

# To set before the king: residential mural painting at Xultun, Guatemala

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*Maya murals depicting scenes of courtly life are well known from sites such as Bonampak; far less common are scenes depicting life outside the royal sphere. Recent excavations at Xultun in Guatemala have revealed well-preserved murals in a domestic context that offer a fresh perspective on life in the Maya court, that of the priests, scribes and artists who attended the royal governor. Here, the authors decode the images to reveal the lives and activities of those who planned, performed and recorded official events in Classic-period Xultun. One of only two well-preserved examples of eastern Maya lowland wall painting from the Late Classic period,*

*this rare display of master craftsmanship outside of the royal court sheds new light on the lives of those who produced it.*

**Keywords:** Guatemala, Xultun, Maya, Classic period, murals, emblem glyph, royal image, scribal priests, figurative wall art, *taaj*

## Introduction

Xultun, in Petén, Guatemala, is a Classic-period Maya city, with political and institutional roots in the Preclassic period (400 BC–AD 200); ceramic evidence pushes its earliest occupation back as far as the late Middle Preclassic (600–400 BC). Recent excavations of the Maya ruins at Xultun have revealed new wall paintings from the late eighth century AD (Figure 1). This discovery increases the corpus of Classic period (AD 200–900) Maya mural painting to include residential figural wall art with highly complex painted texts and calendrical content. Contemporary with the well-known paintings of Bonampak, in Chiapas, Mexico, the Xultun murals display expert artistry by painters in the eastern Maya

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Figure 1. Photograph of the Xultun mural, north wall, detail (photograph: H. Hurst, 2012).

lowlands. This discovery presents a rare opportunity for comparative study of Xultun history and life in a Maya site from the perspective of non-royal courtiers and members of a specific ritual order marked by the title *taaaj* or ‘obsidian’.

## Historical background and mural discovery

Xultun’s emblem glyph (akin to a royal insignia or family crest) was first identified by Stephen Houston (1986). Recently, Prager *et al.* (2010: 76) have proposed the reading *Baax Witz Ajaw*, or ‘Lord of Hammer-Stone Hill’, for the Xultun emblem glyph. This reading is based on its possible phonetic spelling on an unprovenanced ceramic vessel (K4996); until another example of the emblem glyph’s phonetic spelling is discovered, this reading must remain tentative. Although texts recounting the geopolitical details of this site are highly eroded, enough data survive in the monumental and ceramic corpus to highlight Xultun as a major political player during the Classic period, interacting in diverse ways with sites such as Tikal, Rio Azul, Los Alacranes, Motul de San José and Caracol.

The wall paintings adorn a small chamber of Structure 10K-2 in a residential sector of Xultun (Figure 2). The murals were first discovered by Maxwell Chamberlain, an undergraduate student at the time who, during survey work, inspected an old looters’

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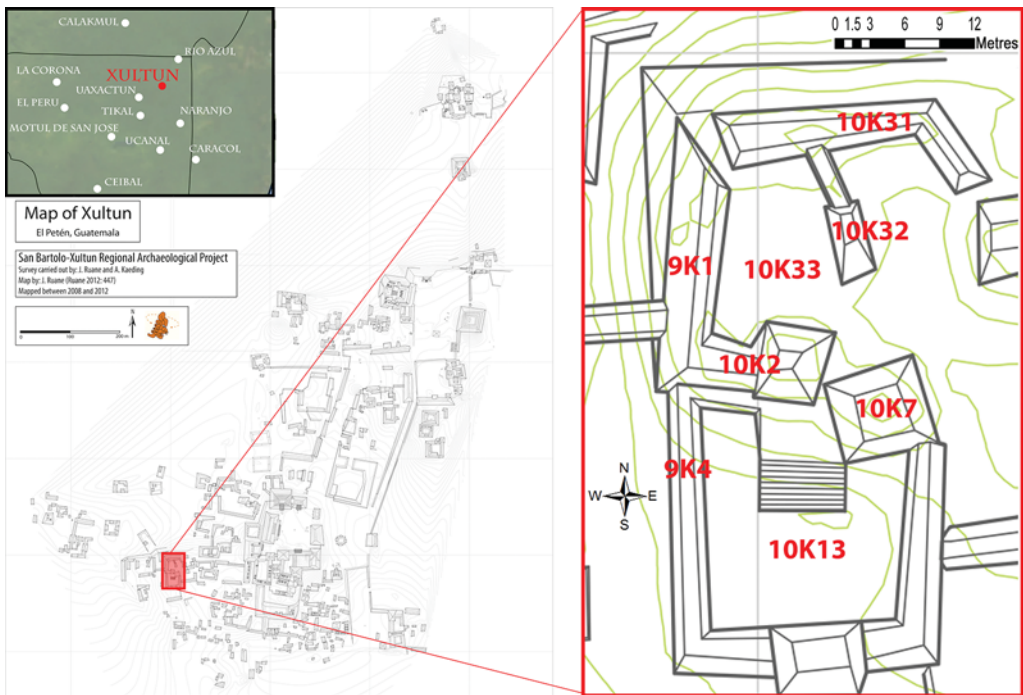


Figure 2. Map of Xultun showing location of Structure 10K-2 (map from Ruane 2012).

excavation and noticed faint traces of paint on an exposed portion of interior wall. Further investigation revealed these paint traces to be part of a much more extensive mural programme covering most of the interior surface of the room. While the north and north-west areas have excellent preservation, unfortunately much of the south wall was completely destroyed when the looters cut into the building. This looting also contributed to the highly eroded condition of the south-east area of the room. Upon excavating the mural chamber, where the murals survive in narrow and restricted spaces, the paintings were documented through manual illustration as well as through a systematic scanning of the mural surface at 400dpi using a standard flatbed scanner. These procedures permit a flat and non-distorted reproduction of the mural imagery, which it would not be possible to produce using photography in these difficult conditions.

## Context

Xultun Structure 10K-2 is a rectangular building with three rooms that were constructed, used and remodelled over several centuries during the Classic period. Sector 10K, south-west of Xultun's main plaza, has more than a dozen patio groups comprising masonry architecture surrounding sunken plazas or patios. Structure 10K-2 is on the north side of one of these patio groups, measuring 20m (E–W) by 30m (N–S). Located outside the monumental architectural core, 10K-2 had a view north-east towards the back

(west) side of the formal palace of Plaza A, and an open view to the south-east, where construction becomes gradually less dense along the lower elevation. Los Sabios, 10K-2's associated architectural group, has been identified as an elite status residence based on its location, form, scale and context. Furthermore, artefact and burial distributions are consistent with household assemblages in the Maya area, rather than appearing as a form of architecture for a specialised purpose (Haviland 1985; Lohse & Valdez 2004; Robin 2012).

The mural chamber is a single room at the centre of the 10K-2 building, with a bench and door facing south (Figure 3). The walls and vaulted ceiling are painted with figures and texts

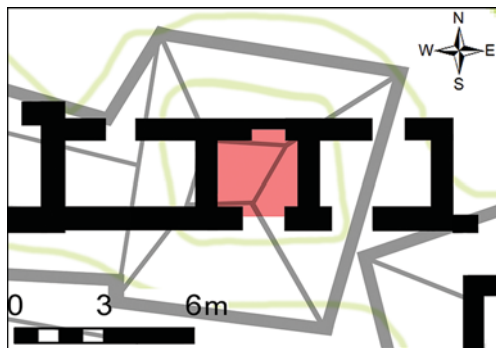


Figure 3. Plan of 10K-2 structure, with the mural chamber shaded in red.

(Figure 4). The images depict seated and kneeling male figures facing an enthroned lord who impersonates a wind deity (Figure 5). The discovery of murals at Xultun is particularly noteworthy because it is one of only two examples of well-preserved and comprehensive wall painting in the eastern Maya lowlands that date to the Late Classic period (AD 600–900), the other example being the recently discovered murals at the site of Chilonche, Guatemala (Bono 2013). Comparable examples of what was once a widespread tradition are clustered in the Usumacinta region of Tabasco, Mexico. The Xultun murals are

also important because they are located in a non-royal, non-ceremonial context, and yet they are painted with a calligraphic skill, iconographic complexity and fluidity, and textual richness that is clearly the work of master artist-scribes. Xultun provides insights into the tradition of Maya painterly arts with a new local perspective, as distinct from the Usumacinta location. This paper presents a summary of the initial documentation of the wall paintings from Xultun Structure 10K-2; separate publications will present the results of ongoing archaeological excavations of the mural group and continued analysis of hieroglyphic texts accompanying the paintings.

The mural room measures 2.7m (N–S) by 2.2m (E–W), and it was modified by a number of architectural changes during its development and use. The original structure had an open floor plan with exterior access through doors on both the south and north sides. At this time, the walls were plain, smoothed plaster with broad red stripes painted at the corners of the room. The room was then remodelled to close access to the north by sealing this doorway, and a bench was added that faced south. It was during this phase that the walls and vault were painted with murals. Ceramic evidence and inscriptions within the mural room suggest that the mural phase existed for a finite period during the eighth century AD. Following the mural phase, the room was filled with rubble and completely sealed, while the adjacent rooms were altered and remained in use for some time. This construction history and termination event preserved the interior paintings, affording us this rare opportunity to study mural art in a residential context.

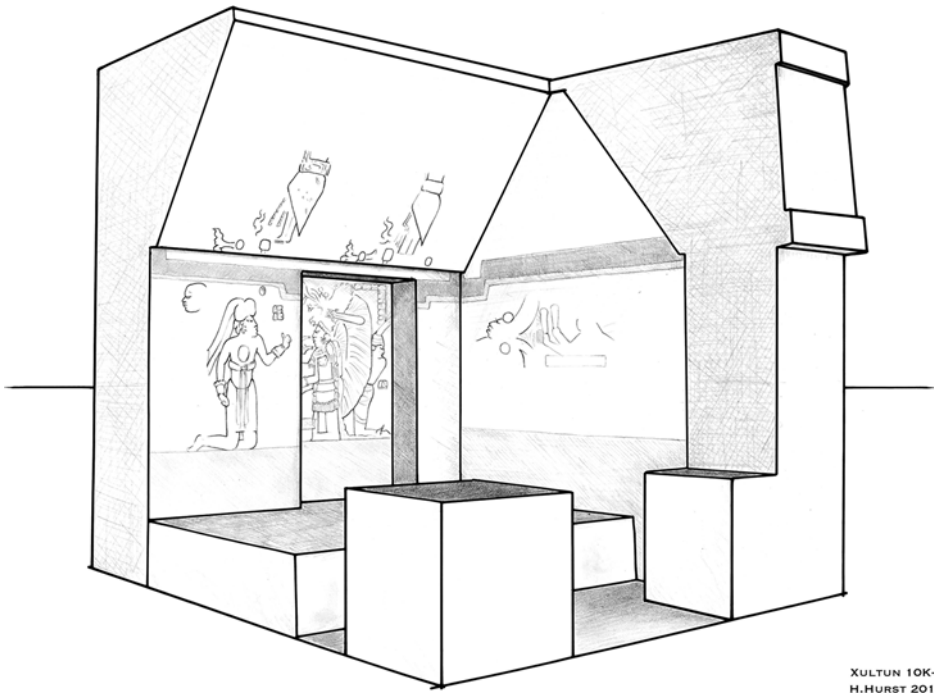


Figure 4. Architectural cut-away of Xultun mural chamber, view north-east.

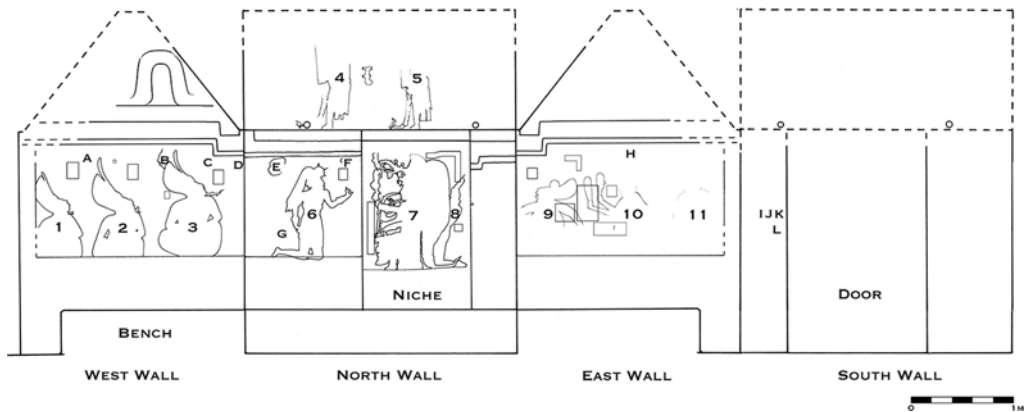


Figure 5. Figure map of Xultun, 10K-2 chamber. Full figures ('individuals') are numbered 1–11; heads and secondary figures ('images') are labelled A–L.

## The materials

Structure 10K-2 was constructed with materials that varied in quality. The exterior walls were made of dressed, mid-sized masonry blocks, while the interior walls, forming the end walls of the mural chamber, consisted of various-sized rough blocks and small stones in wet-laid mud mortar. The chamber was prepared for painting by applying a mud layer to smooth the wall surface, which was then finished with a very thin layer of fine lime plaster.

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In its effect, the finished room was equivalent to the plastered surfaces of the Bonampak mural chamber or a palace wall at Tikal, but construction favoured locally available *bajo* mud, a less labour-intensive material than lime plaster.

Use of thin lime plaster over a mud substrate is seen elsewhere at Xultun, including on Early Classic ritual architecture in the Los Arboles group, as well as in association with mural painting in western Guatemala and parts of the Mexican states of Chiapas and Tabasco, at the site of Tonina (Mateos González 1997) and in the Usumacinta basin at La Pasadita (Kamal *et al.* 1999: 1393). In contrast, architecture at Bonampak, Yaxchilan and Piedras Negras favoured pure lime plaster preparation. Although the generalisation that mud-plaster is a facet of construction from late in the Classic period typically holds true, its early use at Xultun and inconsistent use in the Usumacinta basin suggests it may be related to factors such as economy, cultural interaction and class. Further characterisation of the temporal and geographic range of wall-plaster composition and technology will provide another opportunity to better understand these social processes throughout the Maya area.

The pigments and techniques used to paint the Xultun murals, such as the use of a pre-painting sketch, a palette of orange-red and black body paint, dark red frames at the corners of the room and the use of Maya blue, are consistent with other wall paintings in the Maya area during the Late Classic period (see Magaloni 2001). Compositional analysis of Xultun paint samples, including X-ray fluorescence (XRF), Fourier transform infrared spectrometry (FTIR), Raman and scanning electron microscopy (SEM), identifies a range of iron-oxide pigments, including haematite, as well as Maya blue, carbon black and calcite white. These pigments were combined to create a range of colours: dark brown, red, orange, yellow, white, blue, blue-green and purple (red-blue). Across the lower walls, mural figures were set against a yellow background, a technique shared with Bonampak Room 3, as well as local Petén region Late Classic polychrome pottery traditions (e.g. Kerr Database vessels K4572, K5366 (Kerr n.d.)). On the north wall, the seated lord is distinguished by his blue-green feathers and jewellery, white shells and skeletal ornaments, as well as by calligraphic outlines in both black and red specular haematite. The materials and techniques used to paint the Xultun chamber are consistent with artworks by other master artists and scribes painting murals and pottery (see Reents-Budet 1994; Magaloni 2001; Hurst 2009; Miller & Brittenham 2013). However, the limited palette of locally available pigments used to paint the majority of figures contrasts with the range of blues, greens and purples of the seated lord that were made from complex, non-local materials. In this mural, specialty pigments such as Maya blue clearly differentiate royal and non-royal personages.

## The murals

The narrative programme of Structure 10K-2 expresses a complex interaction between the wall paintings, the vault paintings, the hieroglyphic texts and a number of incised artworks. Architectural framing suggests that the focal point of the artwork was the central portion of the north wall; figures on both the west and east walls faced north, towards the central scene. Artwork on the vault and upper portions of the end walls was separated from the lower programme by a large text framed in red stripes that circled the room at the height of the vault-spring. Very few of the glyphs from what was probably the primary dedicatory



Figure 6. Illustration of Xultun, north wall mural, lower register. Individual 6 kneels facing individual 7, the Xultun ruler.

text are preserved due to paint deterioration or plaster loss. The lower register of figures was painted against a yellow background, and the upper register of figures had a white (unpainted) background. The full figures were depicted at roughly half life size, but texts and isolated faces were made at various scales. The full figures have been numbered 1 to 11, beginning at the south end of the west-wall scene and proceeding clockwise around the room, with each wall numbered top to bottom from left to right. Line drawings or incisions of heads and secondary figures ('images') are labelled alphabetically, A to L, in the same clockwise sequence (see Figure 5).

### *The north wall*

The north wall is divided into two areas: the wall itself and the sealed, recessed doorway, which forms a niche. Two figures share the focus of the wall and niche: individual 6, labelled only with the phrase *itz'in taaj* ('junior obsidian'), kneels facing east on the wall, and individual 7, the Xultun ruler, sits on a throne facing west in the niche (Figure 6). Individual 6 holds up his left hand in front of his body, gesturing to the seated lord. Individual 7 wears a large, blue-green feathered headdress and is named with the customary royal titles of Xultun (Garrison & Stuart 2004: 852; Prager *et al.* 2010). He holds what is probably an incense bag or censer in his left hand and a staff in his right, featuring alternating *Ik'* or 'wind' symbols. Additional texts accompanying the scene affirm that the portrayed ruler is indeed impersonating a wind deity (see Houston & Stuart 1996). Individual 8

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leans out from behind the ruler's headdress, perhaps in the process of dressing the seated lord. He is labelled as *baah tz'am*, a title carried by particular courtly attendants (Houston 2008). It is rare to find the title explicitly paired with an attendant behind a ruler's throne; more commonly, these figures remain unnamed in court scenes depicted on Classic-period polychrome vessels.

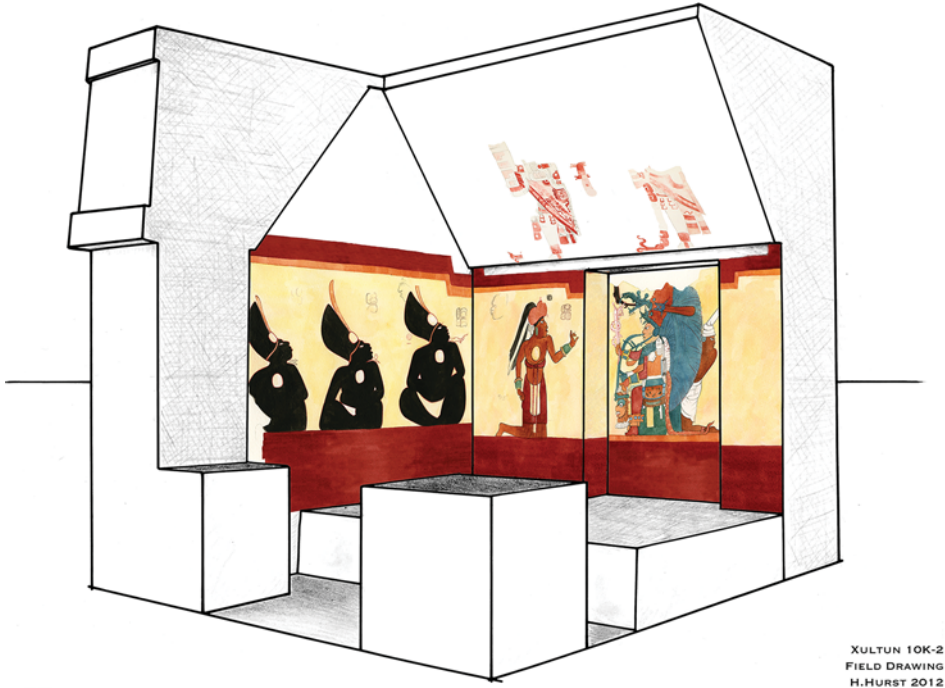
Only the slope of the north vault is preserved; the south vault was destroyed when the room was filled. Two standing male warriors, individuals 4 and 5, both facing west, are evenly spaced on the north vault. Although the area above the chest is deteriorated, their torsos and legs are preserved. Each figure holds a shield in front of his body and wears an intricately adorned loincloth with a heavy knotted belt assemblage. The two men wear clothing similar to that of noble warriors and military captains depicted on the north wall of Bonampak Room 2 (see Miller & Brittenham 2013). Individuals 4 and 5, dressed as warriors, each wear sandals and carry a shield with a Teotihuacan year sign (the symbolism of Teotihuacan, a large and highly influential Early Classic city in central Mexico, was commonly invoked in martially themed Maya imagery, even well after the distant city's decline). There are also elements of faded iconography, possibly a text, located between these warriors at waist level. Stiff in countenance compared with the animated figures below, individuals 4 and 5 face the body of an undulating, bifurcated serpent that fills the upper portion of the west end wall. The serpent's head is extremely damaged, but the black, red and white body markings are consistent with other serpent iconography (see Stone & Zender 2011: 201). Both the standing figures and the serpent are painted above the dedicatory text at vault-spring level.

### *The west wall*

Three male individuals in identical dress sit cross-legged on the west wall (Figures 7 & 8). All three of them face north and are depicted in black body paint. Individuals 1 and 2 are both smaller in stature than individual 3—a size explained in a label (Figure 9) alongside individual 2 that describes him as a *ch'ok* or 'youth' (see Houston 2009), a title probably shared by individual 1. The larger figure, individual 3, is labelled *sakun taaj*, which provides the 'senior' [*sakun*] title to contrast with individual 4's 'junior' [*itz'in*]. This type of ranked pairing, associated with words used to express the kinship terms for 'older brother' or 'younger brother' (Stuart 1997), is a well-attested practice today in parts of the Maya area (Vogt 1969: 238–49). All three figures on the west wall wear an oval pectoral pendant and an elongated headdress adorned with a second oval ornament and a single green feather. Small red scrolls or flames emerge near the chin, suggesting a tie for the headdress or possibly an unseen back ornament. The pectoral pendants and headdress adornments are a creamy white colour; considering the uniform depictions of the west wall figures, these ornaments may represent a symbol of office. Aside from the headdress, each individual wears only a simple white loincloth (Figure 8).

Portrait heads, images A, B, D and E, were painted near the headdress of each *taaj* figure on the west and north walls. These black line paintings are located above and immediately behind each full figure, and they face left (south or west) while the *taaj* figures face right (north or east). Painted with confident and rapid brushstrokes that were clearly carried out by one or more skilled artists, the portrait heads are highly individualised and have the





*Figure 7. Architectural cut-away of Xultun mural chamber, view north-west.*



*Figure 8. Illustration of Xultun, west wall mural, lower register. Left to right: individuals 1–3.*

character of sketched glyphs in terms of their scale, orientation and monochrome calligraphic linework; however, their relationship to the full figures is unclear. The portrait heads are



Figure 9. Detail of titles associated with individuals on the north and west walls (figure by D. Stuart and F. Rossi, 2012).

a less fluid hand (this perhaps reflects a technical factor rather than being indicative of artistic skill). Thus far, the work of four different artists has been identified among these secondary artworks. The portrait heads on the north and west walls may represent an artistic signature or a personal identifier of the depicted individuals, but the possibility that they represent a form of skilled graffiti should also be considered.

### *The east wall*

The east wall is poorly preserved due to root damage and water infiltration. Under close examination with variable light sources, three figures with roughly similar spacing to those on the opposing west wall are visible. The north-east corner is the best preserved, yet it is still difficult to see. The low sparkle of the specular haematite outlining individual 9 aided documentation in the field; elsewhere, processing of the optical scans of the east wall through histogram modifications has drawn out details otherwise difficult to distinguish with the naked eye (see Saturno *et al.* 2012). Individual 9 is identical in rendering and dress to the three figures on the west wall, but he sits in a different pose with arms more outstretched, face to the north and leaning forward towards the niche area (Figure 11). Behind individual 9 are two other possible figures, individuals 10 and 11. However, these two figures have lighter skin tones and differ in their dress and position from individual 9 and the west wall figures. In terms of pigmentation, individuals 10 and 11 most closely resemble individual 6, on the north wall. The poor preservation obscures most detail, but individual 10 has both arms raised in front of his north-facing profile and holds an object in each hand. The line of individual 11's thigh and torso indicates a seated pose with the face directed to the north; this figure has been reduced to only a stain of colour against the light yellow background.

There are many texts painted and incised on the east wall. Although titular glyphs located above the face of each individual were integral to the figural painting programme, most texts were later additions. These later texts were made at various scales and placed both

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between and above the seated figures. These texts are all highly calendrical in nature and contain textual and astronomical content, heretofore known only from the Postclassic-period

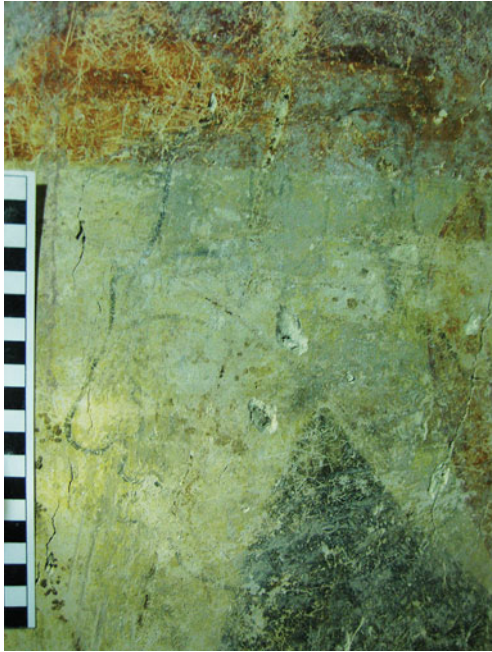


Figure 10. Detail of portrait head facing left (image B), Xultun, west wall mural (photograph: H. Hurst, 2012).

Maya codices—demonstrating the east wall as an active workspace and suggesting potential Classic-period codex book production occurred within the room (Saturno *et al.* 2012). In the area near the figures' legs, a thin, fine-plaster patch was added and painted with still more glyphs. A palimpsest in the most literal sense of the word, the stratigraphy of this area contains three layers of writing, all of which are contemporary with, or post-date, the painted figures. One small torso, image H, was incised in the upper portion of the east wall and four figures were incised on the adjacent south wall: images I, J, K and L. Image H is located in a similar position to figures incised on the west wall, yet the incised east and south figures are less naturalistically proportioned: lines are shaky and coarse, and the renderings seem incomplete.

## Discussion

The figures in the Xultun murals include a royal governor and various non-royal personages; however, the composition is unique in that it is not a court scene. The mural focuses on an order of scribal-priests, with at least four men in identical attire and at least three men who share the title *taaj*, one of whom kneels in front of the ruler. The two poorly preserved seated figures on the east wall may have also held similar roles and titles. These seven men are gathered in consultation, in participation or as witnesses to the primary scene, where a royal governor celebrates a calendrical ritual that occurred during the first month of the year and which was probably related to the new year. The governor grasps a censer bag and a staff with alternating *Ik'* symbols. The *baah tz'am* kneels behind the seated governor, presumably assisting with the lord's large backrack of quetzal plumes. Secondary to the scene in terms of visual prominence are the two vault figures dressed as military captains; their identity remains unclear due to extensive damage in the upper areas of the vault. Overall, the shared role held by senior and junior *taaj* individuals suggests an organisational structure that resembles, perhaps, a religious order linked to sacrificial rites and thus obsidian blades (ubiquitous in Maya sacrificial rites), or an early guild of master craftsmen and apprentices (journeymen), who may be blood relations. In addition, the mural suggests a type of order

or guild organisation was in place that united painterly trades including artists, scribes and calendrical priests. These trades share many techniques and attributes (e.g. paint preparation, use of paper and plaster, literacy in iconography and writing). Structure 10K-2



Figure 11. Illustration of Xultun, east wall mural, lower register. Detail of individual 9.

may prove to be a residential complex where various arts were produced in a manner similar to that used by groups identified at Aguateca (Inomata *et al.* 2001; Aoyama 2009) and Copan (Webster 1989).

One particularly important feature of the Xultun north wall mural is the *Ik'* staff held by the royal governor, often characteristic of flapstaff dance rituals (Grube 1992: 206). Flapstaves have been identified as battle standards and are often linked to martial activity (Grube 1992: 206–208). At Yaxchilan, dances that featured the flapstaff marked the summer solstice, although at other sites this was not always the case (Tate

1986: 96–97). While the *Ik'* staff in the Xultun mural is reminiscent of the flapstaff, it lacks the distinctive cloth tied along its length, and the accompanying text makes no reference to an associated 'dance' event, much less one featuring a *jasaw chan* (glyphic term for flapstaff). Furthermore, the Xultun mural does not depict a martial scene nor does its associated date align with the solstice—summer or winter. More generally, dance rituals, as discussed by Houston (1984), Tate (1986), Grube (1992) andLooper (2009), typically involve not only the obvious dancing, but also often incorporate scattering events and captive presentation. The Xultun scene does not depict any of these activities. Rather, the governor appears with his attendant, adorned in all the accoutrements for an official event: the ceremonial dress with quetzal backrack, shell-edged skirt and a special censer for scattering. The governor's attire combines elements of a military captain with performance regalia; similar costume accoutrements are visible on stelae 8 and 35 from Piedras Negras. The images capture the moment when a ritual event is either about to happen or has recently taken place. The depiction of the lord preparing for, or subsequent to, an important ritual is a less common subject in Maya art, and understanding this scene requires careful consideration of its visual framing. At 10K-2, the southern doorway evenly frames both the kneeling artist and the seated lord because the niche is asymmetrically located on the north wall. The lord, recessed in the niche, might not always have been on view, as cord-holders at the upper edge and curtain tie-backs on either side of the niche would have made it possible to hide his image behind a cloth; however, the kneeling *itz'in taaj* would always have remained visible. The other flanking *taaj* scribal-priests are also somehow engaged with this event, and the calendrical tables on the east wall suggest that they may have had a key role in calculating and coordinating the date on which the portrayed event took place.

The Xultun mural affords an important and unique image of royal ritual from the perspective of artisans and scribal-priests. The activity adjacent to the event

scene—specifically, evidence of calendrical calculation and its documentation through writing or painting—shows that a significant narrative is contained in the Xultun mural chamber. In many ways, this most closely resembles the Bonampak Room 3 vault scenes that portray nobles in the process of dressing prior to dance events, which are depicted on the primary viewing wall below. The Bonampak vaults are populated by court attendants who prepare for, but do not participate in, the main events. At Xultun, the location of the mural in a residential complex of presumably scribal-priests and artisans celebrates their identity and role in state activity. It would be very unusual to find a stela of a royal governor celebrating a calendar ritual in a non-royal residential group. This painted portrait of a noble lord is as much about the scribal-priests and artisans as the royal personage. It is very likely that the Xultun mural is in fact a group portrait made by the *taaj* scribal-priests themselves. The mural establishes a direct relationship between a particular order, or guild, of Xultun artists and scribal-priests and their lord, and it celebrates its members' achievement in consulting and producing work for their sovereign's reign.

The mural images discussed here do not represent the final activity in Structure 10K-2. The chamber continued to be used, and scribes interacted with the figures and numbers through sketches, calculations and written notations. Individuals must have scuffed the murals as they sat on the bench and leaned against the wall; incense was burned in the corners of the room, leaving sooty stains over the paintings. Structure 10K-2 was a busy place of ongoing craft, rather than a quiet place of commemoration. While many wall paintings in elite contexts such as those at Bonampak and La Pasadita went unfinished, the Xultun murals were completed and were then lived and interacted with for some time before they were ultimately buried.

## Conclusion

The Xultun mural provides an important local case study for eastern Maya lowland art production and eighth century state-craft. The preservation, chronology and context of the archaeological material that is paired with these unique images is excellent. This research is still in its initial stages and multispectral imaging and further analysis will certainly clarify many details in the wall painting iconography and texts. Continued analysis of the mural pigments will reveal the degree to which Xultun materials relate to other known wall paints used in the Maya region. Beyond this, current archaeological research on the broader context of the room itself seeks to address the circumstances of construction, use and eventual burial of the mural chamber.

Our ongoing work seeks to refine understandings of the mechanisms through which sacred royal power was legitimated and maintained, and to elucidate the roles that specialists such as the *taaj* played in those processes. This necessarily entails going beyond the narratives and structures directly produced by the sovereign himself and trying to understand strands of 'minor histories' (Stoler 2010). The Xultun mural sheds a rare light on some of these strands as they pertain to a group of seven artisans, scribes and priests; we see here, 'set before their king', individuals who played distinct and important roles in producing and sustaining political authority at Xultun.

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## References

- AOYAMA, K. 2009. *Elite craft producers, artists, and warriors at Aguateca: lithic analysis*. Salt Lake City: University of Utah Press.
- BONO, F. 2013. Arqueólogos valencianos sacan a la luz un excepcional mural maya pintado al fresco. *El País*, 12 December 2013. Available at: [http://ccaa.elpais.com/ccaa/2013/12/12/valencia/1386855799\\_258461.html](http://ccaa.elpais.com/ccaa/2013/12/12/valencia/1386855799_258461.html) (accessed 2 October 2014).
- GARRISON, T. & D. STUART. 2004. Un analisis preliminar de las inscripciones que se relacionan con Xultun, Petén, Guatemala, in J.P. Laporte, B. Arroyo & H. Mejía (ed.) *XVII Simposio de Investigaciones Arqueológicas en Guatemala, 2003*: 851–62. Guatemala City: Instituto de Antropología e Historia de Guatemala.
- GRUBE, N. 1992. Classic Maya dance: evidence from hieroglyphs and iconography. *Ancient Mesoamerica* 3: 201–18. <http://dx.doi.org/10.1017/S09565361000064X>
- HAVILAND, W. 1985. Excavation in small residential groups of Tikal, Groups 4F-1 and 4F-2: Tikal Report 19. Philadelphia (PA): University Museum.
- HOUSTON, S. 1984. A quetzal feather dance at Bonampak, Chiapas, Mexico. *Journal de la Société des Américanistes* 70: 127–37. <http://dx.doi.org/10.3406/jsa.1984.2241>
- 1986. *Problematic emblem glyphs: examples from Altar de Sacrificios, El Chorro, Río Azul, and Xultun* (Research Reports on Ancient Maya Writing 3). Washington (DC): Center for Maya Research.
- 2008. A Classic Maya bailiff? in D. Stuart (ed.) *Maya decipherment: a weblog on the ancient Maya script*. Available at: <http://decipherment.wordpress.com/> (accessed 2 October 2014).
- 2009. A splendid predicament: young men in Classic Maya society. *Cambridge Archaeological Journal* 19(2): 149–78. <http://dx.doi.org/10.1017/S0959774309000250>
- HOUSTON, S. & D. STUART. 1996. Of gods, glyphs, and kings: divinity and rulership among the Classic Maya. *Antiquity* 70: 289–312.
- HURST, H. 2009. Murals and the ancient Maya artist. Unpublished PhD dissertation, Yale University.
- INOMATA, T., D. TRIADAN, E. PONCIANO, R. TERRY & H.F. BEAUBIEN. 2001. In the palace of the fallen king: the royal residential complex at Aguateca, Guatemala. *Journal of Field Archaeology* 28: 287–306. <http://dx.doi.org/10.1179/jfa.2001.28.3-4.287>
- KAMAL, O.S., G.A. WARE, S.D. HOUSTON, D.M. CHABRIES & R.W. CHRISTIANSEN. 1999. Multispectral image processing for detail reconstruction and enhancement of Maya murals from La Pasadita, Guatemala. *Journal of Archaeological Science* 26: 1391–407. <http://dx.doi.org/10.1006/jasc.1999.0415>
- KERR, J. n.d. Mayavase database: an archive of rollout photographs by Justin Kerr. Available at: <http://research.mayavase.com/kerrmaya.html> (accessed 2 October 2014).
- LOHSE, J. & F. VALDEZ, JR (ed.). 2004. *Ancient Maya commoners*. Austin: University of Texas Press.
- LOOPER, M. 2009. *To be like gods: dance in Ancient Maya civilization*. Austin: University of Texas Press.
- MAGALONI, D. 2001. Materiales y técnicas de la pintura mural Maya, in B. de la Fuente & L. Staines Cicero (ed.) *La pintura mural prehispánica en México: área Maya*: 155–98. México, D.F.: Universidad Nacional Autónoma de México, Instituto de Investigaciones Estéticas.
- MATEOS GONZÁLEZ, F.I. 1997. *Toniná: la pintura mural y los relieves técnica de manufactura*. México, D.F.: Instituto Nacional de Antropología e Historia.
- MILLER, M.E. & C. BRITTENHAM. 2013. *The spectacle of the Late Maya court: reflections on the murals of Bonampak*. Austin: University of Texas Press.
- PRAGER, C., E. WAGNER, S. MATTEO & G. KREMPEL. 2010. A reading for the Xultun toponymic title as B'aax (Tuun) Witz' Ajaw. *Mexicon* 32: 74–77.
- REENTS-BUDET, D. 1994. *Painting the Maya universe: royal ceramics of the Classic Period*. Durham (NC): Duke University Press.

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- ROBIN, C. (ed.). 2012. *Chan: an ancient Maya farming community*. Gainesville: University Press of Florida. <http://dx.doi.org/10.5744/florida/9780813039831.001.0001>
- RUANE, J. 2012. Mapeo en el sitio arqueológico Xultun, in P. Rivera Castillo & W. Saturno (ed.) *Proyecto Arqueológico Regional San Bartolo-Xultun: informe de resultados de investigaciones temporada de campo 11*: 437–50. Guatemala City: Instituto de Antropología e Historia de Guatemala.
- SATURNO, W., A. AVENI, D. STUART & F. ROSSI. 2012. Ancient Maya astronomical tables from Xultun, Guatemala. *Science* 33: 714–17. <http://dx.doi.org/10.1126/science.1221444>
- STOLER, A.L. 2010. *Along the archival grain: epistemic anxieties and colonial common sense*. Princeton (NJ): Princeton University Press.
- STONE, A. & M. ZENDER. 2011. *Reading Maya art: a hieroglyphic guide to ancient Maya painting and sculpture*. London: Thames & Hudson.
- STUART, D. 1997. Kinship terms in Maya inscriptions, in M.J. Macri & A. Ford (ed.) *The language of Maya hieroglyphs*: 1–11. San Francisco (CA): PARI.
- TATE, C. 1986. Summer solstice ceremonies performed by Bird Jaguar III of Yaxchilán, Chiapas, Mexico. *Estudios de Cultura Maya* 16: 85–112.
- VOGT, E. 1969. *Zinacantan: a Maya community in the highland of Chiapas*. Cambridge (MA): Harvard University Press. <http://dx.doi.org/10.4159/harvard.9780674436886>
- WEBSTER, D. (ed.). 1989. *The house of the Bacabs, Copán, Honduras*. Washington (DC): Dumbarton Oaks.

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