



The PARI Journal

A quarterly publication of the Ancient Cultures Institute
Volume XVI, No. 2, Fall 2015

In This Issue:

For Love of the Game: The Ballplayer Panels of Tipan Chen Uitz in Light of Late Classic Athletic Hegemony

by

Christophe Helmke
Christopher R. Andres
Shawn G. Morton and
Gabriel D. Wrobel

PAGES 1-30

•

The Maya Goddess of Painting, Writing, and Decorated Textiles

by

Timothy W. Knowlton

PAGES 31-41

•

The Further Adventures of Merle (continued)

by

Merle Greene
Robertson

PAGES 42-44

Marc Zender

Editor

marc@ancientcultures.org

Joel Skidmore

Associate Editor

joel@ancientcultures.org

The PARI Journal

202 Edgewood Avenue

San Francisco, CA 94117

415-664-8889

journal@ancientcultures.org

Electronic version

available at:

[www.precolumbia.org/
pari/journal/1602](http://www.precolumbia.org/pari/journal/1602)

ISSN 1531-5398

For Love of the Game: The Ballplayer Panels of Tipan Chen Uitz in Light of Late Classic Athletic Hegemony

CHRISTOPHE HELMKE

University of Copenhagen

CHRISTOPHER R. ANDRES

Michigan State University

SHAWN G. MORTON

University of Calgary

GABRIEL D. WROBEL

Michigan State University

One of the principal motifs of ancient Maya iconography concerns the ballgame that was practiced both locally and throughout Mesoamerica. The pervasiveness of ballgame iconography in the Maya area has been recognized for some time and has been the subject of several pioneering and insightful studies, including those of Stephen Houston (1983), Linda Schele and Mary Miller (1986:241-264), Nicholas Hellmuth (1987), Mary Miller and Stephen Houston (1987; see also Miller 1989), Marvin Cohodas (1991), Linda Schele and David Freidel (1991; see also Freidel et al. 1993:337-391), and Jeff Kowalski (1989; see also Kowalski and Fash 1991) to name a few. Considering the number of ballcourts known throughout the Maya area, as well as the many material correlates of the ballgame, including stone effigies of the protective gear worn by ballplayers (e.g., Shook and Marquis 1996), it is clear that the ballgame was of paramount importance to the pageantry, rituals, and public performance of ancient Maya rulers. As such, the number of representations of the ballgame in iconography should come as no surprise (e.g., Schele and Miller 1986:241-264; Boot 2014). In contextualizing the newfound ballplayer panels of Tipan Chen Uitz (Figure 1)—discovered during the 2015 season of excavations at the site—we came to the realization that monuments depicting ballgames or

ballplayers are found preferentially at sites that show some kind of interconnection and a greater degree of affinity to the kings of the Snake-head dynasty that had its seat at Calakmul in the Late Classic (see Martin 2005). This then is the idea that is proposed in this paper, and by reviewing some salient examples from a selection of sites in the Maya lowlands, we hope to make it clear that the commemoration of ballgame engagements wherein local rulers confront their overlord are characteristic of the political rhetoric that was fostered by the vassals of the Snake-head kings. The basis of such rhetoric stems from what we might call the “athletic hegemonism” of the Snake-head kings, much akin to the performance of hegemonies in the Olympic games of ancient Greece or the more eccentric and hubristic Roman emperors who performed as gladiators (e.g., Scarre 1995; Golden 1998; Kyle 2007). The predilection of these monuments to commemorate ties of vassalage and fealty finds some support in the composition as well as the pairing of text and image on the panels of Tipan, which we will describe, below. To conclude, we discuss the possible connections that the ruling elite of Tipan once maintained with neighboring polities, in particular Naranjo, and what these findings imply for patterns of greater networks of allegiances with the Snake-head kings. Before this, however,



Figure 1. Map of the Maya area showing the location of Tipan Chen Uitz and other archaeological sites mentioned in the text (courtesy of Precolumbia Mesoweb Press).

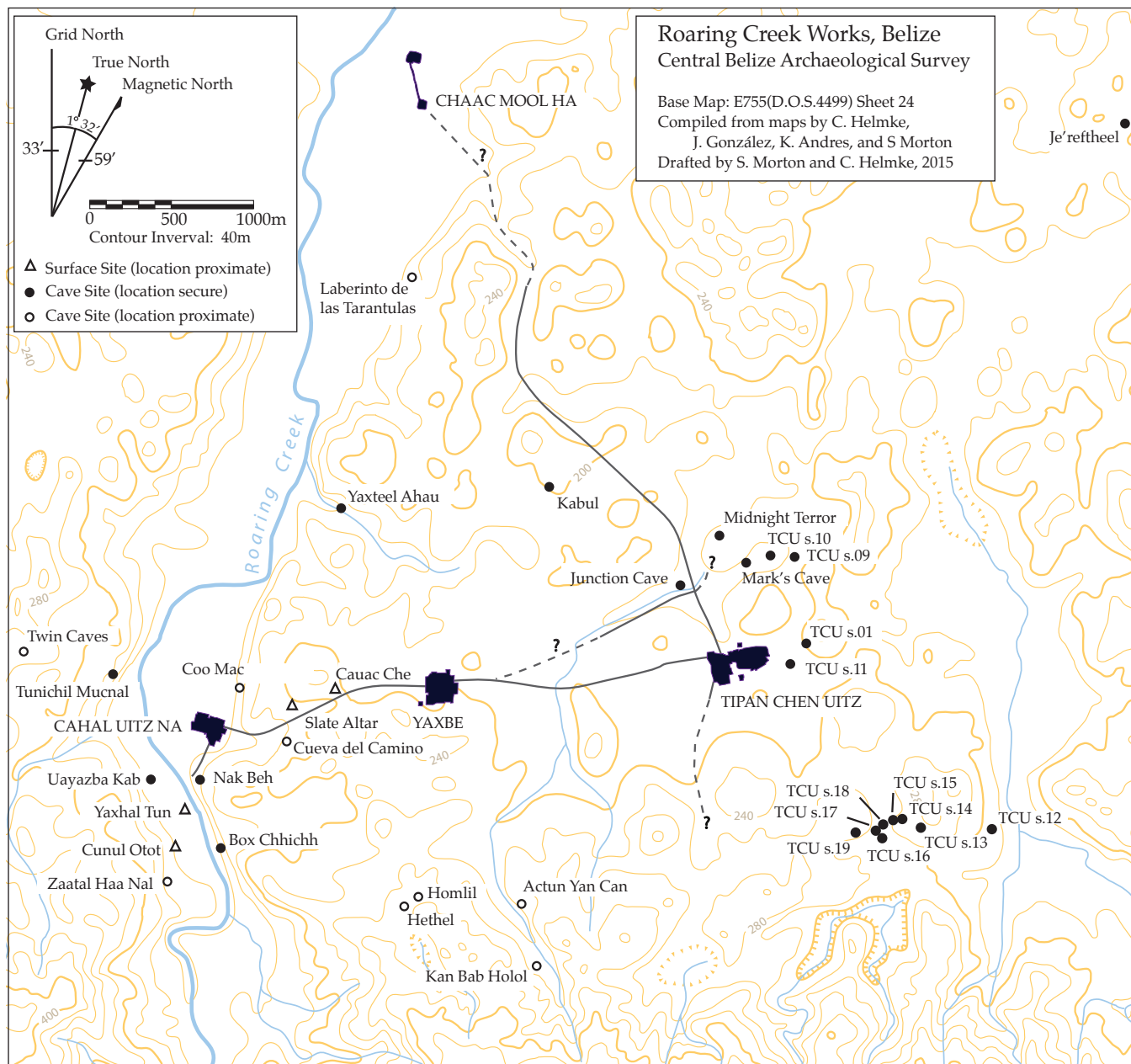


Figure 2. The regional setting of Tipan Chen Uitz in the Roaring Creek Works, as the central hub of a network of causeways connecting to a variety of satellite sites (map by Shawn Morton and Christophe Helmke).

we will present some background on the archaeological research that has been conducted at Tipan by the Central Belize Archaeological Survey (CBAS), as well as information concerning the discovery and context of the ballgame panels.

Tipan Chen Uitz and the CBAS

The archaeological site of Tipan Chen Uitz is located in the rugged karstic area known as the Roaring Creek Works, which is defined by the drainages of the Caves Branch to the east and the Roaring Creek to the west

(Figure 2). In relation to modern settlements, the site of Tipan is located just 17 km south of Belmopan, the capital of Belize. Yet despite this proximity, the site was not formally reported to the authorities until 2009. Rumors of the site's existence were already heard in the area in 1999, but it took another decade before archaeologists sought it out and located it (Andres et al. 2010). At that juncture, investigations at Tipan emerged as a major component of the CBAS project that since has investigated a series of surface and cave sites in the area (e.g., Andres et al. 2011a; Wrobel et al. 2012). Building upon the efforts of the Western Belize Regional Caves Project that operated

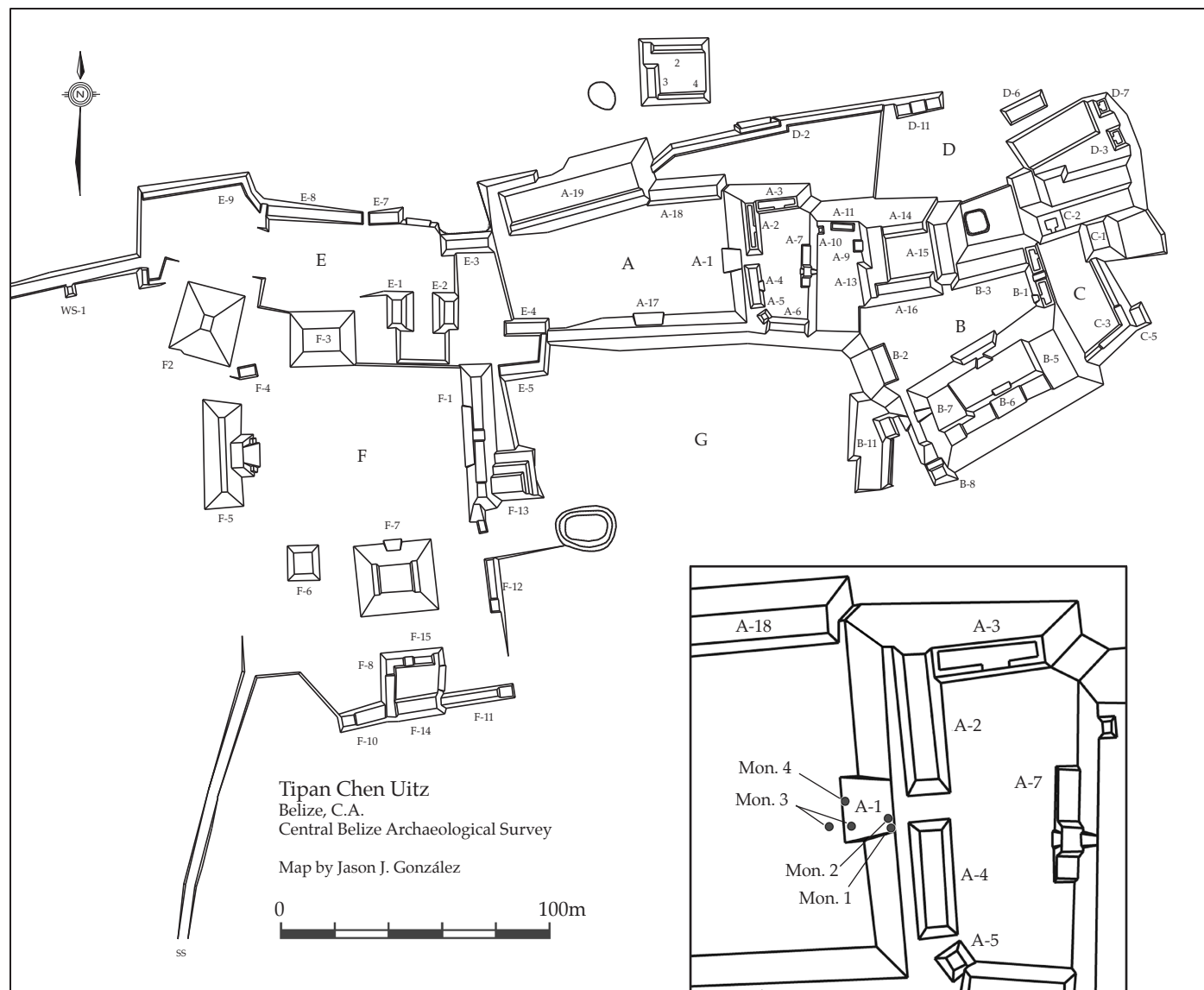


Figure 3. The monumental epicenter of Tipan Chen Uitz. The inset provides a close-up of the axial stair of Str. A-1, with the find spots of the carved monuments indicated (map by Jason González; inset by Christophe Helmke and Christopher Andres).

in the Roaring Creek Valley between 1997 and 2001 (e.g., Awe 1998, 1999; Awe and Helmke 1998, 2007; Conlon and Ehret 1999), members of the CBAS project have subsequently expanded archaeological reconnaissance in this understudied karstic zone, identifying a variety of surface sites as well as caves and rockshelters that were of clear importance to the region's pre-Hispanic inhabitants (Awe and Helmke 2015; Awe et al. 1998; Helmke 2009; Helmke and Wrobel 2012; Morton 2010, 2015; Wrobel et al. 2013). Surface sites recorded to date range in size from so-called isolated housemounds, to patio-focused residential clusters known as plazuelas, to large conglomerations of monumental architecture that can be classed as secondary centers and first-order

central places, known also as minor centers and major centers, respectively (Willey et al. 1965; Ashmore 1981; González and Howell 2011; Helmke and Awe 2012).

The civic-ceremonial center of Tipan Chen Uitz is of particular relevance to our program of research, and is estimated—based upon a variety of criteria, including the number of buildings and their sizes, courtyard counts, the total surface area covered by monumental architecture, and the range of building types present—to be among the five largest ancient Maya sites in Belize (Andres et al. 2014; González and Howell 2011). In addition to its size and architectural complexity, Tipan is distinguished by its connection to a number of surrounding minor centers via an extensive system

of causeways, or *sacbeob* as they are locally known in Yukatek Maya (Figure 2). Tipan's placement at the center of this configuration—resembling the spokes of a wheel—and the integrating network of roads constitute several forms of evidence that the site functioned as the head or capital of a polity centered in the Roaring Creek Works (Andres et al. 2011b).

Much of our research has been focused at the monumental epicenter of Tipan, and investigations carried out to date have confirmed initial impressions of the epicenter's size and importance (e.g., Andres 2011). A site center mapping program undertaken by Jason J. González has revealed that the monumental epicenter extends over 5.2 ha and comprises 63 major structures (González and Howell 2011) (Figure 3). Work in the monumental epicenter of Tipan has furthermore illuminated key architectural features and suggests that the site flourished during the Late Classic period (AD 600–850) (Andres et al. 2014; Morton et al. 2014). The site's epicenter, where recent investigations have been focused, includes seven plazas and five courtyards; five, large temple-like structures; a T-shaped ballcourt; range structures; and an acropole palatial complex measuring more than 20 m in height (Andres et al. 2010, 2011a). While no single statistic satisfactorily communicates the scale of ancient Maya sites (e.g., Hammond 1975; Turner et al. 1981), Tipan is very large and complex according to a number of measures, which has led us to suggest that it is best classified as a “primary” civic-ceremonial center for the polity that once extended around this capital. Based on the application of Thiessen polygons derived from nearest neighbor analyses, it has been suggested that Tipan may have once been at the heart of a polity spanning over a 155 km² area (e.g., Andres et al. 2014; Helmke and Awe 2012:61–65). The nearest neighbors in question that help to define the original extent of the Tipan polity include the site of Deep Valley to the east (c. 10.4 km away), Camalote and Hanging Rock to the north (c. 12.2 km), Blackman Eddy to the northwest (c. 15.4 km), and the recently discovered site of Lower Barton Creek to the west (c. 11.9 km) (see Helmke and Awe 2012; Awe et al. 2015).

Among our most noteworthy findings to date have been four hieroglyphic monuments, all recovered on Str. A-1 at the entrance to the community's palatial complex. The first of these—Monuments 1 and 2—both of which are fragmentary and thereby exhibit incomplete texts, have been discussed in detail elsewhere (Andres et al. 2014; Helmke and Andres 2015). Of particular note, however, are two recently discovered monuments—Monuments 3 and 4—recovered during our just-completed 2015 field season. These monuments—both ballplayer panels—have the distinction of being associated with short, but complete hieroglyphic captions.

Ballgame scenes comprise a well-known motif of Late Classic iconography and of monumental sculpture

in particular, with examples reported from several sites in the central Maya Lowlands (e.g., Schele and Miller 1986; Miller and Houston 1987; Cohodas 1991; Freidel et al. 1993:337–391). Nevertheless, the Tipan panels are unusual as the first of their kind to be documented in Belize. As such, these reliefs not only highlight the ancient community's prominence on the Late Classic political landscape, but provide an important basis for reconstructing ties between Tipan's paramount elites and members of royal courts at other sites in the southern Maya Lowlands.

Context of Discovery

As we have previously observed, architectonic analysis of Tipan's built environment suggests strong functional dualism, with the buildings and spaces forming the western part of the epicenter possessing a more open and accessible quality and therefore presumably functioning in a semi-public capacity (Andres et al. 2010, 2014). In contrast, the A and B acropoli are highly elevated and spatially restricted domains. The form, scale, and location of these spaces, and parallels with similar architectural forms at other Maya sites suggests that both complexes were of restricted access and served as the foci for paramount elite activities and presumably the residence of the rulers (Andres et al. 2010; Andres et al. 2011a; Awe 2008; Awe et al. 1991; Chase and Chase 2001). Based upon our current understanding of these groups, Acropolis A functioned as Tipan's palatial complex, while Acropolis B most likely served as a private civic-ceremonial facility for members of the royal court, premises that we hope to investigate as part of future field seasons.

In 2015, we resumed our excavations of Str. A-1, building on investigations carried out during previous field seasons (Figure 4). This structure, which forms the basal level of Acropolis A and served as the formal entrance to the palatial complex, was initially investigated in an effort to recover information from a sizable looters' trench that was excavated through its stair at some point in the 1980s or 1990s (David Galdámez, personal communication 1999). Based upon data from previous seasons, we know that Str. A-1 incorporated a broad axial stairway flanked by terraces and stair-side outsets (Figure 5). Architectural modifications to this stair included an axial platform, constructed just above plaza level, that engulfed the two lowermost steps of the penultimate phase of construction. In conjunction with this remodelling, the western face, the stair-sides, and the surfaces of the stair-side outsets were faced with massive slabs of dense, crystalline limestone (see Villaseñor and Helmke 2007:138–139) measuring up to 2.5 m wide and shaped via direct percussion. While this apparently final construction event has not been firmly dated, we suspect that it was completed during



Figure 4. The excavations of the axial stair of Str. A-1: (a) the axial stair with the lowest steps cleared as well as part of the core of the lateral outsets (above the steps)—note the large monolithic panels facing the axial platform, a terminal-phase addition; (b) the left portion of Monument 3 upon its discovery (photographs by Christopher Andres and Shawn Morton).

the Late-to-Terminal Classic period (AD 750–850), based on architectural stratigraphy.

Similarly large slabs embellish the lateral stair-side outsets of Strs. F-5 and F-7 at Tipan, indicating that this is a typical architectural feature at the site (Andres 2011). The same practice is also documented at Yaxbe and Cahal Uitz Na, satellite sites to the west that are connected to Tipan by means of the causeways (Awe and Helmke 1998:210–215, 2007:31–32; Helmke 2009:269–270, 273) (see Figure 2). Excavations at both Cahal Uitz Na and Tipan have shown that these monoliths rest directly atop the terminal plaza floor (Ehret and Conlon 1999; Andres 2011) and as such cannot be monolithic stelae but are instead part of terminal construction efforts. As we have discussed elsewhere, these slabs are therefore best designated as “panels” that were set as battered facings to the stair-side outsets. Functionally, these panels serve to contain the dry-laid core of discrete architectural construction units, the most typical type of core used in this area at this time. The repeated occurrence of these panels at Tipan and its satellites suggests that this is a characteristic architectural feature of this polity, integrated into regally commissioned construction (Andres et al. 2014).

Str. A-1’s superior surface furthermore supported a Passage Range Structure (or *audiencia*) much like those reported at other sites in central Belize, including Buenavista del Cayo, Las Ruinas de Arenal, Xunantunich, Minanha, Caracol, Cahal Pech, and Baking Pot (Awe et al. 1991; Ball and Taschek 1991; Taschek and Ball 1999; Chase and Chase 2001; Seibert 2004; Awe 2008; Helmke 2008:125–128). Based on comparisons to these other sites, this *audiencia* at Tipan may also have exhibited nine doorways, the central one providing passage into the palatial complex and thereby serving as a traffic control device while also limiting visual access from Plaza A (Figure 5).

All the monuments discovered at Tipan to date have been found in association with the axial stair of Str. A-1. Monument 1, discovered in 2011,

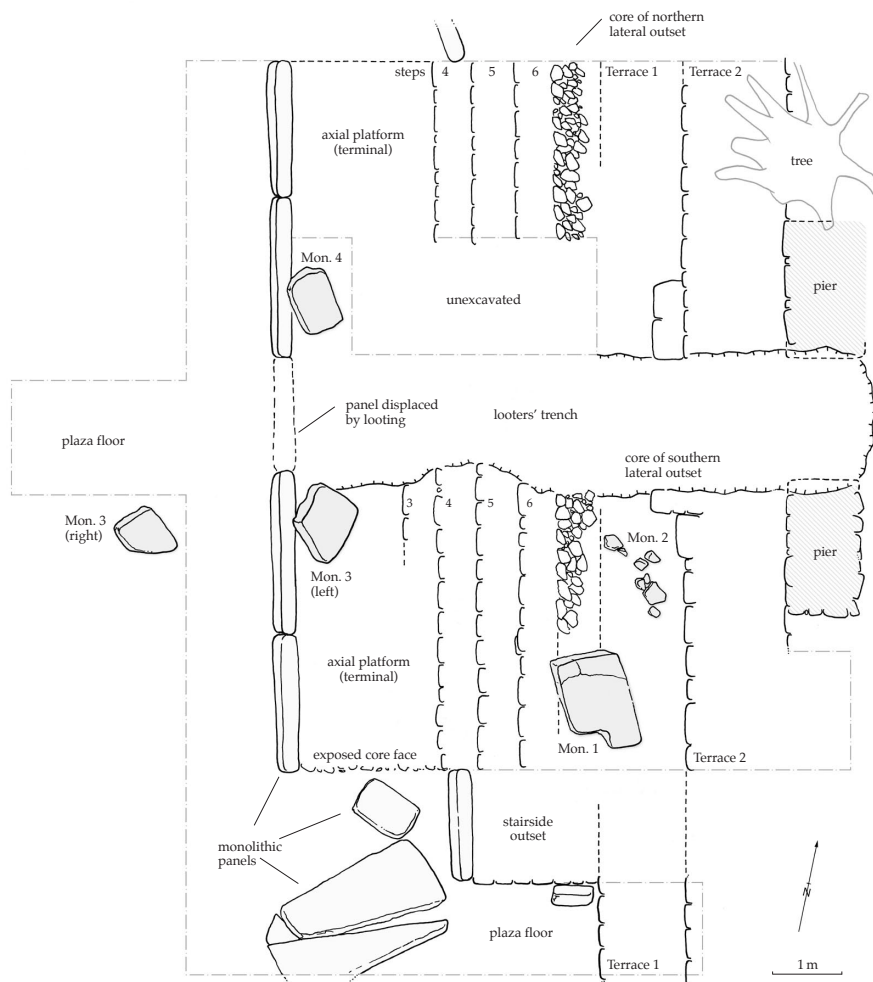


Figure 5. Plan of the excavations of the axial stair of Str. A-1 showing the find spots of the carved monuments as well as the architectural features mentioned in the text (plan by Christopher Andres and Christophe Helmke).

and Monument 2, found in 2013, provided some initial indications of the building’s additional interface or transitory qualities: while both monuments and their accompanying texts are incomplete, the palace entrance appears to have served as a place for the display of monumental sculpture (Andres et al. 2014; Helmke and Andres 2015). Work on Str. A-1 continued in 2015 in an effort to continue clarifying the architectural features, as well as to recover missing portions of Monuments 1 and 2. Unexpectedly, these excavations led to the discovery of the two additional monuments, clearly confirming that this location was once elaborately embellished with carved and inscribed monuments, pointing to the historically referential and aggrandizing nature of the western facade of the palatial complex.

The first of these panels, Monument 3, was encountered lying face down on the surface of the previously described secondary platform just south of the looters’ trench (see Figures 4b, 5). While this panel was broken, the distinctive angle of the break alerted us to a possible fit with a block of similar size and thickness exposed on the nearby plaza. Upon discovery of the initial carved portion, closer examination of the second, more eroded slab not only revealed carving, but showed that it in all

probability belonged to the same panel.

The second ballplayer panel, Monument 4, was likewise encountered lying upon the surface of the terminal phase platform (Figure 5). This monument was discovered on the opposite side of the looters' trench from Monument 3 and had also clearly been displaced from its original context in antiquity, since much like Monument 3 it was found resting atop terminal phase architecture and sealed below collapse debris. As luck would have it, however, the illicit excavations passed directly between the monuments—within a half meter of each, but without disturbing either.

Whereas Monuments 3 and 4 were found in secondary contexts and while neither was encountered in its original architectural context, our exposure of Str. A-1's west face revealed a poorly-preserved pair of secondary terraces, or lateral stair blocks, added over upper parts of the earlier stairs on either side of the looters' excavation (see Figures 4a, 5). In both cases, these architectural units lack facings, and their destabilised dry-laid core was found collapsing down the building. Though we cannot be absolutely certain, the available evidence suggests that Monuments 3 and 4 were integrated into the upper reaches of the building, and may have faced portions of these deteriorated architectural units. Interestingly, considering the fact that the panels were broken, together with possible evidence that the faces of the individuals depicted in the iconography were deliberately defaced by focused battering, it is possible that these ballplayer panels, much like Monuments 1 and 2, were intentionally vandalized at the time the royal court of Tipan was abandoned. Before proceeding to examine the ballgame panels from Tipan, we will now turn our attention to examples of similar panels from other sites in the Maya lowlands, allowing us to get a better sense of the coherence of the iconographic motifs pertaining to the ballgame.

A Comparative Sketch of Ballgame Panels in the Maya Area

Prior to the discovery of Tipan Monuments 3 and 4, similar ballplayer panels were known for La Corona (Stuart et al. 2015), Uxul (Grube and Delvendahl 2014), El Palmar (Tsukamoto et al. 2015), El Peru (Lee and Piehl 2014:95-98), Yaxchilan (Graham 1982:155-164), Zapote Bobal (Tunesi 2007), and Dos Pilas (Houston 1993:Fig. 3-22), as well as farther afield at Tonina (Stuart 2013) and Quirigua (Crasborn et al. 2012) (Figure 1). Intriguingly, the sites of Uxul, El Palmar, La Corona, El Peru, Zapote Bobal, and Dos Pilas are all known to have been vassals of the Snake-head dynasty during the Late Classic period (Martin 2005; Canuto and Barrientos Q. 2013).

Importantly, the hieroglyphic stair at El Palmar clearly represents a mention of the contemporary Snake-head king in addition to a ballgame scene on the sixth

step (Tsukamoto et al. 2015). Furthermore, based on an independent interpretation of the ballgame panel at Tonina (Stuart 2013) it is possible that the iconography shows the local lord playing against a ruler of Calakmul, which corroborates the model proposed here.

The glyphic captions of the recently discovered ballgame panels at Quirigua (Crasborn et al. 2012) are not entirely clear, and accordingly many possible interpretations present themselves. Nevertheless, it should be recalled that some type of intervention by the Snake-head kings has long been suspected behind the brash and sudden conflict that pitted Quirigua's K'ahk' Tiliw Chan Yopaat against Waxaklajuun Ubaah K'awiil and which ultimately resulted in the decapitation of the latter (Schele andLooper 1996:127; Martin and Grube 2000:205). The ballgame panels at Quirigua are dated to c. AD 808 (Crasborn et al. 2012:375, 378), which is decidedly later than the fateful decapitation event of 738, and as such may well support the scenario wherein the Snake-head kings figure as instigators of the conflict and martial allies of Quirigua. As a result, even the ballgame panels of the more distant Tonina and Quirigua may speak of close dynastic interactions between the local elite and the Snake-head kings, cemented by ballgame contests. Although no ballplayer panels have been found at Cancun, a similar situation can be surmised since close relations with Snake-head rulers are evidenced by the text of Panel 1, and the iconography of ballcourt markers shows key points of historical ballgames (see Zender and Skidmore 2004).

At present, the one set of ballgame monuments that remains difficult to explain is the large and important assemblage from Yaxchilan, since we are not aware of any clear allegiance between the rulers of that site and the Snake-head kings, especially during the latter part of the eighth century when these panels were raised (see Martin and Grube 2000:128-133). Nevertheless, it bears remembering that Yaxuun Bahlam IV, who initiated the construction of Str. 33¹ that bears the ballgame panels, made it clear in his pedigree that his mother, one Lady Ik' Skull, was a princess bearing the Snake-head title of Calakmul (Mathews 1988:203, 204; Martin and Grube 2000:128). As we have no reason to doubt this parentage, this tie provides an important link to the Snake-head dynasty, which may have imparted to Yaxuun Bahlam the prerogative to engage his vassals in the ballgame and to raise panels commemorating these events, in the same spirit as the lords of Calakmul. As is well known, the inordinately large assemblage of monuments at Calakmul has been reduced to eroded and splintered masses, resulting from the poor quality of the local limestone and the destruction wrought by

¹ The construction of Str. 33 was undoubtedly completed posthumously by his son, Shield Jaguar IV, based on evidence from the lintels (see Martin and Grube 2000:132; Helmke 2014).



Figure 6. Ballplayer panel from the site of La Corona, now in the collections of the Art Institute of Chicago (photograph K2882 © Justin Kerr).

modern looters (Marcus 1987; Martin 1997:851-851). As a consequence, very few legible monuments subsist. Nevertheless, assuming that Calakmul was the head of a network of allegiances cemented by ballgame engagements, one would expect to find similar ballgame panels at the site. As fortune would have it, precisely such a panel has been discovered at Calakmul and recently published (Martin 2012:160). Although fragmentary, this panel owes its preservation to having been recycled in antiquity as core material in Str. 13, which incidentally is located just north of the ballcourt. Significantly, this monument duplicates the ballgame motifs seen on other panels throughout the lowlands. We will return to this panel, below, after considering a handful of examples from La Corona, Yaxchilan, Uxul, and El Peru.

One of the best examples of the ballgame motif is a panel that has been known for some time, and which is part of the collections of the Art Institute of Chicago (Figure 6). Before the Snake-head dynasty was securely connected to Calakmul, and before the discovery of the site of La Corona, the original provenience of this panel—and other similar monuments—while unknown, was assigned a provisional provenience to an unknown “Site Q” by Peter Mathews (1998). It is now well known that many of the monuments thought to have originated at Site Q were in fact erected at La Corona (Graham 1997; Stuart 2001; Guenter 2005). The panel in question (now designated as Element 13; see Stuart et al. 2015:9),

is one such example. This monument was undoubtedly once part of a greater hieroglyphic stair, which appears to have been dismantled and re-incorporated into later architecture before looters eventually found it, trimmed the back, and sold it illicitly on the antiquities market (see Stuart et al. 2015:9). The iconography depicts a very dynamic scene involving two ballplayers, as is made clear by the large tri-part protective belts as well as the stepped elements between them that represent a stylised ballcourt in profile. The glyphic caption on the ball refers to its size, as has been recognised by several scholars (Coe 2003; Zender 2004a; Eberl and Bricker 2004). The large ball is suspended in mid-air between the two players, freezing a tense moment of the game and creating implacable suspense. Who would emerge victorious from this difficult strike? The larger figure, and evidently the protagonist of the panel, is splayed on the playing alley. This is the local ruler of La Corona, one Chak Ak’ Paat Kuy (see Stuart 2015) who braces himself on his right hand and appears to try to deflect the ball that has been returned to him. The glyphic caption accompanying the opponent designates him as *uti’huun kalo’mte’*, which is to say that he was the “spokesperson of the paramount ruler,” undoubtedly Yuhkno’m Yich’aak K’ahk’, the contemporary king of Calakmul (see Zender 2004b:12). The text also makes it clear that this event transpired at Calakmul by citing the two toponyms connected to the site in antiquity (Stuart and

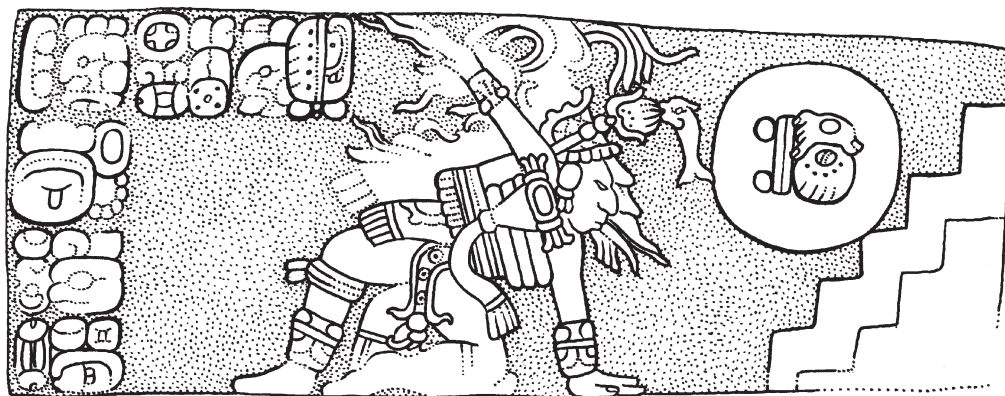


Figure 7. Step X, one of the ballplayer panels of Hieroglyphic Stair 2 that graces Str. 33 at Yaxchilan (drawing by Marc Zender, from Zender 2004a:Fig. 2).

Houston 1994:28-29; Martin 1997:852). As a result we are seeing the ruler of La Corona engaged in a ballgame at Calakmul against one of the high-ranking officials of the royal court. This event was evidently sufficiently prestigious to be recorded on a panel back home after the game's completion.

Another fine example of a ballgame panel is found at Yaxchilan, designated as Step X of Hieroglyphic Stair 2 (Figure 7), which leads up to the important Str. 33 in the hills overlooking the site. The scene of this panel shows a ballplayer lunging to brace a ball, leaning forward on his left arm and knee. The composition is thus essentially a mirror image of that seen on the panel from La Corona. Here the ballcourt is represented in a simplified manner as a sequence of steps, which has led some scholars to suggest that this was a particular form of the game, wherein players bounced the ball off

steps (see Miller and Houston 1987; Coe 2003:200-202). Nonetheless, we suspect that this is simply a graphic convention for showing a ballcourt in profile, the various architectural units that comprise the characteristic profile of a ballcourt reduced to simple steps² (see also Zender 2004b:10-11). Here the individual is clearly masked and dressed as a supernatural entity. The accompanying text makes it clear that this individual is "portrayed as the wind god," wherein the deity is referred to descriptively and tersely as *ik' k'uh* (Zender 2004a:2). Based on the mask of the divinity it is clear that this is one particular wind deity, and on the basis

² This convention also explains the emic designation and name for at least some of the ballcourts, since some are known as *wak ehbnal*, or "six step-place" (Schele and Grube 1990; Schele and Freidel 1991).

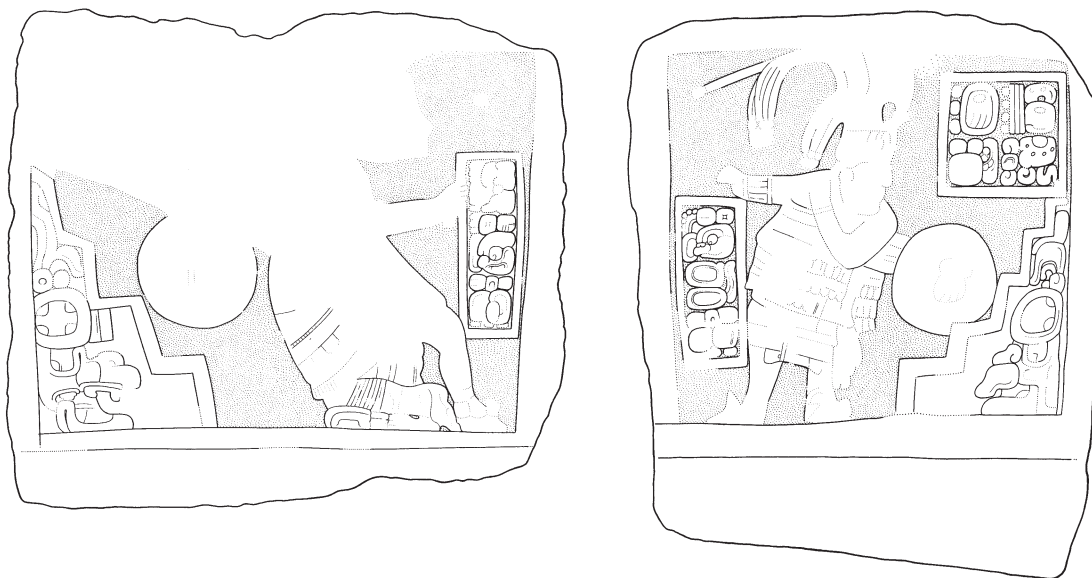


Figure 8. Two of the ballplayer panels associated with the axial stairs of Str. K2 at Uxul. Panel 2 (left) and Panel 4 (right) (drawings by Nikolai Grube, from Grube and Delvendahl 2014:Figs. 19, 21).

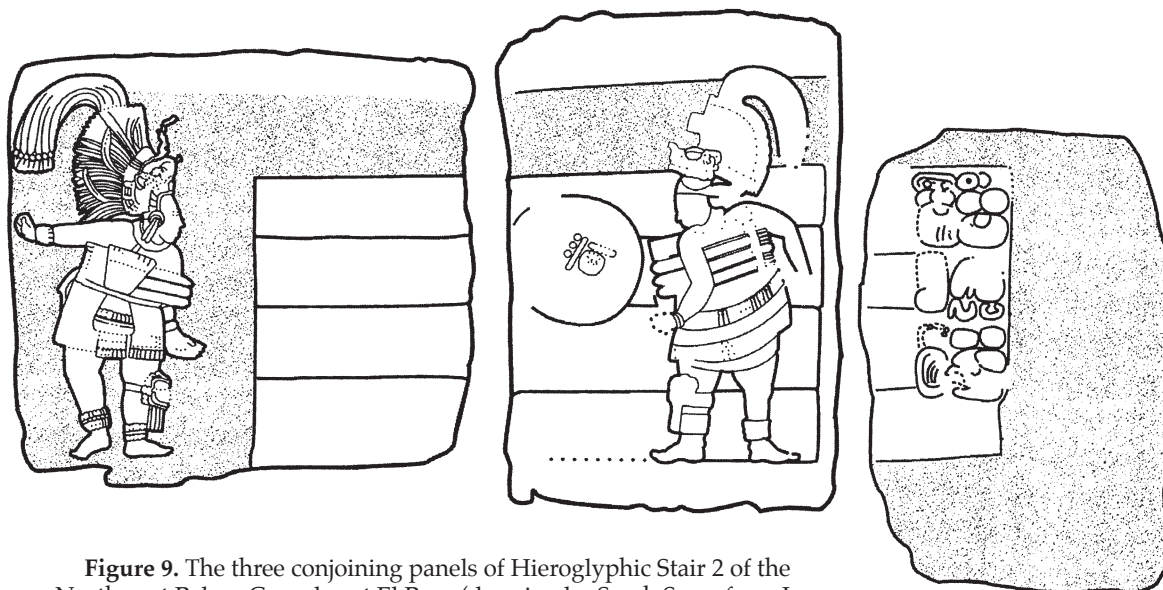


Figure 9. The three conjoining panels of Hieroglyphic Stair 2 of the Northwest Palace Complex at El Peru (drawing by Sarah Sage, from Lee and Piehl 2014:Fig. 5.5).

of nominal segments at Palenque, Copan, and Caracol, this deity may have been known as *tiwool*, of unclear etymology (Stuart 2005:25, n. 3). Whereas other companion panels of Hieroglyphic Stair 2 at Yaxchilan show king Yaxuun Bahlam IV playing in elaborate garb, Step X shows one of his high-ranking military officers, K'an Tok Wayaab, who is also depicted on other monuments, seizing captives in battle and celebrating dance festivities with the monarch (Schele and Freidel 1990:294-297; Helmke 2010). Again these monuments speak of more than just the ballgame and imply that the contests involved the ruler and his subservents, and presumably served to foster bonds of allegiance and to simultaneously heighten the power, position, and prestige of the king.

The recently discovered hieroglyphic stairs adorning Structure K2, the *audiencia* structure of Uxul's palatial Group K, provide other excellent examples of ballgame panels. Much as at La Corona, the panels date to an earlier phase but were recycled as part of penultimate and terminal construction phases (Grube and Delvendahl 2014:83-86). The figurative panels commemorate a series of ballgames that involved the rulers of Calakmul, including Yuhkno'm Yich'aak K'ahk' in AD 695 (Panel 4) and a bygone ballgame many decades earlier that may have involved Scroll Serpent (Panel 2) (see Grube and Delvendahl 2014:89-90, 91-92) (Figure 8). In both cases, the ballcourt is again rendered in profile as a series of steps, and personification heads within each provide the name of the ballcourt and suggest that these are near-mythical places. Interestingly, the same name is found in a fragmentary text at Calakmul (Martin 1998:Fig. 14), suggesting that these name the site's ballcourt and that the scenes on the Uxul panels depict events that transpired at Calakmul. The composition is

conventional and shows the same type of pose, wherein a daring and energetic ruler braces himself and leans into the ball to better prepare for the impact and to secure the ball's successful volley. The great regularity of the scenes speaks of important moments in the game that the ancient Maya were intimately familiar with but which only partly resonate with us today.

At El Peru, we find other examples of ballplayer panels and these too were found as part of a hieroglyphic stair (HS2) leading into the Northwest Palace Complex. The example that we introduce here was found adorning the eastern face of the palatial acropolis and comprises three conjoining slabs that together form a unified scene, of the 14 slabs that once formed the hieroglyphic stair (Lee 2006; Lee and Piehl 2014:95-98) (Figure 9). The scene once graced the lowest step and depicts two ballplayers facing each other, and as we have seen with other scenes, a numbered ball between them. The glyphic caption that accompanied the ballplayer to the right reads *Ubaah ti pitz yuhkno'm yich'aak k'ahk' k'uhul kanu'l ajaw*, or "It is his image playing the ballgame, Yuhkn'om Yich'aak K'ahk', the godly Kanu'l king," leaving little doubt as to its contents or the figures depicted (Lee 2006:109; Lee and Piehl 2014:96-97). Although unspecified, we are left to conclude that the figure to the left was meant to represent the local ruler of El Peru. In the background a series of four lines appear to demarcate steps and again probably represent a stylised ballcourt, although here it appears to be depicted in longitudinal elevation, rather than laterally from the side. Thus, Yuhkn'om Yich'aak K'ahk' is undoubtedly shown in the middle of the playing alley, whereas the ruler of El Peru must be represented in the end zone.

Whereas most of the details of the ancient Maya ballgame remain unknown, in a series of workshops focused

on the ballgame,³ the senior author has collaborated with Ramzy Barrois and Harri Kettunen to formulate a series of rules that could explain the architectural composition of ballcourts in conjunction with the placement of markers and the depictions rendered in iconography (see also Barrois 2006). Based on these data, and comparisons to modern variants of the Mesoamerican ballgame that survive in Mexico (Leyenaar 2001; Leyenaar and Parsons 1988), we have been able to reconstruct some hypothetical rules, including an episode in the ballgame wherein a point advantage translated into a territorial gain, such that the team with point advantage overtook the adjoining portion of the central playing alley and pushed the opposing team into the end zone.⁴ As it turns out, this crucial and pivotal episode of the game was represented several times in the iconography, and we suspect that this is also what is represented on the panels from El Peru, thereby showing the ruler of Calakmul in a dominant position and the ruler of El Peru at a disadvantage. Returning to the panel from La Corona, we can thus appreciate that we are looking at the same type of event, since the standing figure is shown in front of the lateral end of the ballcourt, again implying that he is standing in the end zone, but here it is the ruler of La Corona that is shown with the advantage and Calakmul's courtier in the end zone.

Although we are slowly gaining more and more information about the ancient ballgame, the degree of conventionalization present in the iconography also greatly reduces the possibility of understanding all of the elements, since focus is consistently placed on particular events in the ballgame, in much the same way as posters of modern athletes depict them in the most lively, baroque, and crowd-pleasing maneuvers. One of the features that is repeatedly conventionalized and subject to omission is the number of players represented. Thus, in the panels we have seen, only the captains of the teams are represented, or in the case of Yaxchilan and Uxul only the most valuable player. Yet, in some instances the number of players tends to be rendered much more realistically, without the exclusive focus on the primary protagonists. This is particularly clear on ceramic scenes (Zender 2004b:10-11), but also on the panels of Hieroglyphic Stair 1 at Dos Pilas (Houston 1993:88, Fig. 3-22). Although the figurative tableaux have eroded to a great degree we can discern two teams facing off, comprised of three to five players apiece (Figure 10). The uppermost panels duplicate the compositions seen thus far, with the ballcourt represented as a series of steps, and the ball being volleyed from one team to another. The lower panel may represent either the kickoff⁵ or the finale to the ballgame, both teams facing each other, outside of the ballcourt, separated by what may be two large balls, with some figures wearing the large capes that are the mark of elite individuals, as seen in the murals of Bonampak (see Miller and Brittenham

2013).

The final ballplayer panel that we would like to consider is that found at Calakmul (Figure 11). Although it is fragmentary, it is a monument of paramount importance since it demonstrates the existence of ballgame panels at the site and that this motif figured as an integral part of the range of symbolic messages that the local elite wished to commemorate and convey. The one figure preserved on the panel wears the large protective belt and kneels on his right leg and presumably leans into an oncoming ball. Behind him are a series of lines that duplicate the composition seen on the panels from El Peru and represent the ballcourt longitudinally and thereby depict the figure in an advantageous position in the middle of the playing alley. The associated glyphs confirm that this represents the ruler of Calakmul based on the presence of the Snake-head emblem glyph and the preceding glyph providing his name. While this segment is fractured and spalled, the initial part clearly records **yu[ku]no** for *yuhkno'm* and the ensuing head-variant may represent the logogram **CH'EN** "cave." If so, this may depict Yuhkno'm Ch'een II who ruled from AD 636–686 (Martin and Grube 2000:108-109), yet the monument has been stylistically dated to c. 700 (Martin 2012:160), suggesting that this is a retrospective account. This panel significantly duplicates many of the features seen on the other panels that we have introduced above, and importantly the Calakmul panel is squarely contemporaneous with the Tipan monuments, as we will see. Having thus introduced a series of ballgame monuments from throughout the Maya lowlands, we can now turn to the descriptions and analyses of the newfound monuments of Tipan on good footing.

Description and Analysis of Tipan Monument 3

Monument 3, which is best described as a panel, would have measured as much as c. 1.44 m wide, 0.66 m high, and c. 20 cm thick, when it was complete (Figure 12). As such, nearly 91 % of the original monument is

³ These workshops were held at a series of conferences, including the 1st Annual Maya at the Playa Conference in Palm Coast Florida in 2007, the 12th European Maya Conference, the same year, in Geneva, and most recently, the Maya-on-the-Thames conferences organized by the Institute of Archaeology, University College London, in both 2013 and 2014.

⁴ Whereas the team with the upper hand would have had more ground to cover and defend, the team pushed into the end zone would have suffered a disadvantage by being in close quarters and reducing the maneuverability of the players. In re-enactments or modernised forms of the ballgame using these rules, played in the ballcourts of the archaeological sites of Cahal Pech and Xunantunich, we were able to witness the ups and downs of such point advantages.

⁵ Perhaps the method of starting the ballgame would be better called the "strikeoff," since feet were not used (Zender 2004a: 5-8).

preserved as found.⁶ Considering that the carving was rendered in low relief, with foreground and background distinguished by no more than 5 mm and details rendered in shallow 1 mm lines, it is fortunate that the carving is as well preserved as it is, suffering only minor damage in parts and moderate weathering that affects the carving more or less evenly across its surface. Both the relief and the degree of preservation are subject to the hardness of the crystalline limestone from which this and the companion monuments were produced. In its current state, Monument 3 is broken in two large fragments, and it remains to be determined if the breakage is accidental and brought about by structural collapse or the result of ancient deliberate action. Support for the latter is that the entirety of the figure represented on the panel has been defaced and parts of the adjoining sections exhibit spalling and are more worn than the remainder of the panel. Based on comparisons to other such panels found elsewhere in the lowlands, Monument 3 was undoubtedly integrated into the stair leading from the plaza up into the acropolis but may have been recycled as a riser into later architecture (much as at Uxul, La Corona, and El Peru).

The panel's iconography represents a ballplayer as is made clear by the pose, the juxtaposition with a large circular ball, and the distinctive protective belt worn by the figure. The player wears a kilt, and from the remains it is clear that he wore a large headdress, most of which is now absent. In his left hand, he holds a staff-like object that terminates in a circular element that appears to be woven and embellished by a series of streamers. Similar objects have been identified as fans, based on other examples found in the Usumacinta area, including those represented in the murals of Bonampak (Miller and Brittenham 2013), the stela from El Kinel (see Houston et al. 2006:89-92, Figs. 5, 6), and a possible example on Naranjo Stela 28 (see Graham 1978:75).

The figure is in a dynamic pose and is bracing to return the heavy rubber



Figure 10. The ballplayer panels of Hieroglyphic Stair 1 at Dos Pilas (photograph by Merle Greene Robertson).



Figure 11. The fragmentary ballplayer panel found in the core of Str. 13 at Calakmul (photograph by Simon Martin, from Martin 2012:160).

⁶ This estimate is based on the total extant surface areas of the fragments of the panel.



Figure 12. Monument 3 of Tipan Chen Uitz (photograph and drawing by Christophe Helmke).

ball. His right knee is firmly planted on the playing alley as he pushes off with his left foot, and he has folded his right arm in a protective stance, prepared for the impact of the ball. The dynamism is made all the more patent when one considers that the base of the ball is flattened (in fact forming a depression on the panel's lower border) as though it has just impacted the surface of the playing alley and is about to bounce up towards the player. That the scene is set in one of the ballcourt's end zones, rather than the playing alley proper, is implied

by the quadrangular form, representing the ballcourt, shown in profile, peering out from behind the large ball. As such, the scene duplicates the particular phase of the game as seen on the panels from La Corona and El Peru—and presumably also that from Calakmul.

The ball is captioned by a glyph block (D1) that, as with the other ballgame panels we have seen, provides a qualification of its size. The first of the two qualifiers is the numeral nine, followed by a human hand with outstretched fingers that represents the logogram **NAB**,

read *nahb*, for “handspan” as has been demonstrated by Marc Zender (2004a) and others (Coe 2003; Eberl and Bricker 2004). Exceptionally, below the hand is a large scrolled sign that is partially embellished by cross-hatching. Based on the other contexts in which this sign occurs, a plausible reading of this logogram is **K’IK’** (see Stone and Zender 2011:67-68; Law et al. 2014), which literally means “blood,” but in this case refers to tree sap, and that of the latex tree (*Castilla elastica*) in particular. Representations of the same scrolled sign in association with references to the ballgame at Ek Balam and in the Dresden Codex make it clear that this sign refers to rubber balls (see Lacadena 2003:Fig. 19; Grube 2012:208-209). As such, the whole caption reads *baluun nahb k’ik’*, or “nine handspan ball,” providing an unusually complete caption for a rubber ball. Based on examples at other sites, such as the panels of Hieroglyphic Stair 2 at Yaxchilan, a whole series of different sizes were known, ranging from 9 to 14 handspans (Zender 2004a:1-4; Eberl and Bricker 2004; Helmke 2007). Thus, whereas it is clear that this qualifier records a size gradation of the ball, it remains unclear whether the handspans in these instances refer to the length of the strip of latex that was used to manufacture the ball or whether these measure the circumference of a large rubber ball. Based on the size of balls represented in the iconography, it would seem that the latter interpretation is more likely (Helmke 2007).

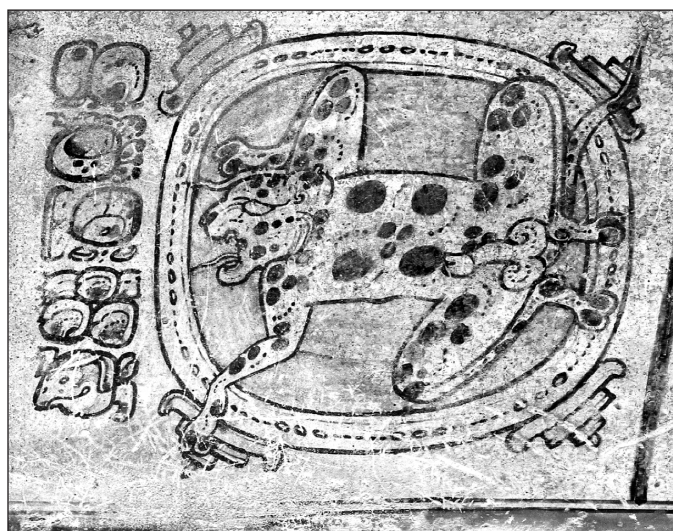
The glyphic text that frames the scene is remarkably well preserved and, most unusually, appears to be complete. The clause is headed by a calendrical notation recording a Calendar Round date. The first glyph block (A1) records the Tzolkin date as **7-CHAM**, or “7 Kimi.” Here, however, the usual crescent-shaped filler between the two dots of the numeral is replaced by what may be an infixed syllabogram **u**, possibly serving as an initial phonetic complement to the numeral to indicate a dialectal variation and thereby possibly prompting a complete reading of *uk cham*, or “[On the day] 7 Kimi.” The second glyph (A2) records the Haab date, here written **14-ka-se-wa**, read *chanlajuun kase’w*, which can be translated as “14 Sek.” This Calendar Round combination clearly commemorates a historical event on an “uneven” date, rather than a Period-Ending celebration on an “even” date. As such, locking this Calendar Round to a particular Long Count date is difficult, not least since this Calendar Round date reoccurs six times in the Late Classic, between AD 560 and 820. Nevertheless, the closest possible date to the anchor provided by Monument 1 (which commemorates the Period-Ending of 9.14.0.0.0 or AD 711), is 9.14.4.9.6, or the 18th of May, AD 716 (using the GMT+2 correlation; see Martin and Skidmore 2012). Dates on particular structures and in discrete areas of

sites tend to cluster together, but there are additional reasons for preferring this date above the other possibilities, which we will touch upon again later. Assuming that the placement of this Calendar Round is correct, it would commemorate an event that transpired a little over five years after Monument 1 was erected (Andres et al. 2014).

The verb that records the event that transpired on this date is written somewhat ambiguously as **CH’AM-wa** (A3), involving the verbal root *ch’am*, “grasp, take.” Assuming that this is the active voice of a transitive verb, one would expect both an ergative pronoun (**u-**) and a following object, yet the following element (B1) may already be part of the name and thus part of the subject. Alternatively, this may be an idiosyncratic spelling of an absolutive antipassive, written with **-wa** instead of the expected **-wi**, in which case the verb can be translated as “he grasped, took.” In other contexts, the verb *ch’am* is usually seen in statements of royal accession, wherein an incumbent ruler takes a scepter or another item of regalia that symbolizes his ascent to his new office (e.g., Schele 1980:155-156, 169-170). Nevertheless, considering the widespread self-referentiality of Maya texts, we assume the “grasping” cued by the glyphic verb refers to the fan that the ballplayer holds in his left hand. It is unexpected to see such a combination, not least since we do not know of any other examples that show a similar pairing of ballplayer and fan. Then again, the verb *ch’am* is not usually represented on ballplayer panels either, and thus this must have been significant enough to merit a careful mention. As a result, we are left to contemplate the possibility that this represents a variant of the game involving a fan, or a heretofore unknown phase of the game.

The last two glyph blocks appear to record the name of the subject and thereby the individual represented on the panel. In the first collocation (B1a), the main sign represents an anthropomorphic profile with exaggerated and elongated lips. Based on examples of this glyph in nominal contexts at Caracol and Palenque, it would appear to name a particular wind deity, known as *tiwool* (see Stuart 2005:25, n. 3), which we have already seen in connection with the ballplayer panel at Yaxchilan (see Figure 7). The glyph below this main sign is partly eroded and therefore cannot be conclusively identified. However, it does not appear to record a syllabogram **la**, which is the sign one would expect if a phonetic complement were present.

The remaining signs are clearer and better preserved, wherein the final glyph block (C1) represents the profile of a feline, with part of a water lily draped above his head. Whereas the literature usually refers to this feline as a “water-lily jaguar” (e.g., Schele and



a



b

Figure 13. Examples of the water lily feline in Maya iconography: (a) the feline within a Waterscroll sign, the associated caption providing the name Ha' Waterscroll Hix, or "water ? ocelot"; (b) another example of the feline within the Waterscroll sign, the caption naming him more concisely as Ha' Hix, or "water ocelot" (photographs K0771 and K0791 © Justin Kerr).

Miller 1986:51), based on glyphic captions in other texts it is clear that this is a *hix*, "ocelot," not a jaguar (see Houston and Stuart 1989:6) (Figure 13a). The qualifying elements preceding the head of the feline (B1b) include the undeciphered waterscroll sign (T578/579), followed appropriately enough by its common phonetic complement *ma*, below. Whereas the reading of this logogram escapes us at present, it undoubtedly refers to a body of water or even a wave, but unfortunately the lexical entries in dictionaries of lowland Mayan languages are insufficient to provide a plausible decipherment (see Matteo n.d.). The combination of the waterscroll

sign and an ocelot is a well-attested nominal sequence for a supernatural entity known as a *wahy* creature or spiritual co-essence (see Houston and Stuart 1989:6; Grube and Nahm 1994:690; Helmke and Nielsen 2009) (Figure 13). The example provided on Tipan Monument 3 is one of a few rare instances wherein this nominal sequence is applied to a historical individual, with similar practices known from Classic Maya onomastic principles (see Colas 2004, 2014; Zender 2014).⁷ As such, the individual represented on the panel in the act of playing ball is one that we would nickname Waterscroll Ocelot. Unfortunately, the titles that this individual bore are not recorded, which implies that this figure was sufficiently well known to the original target audience that this was unwarranted. Whereas we first assumed that the individual represented could be the ruler of Tipan, with the discovery of Monument 4 this hypothesis is now less secure, although still plausible.

Description and Analysis of Tipan Monument 4

Monument 4 is also a fragmentary panel, only the right-most portion of which has been recovered while the left end remains to be discovered (Figure 14). This second monument measures c. 56.0 cm high, c. 20.5 cm thick, and originally exceeded 81.0 cm in width. Based upon its similarity in size and composition to Monument 3, it is clear that the two monuments formed part of a set. The carving is as shallow as that of Monument 3, ranging between 1 and 6 mm. As found, perhaps as little as 66% of Monument 4 has been recovered. The use of a plain frame enclosing the iconographic scene accompanied by a glyphic caption consisting of five glyph blocks, all match the design and composition of Monument 3—down to the size of the frame and the height of the glyphs—indicating that these are both part of a once-greater monument. As panels adorning the face of an architectural unit, or a tall stair, these monuments may be elements of a hieroglyphic stair, although this designation will require more conclusive evidence that we hope to obtain through future excavations.

⁷ Interestingly, a very similar nominal sequence is found on Altar K at Copan (J1) where it names an individual tied to Structure 6, the building in front of which the altar was erected (Bíró 2010:24). The name on Altar K appears to be written **TIWOL?**-**la** followed by the head of the water-lily feline, which is subfixed by an undeciphered sign that resembles an inverted **la** syllabogram. Considering the name at Tipan, we wonder if this final sign is a phonetic complement for the feline, or an alternate way of writing the waterscroll sign. Altar K bears the dedicatory date of 9.12.16.10.8 or AD 688 and was raised during the reign of K'ahk' Uti' Witz' K'awiil (Martin and Grube 2000:201). Considering spatial and relative temporal distance we suspect that the individual named on Altar K and the figure rendered on Mon. 3 at Tipan are not the same individuals, but merely namesakes.

Much like Monument 3, Monument 4 represents a ballplayer in a dynamic pose, shown in the act of playing the ballgame. This figure lunges forward and braces his left knee, and he leans on his left hand as though attempting to impact a ball that has been hurled at him. The marked dynamism of the scene is evident in the placement of the knee and the hand, since they burst out of the groundline defined by the lower edge of the plain frame. The figure wears the large and distinctive ballplayer belt, again composed of three large segments, and is lavishly adorned with regalia that though eroded are nonetheless clear: a tubular bracelet, as well as an earspool and an exuberant flourish of feathers as his headdress. Much of the attire is now unfortunately lost since the left portion of the scene is eroded and has suffered extensively from the breakage of the monument. The area around the face is also quite weathered and may have been deliberately hammered off, much as other contemporary monuments in the Maya lowlands, such as the stelae of Xunantunich (see Helmke et al. 2010) and the famed Panel 3 of Cancuen that is in pristine condition, save for the eyes of the individuals represented that have all been meticulously pecked out (Normark 2009). These instances are very similar to the defacement that is evident on the ballplayer panel from La Corona that we discussed above (Figure 6).

Fortunately, the right portion of Monument 4 has only suffered moderate and even weathering, suggesting that this is the product of natural taphonomy. The glyphic caption is composed of five glyph blocks. The reading order follows the standard double-column reading order but makes concession for the iconography at the end. The first glyph block (A1) records a stative construction and makes it clear that this is a portrait of a particular individual. The glyph block in question is written **u-BAH-hi** for *ubaah*, “it is his portrait (lit. head),” the common predicate for captions accompanying iconographic scenes. As is common practice, the predicate precedes the name of the individual represented; his/her titles usually follow and close the clause. Here the name appears to be written over the following two glyph blocks, wherein the first (B1) represents the head of a raptorial bird, to judge by the form of the beak, which is accompanied

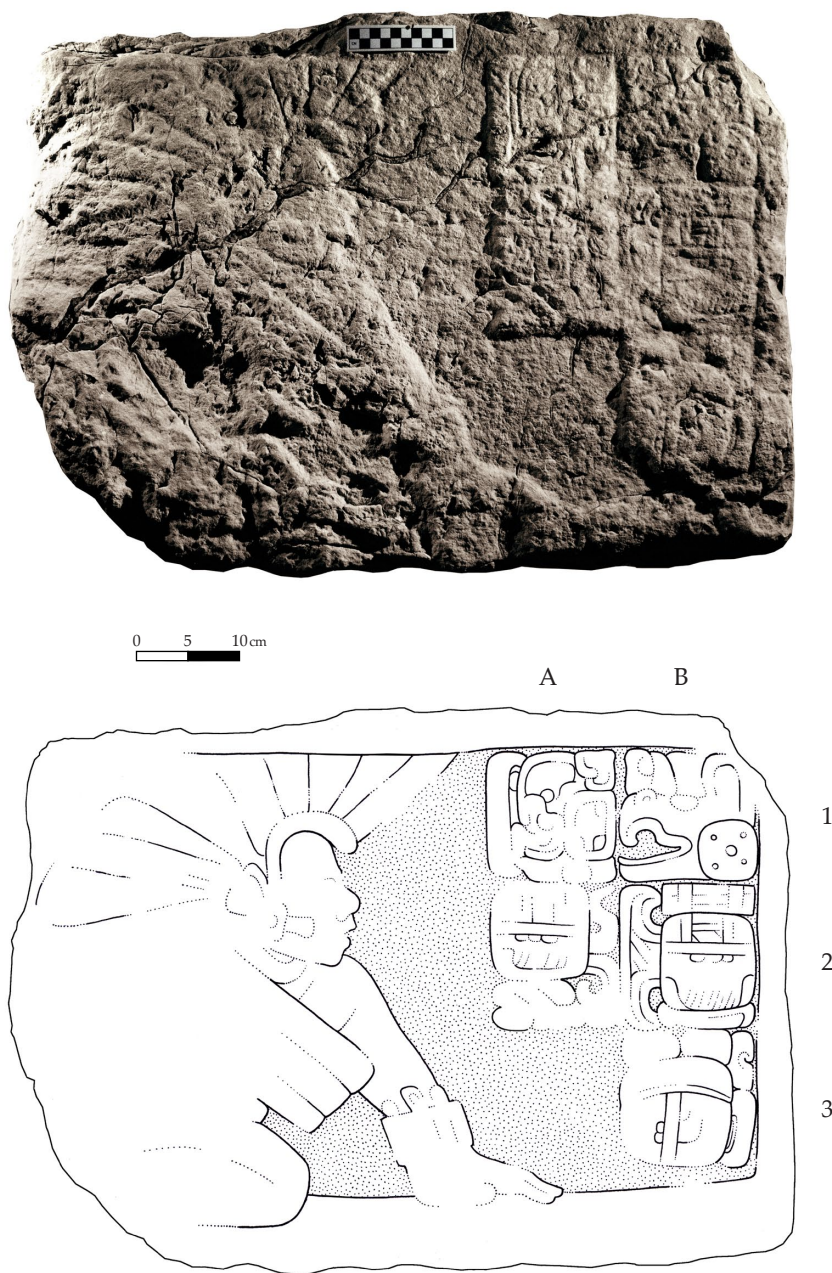


Figure 14. Monument 4 of Tipan Chen Uitz (photograph and drawing by Christophe Helmke).

by the phonetic complement **bi** in the place where one would expect to see the bird's earspool. The phonetic complement helps to narrow down the identification of the type of bird, since it probably represents a *janaab*, a raptorial bird made famous by the name of Palenque's great ruler, K'inich Janaab Pakal ("radiant bird-of-prey is the shield") (see Martin and Grube 2000:162-168; Colas 2004; Zender 2014). The distinctive feather of the *janaab* bird can just be made out, rising above the beak, but the remaining portions of the sign are unclear. The marked

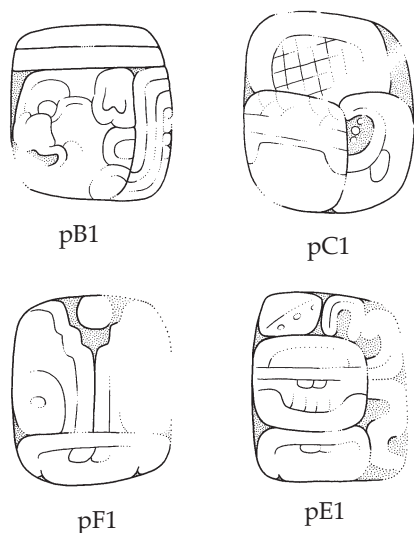


Figure 15. Glyphic medallions of the fragmentary ballcourt ring, found near the ballcourt at Naranjo (drawing by Christophe Helmke, based on photos courtesy of the Atlas Epigráfico de Petén).

frame above the orbit of the **JANAB** sign suggests that one additional portion of the name may have included *uti'*, with the curved depression representing an allo-graph of the logogram **TI'** (Zender 2004c:202, Fig. 8.2d) and duplicating the initial part of the nominal sequence of Janaab Uti' O', as seen in the name of a ruler of Zapotec Bobal (Martin and Reents-Budet 2010). The second part of the name (A2) is written **CHAN-#-#-K'AK'** wherein the intervening signs are eroded. A plausible reconstruction is that these eroded signs include the syllabogram **na**, which acts as the common phonetic complement to the **CHAN** logogram, and the syllabogram **la**, providing a derivative suffix. Despite the erosion affecting these signs, this part of the name undoubtedly reads *chanal k'ahk'*, or "celestial fire," a nominal segment that is known from several texts in the Maya lowlands.

In its entirety, the name of the individual would be read Janaab Uti' Chanal K'ahk', or "bird-of-prey is the mouth of celestial fire." Interestingly, on a partial ballcourt ring that has been found at the site of Naranjo, the nearest supra-regional capital in the area, part of a glyphic text survives (see Graham 1980:187). In addition to a partial date (10 Xul), a dedicatory verb (*patlaj?*), and the ballcourt glyph, representing the two stylised lateral structures of a ballcourt in profile, the text also includes a nominal segment, which much like Monument 4 at Tipan also records *uti' chanal k'ahk'* (Figure 15). This piece of evidence is intriguing since at Tipan this individual is represented as a ballplayer and at Naranjo part of the same name appears on a ballcourt ring. While it is tempting to assume that these monuments name the same individual and thereby suggest a further

connection between Tipan and Naranjo, we should err on the side of caution at this juncture and leave open the possibility that the monuments name different individuals bearing part of the same name, until the opposite can be substantiated.

Of the last two glyph blocks, the final one (B3) clearly represents the full geometric form of the regal title *ajaw*, here written **AJAW-wa**. As such, when first reading the text, we hoped that the preceding glyph block (B2) might record part of an emblem glyph and thereby provide us with the emblematic title of the dynasty established at Tipan. We were therefore surprised to discern that the initial part of the title is written **NAH-5-CHAN-na**, read *nahho'chan*, for "first five skies" or perhaps "great five skies." This segment provides the name of a supernatural location that is quite well known from the glyphic corpus as the celestial abode for a range of deities (Stuart and Houston 1994:71), including the so-called Paddler gods that are known to ferry the deceased Maize god into the underworld (Schele and Miller 1986:52). At Caracol the title of Nahho'chan Ajaw is borne by the site's triadic patron deities, whereas at Naranjo it is a locality tied to the Jaguar God of the Underworld since a variety of mythological events are said to transpire there that involve the same feline deity (see Schele and Mathews 1998:148-149; Martin and Grube 2000:82). References to historical individuals bearing this title are extremely rare, but one text from Naj Tunich may suggest that an individual involved in a ritual pilgrimage to the cave in AD 745 bore this title (MacLeod and Stone 1995:167, 178, 183) (Figure 16a), whereas one of Tikal's latter kings, Yik'in Chan K'awiil appended Nahho'chan as a qualifier to his *kalo'mte'* title in AD 744 (Jones and Satterthwaite 1982: Fig. 8a) (Figure 16b). On an unprovenanced polychrome vase representing an eerie congregation of spirit companions (K0791) we can discern one emaciated and skeletal creature, flint blades emerging from all of his joints, wearing the head of a giant centipede as his headdress (Grube and Nahm 1994:694) (Figure 16c). What is noteworthy is the glyphic caption, wherein the first part records the name of the skeletal figure as **ma²bi**—possibly read as *mabib* or *ma'bib*⁸—the

⁸ The transliteration and analysis of the name of this *wahy* remains problematic. On the one hand, it may involve the negative particle *ma'* prefixing a lexeme that is quite rare in lowland Mayan languages. One instance includes the Itza' *bib* "rodar, roll" (Hofling and Tesucún 1997:176), although this proves unproductive in this context. Alternatively, the name may include a verbal root, suffixed by the instrumental *-ib*. In this analysis the root may compare to the Yukatek verb *mab*, with a variety of glosses including: "mirar mujeres desnudas" and "menospreciar a otro" (Barrera Vásquez 1980:470). As an instrumental form of this verb, a possible gloss of *mabib* may be "indecent, disrespectful gaze," a fitting name for a sinister *wahy* creature.

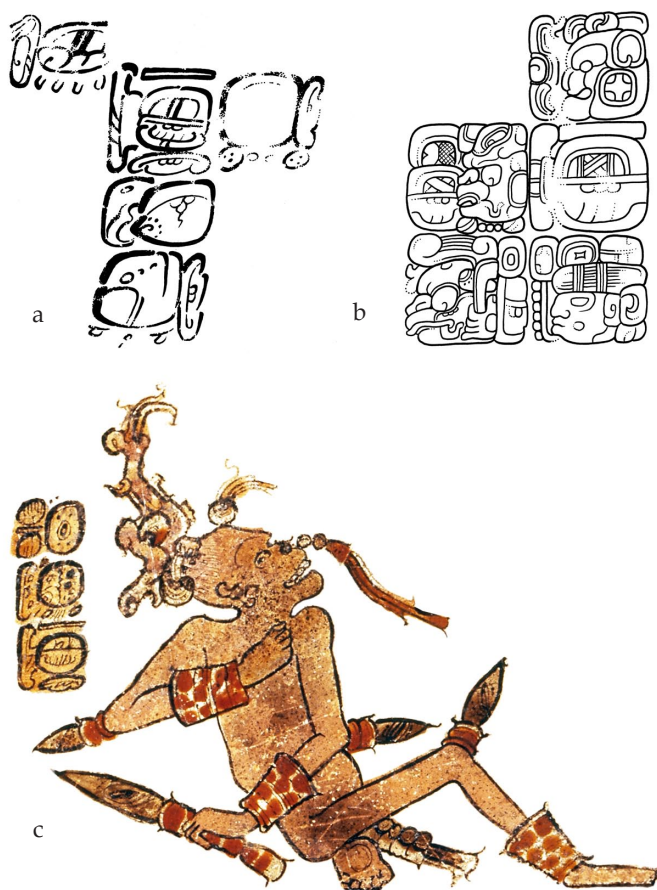


Figure 16. Examples of the Nahho'chan toponym with historical figures and a *wahy* creature: (a) excerpt of Drawing 65 at Naj Tunich naming one of the pilgrims to the site; (b) the titular sequence of Yik'in Chan K'awiil, qualified by the supernatural toponym, Tikal Stela 5; (c) *wahy* creature said to be the spirit companion of Nahho'chan (a, b drawings by Christophe Helmke; c detail of photograph K0791 © Justin Kerr).

medial portion states that it is a *wahy* creature, and the final portion provides a reference to the owner of this entity by citing a title or toponym to which particular dynasties are tied (see Houston and Stuart 1989; Grube and Nahm 1994; Helmke and Nielsen 2009). By means of such captions, one is thus able to identify particular *wahy* creatures and the dynasties to which they are said to belong, and in this particular example, the toponym is none other than Nahho'chan, lending some credence to the idea that this mythic toponym was at times also used by historical individuals, as appears to have been the case at Tipan or a neighboring locality.

On ballplayer panels, such as Tipan Monuments 3 and 4, we usually see local individuals squaring off against foreign exalted elite hailing from faraway sites. Based on the available evidence, we cannot be sure which of the two individuals represented is local and which is

foreign. However, taking into account the features that tie Monument 4 with Naranjo, we wonder if it could not be an individual from that polity, leaving the individual of Monument 3 as a possible local figure. As we will see, there is in fact some support for this contention, based on a glyphic reference at Naranjo.

In attempting to contextualise the ballplayer panels of Tipan we began casting a wider net and looking at contemporaneous texts from sites in the greater environs. In settling on the date of Tipan Monument 3 as AD 716 (9.14.4.9.6), we bear inherent limitations from the ubiquity and preservation of the contemporary glyphic corpora. For instance, Caracol's texts are mute at this time since the site suffered a hiatus from 680 to 798, induced by a series of dynastic crises (Martin and Grube 2000:95). Similarly, at Naranjo, whereas we have a rich and abundant corpus for the reign of K'ahk' Tiliw Chan Chaahk (693–728+)—and the foregoing regency of his mother, Lady Six Sky (682–741)—the corpus essentially fades into silence after the dedication of Stela 2, which commemorates the major Period Ending of 711 (9.14.0.0.0) as well as the enthronement ceremonies of vassals at Ucanal and Yootz under the auspices of K'ahk' Tiliw Chan Chaahk in 712 and 713, respectively (Martin and Grube 2000:77). This monument represents a pivotal shift and corresponds to a change in foreign relations. Thus, whereas the initial two decades of K'ahk' Tiliw Chan Chaahk's reign were characterised by warfare and military campaigns aimed at reclaiming former satellites, the remainder of his rule would be dedicated to cementing alliances and ensuring the fealty of the reconquered settlements. In large part, these diplomatic efforts have left us with a material imprint, unique and exquisite polychrome vases that were produced by skilled artisans of K'ahk' Tiliw Chan Chaahk's court that in turn were gifted to vassals during ceremonial feasts as a sign of continued amity and to secure fidelity. The Jauncy vase, discovered at Buenavista del Cayo, is one such specimen, as is a vase produced for the ruler of Ucanal (K1698), precisely the same individual whose enthronement was presided over by K'ahk' Tiliw Chan Chaahk in 712 (Houston et al. 1992:Fig. 8, 506; Reents-Budet 1994:300–302; Helmke and Kettunen 2011:53–57). Almost identical to the Jauncy vase are sherds found at Xunantunich and Baking Pot, suggesting that these sites also received the attention of Naranjo kings during the eighth century (Lisa LeCount, personal communication 2007; Julie Hoggarth, personal communication 2014; see also Helmke and Awe 2012:74–80). A closer scrutiny of Naranjo's corpus reveals that the latter part of K'ahk' Tiliw Chan Chaahk's reign was not as uneventful, and the corpus as voiceless, as might at first be surmised. In fact there are lengthy historical texts on Stelae 30,

28, 31, and 40, all erected between 714 and 721 (Figure 17). Unfortunately, these monuments are all highly weathered and in several cases the stelae collapsed in such a way as to leave the long historical texts that adorn their reverse exposed to the elements, thereby suffering extensive erosion. Stela 31 is noteworthy in this regard, a monument that bears the portrait of Lady Six Sky as she commemorates the half-k'atun Period Ending of 9.14.10.0.0 or 721 (see Graham 1978:83) (Figure 17b). Despite heavy erosion, the chronology of the text on the back (Figure 18) can be reconstructed as four historical events that transpired on “uneven” dates, followed by a retrospective event relating Lady Six Sky to a comparable half-k'atun celebration in 9.6.10.0.0 (564) during the reign of “Aj Wosal,”⁹ before tying the narrative back to the current half-k'atun celebrations that the monument commemorates (see Graham 1978:84). What is significant here is the fourth historical clause, initiated by the Calendar Round date 10 Kimi 19 Mol, which can be anchored to 9.14.7.13.6 in the Long Count and that correlates to the 18th of July, AD 719. Whereas the actual event that transpired on this date (G3) is weathered beyond legibility, the name of the subject

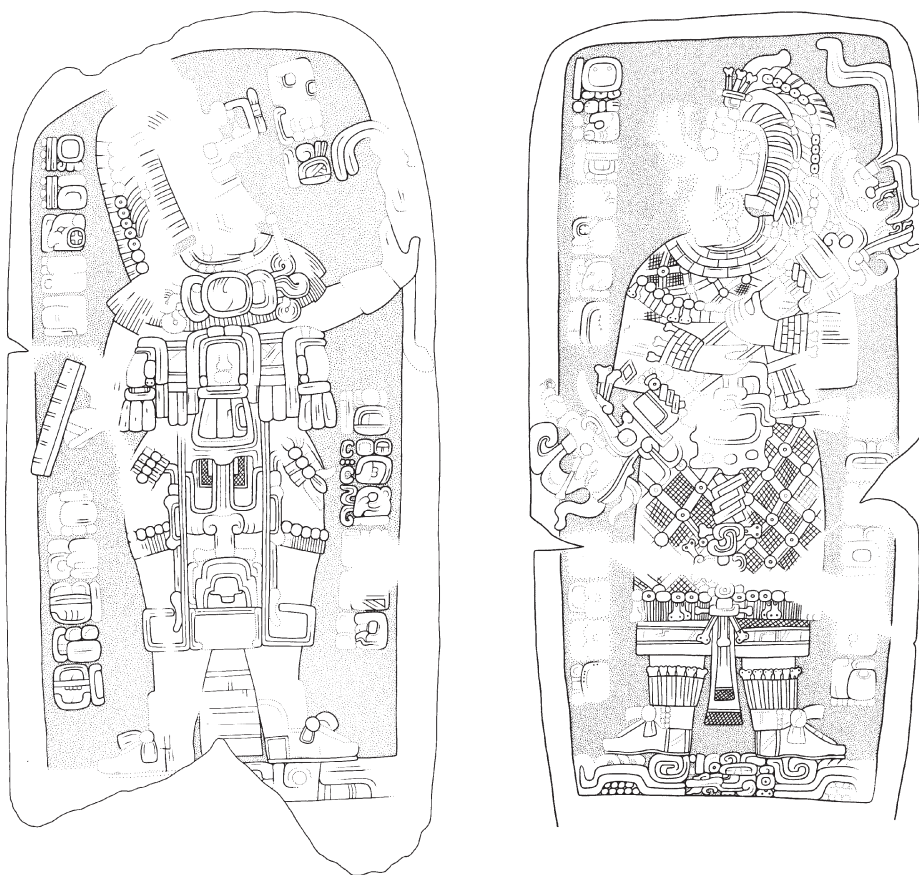


Figure 17. The frontal faces of Stelae 28 (left) and 31 (right) of Naranjo, monuments dating to the latter part of K'ahk' Tiliw Chan Chaahk's reign, representing the ruler and his mother, Lady Six Sky (drawings by Eric von Euw and Ian Graham, from Graham 1978:75, 83 © President and Fellows of Harvard College, Peabody Museum of Archaeology and Ethnology; PM# 2004.15.6.3.6 & 15.6.3.12, digital files 99280060, 99280062).

(and presumed patient of what seems to be a passive verb) is partly legible and represents the head of a feline that is surmounted by a large scroll sign (G5). The name is followed by one more glyph block (H5) that may

have recorded a title before a relationship expression (G6), headed by the third person singular possessive pronoun *u-*, which ties K'ahk' Tiliw Chan Chaahk (G7-G8) to the first individual. Considering the temporal

⁹ The regnal name of this long-reigning monarch requires some comments. Initially this ruler was provisionally referred to as “Double Comb” by Michael Closs (1984), a nickname that was superseded by “Aj Wosal” based on a partial reading of the name, wherein the constituent parts were identified at the time as *a-wo?-sa-la* (Martin and Grube 2000:71). Closer scrutiny has revealed that the last sign is in fact the syllabogram *ji* (Grube and Martin 2004:47), thereby complicating the attempted reading. With the discovery of Altar 2 at Naranjo, which provides a retrospective account of rulers who dedicated various construction phases of the ballcourt, we

see a more complete form of the regnal name ending in Chan K'inich (Grube 2004:197; Grube and Martin 2004:46-48). Concurrently, Marc Zender identified the logogram **AJ**, which functions as an agentive prefix (Zender 2005), and based on a revealing example of the nominal sequence (K7716) it is clear that this **AJ** sign does not substitute for the vocalic sign *a* (T12), which usually forms part of the name, but precedes it as a separate prefix. Thus at times the name would be recorded without the agentive prefix, in much the same way as the suffix is eliminated in some cases (such as on Naranjo Stela 3 and Altar 2). The wavy element above the *sa* syllabogram that had initially been identified as *wo?* may just be a graphic element of the *sa* sign, a paleographic feature identified

independently by Christophe Helmke and Erik Boot (personal communication 2008). There are in fact good examples of *sa* signs, with such “antennae” or wavy protrusions (e.g., K1728 and Tokovinine 2007:Fig. 7b). Based on these identifications, the most complete transliteration of the name is **AJ-a-sa-ji**, read *ajasaaj*, involving the rare root *as*, possibly the verb “play” (as seen in the compound form *alas* “game, child’s play,” in lowland Mayan languages), followed by the verbalising (denominalising) suffix *-aaj*. This reading of the name as *Ajasaaj Chan K'inich* can be translated as “It is the radiant one (Sun God) who plays in the sky” (an alternate interpretation of this name has recently been proposed by Alexandre Tokovinine; see Martin et al. 2015).

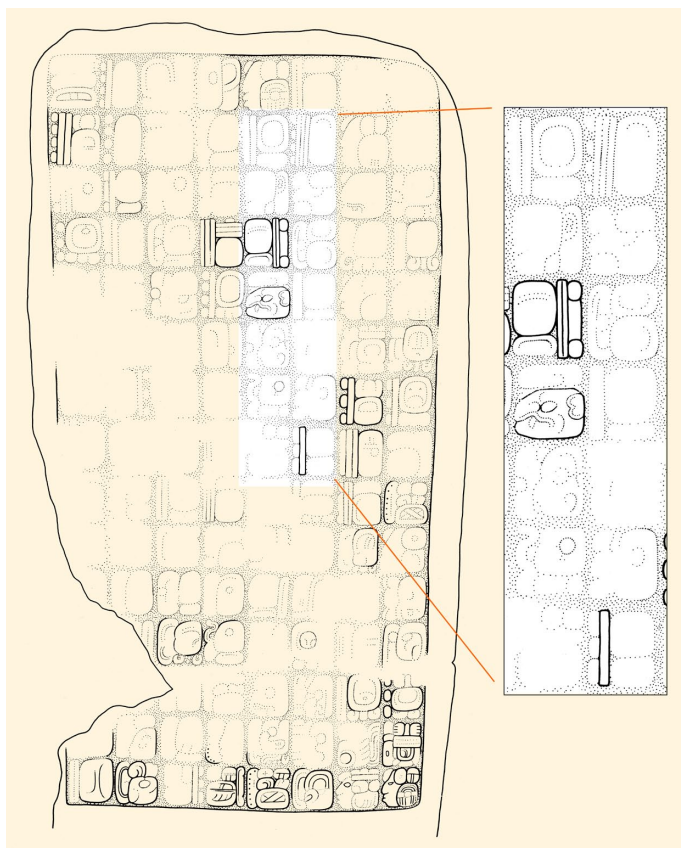


Figure 18. The lengthy but eroded text on the back of Stela 31 at Naranjo, and the fourth clause as an excerpt recording an event in AD 719 that may mention the same individual as cited on Tipan's Monument 4 (drawing by Ian Graham, from Graham 1978:84 © President and Fellows of Harvard College, Peabody Museum of Archaeology and Ethnology; PM# 2004.15.6.3.13 & 2004.15.6.3.13, digital files 99280061, 99280066).

placement of this clause, just three years after the date on Monument 3, and the duplication of the name found on that same monument, we are tempted to view this as a potential reference to the ruler of Tipan. Recalling that this was a period when Naranjo reached out to neighboring sites to secure allegiances, the clause on Stela 31 may record a similar enterprise and diplomatic venture. Due to the erosion of the text, our identifications have to remain tentative, but we hope to be able to secure additional photographs of Naranjo Stela 31 and to inspect the monument at some juncture in the future, in order to ascertain whether this can indeed be a reference to the individual named at Tipan.

Broader Significance

The presence of ballplayer panels at Tipan is significant on multiple fronts. When considered in combination with previously reported Monuments 1 and 2, the pair of recently discovered panels further supports our understanding that Tipan was both a large and prominent

community and the seat of an influential royal court. Significantly, the insights offered by Monuments 3 and 4 suggest that Tipan's rulers were not only able to commission well-executed monuments produced by literate scribes or artisans, but actively employed the same symbolic vocabulary—in terms of monumental forms, as well as compositions of texts and image—characteristic of the most prominent Late Classic dynasties. While it is possible to interpret this pattern in multiple ways, based on present evidence it seems manifest that members of Tipan's royal court were interacting with the rulers of some of the most powerful Late Classic polities.

Besides serving as a general index of Tipan's importance, the form and content of Monuments 3 and 4 arguably provide a basis for identifying specific actors within the political network of which Tipan was part. To this extent, the presence of two—and perhaps more—ballplayer panels at Tipan greatly extends the regional sphere wherein panels bearing this motif are known, especially since these are the first such ballplayer panels known for Belize. As we have seen, closely comparable ballplayer panels are known for Uxul, La Corona, El Palmar, El Peru, Yaxchilan, Zapote Bobal, Dos Pilas, Tonina, Quirigua, and Calakmul. Bearing in mind that most of these sites were integrated into networks of allegiance and vassalage for large parts of the Late Classic, we suspect that these ballplayer panels speak of a greater system of allegiances cemented in part by public performances involving vassals and overlords participating in the ballgame. If this was indeed the case, Tipan may have been part of this greater system of vassalage, which tied it to Naranjo and thereby—however indirectly—to the Snake-head dynasty, since Naranjo's Late Classic kings offered fidelity to Calakmul overlords (Martin and Grube 2000:74-80, 105-111; Grube 2004; Helmke and Kettunen 2011).

A review of the temporal incidence of the ballgame panels is also relevant since it shows some interesting patterns. For one, we can see that many of the earliest panels are found at sites in relative proximity to Calakmul, since that from La Corona commemorates a ballgame event during the reign of Yuhkno'm Yich'aak K'ahk'¹⁰ (c. AD 686-695?), who is also named on the panels at Uxul and El Peru. As such this great ruler would appear as a heretofore unappreciated patron of

¹⁰ Assuming that the individual buried in Tomb 4 of Structure 2 is indeed Yuhkno'm Yich'aak K'ahk', we should remark that Vera Tiesler, who has studied the skeletal remains, identified this individual as suffering from ankylosing spondylitis, a form of spinal arthritis affecting young males (Carrasco Vargas et al. 1999:53). This would naturally have hindered him in performing optimally on the ballcourt—and possibly his family at large, since this is a hereditary trait. Thus we are left to wonder how faithfully the texts record historical ballgame encounters between vassals and overlords. However, this may explain the absence of Yuhkno'm Yich'aak K'ahk' on the panel from La Corona discussed above, as well as the stiff stance with which he is depicted on Uxul Panel 4.

the ballgame and one who was extremely fond of playing his vassals to cement alliances and secure fealty. Yet this pattern is one that probably can be traced back to earlier rulers of Calakmul since one of the Uxul panels may name Scroll Serpent (c. AD 579-611+) in connection with a ballgame; the hieroglyphic stair at Naranjo cites Tajo'm Uk'ab K'ahk' (AD 622-630) in connection with a ballgame in AD 627; and the fragmentary panel at Calakmul may retrospectively depict Yuhkno'm Ch'een the Great (AD 636-686) (see Martin and Grube 2000:105-109). Confirming the antiquity of the ballgame patronage of Snake-head kings is the recently discovered Stela 47 at Naranjo, which shows the local lord "Aj Wosal" just days before his accession in 546, dressed not only as a ballplayer but impersonating Juun Ajaw (Martin et al. 2015)—the mythic figure known from the Popol Vuh for his exploits in underworld ballgames (Christenson 2007:142-168). However, what is most significant of all is the accompanying text which makes it clear that this ballgame was conducted "under the auspices" of none other than Tuun K'ab Hix, the contemporary Snake-head king (AD 520-546+). This fascinating monument aside, the ballgame panels properly speaking tend to appear at more distant sites at later dates, suggesting that we are seeing a genuine arterial diffusion pattern from Calakmul outwards. In sequence, according to the latest date recorded on each monument, we would have the panels of Tipan (c. AD 716), Dos Pilas (724), El Palmar (726), Tonina (727), Zapote Bobal (c. 736-744), Yaxchilan (c. 751), and finally Quirigua (c. 808) (see Mathews 1988:226; Houston 1993:106; Tunesi 2007:6; Stuart 2013; Crasborn et al. 2012:375, 378; Tsukamoto et al. 2015:211-214) (Figure 19).¹¹ Therefore identifying the ballgame motifs with the hegemonic aspirations of Calakmul and

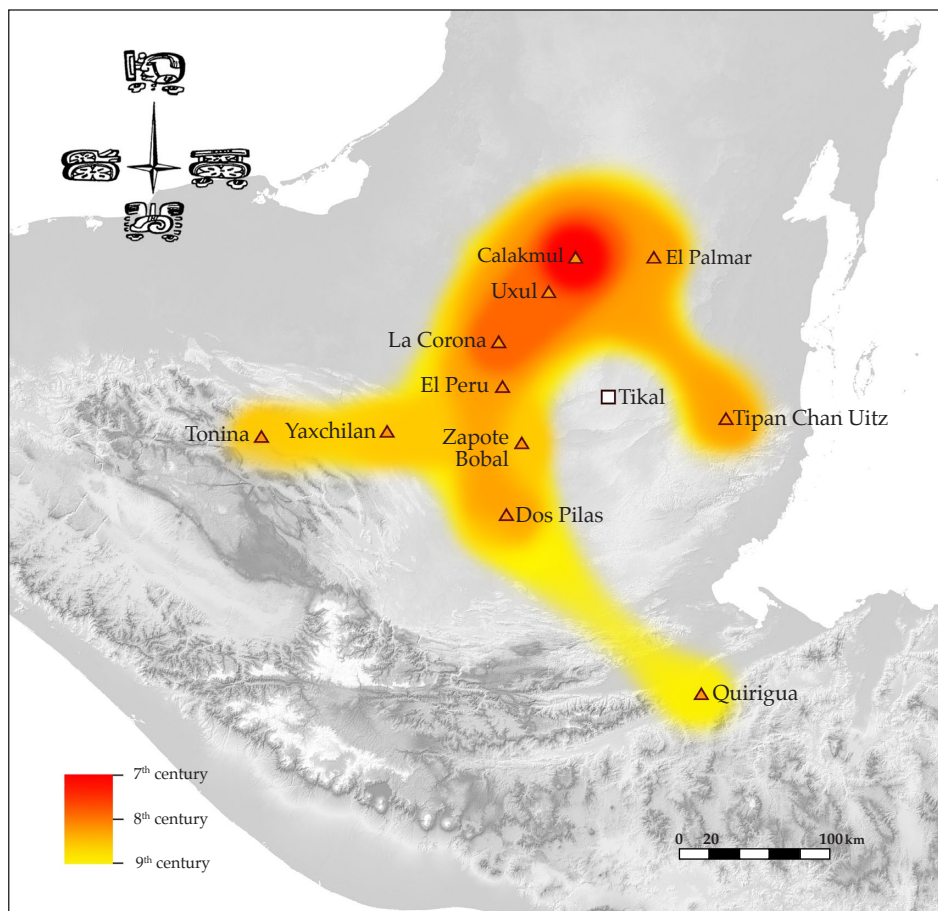


Figure 19. Map of the Maya area showing the temporal distribution of ballplayer panels as an arterial diffusion pattern from Calakmul (map by Christophe Helmke).

the networks of allegiances that were fostered is, on the face of it, a sensible conclusion.

Evidence of a possible connection with Calakmul is not unexpected considering the polity's veritable "superpower" status and the far-reaching nature of the Snake-head dynasty's influence during the Late Classic period including at supra-regional centers such as Caracol, to the south of Tipan (Martin and Grube 2000:88-95, 105-106). As is often noted, there is evidence that Calakmul eclipsed Tikal during the sixth century, displacing its patronage, resulting in the shifting of allegiances with former vassals aligning themselves with Calakmul. As we have noted elsewhere (Andres et al. 2014:54-55), Tipan's Middle Classic ceramics may provide evidence of the community's status as a client state of Tikal. With the defeat of Tikal at the hands of Caracol and its allies in AD 562, we see Tikal's power wane and Naranjo's influence increase during the Late Classic period, especially in this part of the Maya area (Martin and Grube 2000:74-81; Helmke and Awe 2012:74-80). Likewise, before the

¹¹ Here we might also consider the fantastic ballgame scenes painted on the walls of Naj Tunich, which include Drawings 21, 31, 39, and 51. Considering the groupings of imagery and text, only an approximate date can be offered for Drawing 21 on the basis of associated texts bearing Calendar Rounds that have been anchored to the Long Count. Based on the dates of Drawings 19, 23, 24, and 25, we can suggest that Drawing 21 was created at some point between 737 and 763 (see MacLeod and Stone 1995:Table 3). This dates fits the pattern of diffusion since Tipan to the north exhibits ballgame panels around 716 and Quirigua to the south in 808.

discovery of Monuments 3 and 4, we had already begun to explore the idea that the large monolithic panels that face the stair-side outsets at Tipan and its satellite sites of Yaxbe and Cahal Uitz Na represent a regional tradition that finds its origin in the Pasión area of Guatemala, and which may have been introduced to this part of the lowlands by Lady Six Sky from her native Dos Pilas when she moved to Naranjo in AD 682 to rekindle the dynasty (Andres et al. 2014; Martin and Grube 2000:74-75). This intriguing possibility may gain further support from Tipan Monument 3. To this extent, the mention made of the previously introduced Waterscroll Ocelot echoes the other reference cited in the text of Stela 31 at Naranjo (see Graham 1978:84). At present, we cannot be certain that the individuals mentioned at Tipan and at Naranjo, are one and the same, but considering the rarity of the name, and the contemporaneity of the monuments we find the evidence compelling.¹²

Possible evidence of Tipan's newfound membership in a Calakmul-focused interaction sphere of course raises questions concerning the nature of such political interactions. While necessarily speculative, data available from Tipan and other locations may provide insight into the intensity of involvement and degree of control exerted by Calakmul over Tipan. Significantly, it is our growing suspicion that Tipan may have been integrated into such a Calakmul-focused network via Naranjo, whose close relationship with Calakmul is made apparent during the Middle Classic. As such, Naranjo Stela 25 records a clear statement of overlordship when it relates that Calakmul's king, Tuun K'ab Hix presided over the accession of Naranjo's incumbent ruler, "Aj Wosal" in AD 546, as we have already mentioned above (Martin and Grube 2000:72). Furthermore, Stela 1 at Naranjo unequivocally refers to K'ahk' Tiliw Chan Chaahk, on the day of his birth, as the vassal of Yuhkno'm Yich'aak K'ahk', as powerful a statement as any (Martin and Grube 2000:75, 104).

A final aspect worthy of attention is how the existence of a possible hieroglyphic stair at Tipan may provide insight into the nature of this hypothesized relationship with Calakmul. At present, the secondary context of Tipan's ballplayer panels raises questions

about their original position on Str. A-1, whether they may be elements of a larger set of as yet undiscovered ballgame monuments, and whether they may have been components of a hieroglyphic stair. Based upon their scale and horizontal format, Monuments 3 and 4 certainly could have functioned as stair risers. Yet, as with the ballplayer panels seen at other sites, it remains a distinct possibility that the Tipan monuments were displaced from their original architectural contexts in antiquity and reset in terminal-phase construction, as is the case with the panels of many hieroglyphic stairs throughout the lowlands. While this possibility has yet to be demonstrated, a distinct overlap has been noted between areas of the Maya lowlands wherein sites with hieroglyphic stairs are found (see Boot 2011) and those with ballplayer panels. As such, we would suggest that this distribution is far from coincidental and is the material imprint of greater socio-political networks of alliance and vassalage, also attested in the glyphic corpus. Thus, wide swaths of the lowlands to the east and west of Tikal are known to exhibit either hieroglyphic stairs and/or ballplayer panels (Figure 20), and this appears to reflect the influence of the Snake-head kingdom. Of particular interest in this regard is a consideration of Calakmul's apparently variable levels of involvement in the affairs of communities throughout the lowlands during the Late Classic (see Grube and Delvendahl 2014). On one level, Calakmul kings clearly exerted their influence at locations as far flung as Cancuen and Quirigua, yet the political involvement of the Snake-head dynasty does not appear to have significantly affected the agendas and trajectories of these communities, nor their rulers (Grube and Delvendahl 2014:93-94). Thus, the absence of clear and unequivocal evidence of Calakmul influence on Tipan's architecture and site layout point to the indirect and less active role of Snake-head kings in central Belize. In contrast, Calakmul clearly exerted a heavier hand closer to home, with the centers of Naachtun and Oxpemul supporting Calakmul's administrative aspirations via their apparent function as provincial capitals (Grube 2005) while La Corona evidently occupied a special place considering the repeated intermarriages between the two dynasties (Martin 2008). As Grube and Delvendahl (2014:93) have noted, however, formats of monumental expression correlate with areas of Calakmul influence, since references to Snake-head kings appear preferentially on panels and hieroglyphic stairs as opposed to other public monuments, such as stelae, at La Corona, Zapote Bobal, El Reinado, Naranjo, Cancuen, and Uxul. The existence of a hieroglyphic stair at Naranjo that makes prominent reference to Calakmul provides further support for this association (Tokovinine 2007). Nevertheless, it bears remembering that this hieroglyphic stair may find its origin at Caracol, where it was raised by the local ruler only to be dismantled in antiquity and transported to

¹² The strong supernatural content of the texts accompanying the ballgame texts at Tipan may imply that the captions refer to the protagonists of a mythic game that was re-enacted by historical individuals (Felix Kupprat, personal communication 2015). The texts in Hieroglyphic Stair 2 at Yaxchilan provide some precedent, since the first part of Step VII describes a primordial game in mythic times and many of the other panels represent historical figures impersonating deities and conjuring divinities. Similarly, the text and imagery of the central marker of the ballcourt of phase AIIb at Copan shows the ruler Waxaklajuun Ubaah K'awiil dressed as an underworld deity confronting Juun Ajaw, materializing the mythic event that survives in the Popol Vuh (see Helmke et al. 2007:251; Martin et al. 2015; Tokovinine 2002:2-3).

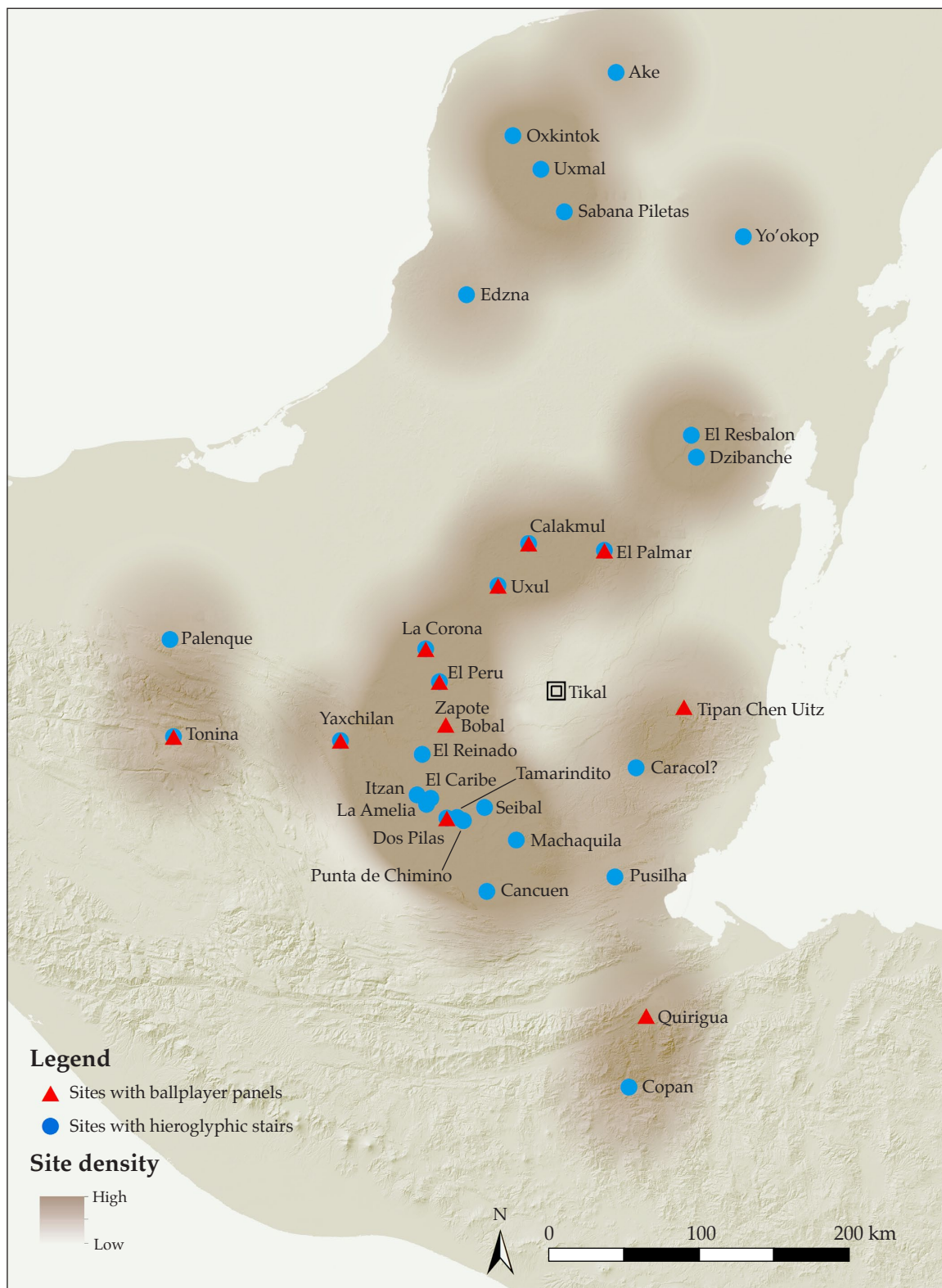


Figure 20. Distribution of archaeological sites in the Maya area with hieroglyphic stairs (circular markers) and location of sites with ballplayer panels (triangles); site density indicated by shading (map by Eva Jobbová).

Naranjo as a trophy of war (Martin and Grube 2000:73) (see Figure 20). This scenario has been strengthened by the discovery of a matching fragment at Caracol and another at the archaeological site of Ucanal, located two-fifths of the way from Caracol to Naranjo (Graham 1980:107, 110; Grube 1994:113, Fig. 9.14, 2004:198, Fig. 3).

Investigations at Tipan are still relatively new and we have yet to document direct references to Calakmul rulers in the site's hieroglyphic corpus. Nevertheless, a conspicuous lack of stelae at Tipan, at least to date, combined with the presence of panels that arguably correspond with this hypothesized signature of Calakmul vassalage, may well reflect Tipan's membership in an sphere of interaction that was presided over by Snakehead kings. Though the evidence currently available speaks against direct and strongly hegemonic relations between Calakmul and Tipan, there is good reason to believe that future investigations will yield additional finds that will clarify the place of Tipan in the networks of allegiances connecting centers in the central Maya lowlands.

Acknowledgements

We would like to thank the Belize Institute of Archaeology for granting us permission to conduct the research reported on herein. Our research has been supported and funded by a variety of institutions, including the University of Mississippi at Oxford, Indiana University-Purdue University Fort Wayne, Indiana University's New Frontiers in the Arts and Humanities program, the University of Calgary, Michigan State University, and the Internationalisation Committee of the Institute of Cross-Cultural and Regional Studies, University of Copenhagen. We are grateful to the residents of Springfield and Armenia, Belize, for their support of our research activities, and to Mr. David Hayles for granting us access to Tipan. The excavation and recovery of Monuments 3 and 4 would not have been possible without assistance from Franz "Pancho" Harder and Hugo Claro. To Dmitri Beliaev, Guido Krempel, Felix Kupprat, Sebastián Matteo, Alexandre Tokovinine, and Verónica Vázquez López, many thanks for their help and for commenting on an earlier version of this paper, making suggestions that have improved the epigraphic content of the paper. Thank you also to the Atlas Epigráfico de Petén for sharing photographs of Naranjo's ballcourt sculpture upon which the drawing presented above is based. We are grateful to Eva Jobbová for kindly and expertly preparing the GIS map included at the end of this paper. Thanks also to Justin Kerr for allowing us to reproduce parts of his excellent roll-out photographs. Thanks also to the President and Fellows of Harvard University College as well as the Peabody Museum of Archaeology and Ethnology for permission to reproduce the drawings of Naranjo Stelae 28 and 31.

Our appreciation to Jessica Desany Ganong for all her help in securing photographs and drawings from the archives of the Corpus of Maya Hieroglyphic Inscriptions. To Ramzy Barrois and Harri Kettunen warm thanks for the great ballgame workshops that we have tutored together over the years. Finally, our gratitude to John Morris and Jaime Awe for encouraging our research in the Roaring Creek Works. Any shortcomings of fact or interpretation are ours alone.

References

- Andres, Christopher R.
 2011 The 2010 Architectural Investigations at Tipan Chen Uitz, Cayo District, Belize. In *The Caves Branch Archaeological Survey Project: A Report of the 2010 Field Season*, edited by Christopher R. Andres and Gabriel D. Wrobel, pp. 41-126. Belize Archaeological Research and Education Foundation, Oxford.
- Andres, Christopher R., Christophe Helmke, Shawn G. Morton, Gabriel D. Wrobel, and Jason J. González
 2014 Contextualizing the Glyphic Texts of Tipan Chen Uitz, Cayo District, Belize. *Latin American Antiquity* 25(1):46-64.
- Andres, Christopher R., Shawn G. Morton, Jason J. González, and Gabriel D. Wrobel
 2011b Causeways and Sociopolitical Integration in the Caves Branch Region. In *The Caves Branch Archaeological Survey Project: A Report of the 2010 Field Season*, edited by Christopher R. Andres and Gabriel D. Wrobel, pp. 127-147. Belize Archaeological Research and Education Foundation, Oxford.
- Andres, Christopher R., Gabriel D. Wrobel, and Shawn G. Morton
 2010 Tipan Chen Uitz ("Fortress Mountain Well"): A Major "New" Maya Civic-ceremonial Center in the Cayo District, Central Belize. *Mexicon* 32(4):88-94.
- Andres, Christopher R., Gabriel D. Wrobel, Shawn G. Morton, and Jason J. González
 2011a Insights into pre-Hispanic Maya Power and Status in the Caves Branch River Valley. *Research Reports in Belizean Archaeology* 8:43-54.
- Ashmore, Wendy
 1981 Some Issues of Method and Theory in Lowland Maya Settlement Archaeology. In *Lowland Maya Settlement Patterns*, edited by Wendy Ashmore, pp. 37-70. University of New Mexico Press, Albuquerque.
- Awe, Jaime J.
 2008 Architectural Manifestations of Power and Prestige: Examples from Classic Period Monumental Architecture at Cahal Pech, Xunantunich, and Caracol, Belize. *Research Reports in Belizean Archaeology* 5:159-173.
- Awe, Jaime J., ed.
 1998 *The Western Belize Regional Cave Project: A Report of the 1997 Field Season*. Occasional Paper 1. Department of Anthropology, University of New Hampshire, Durham.
 1999 *The Western Belize Regional Cave Project: A Report of the 1998 Field Season*. Occasional Paper 2. Department of Anthropology, University of New Hampshire, Durham.

- Awe, Jaime J., Mark D. Campbell, and James Conlon
1991 Preliminary Analysis of the Spatial Configuration of the Site Core at Cahal Pech, Belize and its Implications for Lowland Maya Social Organization. *Mexicon* 8(2):25-30.
- Awe, Jaime J., Claire E. Ebert, and Julie Hoggarth
2015 Three K'atuns of Pioneering Settlement Research: Preliminary Results of Lidar Survey in the Belize River Valley. In *Breaking Barriers: Proceedings of the 47th Annual Chacmool Conference*, edited by Robyn Crook, Kim Edwards, and Colleen Hughes, pp. 57-75. University of Calgary, Calgary.
- Awe, Jaime J., and Christophe Helmke
1998 Preliminary Report on the Reconnaissance of Cahal Uitz Na, Roaring Creek Valley, Cayo District, Belize. In *The Western Belize Regional Cave Project: A Report of the 1997 Field Season*, edited by Jaime J. Awe, pp. 205-244. Occasional Paper 1. Department of Anthropology, University of New Hampshire, Durham.
- 2007 Fighting the Inevitable: The Terminal Classic Period of the Upper Roaring Creek Valley. *Research Reports in Belizean Archaeology* 4:29-42.
- 2015 The Sword and the Olive Jar: Material Evidence of Seventeenth-Century Maya-European Interaction in Central Belize. *Ethnohistory* 62 (2):333-360.
- Awe, Jaime J., Christophe G.B. Helmke, and Cameron S. Griffith
1998 Archaeological Reconnaissance in the Roaring Creek Valley: Caves, Rockshelters, and Settlements. In *The Western Belize Regional Cave Project: A Report of the 1997 Field Season*, edited by Jaime J. Awe, pp. 223-244. Occasional Paper 1. Department of Anthropology, University of New Hampshire, Durham.
- Ball, Joseph W., and Jennifer T. Taschek
1991 Late Classic Lowland Maya Political Organization and Central-Place Analysis. *Ancient Mesoamerica* 2(1):149-165.
- Barrera Vásquez, Alfredo
1980 *Diccionario maya Cordemex, maya-español, español-maya*. Ediciones Cordemex, Mérida.
- Barrois, Ramzy
2006 Les Sculptures Associées aux Jeux de Balle dans l'Aire Méso-Américaine. Ph.D. dissertation, Université Paris 1 Panthéon-Sorbonne, Paris.
- Bíró, Péter
2010 A New Look at the Inscription of Copan Altar K. *The PARI Journal* 11(2):22-28.
- Boot, Erik
2011 Maya Sites with Hieroglyphic Stairways, A Preliminary List. *Maya News Updates*: www.mayanewsupdates.blogspot.dk/2011/05/maya-news-updates-2011-no_04.html
- 2014 The Maya Ballgame and the Maize God: Notes on the Codex Style Ballgame Vessel in the Collection of the Museum of Ethnology, Leiden, the Netherlands. In *A Celebration of the Life and Work of Pierre Robert Colas*, edited by Christophe Helmke and Frauke Sachse, pp. 163-173. Acta Mesoamericana, Vol. 27. Verlag Anton Saurwein, Munich.
- Canuto, Marcello A., and Tomás Barrientos Q.
2013 The Importance of La Corona. *La Corona Notes* 1(1):1-5.
- Carrasco Vargas, Ramón, Sylviane Boucher, Paula Alvarez González, Vera Tiesler Blos, Valeria García Vierna, Renata García Moreno, and Javier Vázquez Negrete
1999 A Dynastic Tomb from Campeche Mexico: New Evidence on Jaguar Paw, a Ruler of Calakmul. *Latin American Antiquity* 10(1):47-58.
- Chase, Arlen F., and Chase Diane Z.
2001 The Royal Court of Caracol, Belize: Its People and Palaces. In *Royal Courts of the Ancient Maya, Volume 2*, edited by Takeshi Inomata and Stephen D. Houston, pp. 102-137. Westview Press, Boulder.
- Christenson, Allen J.
2007 Popol Vuh: Sacred Book of the Quiché Maya People. *Mesoweb*: www.mesoweb.com/publications/Christenson/PopolVuh.pdf.
- Closs, Michael P.
1984 The Dynastic History of Naranjo: The Early Period. *Estudios de Cultura Maya* 15: 77-96.
- Coe, Michael D.
2003 Another Look at the Maya Ballgame. In *Il sacro e il paesaggio nell'America indigena*, edited by Davide Dominici, Carolina Orsini, and Sofia Venturoli, pp. 197-204. CLUEB, Bologna.
- Cohodas, Marvin
1991 Ballgame Imagery of the Maya Lowlands. In *The Mesoamerican Ballgame*, edited by Vernon L. Scarborough and David R. Wilcox, pp. 251-288. University of Arizona Press, Tucson.
- Colas, Pierre Robert
2004 *Sinn und Bedeutung Klassischer Maya-Personennamen: Typologische Analyse von Anthroponymphrasen in den Hieroglyphen-Inschriften der Klassischen Maya-Kultur als Beitrag zur Allgemeinen Onomastik*. Acta Mesoamericana 15. Verlag Anton Saurwein, Markt Schwaben.
- 2014 Personal Names: The Creation of Social Status among the Classic Maya. In *A Celebration of the Life and Work of Pierre Robert Colas*, edited by Christophe Helmke and Frauke Sachse, pp. 19-59. Acta Mesoamericana 27. Anton Saurwein, Munich.
- Conlon, James M., and Jennifer J. Ehret
1999 Survey at the Major Center of Cahal Uitz Na, Cayo District, Belize. In *The Western Belize Regional Cave Project: A Report of the 1998 Field Season*, edited by Jaime J. Awe, pp. 33-44. Occasional Paper 2. Department of Anthropology, University of New Hampshire, Durham.
- Crasborn, José, Elizabeth Marroquín, Federico Fahsen, and María Elena Vega
2012 Un nuevo monumento en Quirigua: La banca y panel tallados de la Estructura 1B-14 del Grupo Este. In XXV Simposio de Investigaciones Arqueológicas en Guatemala, 2011, edited by B. Arroyo, L. Paiz and H. Mejía, pp. 387-401. Ministerio de Cultura y Deportes, Instituto de Antropología e Historia y Asociación Tikal, Guatemala City.

- Eberl, Markus, and Victoria Bricker
2004 Unwinding the Rubber Ball: The Glyphic Expression nahb' as a Numeral Classifier for "Handspan." *Research Reports on Ancient Maya Writing* 55:19-56.
- Ehret, Jennifer J., and James M. Conlon
1999 Plaza Excavations at Cahal Uitz Na, Cayo District, Belize: a Preliminary Report. In *The Western Belize Regional Cave Project: A Report of the 1998 Field Season*, edited by Jaime J. Awe, pp. 53-68. Department of Anthropology Occasional Paper 2. Department of Anthropology, University of New Hampshire, Durham.
- Freidel, David, Linda Schele, and Joy Parker
1993 *Maya Cosmos: Three Thousand Years on the Shaman's Path*. William Morrow & Co., Inc., New York.
- Golden, Mark
1998 *Sport and Society in Ancient Greece*. Cambridge University Press, Cambridge.
- González, Jason J., and Cameron Howell
2011 The 2010 Site Center Mapping Program at Tipan Chen Uitz. In *The Caves Branch Archaeological Survey Project: A Report of the 2010 Field Season*, edited by Christopher R. Andres and Gabriel D. Wrobel, pp. 148-155. Belize Archaeological Research and Education Foundation, Oxford.
- Graham, Ian
1978 *Corpus of Maya Hieroglyphic Inscriptions, Volume 2, Part 2: Naranjo, Chunchitz, Xunantunich*. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
1980 *Corpus of Maya Hieroglyphic Inscriptions, Volume 2, Part 3: Ixkun, Ucanal, Ixtutz, Naranjo*. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
1982 *Corpus of Maya Hieroglyphic Inscriptions, Volume 3, Part 3: Yaxchilan*. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
1997 Mission to La Corona. *Archaeology* 50(5):46.
- Grube, Nikolai
1994 Epigraphic Research at Caracol, Belize. In *Studies in the Archaeology of Caracol, Belize*, edited by Diane Z. Chase and Arlen F. Chase, pp. 83-122. P.A.R.I. Monograph 7. Pre-Columbian Art Research Institute, San Francisco.
2004 La historia dinástica de Naranjo, Petén. *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 24:195-213.
2005 Toponyms, Emblem Glyphs, and the Political Geography of Southern Campeche. *Anthropological Notebooks* 11:89-102.
2012 *Der Dresdner Maya-Kalender: Der vollständige Codex*. Verlag Herder, Freiburg.
- Grube, Nikolai, and Kai Delvendahl
2014 The Monuments of the 8 Ajaw House: New Evidence on the Calakmul-Uxul Relationship. In *A Celebration of the Life and Work of Pierre Robert Colas*, edited by Christophe Helmke and Frauke Sachse, pp. 75-95. Acta Mesoamericana, Vol. 27. Anton Saurwein, Munich.
- Grube, Nikolai, and Simon Martin
2004 *The Proceedings of the Maya Hieroglyphic Workshop: Patronage, Betrayal, and Revenge: Diplomacy and Politics in the Eastern Maya Lowlands*. Transcribed by Phil Wanyerka. University of Texas at Austin & Cleveland State University.
- Grube, Nikolai, and Werner Nahm
1994 A Census of Xibalba: A Complete Inventory of Way Characters on Maya Ceramics. In *Maya Vase Book, Volume 4*, edited by Justin Kerr, pp. 686-715. Kerr Associates, New York.
- Guenter, Stanley
2005 La Corona Find Sheds Light on Site Q Mystery. *The PARI Journal* 6(2):16-18.
- Hammond, Norman
1975 Maya Settlement Hierarchy in Northern Belize. In *Studies in Ancient Mesoamerica*, edited by John A. Graham, pp. 40-55. University of California Archaeological Research Facility, Berkeley.
- Hellmuth, Nicholas M.
1987 Ballgame Iconography and Playing Gear. In *Late Classic Maya Polychrome Vases and Stone Sculpture of Peten, Guatemala*. Foundation for Latin American Anthropological Research, Culver City.
- Helmke, Christophe
2007 Classic Maya Rubber Balls in Texts and Imagery. Paper presented as part of the The Classic Maya Ballgame workshop. 12th European Maya Conference. University of Geneva and Swiss Society of Americanists, Geneva.
2008 Excavations of Structures B1 and B7 at Baking Pot, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season* 13:109-143.
2009 Ancient Maya Cave Usage as Attested in the Glyphic Corpus of the Maya Lowlands and the Caves of the Roaring Creek Valley, Belize. Unpublished Ph.D. thesis, Institute of Archaeology, University College London, London.
2010 The Transferral and Inheritance of Ritual Privileges: A Classic Maya Case from Yaxchilan, Mexico. *Wayeb Notes* 35: 1-14.
2014 A Carved Speleothem Monument at Yaxchilan, Mexico. Paper presented at Lighting Dark Passages: Celebrating Thirty Years of James E. Brady's Contributions to Cave Archaeology, 79th Annual Meeting of the Society for American Archaeology, Austin, Apr. 24th.
- Helmke, Christophe, and Christopher R. Andres
2015 Discovery and Description of Monument 2 at Tipan Chen Uitz, Belize. *Mexicon* 37(5):112-117.
- Helmke, Christophe, and Jaime J. Awe
2012 Ancient Maya Territorial Organisation of Central Belize: Confluence of Archaeological and Epigraphic Data. *Contributions in New World Archaeology* 4:59-90.
- Helmke, Christophe, Jaime J. Awe, and Nikolai Grube
2010 The Carved Monuments and Inscriptions of Xunantunich. In *Classic Maya Provincial Politics: Xunantunich and Its Hinterlands*, edited by Lisa J. LeCount and Jason Yaeger, pp. 97-121. University of Arizona Press, Tucson.

- Helmke, Christophe, and Harri Kettunen
2011 Where Atole Abounds: Naranjo during the Reign of K'ahk' Tiliw Chan Chahk. 1st Cracow Maya Conference. Jagellonian University, Cracow.
- Helmke, Christophe, Harri Kettunen and Ramzy R. Barrois
2007 The Classic Maya Ballgame. 1st Maya at the Playa Conference, Florida Department of Education, Flagler County Schools, Palm Coast.
- Helmke, Christophe, and Jesper Nielsen
2009 Hidden Identity and Power in Ancient Mesoamerica: Supernatural Alter Egos as Personified Diseases. *Acta Americana* 17(2):49-98.
- Helmke, Christophe, and Gabriel Wrobel
2012 Je'reftheel, Roaring Creek Works, Belize. In *Heart of Earth: Studies in Maya Ritual Cave Use*, edited by James E. Brady, pp. 69-81. Association for Mexican Cave Studies, Austin.
- Hofling, Charles Andrew, and Félix Fernando Tesucún
1997 *Itzaj Maya – Spanish – English Dictionary / Diccionario Maya Itzaj – Español – Ingles*. University of Utah Press, Salt Lake City.
- Houston, Stephen D.
1983 Ballgame Glyphs in Classic Maya Texts. In *Contributions to Maya Hieroglyphic Decipherment*, edited by Stephen D. Houston, pp. 26-30. Human Relations Area Files, New Haven.
1993 *Hieroglyphs and History at Dos Pilas: Dynastic Politics of the Classic Maya*. University of Texas Press, Austin.
- Houston, Stephen D., Héctor Escobedo, Charles Golden, Andrew Scherer, Rosaura Vásquez, Ana Lucía Arroyave, Fabiola Quiroa, and Juan Carlos Meléndez
2006 La Técnica and El Kinel: Mounds and a Monument Upriver from Yaxchilan. *Mexicon* 28:87-93.
- Houston, Stephen, and David Stuart
1989 The Way Glyph: Evidence for Co-essences among the Classic Maya. *Research Reports on Ancient Maya Writing* 30:1-16.
- Houston, Stephen D., David Stuart, and Karl Taube
1992 Image and Text on the Jauncy Vase. In *The Maya Vase Book, Volume 3*, edited by Justin Kerr, pp. 504-523. Kerr Associates, New York.
- Jones, Christopher, and Linton Satterthwaite
1982 *The Monuments and Inscriptions of Tikal: The Carved Monuments*. Tikal Report 33A. University of Pennsylvania Museum, Philadelphia.
- Kowalski, Jeff K.
1989 The Mythological Identity of the Figure on the La Esperanza ("Chinkultic") Ball Court Marker. *Research Reports on Ancient Maya Writing* 27:13-24.
- Kowalski, Jeff K., and William L. Fash
1991 Symbolism of the Maya Ball Game at Copan: Synthesis and New Aspects. In *Sixth Palenque Round Table, 1986*, edited by Merle Greene Robertson and Virginia M. Fields, pp. 59-67. University of Oklahoma Press, Norman.
- Kyle, Donald G.
2007 *Sport and Spectacle in the Ancient World*. Blackwell Publishing, Oxford.
- Lacadena, Alfonso
2003 El Corpus Glífico de Ek' Balam, Yucatán, México. *Foundation for the Advancement of Mesoamerican Studies, Inc.*: www.famsi.org/reports/01057es/
- Law, Danny, John Robertson, Stephen Houston, Marc Zender, and David Stuart
2014 Areal Shifts in Classic Mayan Phonology. *Ancient Mesoamerica* 25(2):357-366.
- Lee, David F.
2006 Excavaciones en el Complejo Palaciego Noroeste. In Proyecto Arqueológico El Perú-Waka': informe no. 3, temporada 2005, edited by Héctor L. Escobedo and David A. Freidel, pp. 103-130. Report submitted to the Dirección General del Patrimonio Cultural y Natural de Guatemala, Guatemala.
- Lee, David F., and Jennifer C. Piehl
2014 Ritual and Remembrance at the Northwest Palace Complex, El Perú-Waka'. In *Archaeology at El Perú-Waka': Ancient Maya Performances of Ritual, Memory, and Power*, edited by Olivia C. Navarro-Farr and Michelle Rich, pp. 85-101. University of Arizona Press, Tucson.
- Leyenaar, Ted J. J.
2001 The Modern Ballgames of Sinaloa: A survival of the Aztec Ullamalitzli. In *The Sport of Life and Death: the Mesoamerican Ballgame*, edited by E. Michael Whittington, pp. 122-129. Thames and Hudson, London.
- Leyenaar, Ted J. J., and Lee A. Parsons, eds.
1988 *Ullama: The ballgame of the Mayas and Aztecs – From Human Sacrifice to Sport / Ullama: Het balspel bij de Maya's en Azteken – van Mesenoffer tot Sport*. Spruyt, Van Mantgem & De Does bv, Leiden.
- MacLeod, Barbara, and Andrea J. Stone
1995 The Hieroglyphic Inscriptions of Naj Tunich. In *Images from the Underworld: Naj Tunich and the Tradition of Maya Cave Painting*, edited by Andrea Stone, pp. 155-184. University of Texas Press, Austin.
- Marcus, Joyce
1987 *The Inscriptions of Calakmul: Royal Marriage at a Maya City in Campeche, Mexico*. Technical Report 21. Museum of Anthropology, University of Michigan, Ann Arbor.
- Martin, Simon
1997 The Painted King List: A Commentary on Codex-Style Dynastic Vases. In *The Maya Vase Book, Volume 5*, edited by Justin Kerr and Barbara Kerr, pp. 847-867. Kerr Associates, New York.
1998 Investigación epigráfica de campo: 1995-1998. In Proyecto Arqueológico Calakmul: Informe de los trabajos arqueológicos, Temporada 1997-1998, edited by Ramón Carrasco Vargas, pp. 81-145. Instituto Nacional de Antropología e Historia, Campeche.

- 2005 Of Snakes and Bats: Shifting Identities at Calakmul. *The PARI Journal* 6(2):5-13.
 - 2008 Wives and Daughters on the Dallas Altar. *Mesoweb*: www.mesoweb.com/articles/Martin/Wives&Daughters.pdf
 - 2012 Escritura. In *Calakmul. Patrimonio de la humanidad*, edited by Regina Martínez Vera, pp. 156-175. Grupo Azabache, Mexico D.F.
- Martin, Simon, Vilma Fialko, Alexandre Tokovinine, and Fredy Ramírez
- 2015 Contexto y texto de la estela 47 de Naranjo-Sa'aal, Petén, Guatemala. Paper presented at the XXIX Simposio de Investigaciones Arqueológicas en Guatemala, Museo Nacional de Arqueología y Etnología, Guatemala.
- Martin, Simon, and Nikolai Grube
- 2000 *Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya*. Thames and Hudson, London.
- Martin, Simon, and Dorie Reents-Budet
- 2010 A Hieroglyphic Block from the Region of Hiix Witz, Guatemala. *The PARI Journal* 11(1):1-6.
- Martin, Simon, and Joel Skidmore
- 2012 Exploring the 584286 Correlation between the Maya and European Calendars. *The PARI Journal* 13(2):3-16.
- Mathews, Peter
- 1988 The Sculpture of Yaxchilan. Ph.D. dissertation, Department of Anthropology, Yale University, New Haven.
 - 1998 Site Q Sculptures. *Archaeology*: www.archive.archaeology.org/online/features/siteq/
- Matteo, Sebastián
- n.d. Un grafema para "espuma", OM, ohm. Manuscript in possession of the authors.
- Miller, Mary E., and Claudia Brittenham
- 2013 *The Spectacle of the Late Maya Court: Reflections on the Murals of Bonampak*. University of Texas Press, Austin.
- Miller, Mary Ellen
- 1989 The Ballgame. *Record of the Art Museum, Princeton University* 48 (2):22-31.
- Miller, Mary E., and Stephen Houston
- 1987 The Classic Maya Ballgame and Its Architectural Setting: A Study in Relations between Text and Image. *RES* 14:46-65.
- Morton, Shawn G.
- 2010 Preliminary Speleoarchaeological Reconnaissance of the Upper Caves Branch River Valley. In *The Caves Branch Archaeological Survey Project: A Report of the 2009 Field Season*, edited by Christopher R. Andres and Gabriel D. Wrobel, pp. 50-63. Belize Archaeological Research and Education Foundation, Oxford.
 - 2015 Pahn-Ti-Pan: The Rise and Fall of Complex Socio-Political and Economic Systems as Attested in Subterranean Site Contexts of Central Belize, C.A. Ph.D. thesis, Department of Anthropology and Archaeology, University of Calgary, Calgary.
- Morton, Shawn G., Christopher R. Andres, and Gabriel D. Wrobel
- 2014 A Brief Flame Among the Embers: The Florescence of a 'Frontier' Polity during the Classic Period Collapse. In *Climates of Change: The Shifting Environment of Archaeology, Proceedings of the 44th Annual Chacmool Conference*, edited by Sheila Kulyk, Cara G. Tremain and Madeleine Sawyer, pp. 163-176. Chacmool Archaeological Association, University of Calgary, Calgary.
- Normark, Johan
- 2009 Emergent subjectivity and defacement of Maya art. *Archaeological Haecceities*: <https://haecceities.wordpress.com/2009/11/17/emergent-subjectivity-and-defacement-of-maya-art/>
- Reents-Budet, Dorie
- 1994 *Painting the Maya Universe: Royal Ceramics of the Classic Period*. Duke University Press, Durham.
- Scarre, Chris
- 1995 *Chronicle of the Roman Emperors: The Reign-by-Reign Record of the Rulers of Imperial Rome*. Thames & Hudson, New York.
- Schele, Linda
- 1980 *Maya Glyphs: The Verbs*. University of Texas Press, Austin.
- Schele, Linda, and David Freidel
- 1990 *A Forest of Kings: The Untold Story of the Ancient Maya*. Quill & Morrow, New York.
 - 1991 The Courts of Creation: Ballcourts, Ballgames, and Portals to the Maya Otherworld. In *The Mesoamerican Ballgame*, edited by Vernon Scarborough and David R. Wilcox, pp. 289-315. University of Arizona Press, Tucson.
- Schele, Linda, and Nikolai Grube
- 1990 Six-Staired Ballcourts. *Copan Notes* 83:1-6.
- Schele, Linda, and MatthewLooper
- 1996 *Notebook for the XXth Maya Hieroglyphic Workshop at Texas: Quiriguá and Copán*. Department of Art and Art History, College of Fine Arts & Institute of Latin American Studies, University of Texas at Austin, Austin.
- Schele, Linda, and Peter Mathews
- 1998 *The Code of Kings: The Language of Seven Sacred Maya Temples and Tombs*. Touchstone, New York.
- Schele, Linda, and Mary E. Miller
- 1986 *The Blood of Kings: Dynasty and Ritual in Maya Art*. Kimbell Art Museum, Fort Worth.
- Seibert, Jeffrey
- 2004 A Functional Analysis of Structure 12A, Minanha, Belize. *Research Report in Belizean Archaeology* 1:165-171.
- Shook, Edwin, and Elayne Marquis
- 1996 *Secrets in Stone: Yokes, Hachas and Palmas from Southern Mesoamerica*. Memoirs of the American Philosophical Society, Vol. 217. American Philosophical Society, Philadelphia.

- Stone, Andrea, and Marc Zender
2011 *Reading Maya Art: A Hieroglyphic Guide to Ancient Maya Painting and Sculpture*. Thames & Hudson, London.
- Stuart, David
2001 La ruinas de La Corona, Petén, y la identificación del 'Sitio Q.' Paper presented at the XV Simposio de Investigaciones Arqueológicas en Guatemala, Guatemala City.
2005 *The Inscriptions from Temple XIX at Palenque: A Commentary*. Pre-Columbian Art Research Institute, San Francisco.
2013 Tonina's Curious Ballgame. *Maya Decipherment*: <https://decipherment.wordpress.com/2013/06/11/report-toninas-curious-ballgame/>
2015 Preliminary Notes on Two Recently Discovered Inscriptions from La Corona, Guatemala. *Maya Decipherment*: <https://decipherment.wordpress.com/2015/07/17/preliminary-notes-on-two-recently-discovered-inscriptions-from-la-corona-guatemala/>
- Stuart, David, Marcello A. Canuto, and Tomás Barrientos Q.
2015 The Nomenclature of La Corona Sculpture. *La Corona Notes* 1(2):1-9.
- Stuart, David, and Stephen Houston
1994 *Classic Maya Place Names*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Taschek, Jennifer T., and Joseph W. Ball
1999 Las Ruinas de Arenal: Preliminary Report on a Subregional Major Center in the Western Belize Valley (1991-1992 Excavations). *Ancient Mesoamerica* 10(2):215-236.
- Tokovinine, Alexandre
2002 Divine Patrons of the Maya Ballgame. *Mesoweb*: www.mesoweb.com/features/tokovinine/Ballgame.pdf
2007 Of Snake Kings and Cannibals: A Fresh Look at the Naranjo Hieroglyphic Stairway. *The PARI Journal* 7(4):15-22.
- Tsakamoto, Kenichiro, Javier López Camacho, Luz Evelia Campaña Valenzuela, Hirokazu Kotegawa, and Octavio Q. Esparza Olguín
2015 Political Interactions among Social Actors: Spatial Organization at the Classic Maya Polity of El Palmar, Campeche, Mexico. *Latin American Antiquity* 26(2): 200-220.
- Tunesi, Raphael
2007 A New Monument Naming Wamaaw K'awiil of Calakmul. *The PARI Journal* 8(2):13-19.
- Turner, Ellen Sue, Norman I. Turner, and R.E.W. Adams
1981 Volumetric Assessment, Rank Ordering, and Maya Civic Centers. In *Lowland Maya Settlement Patterns*, edited by Wendy Ashmore, pp. 71-88. University of New Mexico Press, Albuquerque.
- Villaseñor, Isabel, and Christophe Helmke
2007 Characterization of Lime Plasters and Lithological Facies from Pook's Hill. *The Belize Valley Archaeological Reconnaissance Project* 12:135-156.
- Willey, Gordon R., William R. Bullard Jr., John B. Glass, and James C. Gifford
1965 *Prehistoric Maya Settlements in the Belize Valley*. Papers of the Peabody Museum of Archaeology and Ethnology 54. Harvard University, Cambridge.
- Wrobel, Gabriel D., Christopher R. Andres, Shawn G. Morton, Rebecca Shelton, Amy Michael, and Christophe Helmke
2012 Ritual Landscapes of the Caves Branch River Valley. *Research Reports in Belizean Archaeology* 9:233-244.
- Wrobel, Gabriel D., Rebecca Shelton, Shawn Morton, Joshua Lynch, and Christopher Andres
2013 The View of Maya Mortuary Cave Ritual from Overlook Rockshelter (OVR), Caves Branch River Valley, Central Belize. *Journal of Cave and Karst Studies* 75(2):126-135.
- Zender, Marc
2004a Glyphs for "Handspan" and "Strike" in Classic Maya Ballgame Texts. *The PARI Journal* 4(4):1-9.
2004b Sport, Spectacle and Political Theater: New Views of the Classic Maya Ballgame. *The PARI Journal* 4(4):10-12.
2004c On the Morphology of Intimate Possession in Mayan Languages and Classic Maya Glyphic Nouns. In *The Linguistics of Maya Writing*, edited by Søren Wichmann, pp. 195-209. University of Utah Press, Salt Lake City.
2005 'Flaming Akbal' and the Glyphic Representation of the aj- Agentive Prefix. *The PARI Journal* 5(3): 8-10.
2014 The Naming Insight: Hieroglyphic Names and Social Identity in the Pre-Columbian Americas. In *A Celebration of the Life and Work of Pierre Robert Colas*, edited by Christophe Helmke and Frauke Sachse, pp. 61-74. Acta Mesoamericana, Vol. 27. Anton Saurwein, Munich.
- Zender, Marc, and Joel Skidmore
2004 New Ballcourt Marker from Cancuen. *Mesoweb*: http://www.mesoweb.com/reports/cancuen_altar.html