can be accommodated to fit either one or the other. In the remainder of this section we strive to identify those events or gestures in this table that seem most problematic, and use our second and third interpretive principles to modify and re-combine the different gestures. In the following section we move beyond the confines of the La Laguna pit, and thus to the fourth principle.

The extra bone of Figure 7 and other small fragments that cannot be ascribed to Individuals I, II, and III pose a first problem, more acute for the tomb than for the charnel scenario. If removal of bone was merely incidental to the placement of new interments, how do we explain their presence in the pit? If we suppose that they belonged to other unidentified individuals buried in the pit, it would mean that the cleaning undertaken on reentry sometimes involved little more than displacement, such as in the case of Individuals III and II, and sometimes was thorough enough to get rid of most of the bones. For the indeterminate fragments, infant cranial fragments, incomplete os coxae, vertebra, and the phalanges from Level K we could assume that they ended up in the pit by being inadvertently redeposited with the fill. After all, the scant lithic debitage and animal bone from non-burrowing mammals that were found in the pit also lack any obvious behavioral association with the interments. Isolated pieces of human bone turn up in architectural rubble, refuse dumps, and most other contexts at the site.

Table 2. Possible sequence of events in accord with the two main scenarios. Thick lines separate pit reentries. Other variants are possible and are discussed in the text

Level	**Tomb scenario** Traditional reentries	**Charnel scenario** Transformational reentries
	Earthen berms of agricultural terraces piled up on top of eroded surface. Neck of bell-shaped pit eroded.	
AB CD EF G H I J	Corpse of I found partially decayed on reentry to place another burial, but conditions found inappropriate. Bones and offerings of I dispersed throughout the backfill of earth, demolition debris, and refuse added. Mandible, right leg, and left foot inadvertently removed or left in the neck area of the pit. Cut femur fragment inadvertently introduced with refuse.	Corpse of I found partially decayed on reentry. Offerings and parts of the corpse moved and piled up within pit as earth, demolition debris, and refuse added. Mandible, right leg, and left foot removed. Femur cut up. Parts of femur and other bones of the right leg tossed back into the pit as backfilling nears its end.
K	Corpse of I placed with offerings.	Corpse of I placed with offerings. Some of them had been gradually carried up from previous burials.
L M N O	Offerings of II dispersed towards wall and churned up, as more raw daub and refuse added. Innominates, phalanges, and other small bones inadvertently introduced with refuse.	Corpses of one or several unnumbered individual placed in sequence, some with offerings. Bone removed after flesh decayed. Innominates, phalanges, and other small bones left behind. Offerings broken up, pushed against wall, and partially removed on each reentry. Raw daub gradually added.
P	Corpse of II found partially decayed on reentry to place corpse of I. Tread on and pushed against wall. Left foot and a few other parts accidentally removed during clean-up. Raw daub added.	Corpse of II found partially decayed on reentry, pushed against wall. Left foot removed on purpose. Corpse buried under thin layer of raw daub.
P	Corpse of II placed with offerings.	Corpse of II placed.
Q	More raw daub and refuse added, inadvertently introducing articulated right foot, perhaps held together by sandal.	Bone of unnumbered individual removed. Right foot left behind.
Q		Corpse of unnumbered individual placed.
R	Corpse of III found little decayed on reentry to place corpse of II. Pushed against wall. Left foot accidentally removed during clean-up. Raw daub added.	Corpse of III found little decayed on reentry, pushed against wall. Left foot removed on purpose. Corpse buried under layer of raw daub.
R S	Corpse of III placed.	Post-cranial skeleton of IV removed. Part of cranium cut out and removed. Skull placed against wall. Hand bones picked up and dropped inside it. Corpse of III placed.
S	Earth rich in refuse added.	Corpse of IV placed.
S	Pit converted to ‘tomb’. Skull of IV introduced as secondary burial, perhaps a dedicatory offering. Hand bones placed inside it before or at the time of placement in pit.	Pit converted to ‘charnel’. Several corpses of unnumbered individuals placed in sequence, some with offerings. Bone removed after flesh decayed. Hand bones of one overlooked. Most offerings removed, some broken up and left behind.
	Bell-shaped pit dug and used for storage.	

Such inadvertent redeposition is more difficult to accept for the articulated foot in Level Q, and outright impossible for the skull of Individual IV. The foot was obviously detached from the rest of the skeleton as a unit, and remained one despite the loss of the talus and several phalanges. The preservation of its articulations, especially the more distal ones, which are more labile, is open to several interpretations: it may have last been handled with the ligaments still in place, held together by desiccated skin (see Maureille, Sellier 1996), or by a sandal or other kind of footwear. What makes us suspect intentionality in the handling of this right foot is the observation that other feet in the pit seem to have been treated as units. The right foot of Individual I, even though pieced together from isolated bones in two different levels, includes all the bones from the heel to the metatarsals. Each of the latter is broken off mid-shaft, as if the instep was broken in one blow. The left foot of this individual is missing. Only an isolated phalanx is tentatively assigned to the left foot of Individual II. What remained of the left foot of Individual III were three tarsals, still in their correct anatomical position. Right feet are thus overrepresented, which is very difficult to attribute to natural taphonomic factors or chance.

The skull of Individual IV is too big to have been overlooked, and was evidently placed on the floor, not tossed in with the fill. The refitted splinter confirms that the remains of Individual IV were handled before those of Individual III, and suggests that the cranium was modified inside the pit. The dark and confined space was hardly the ideal place to perform this operation, at least from a practical point of view. Perhaps then, the whole corpse was already there? The presence of the mandible and atlas suggest that the head was detached from the torso when at least some ligaments were still present. Although sometimes adduced as evidence of death by beheading, this could have happened some time after death, given that the occipital joint is one of the most persistent. The mandible, a more prominent bone, even though easily separated from the cranium, could have been re-united with it on purpose. This, however, would run against our third principle, since none of the other crania was handled this way. In fact, when the cranium of Individual I was handled, the mandible was permanently removed.

The hand bones inside the cranium of Individual IV cannot be discounted as a random occurrence, but it is debatable to what extent they reflect a gesture imbued with ritual meaning. They rested in an anatomically meaningless jumble at the bottom of the cranium, two of them were on the outside of the foramen magnum as if they had fallen through it, and six were missing. As argued above, the cranial vault was intentionally fractured when the brain was no longer there. It is thus clear that loose bones were dropped into an empty cranium. The gesture was not repeated with any of the other individuals. We therefore imagine that the cranium simply provided a convenient receptacle at a moment when the floor of the pit was being cleaned of its former contents, ahead of the placing of Individual III, or on one of previous entries. In all, we admit that the skull of Individual IV is the element that jars most with the tomb scenario, and only slightly less so with the charnel one. It may require relaxing their parsimony and seeking an explanation in the placement of "human grave goods" (Hammond 1999) for Individual III, or a dedicatory offering inaugurating the mortuary use of the pit.

Two bones in the pit were intentionally modified: the just mentioned cranium and the femur that we assign to Individual I. An attempt was made to shape the femur, though with most of it missing, we do not know whether the worked fragment represents an unfinished artifact abandoned after some slip in the production process, or the refuse from the shaping of an artifact that was taken away. Under the tomb scenario, the quarrying of skeletons for raw material is probably to be viewed as opportunistic and incidental to new interments. Under the charnel one, it could be one of the main motives for reentry and a regularly recurring gesture.

The disarticulation pattern of Individual I is also difficult to accommodate in the tomb scenario. We have mentioned several stratigraphic and artifactual clues that indicate that Levels J to A, where his bones are dispersed, accumulated very rapidly. The absence of the "ring" pattern of objects pushed towards the walls also proves that this was the last depositional event in the pit, after which no reentry took place. There is a contrast, however, between the semi-articulated bone of Levels J to G, and the completely disarticulated and partially broken bone of Levels E to A. We think that the corpse had previously been placed in the pit, and had largely decomposed. Upon reentry, the right leg and the mandible (or the whole skull) were lifted out of the pit. The torso and the remaining limbs were shifted from their original position, but, in view of their partial articulation, probably never left the pit. They may have been piled up on top of one another shortly before or while the fill of Levels J to G was added. The backfilling of the pit was completed with Levels F to A, at which time the bones of the right leg were tossed back in.

The artifactual evidence supports this reconstruction. Levels J to G stand out as those in which the largest concentration of sherds and the largest number of complete vessels was found (Fig. 11). It is common in multiple graves to find the least broken up objects next to the last interment. That this pattern holds here, even though Individual I *was* disturbed, suggests that the pit was reentered only once after his corpse was placed in it. Ceramic refits across Levels J to A mirror the dispersal of the bone, and confirm that objects originally placed next to Individual I were disturbed in the same way. Some may even have been temporarily lifted out of the pit, along with the right leg. The refits across the main stratigraphic break, i.e. down to Level K or below it, may be interpreted in two different ways. One is that the corpse and grave goods of Individual I were originally laid out close to Level K and displaced higher up during the last reentry. The other is that reentries involved collecting objects placed with previous interments and putting them together with those introduced with the new corpse. This would explain the relative scarcity of artifacts next to Individuals IV, III, and II, and their heavy concentration in Levels K to G. In view of all this, the disturbance of Individual I and his grave goods can be satisfactorily accommodated in the charnel scenario, but is superfluous under the tomb one, since no later interment took place. Adjusting it to the tomb scenario would require a reentry that was "mistaken:" the pit was reentered with the idea of placing another corpse (for which there was still room) but for some reason it was found advisable instead to backfill the pit and end its mortuary use.

The very nature of the fill of the pit offers some hints in support of its use as a charnel. The geometry of the different strata gives no indication of the fill ever having been dug into. This means that corpses were laid out on a surface – the tepetate floor at first, the compacted daub-derived earth later – above which the pit remained empty. By "interments" we thus mean placing corpses underground, without covering them with earth at first. The earth would be added only after reentry. This is best appreciated in the case of Individual II. The pushing of his corpse implies an empty space at reentry. But, the unstable position of his skull and left arm indicate that the last stages of decay took place in an already filled space. Throughout the mortuary use-life of the pit, the continued access of air would allow for more rapid decay than a burial that excluded air. Even though a bell-shaped pit was not originally designed for mortuary use, its size and shape would make it an ideal device for letting corpses rot, especially if there was an intention of recovering the bones, as it would preclude the entry of most scavengers. Even if some animals fell into the pit, they would not be able to scamper away with the human bone. Much of the fill of our feature comes from the demolition of wattle-and-daub houses. The lower half of the pit is full of decomposed raw daub. The upper half contains burnt daub and unfaced stone of exactly the same kind that in nearby contexts served to lodge the upright beams and wattle framework. The interpretation of houses being burnt upon the death of the head of the household (Winter 1972: 208; Merry De Morales 1987: 108) does not seem to fit our case. We have several discrete interments, all but the last followed by additions of relatively thin layers of fill, mostly of raw daub. An unlikely scenario of a sample of each deceased man's house being brought to the pit would have to be imagined, and this without setting the house ablaze. Moreover, two other bell-shaped pits nearby contained a similar stratigraphic sequence of raw daub at the bottom, and burnt daub and unfaced stones on top. One of them contained no interments. The other may have, as it was not completely excavated. It thus seems likely that there was a ready source of demolition debris nearby. This would be the case if, for example, the pits were located in a household cluster that was no longer inhabited. If the pit was intended as a charnel more than a tomb, having the flesh decompose some distance away from the living would offer obvious practical advantages.

An even stronger appeal of the charnel scenario is that it admits a larger degree of disturbance of each corpse on reentry. All the extra bone of Figure 7 – whose presence we struggled to explain under the tomb scenario – can more easily be assumed to belong to complete corpses that were placed in the pit, but once skeletized were removed, with this or that part being overlooked or left behind for a reason. Multiplying corpses means multiplying reentries, as the additional lines in Table 2 make clear. A number of corpses could have been handled on the original floor of the pit, without any addition of fill. Several more could have been handled in the timespan in which the floor was raised to Level K. Both the stratigraphy and the ceramic refits point to this part of the fill representing a large number of depositional events. This, the advanced degree of fragmentation and dispersal of bone and artifacts in Levels S to K, as well as the mentioned signs of treading and compaction are commensurate with a large number of reentries.

Still, the charnel scenario does not erase the already mentioned dichotomy between Individuals III, II, and I whose remains were merely displaced from their original position with small portions of the skeleton removed, and Individual IV and all the other putative individuals whose remains were removed but for a relatively small portion of the skeleton. A more nuanced set of rules is called for. Perhaps removal was conditional on the state in which the corpse was found at reentry. Many societies view the rotting of the flesh as a sign that the passage of the person to the realm of the dead has been successfully completed (Hertz 1907; van Gennep 1909). On a less esoteric level, clean bone tends to provoke less revulsion than rotting flesh. If putrescence was found to be incomplete at reentry, there may have been both ideological and practical justification for giving up on removal of the entire skeleton or reducing it to a few token parts (see Rosales López, Sánchez García 2004 for a case of archaeological identification of successful and failed removal, in their case with a second interment in mind). This could then be what happened with Individuals III, II and I. The state they were found in may also have motivated the observed addition of fill, in order to cover up the still decaying corpses and raise the surface on which later interments would be laid out and handled. In the successful (and archaeologically barely visible) cases, all or most of the bone would be removed for further mortuary treatment.

Once again the skull of Individual IV stands out as somewhat incongruous. It is one of a kind (in this pit) and unlikely to have been left behind by omission. It brings us to what is perhaps the Achilles' heel of the charnel scenario. If reentry and removal were anticipated acts, why can we not discern a clearer and repetitive focus on the same body parts? Feet seem to have attracted special attention, and the pattern of missing left feet is striking, but beyond this there is little to hold on. For now, it is perhaps safest to assume that the removal of the whole skeleton was the norm when the flesh had successfully decomposed, and that the removal of some token part, such as a foot, was considered sufficient when it had not.

The two scenarios resist shaving with Occam's razor in different ways. The tomb requires fewer assumptions, but there is a lot of empirical evidence that it leaves unaccounted for. The charnel explains significantly more, but at the cost of multiplying assumptions. Its drawback is that it relies as much on what is absent and was presumably removed from the pit, as it does on the actual finds. This is of course a common explanatory problem in archaeology. The preceding discussion also makes it clear that we are running up against the wall of insufficient sample size. The only way to augment it is to look beyond our feature and site.

DIFFERENTIAL TREATMENT OF BODY PARTS IN WIDER CONTEXT

Because of general similarities in material culture and the inferred degree of social complexity, the examples that we find relevant for comparisons with our case come mostly from central Mexico and neighboring regions between ca. 1000 and 300 BC (Table 3). The two sites that probably provide the most useful points of reference are

Table 3. Some Formative contexts with possible evidence of prolonged mortuary treatment or selective treatment of different anatomical parts

Site	Feature(s)	Age BC	Seq. Use	Removal of Bone	Addition of Bone	Anatomical Parts Intentionally Handled	MNI	Worked Bone	Stage
La Laguna, Tlax.	B.s.p. 46	500–450	YES	YES	?	Cranium, mandible, leg, feet, possibly others	5	YES	Early
	B.s.p. 43	600–400	YES	YES	NO	Ribs and vertebrae	1	NO	Early
	Structure 15M-1	100–AD150	NO	NO	YES	Crania and mandibles	2	NO	Late
Tetel, Tlax.	B.s.p. 4	750–650	YES	YES	NO	Cranium, long bones	1	YES	Early
Colotzingo, Pue.	Pit, b. 1	~800	YES	?	?	Mandible, femur, radius, possibly sacrum and vertebrae	2	NO	Both?
	B.s.p., b. 2-4	~150	YES	?	?	Crania, long bones	6	YES	Early
Buenaventura, Méx.	Not specified	Post-400	YES	YES	?	?	8	?	Early
Tlapacoya, Méx.	Several	Post-900	?	YES	YES	Mostly crania and long bones	1	NO	Early
Cuanalan, Méx.	Pit	400–350	?	?	?	?	1	?	Late?
	Several	Post-500	?	?	?	Crania?	?	?	Late?
La Chagüera, Mor.	Cave	850–450	YES	YES	YES	Most, apparent emphasis on feet, hands, ribs, vertebrae, clavicles, and scapulae	~30	YES	Late
Rincón de Aquila, Ver.	B.s.p., b. 11-1	Post-600	YES	YES	YES	Cranium, vertebrae	5	NO	Early
Tetel de Rancho Verde, Ver.	B.s.p., b. 9-2	Post-600	?	?	YES	Crania, long bones, vertebrae, phalanges, patellae, ribs, scapulae	12	?	Late
Temixco II, Gue.	B.s.p.	1300–800	YES	?	?	?	2	?	Early?
Tixtla, Gue.	Cist	750–400	YES	YES	?	Removal: whole upper body; addition: crania and long bones	10	NO	Both
COOVISUR, Gue.	Masonry tomb 1	1300–800	?	NO	YES	Various, including crania, long bones, and vertebrae	5	NO	Late?
El Opeño, Mich.	Shaft tombs	1300–1000	YES	YES	?	Long bones, crania	Large	YES	Early
Caseta, Jal.	Shaft tomb B	~300	YES	YES	YES	Removal: crania (without mandibles), hands, perhaps ribs and vertebrae; addition: long bones	16	NO	Both
El Rayo, Gjo.	Several	600–?	?	?	YES	Crania, occasionally with mandibles and cervical vertebrae	68	?	Both
Etlatongo, Oax.	B.s.p. 7	500–300	YES	YES	?	Long bones, mandibles, feet	7	NO	Late
Huamelulpan, Oax.	Altar	100–AD200	YES	NO	YES	Crania	4	YES	Late

Seq.= Sequential; b.s.p. = bell-shaped pit; b. =burial. "Stage" refers to the stages of mortuary treatment that are predominantly represented. References: La Laguna, B.s.p. 46 (this article). La Laguna, B.s.p. 43 (Borejsza, Rodríguez López 2014). La Laguna, Structure 15M-1 (Carballo 2009). Tetel (Lesure, Carballo 2014). Colotzingo (Uruñuela 1989, 1993, 1998). Buenaventura (David et al. 2007). Tlapacoya (Barba de Piña Chan 1956). Cuanalan (Manzanilla 1985). La Chagüera (Alvarado et al. 1996; Morett Alatorre et al. 1999, 2000); Rincón de Aquila and Tetel de Rancho Verde (Lira López 2004a, b). Temixco II (Martínez Donjuán 1990). Tixtla (Couoh, Hernández 2008). COOVISUR (Reyna Robles, González Quintero 1998. El Opeño (Oliveros Morales 2004). Caseta (Acosta Nieva 2000). El Rayo (David et al. 2007; Porter 1956). Etlatongo (Blomster 2004; Blomster , Higelin Ponce de León 2017). Huamelulpan (Christensen, Winter 1997).

Early Tetimpa (Uruñuela, Plunket 2002) and Buenaventura (David et al. 2007). Both are very near in space in time, and have yielded samples of burials large enough to reconstruct their mortuary programs. The dominant archaeologically observable mode of corpse disposal at both sites was interment within or under house platforms, in highly flexed positions that may indicate bundling of still articulated corpses. We have discovered several such burials at La Laguna. They might be the norm, too, but our sample is too small to independently affirm this. At Buenaventura, eight out of 70 burials are identified as "reducciones de cuerpo," i.e. displaced from their original position upon reentry (Duday 2009: 72). Some body parts are commonly missing in reductions, though this is not explicitly stated in this specific case, and the patterns of displacement are not discussed any further. These seem likely analogs for our Feature 46, and the dataset from Buenaventura is at present the only one that allows us to gauge the frequency of this sort of mortuary treatment.

Finds from which it is possible to guess a prolonged mortuary treatment and/or the differential treatment of body parts are more common. In the penultimate column of Table 3 we have tried to indicate whether they reflect the early or late stages of mortuary treatment. The ones where early stages dominate would be our putative charnels. Those labeled as "late" include features that seem to have been used at a later stage, receiving parts of the body or skeleton that had been decaying somewhere else. As has been signaled, either stage could involve features and behaviors that are archaeologically invisible (Uruñuela, Plunket 2002) and it is of course virtually impossible to prove in any particular case that human remains were carried from a feature of the first set to one of the second. But, in terms of the mortuary program as a whole, it seems a hypothesis worth exploring. The features vary in form and the amount of labor invested in them, underscoring that the form of the grave does not always map well onto the class of treatment afforded to the corpse. The high frequency of bell-shaped pits, however, is noteworthy. We attribute it to their ubiquity in Formative villages and the practicality of their shape and location for use as charnels that we have argued above.

A bell-shaped pit excavated at the site of Etlatongo (Blomster 2004: 157–161; Blomster, Higelin Ponce de León 2017) is strictly coeval with and strikingly similar to Feature 46 at La Laguna. It contained the bones of at least seven adults. Three were represented by semi-articulated skeletons, at least two of them disposed in arcs along the wall of the pit. One individual lacked both femora and one tibia. The remaining four individuals were represented by smaller sets of bone from most parts of the skeleton, including three or four feet, two mandibles, and one tibia. Demolition debris (in this case mudbrick not daub) was placed over the skeletons and used to fill the pit once its mortuary use ended. Blomster and Higelin argue for both additions and removals taking place within a relatively short period. Our search for parsimony in mortuary interpretation would lead us to point out that removals only are sufficient to explain the evidence. The lack of clear separation between the bones of different individuals may be the result of prolonged use without addition of fill, for a period sufficient to encompass the sequential death and "processing" of seven or more individuals. While we may differ in our interpretations, we find it noteworthy that Blomster posited a more conventional tomb

scenario in the 2004 publication, but as the analysis progressed, he and Higelin adopted several postulates that figure in our charnel scenario. Preserved occupation surfaces dating to before, during, and after the use of the pit at Etlatongo suggest that this kind of feature functioned within or very close to inhabited house compounds.

In far western Mexico, several cemeteries of the Formative period (Mountjoy 2012; Mountjoy, Sandford 2006; Rhodes et al. 2016) reflect the later stages of similarly complex mortuary programs. Each village seems to have followed a fairly consistent set of rules governing the selection, processing, and arrangement of different parts of the skeleton. The rules seem to be the same for a large portion of the population, including men and women of different ages, but can be radically different from one village to the next. What unites them is the apparent care in preserving all skeletal parts for some kind of secondary burial. Mountjoy believes that the ritual logic governing several of these programs mandated the burial of all people deceased in the course of a year at a specific time near the end of the dry season when crops were about to be planted. The corpses of those who died many months ahead of that date had to be saved for the occasion and thus required more involved processing and curation. The presence of small and fragile bones in even the more intensively reduced final interments, coupled with the scarcity of traces of weathering, thermal exposure or defleshing with tools, point to natural decomposition in a protected space and lead Rhodes et al. (2016: 384) to postulate "the use of a mortuary hut or charnel house serving as a place for storage, processing of the corpse and possibly social display." With the exception of social display, the same needs could have been met by bell-shaped pits or tombs with empty yet apparently unlooted chambers (e.g., Mountjoy, Sandford 2006: 316, 320).

Both in these examples and in the larger sample of Table 3, a clear and persistent focus on only specific body parts is not easy to discern. Almost any skeletal element can be shown to have been intentionally handled somewhere. There are, however, some patterns. Crania and long bones were the ones most frequently found detached from the rest of the skeleton. Isolated crania in particular are a common occurrence at Late Formative sites in the Basin of Mexico (Manzanilla 1985: 136). In the Basin and beyond there are instances of multiple crania at the same site, or even the same feature. Most of these probably represent secondary burials, i.e. a late stage of a prolonged mortuary treatment. Unfortunately many reports give few anatomical details, making further inferences difficult, and at least admitting the possibility that it was the post-cranial skeleton that was removed from a primary burial. At El Rayo, where a particularly large sample of isolated crania was excavated (Porter 1956) and recently re-analyzed (David et al. 2007) the vast majority lacked mandibles or cervical vertebrae, and more than half belonged to infants.

Crania and long bones also seem the parts most likely to be worked, one of the earliest examples being the awls from the shaft tombs at El Opeño, some of them arranged in a "fan" (Oliveros Morales 2004: 158–163). El Opeño, El Rayo, and a post-200 BC bell-shaped pit in Chiapas (Martínez Muriel 1989) have yielded long bones fashioned into musical instruments, the latter containing a possible antecedent of the Aztec *omichicahuaztli* or grooved human bone used as a rasp (Pereira 2005). The

curation of human crania for public display can be satisfactorily documented only in Terminal Formative contexts, at a time of incipient state formation. Four were placed on an altar at Huamelulpan after having been perforated, possibly in order to insert cords that would keep the mandible in place and prevent disintegration along cranial sutures (Christensen, Winter 1997). Two crania were also left on top of a house platform of the second occupation at La Laguna, with the mandible of one of them resting in front of the cranium (Carballo 2009: 481). The few artifacts of human bone of the first occupation that we have recovered outside Feature 46 seem to have been fashioned from the diaphyses of long bones, a cranium, and a mandible. One section of a diaphysis has been carefully shaped and polished to form a trapezoidal tablet that could have been dragged along the grooved surface of a rasp. However, as with most such finds, these come from contexts – architectural fill or midden – that leave completely open the question of where the raw material may have been obtained. The context of the modified bone from El Opeño and our Feature 46 is more interesting in that their documented sequential mortuary use suggests that the acquisition of the raw material was part of a prolonged mortuary ritual and may have been anticipated from the moment of the primary burial. Two other bell-shaped pits are highly suggestive of a similar sequence of gestures. At Tetel (Lesure, Carballo 2014) the bones of an adult male were spread out on the floor of the pit and along the wall, disarticulated, but grouped in a way still bearing some semblance of anatomical order. The skull and most long bones were missing, while the femora and one humerus were represented by four epiphyses that had been chopped off. At Colotzingo (Uruñuela 1989, 1993, 1998) one of the skeletons lay across the mouth of the pit, and yet was the the one that preserved best the original position of the corpse and its articulations. Inside was another, with the pelvic girdle and lower limbs disarticulated and pushed against the wall of the pit. Nearest the bottom were the even more disarticulated remains of at least four individuals. Some of their bones bore perforations, both finished and unfinished.

There is nothing in the larger sample that would replicate the treatment given to feet in Feature 46. However, there are a few sites in which there seems to be a certain focus on the extremities, feet or hands. At Caseta, the last three or four individuals interred are interpreted as corpses sequentially buried and manipulated on each reentry (Acosta Nieva 2000). They lack all but a few of their hand bones, and Acosta puts on the table the possibility of such small pieces being removed on reentry as "relics." In fact, this shaft tomb is perhaps the closest analog for our bell-shaped pit. Even the last of the individuals mentioned was the object of manipulation, and lacks a number of other bones apart from those of the hands. Before the sequence of primary interments was started, a large collection of bones, biased in favor of long bones and mandibles (and against crania, atlases, and axes) was apparently brought in as a secondary burial. If we interpret our Individual IV as secondary, too, and disregard for a moment the number of individuals and the exact body parts involved, the sequence of funerary gestures in both features appears remarkably similar: (1) a secondary burial inaugurates the use of the space for funerary purposes; (2) fresh corpses are sequentially added and displaced by reentries in the course of

which small parts are removed, and (3) the last reentry results in no further interment, but only the removal of bone from the last individual. The main difference is that that in our case there is some stratigraphic separation between events, while in the shaft tomb they have to be teased out from patterns observable in plan view.

A find at Los Tanques (Rhodes et al. 2016: 383) offers a different glimpse of the apparently purposeful handling of the extremities. One of the elaborately reduced secondary burials at that site was accompanied by a small pot containing various bones of the hands and feet, including four left adult second metatarsals. This anatomical redundancy is difficult to dismiss as the result of a casual clean-up and could perhaps be one of the gestures following the removal of feet or hands from primary burials, as observed in Feature 46 or at Caseta.

Yet another site where some emphasis may have been laid on hands and feet is La Chagüera (Alvarado et al. 1996; Morett Alatorre et al. 1999, 2000). Several chambers of this dry cave contained accumulations of bone, apparently placed and displaced as part of seasonal offerings aimed at ensuring agricultural fertility that also contained plants, "candles," and other items. Most of the bone was disarticulated, though some parts of the extremities were still held together by ligaments. The excellent preservation allowed the recovery of sandals, giving some credibility to our suggestion that feet could be moved together with the footwear. La Chagüera is important in being one of the very few convincing Formative examples of an ossuary, i.e. of a ritual setting where the human remains removed from primary burials would finally come to rest, and one that would require a steady supply of such remains. Its location away from habitation sites goes a long way towards explaining the scarcity of such finds. The masonry tomb discovered at COOVISUR (Reyna Robles, González Quintero 1998) could be another ossuary, but its location with respect to houses is unclear, and inferences are hampered by the damage that it suffered at the hands of construction workers.

As is becoming clear, the separation between early- and late-stage features need not be absolute. Caseta and, under certain interpretations, our Feature 46, could serve in either capacity for different individuals. The Tixtla cist (Couoh, Hernández 2008) is another possible example. Some of its corpses were apparently "reduced" after decaying inside the cist. The crania and long bones placed at the feet and over the abdomen of the last individual could be either a result of that process, or parts transferred from another grave at the end of a prolonged mortuary treatment. Similar cycling of crania is possible at El Rayo, where many skeletons were found articulated but headless. This begs the question whether the mandible or leg bones of our Individual I were not taken away to inaugurate a new charnel elsewhere.

CONCLUSIONS

Feature 46 at La Laguna is one example of a class of mortuary features occasionally found in the Middle to Late Formative of highland Mesoamerica that cannot be satisfactorily explained by sequential tomb use and traditional reentry alone. They are

better explained by assuming that they were intended, at least at some stage of their use-life, as charnels in which the human remains would rest only temporarily. That we do find human bone in them may be due, in some instances, to circumstances that prevented the living from returning. In most cases, however, it is due to the fact that the later stages of mortuary ritual treated different body parts in different manners. The hypothesis that we derive from our discovery and interpretation of Feature 46 is that small, "token" parts of the body were recycled in rituals, such as those inferred at La Chagüera, whose central meaning was not necessarily mortuary. Many may have been communal, and the identity of the person to whom the bones belonged was not important or soon forgotten. In contrast, crania, mandibles and long bones entered more complex cycles of re-use, in which they were turned into artifacts, curated for display, or transferred to other graves where they would come to accompany or be accompanied by new corpses. It is likely that in these cycles, the identity and kin relations of the deceased mattered and were remembered for longer.

As is made clear by Tiesler's (2007) discussion of the material signatures of sacrificial behaviors, even where "posthumous body processing" is correctly identified in the archaeological record, it is often very difficult to interpret in terms of its ritual meaning. Where an earlier generation saw ubiquitous evidence of "ignoble" treatment of human remains related to human sacrifice and ritualized violence, today's archaeologists tend to see ubiquitous evidence of reverential treatment of ancestors. The methodological problem at the root of these widely divergent interpretations is that as archaeologists we often see only the last stages of such prolonged mortuary treatments, in which the bones are disarticulated, modified, and dispersed. This stage (see column labeled "postdepositional manipulation" in Tiesler's table 2.1) can be, at the level of the concrete physical gestures, very similar for a sacrificial victim and a revered ancestor. To distinguish the two we need to look to the earlier stages of each sequence. This will often mean looking to other contexts and sites of the region and time period under consideration, where those earlier stages may be fortuitously preserved.

Our Feature 46, close to the moment of biological death in the ritual sequence, is a case in point. The absence of any pre-mortem violence that would leave indisputable skeletal evidence, the placement of relatively rich offerings, and the non-public (we hesitate to say "domestic") setting of the rituals seem to exclude a sacrificial meaning. Outside sacrificial contexts, mortuary treatments that extend for a long time after biological death and involve repeated handling of the same set of human remains are frequently justified by the parallel drawn between the decay of the flesh and the successful conclusion of a journey to the otherworld, in others by a concern for maintaining the balance between order and vitality that is necessary to the perpetuation of society, but may be disrupted by inappropriate handling of the prolonged departure of the deceased (Huntington, Metcalf 1979: part II). In most cases they are linked in one way or another to the veneration of ancestors. Other lines of evidence that make us lean towards this set of ideas are the exclusive presence of adult males in our feature, and the relative frequency of indications of prolonged mortuary treatment in the regional sample of burials of similar age (Table 3). They are rare enough to suggest

that only a limited subset of the deceased was afforded such treatment, but not public, exclusive or "costly" enough to suggest an association with persons set apart from ordinary families by their high rank. It is at this intermediate level of society that ancestor figures are often created (McAnany 1995). We do note, however, that this interpretation is slightly at odds with Uruñuela and Plunket's (2002) identification of ancestors with the tightly flexed primary burials at Early Tetimpa.

Finally, an emphasis on ancestor veneration in the Late Formative makes sense in social evolutionary terms. It has been remarked that belief in the persistent presence of vigilant and demanding ancestors often develops where the resource base is circumscribed and inherited (Salomon 1995: 321). There are many indications that ecological circumscription was indeed on the increase in the latter part of the Tlaxcalan Formative, as the acreage of both woodland and cultivable farmland was being steadily reduced by the proliferation of villages and severe environmental degradation (Heine 2003; Borejsza et al. 2011, 2017). The inheritance of land and other forms of wealth within groups limited to a subset of the inhabitants of each village can be linked to the rise of extended-family organization (Flannery 2002) or patron-client relationships (Santley 1993) that have been hypothesized for this time interval. At the same time, mortuary and non-mortuary lines of evidence independently confirm the importance of ancestor veneration (Plunket 2002; Plunket, Uruñuela 2002; Uruñuela, Plunket 2002; see also McAnany 1995). Ancestor veneration and the conspicuous display of human remains during burial rites are said to be disrupted along with kin-based loyalties at the moment of state formation (Dillehay 1995: 18). Indeed, in central Mexico (but not Oaxaca or among the Maya) cultural expressions of this kind gradually lose currency after the Formative. By Aztec times ancestor veneration becomes largely irrelevant (Smith 2002). As a result, direct-historical analogy is of little use in reconstructing Formative mortuary programs. We are convinced that the answers will not come from the backcasting of the friars' accounts of the weird and macabre aspects of Indian idolatry, but rather from the judicious use of cross-cultural analogy and, above all, the accumulation of further field data.

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