Upakal K'inich: A Late Classic Period Ruler of El Palmar, Mexico

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The Late Classic period (695–800 CE) witnessed several Maya rulers who triggered or were involved in political turbulence. Upakal K'inich, a ruler of the El Palmar dynasty, was one such case. He was depicted in inscriptions of different sites during the early eighth century, a time of political transformation in the southern Maya lowlands as a consequence of the military defeat of Calakmul (i.e., the Kaanul dynasty) at the hand of Tikal (Martin and Grube 2008). The frequent appearance of Upakal K'inich suggests that he was a central player in the El Palmar dynasty during this sociopolitical process. The present study examines those inscriptions associated with Upakal K'inich together with iconographic images and archaeological remains that provide clues to his reign. We draw special attention to El Palmar Stelae 8 and 10, two monuments that have never been studied in detail since their discoveries by Sir Eric Thompson in 1936. The archaeological, iconographic, and epigraphic studies of these stelae took place through the El Palmar Archaeological Project (Proyecto Arqueológico El Palmar, hereinafter referred to as PAEP) which is directed by Kenichiro Tsukamoto (University of California, Riverside/ Institute of Latin-American Studies, Kyoto University of Foreign Studies) and Javier López Camacho (Escuela

Nacional de Antropología e Historia). In the present study, Campaña Valenzuela and Tsukamoto supervised archaeological operations of these two stelae, Esparza Olguín and Tsukamoto conducted epigraphic studies, and Salazar Lama is responsible for iconographic analyses.

El Palmar

El Palmar is located in southeastern Campeche, Mexico (Figure 1). It consists of the civic-core or the Main Group, surrounded by numerous architectural groups. The Main Group is composed of monumental architecture and four reservoirs or *aguadas* (Figure 2). At the center of the Main Group, there is an *aguada* in which a structure was built with a plain stela and altar. This Central Aguada is flanked in the north-south direction by the two largest pyramidal temples at the site. There is a causeway that connects the Central Aguada to the K'awiil Plaza, the south sector of the Main Group where the second largest pyramidal temple, Temple II, stands. Some 400 m southwest of Temple II is a cave. The mountain (i.e., pyramidal temple), water (i.e., *aguada*), and cave were fundamental elements in Mesoamerican religious belief, symbolizing abundance, fertility, and the underworld. The location of the Central Aguada suggests that

Figure 1. Map representing the location of El Palmar and sites mentioned in the text.

the El Palmar dynasty gave particular weight to water related ritual and ceremonies. Indeed, carved monuments such as Stela 23 (Figure 3) and Altar 3 (Figure 4) which were placed around the Central Aguada contain cloud symbols that evoke rain and lightning.

Stone monuments commemorate theatrical performances that successive rulers of El Palmar conducted in public plazas over centuries. So far, we have relocated 34 stelae and 13 altars that Thompson (1936b, [1963]1994) discovered at the Main Group in 1936. While many of them are badly weathered, there are still some monuments whose inscriptions are legible. Elsewhere we have published preliminary studies of Stela 12, 14, and 16 that were erected at the two largest public plazas, the Great Plaza and Plaza E of the Main Group (Esparza Olguín and Tsukamoto 2011). Our test excavations suggest that these two plazas were built during the Middle Classic to the Early Late Classic period (400–690 CE) and were used until the Terminal Classic period (800–900 CE) (Tsukamoto 2014b; Tsukamoto et al. 2012). Esparza Olguín, Campaña Valenzuela, and Tsukamoto (2019; see also Tsukamoto and Esparza Olguín 2021) studied Altar 10 and its corresponding Cache 3, which were located in front of Temple II on the K'awiil Plaza. At the Great Plaza, rulers commissioned 12 stelae and two altars. Among the 12 stelae, Stelae

8 and 10 containing sophisticated iconographic representations and hieroglyphic texts are relevant for addressing our research question of how king Upakal K'inich of the El Palmar dynasty reigned during political turbulence. These stelae are exhibited at the east end of the Great Plaza where a series of structures are paired with stone monuments. Because Stela 10 was erected before Stela 8 according to their calendrical dates, we first describe the former monument following this chronological order.

Stela 10

Thompson (1936b, [1963]1994) was the first archaeologist to document Stela 10. During three weeks of fieldwork in 1936, Thompson and his team mapped El Palmar and photographed some of the monuments he discovered, including Stela 10. He read the Calendar Round carved on the front face of the stela as 6 Ahau 13 Muan, which he tentatively connectecd to 9.14.0.0.0 (December 2, 711 CE).[1] Unlike other El Palmar monuments including Stelae 8, 14, and 16, however, the absence of a temporal glyph such as *tahnlamaw*, which marks a specific point of the Long Count, made it difficult for Thompson to connect the Calendar Round to the Long Count and Christian calendar. Thompson's photos archived in the Peabody Museum of Archaeology and Ethnology, Harvard University show that Stela 10 was found face-down, but it seems that they turned the front face up to document inscriptions and iconographic images. From the north corner of the stela they recovered a cache which consisted of seven eccentric cherts, two leaf-shaped chert blades, 19 obsidian cores, and numerous obsidian flakes. Sylvanus Morley (1938:228; 1956:420, Pl. 102) mentions that

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[1] We use dates in the Julian Calendar and the Martin and Skidmore (2012) 584286 correlation.
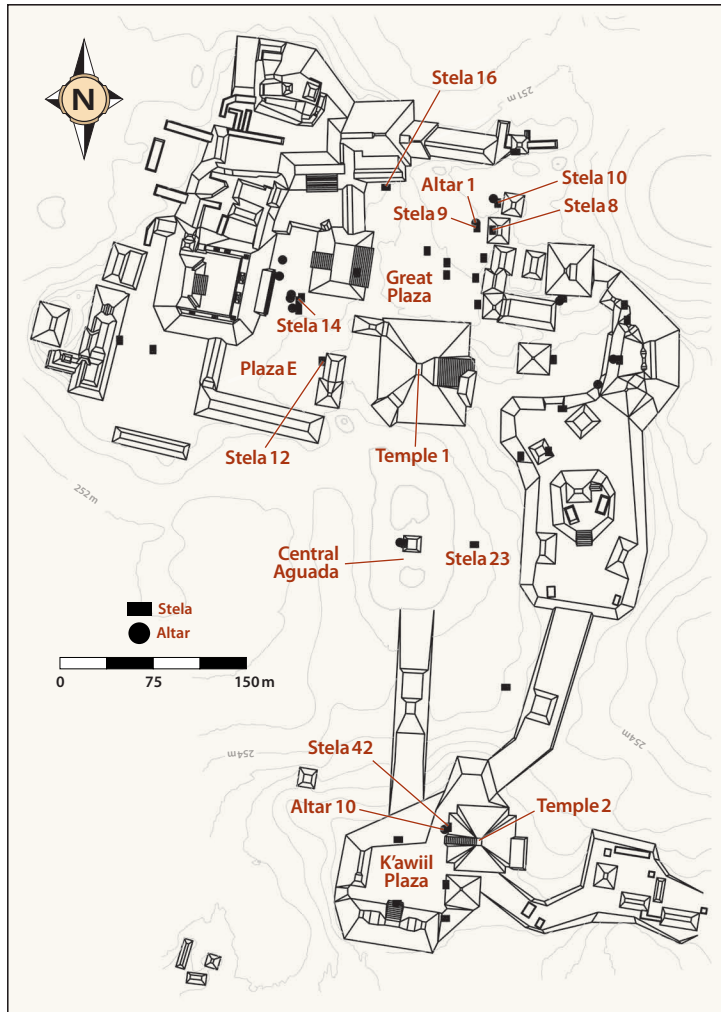
Figure 2. Map of the Main Group with the location of monuments.

Figure 3. El Palmar Stela 23. A cloud symbol is visible on the lower left corner of the stela.

Figure 4. El Palmar Altar 3 representing a creature emerging out of cloud symbols.

one of the eccentric cherts resembles that held by rulers of Naranjo on Naranjo Stela 30 and Lintel 2 of Tikal Temple III.

At the south corner of the stela, they uncovered an anthropomorphic eccentric made of dark brown chert (Figure 5). Because of this spectacular piece that resembles the eccentric found at the site of Quirigua, Thompson questioned his original reading of the Calendar Round, observing that "[t]he writer feels that this date is too early for such a fine example of an eccentric flint" (Thompson 1936a:316). Decades later he published *Maya Archaeologist*, in which he changed the reading of the Calendar Round, writing of Stela 10 that "[i]t was weathered but enough remained to yield the date (9.15.15.0.0 9 Ahau 18 Xul [746 CE]) and to show that the personage had stood on a mask…" (Thompson [1963]1994:264). Following Thompson's report, Alberto Luz Lhuillier (1945:20, 95-96) described the principle characteristics of El Palmar, citing Thompson's former date of 9.14.0.0.0. In *A Study of Maya Sculpture*, Tatiana Proskouriakoff (1950:81-85, 128, and 192) used Thompson's later date, but she felt that it was too eroded to be accurately placed in the calendar. In
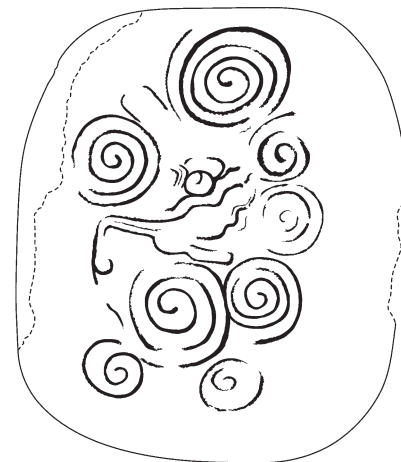
Figure 5. El Palmar eccentric flint, part of Cache 1 recovered from Stela 10 (photograph by Jorge Pérez de Lara).

the same volume she briefly analyzed the iconography of Stela 10, identifying leg garters with parallel strands worn by the personage which she classified as the Yucatecan type that dates to the Ornate phase (9.13.0.0.0 to 9.16.0.0.0).

During the first season in 2007, PAEP relocated Stela 10 where Thompson originally found it, but it was lying face-down. It was positioned in front of Structure T22-2 at the Great Plaza of the Main Group about 20 m north of Stela 8, which we will analyze below. The stela is made of local limestone and is 3.83 m long by 1.34 m wide by 0.42 m thick and weighs approximately 3.6 tons. Because of its weight and a lack of appropriate equipment, we could not turn it over during the field season. Based on Thompson's photos, Tsukamoto (2014b:274-276) attempted to read the inscription carved on the front face. Following the Calendar Round, he identified three glyph blocks in which the second one was read as **u-pa-ka**?-? **K'INICH**, *upakal*(?) *k'inich*, "Upakal(?) K'inich." He also recognized a ruler with military costume and parallel-strand garters on the front face.

The anthropomorphic eccentric associated with Stela 10 attracted a number of scholars. Thompson (1936a: 316) exalts it as a "masterpiece of stone-working" comparing it to another masterpiece of eccentric flint found beneath Zoomorph O of Quirigua. He also describes it as "a queer-shaped affair with human profiles at all four corners"

(Thompson [1963]1994:264). More recently, Karl Taube suggests that the El Palmar eccentric flint represents "four deity heads at its corners, possibly alluding to cosmic guardians of the four-sided world" (Agurcia-Fasquelle et al. 2016:22). It is unlikely to be a coincidence that El Palmar Altar 10 also shows four gods surrounding a deity impersonated by the ruler, K'ahk' P'ulaj Chan Yopaat (Esparza Olguín et al. 2019; Tsukamoto and Esparza Olguín 2021). Taube and Tsukamoto (n.d.) point out that the iconographic features of the El Palmar eccentric resemble eccentric flints recovered from the termination deposits at Rosalila, Copan. Within the Rosalia building, Ricardo Agurcia and his team (2016:22-49) found a radiocarbon sample that dates the termination ritual to 571–774 CE (2-sigma range). Other material remains in the same context refine this date to 710–775, partly overlapping the reigns of Waxaklajuun Ubaah K'awiil of Copan and Upakal K'inich of El Palmar.

During the 2018 field season we were able to study the inscriptions and iconography of Stela 10 in situ. Campaña Valenzuela supervised turning over the monument using two mechanical pulleys. After this was accomplished, Tsukamoto photographed the stela while Esparza Olguín and Salazar Lama focused on epigraphic and iconographic studies, respectively (Figure 6). We found inscriptions only on the front face; there is no trace of carving on the lateral and back sides (Figure 7). After careful photographs and drawings, we could read the short inscriptions as 6-**AJAW** 13-**MUWAAN**-**ni** **u**-**BAAH** **u**-*PAKAL*-**K'INICH** **SAK**-**o**-**ka**, *wak ajaw oxlajuun muwaan ubaah upakal k'inich sakho'ok*, "On the day 6 Ahau and 13 Muan it is his image, Upakal K'inich, the White Valley." As we mentioned before, the lack of Long Count anchors prevents us from determining its correlation. Nevertheless, there are important indicators that support the correlation of the Calendar Round with the period-ending of 9.14.0.0.0 (December 2, 711 CE). First, we confirmed in the field that the main sign of the Haab date clearly represented the month Muan which was complemented by the syllabic sign **ni**. Due to the fact that Thompson's correction was based on his reading of the Haab date as 18 Xul, it is highly unlikely that 9.15.15.0.0 is the long count. Secondly, Tsukamoto and Esparza Olguín (2015) had previously detected the name Upakal K'inich in the hieroglyphic stairway of the Guzmán Group, which is located 1.3 km north of El Palmar's Main Group (Figure 17). The Guzmán Stairway was built on September 14, 726 CE (9.14.15.0.0) when the ruler of El Palmar was no longer Upakal K'inich but Yunen. This finding implies that the reign of Upakal K'inich ended before 726, indicating that the 746 date Thompson proposed is highly unlikely. Therefore we conclude that the Calendar Round of Stela 10 is
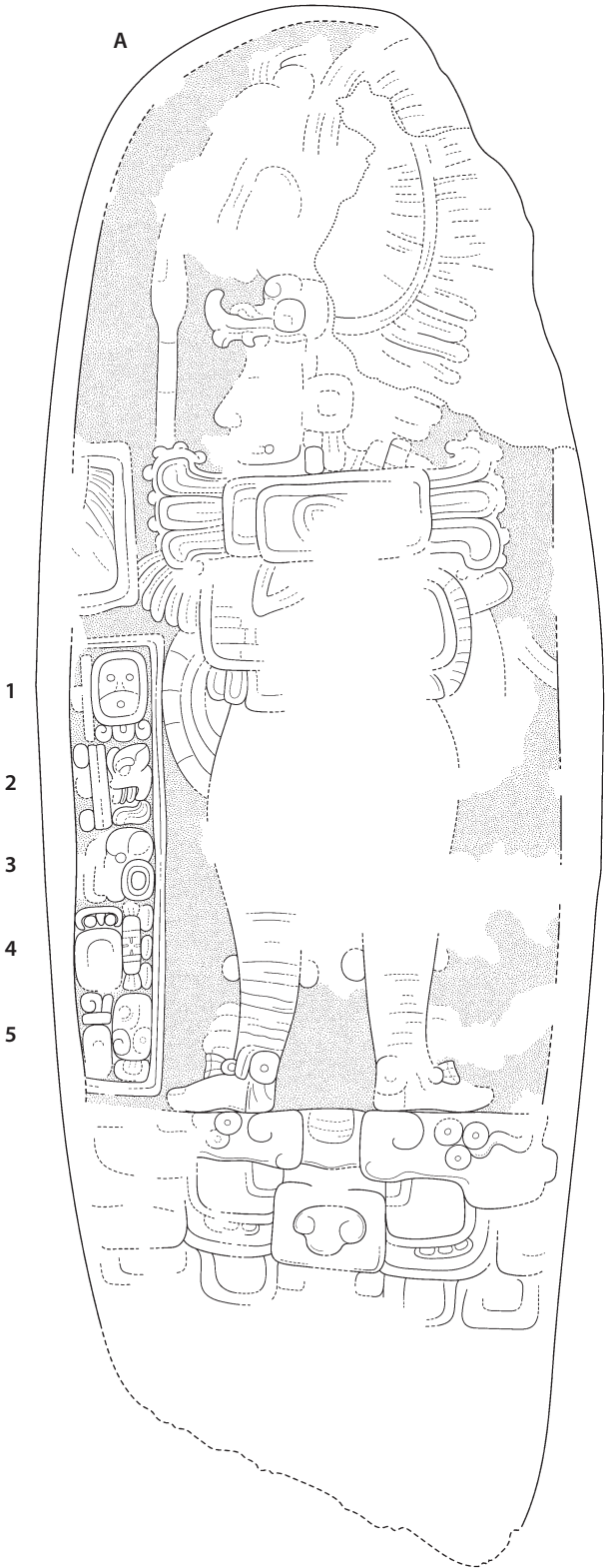
Figure 6. El Palmar Stela 10.

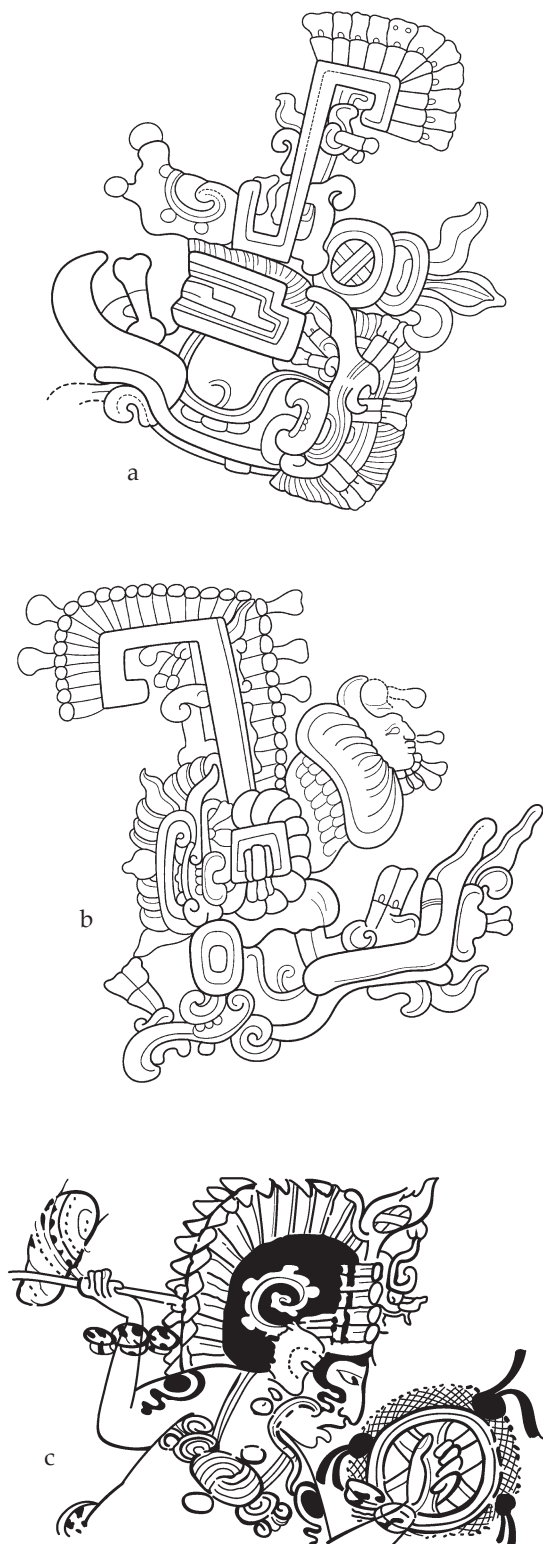**Figure 7.** Drawing of El Palmar Stela 10.

Figure 8. (a) Witz' serpent headdress, El Peru Stela 34; (b) Witz' serpent headdress, Pomona Sculpture 30; (c) Chak Xib' Chahk on Vase 98 (after Robicsek and Hales 1981).

correlated with 9.14.0.0.0.

On Stela 10, Upakal K'inich's attire represents the multiple roles he played in the kingdom. He stands in front view looking to the left, legs apart, and feet pointing outwards. His body is larger than lifesize—2.03 m from head to toe and 2.66 m to the tip of the headdress—clearly exceeding the natural dimensions of the human body. The image of Upakal K'inich together with his attire and posture embodies royal authority at the Great Plaza, which could accommodate about 36,000 people in a public event (Clancy 1999:23-25, 2015:215-216; Salazar Lama 2019a:79-80; Tsukamoto 2014a). Originally the headdress of Upakal K'inich seems to have been a gorgeous carving, but the front part is heavily eroded and thin-incisions of long feathers on the back of the head are barely visible. On the front part only a zoomorphic head remains at the base of the headdress. It represents a snake or reptile of the aquatic world, which is most likely a variant of Yax Chit Juun Witz' Naah Kan, a deity commonly called the Water Serpent or Witz' Serpent (Stuart 2007). Comparative examples of snake heads on head-dresses include El Peru-Waka' Stelae 30 and 34, Naranjo Stela 30, and Pomona Sculpture 30 (Figures 8a, b). The snake head in the headdress was used for impersonation rituals of nobles and rulers who impersonated this aquatic deity, perhaps alluding to power through water management (Fash 2005:122-123). Because of the common use of the Witz' Serpent in Late Classic headdresses, it is possible that Upakal K'inich also impersonates the Water Serpent on Stela 10. In addition, he stands on a zoomorphic mountain mask or Witz monster that reinforces his mythic representation. It may also represent an idea of territoriality and power exercised over a given space as stepping on a captive and standing over him is a sign of subjection and dominance. Baudez (1998:153) suggests that terrestrial masks in the lower parts of the scenes (which are mountains masks with no particular references) refer to a broader concept of territory under the rulers' control. In this regard, El Palmar Stela 10 expresses a territorial control or political intervention associated with military exercise and warfare. An iconographic message similar to this is seen on Bonampak Stela 1, Rio Bec Group V Stela 6, and the roof comb of Okolhuitz Structure 1 and Kohunlich Structure B4 (Nondédéo and Patrois 2007:163-168, 182-183; Salazar Lama 2019b:204-208), which represent victorious sovereigns and noble warriors standing or enthroned on zoomorphic mountains (Figure 9).

Other elements embody a military aspect of Upakal K'inich. For example, a huge pectoral of Upakal K'inich that covers his shoulders and arms is common in many Late and Terminal Classic scenes. Ana García Barrios (2008:96) describes it as a knotted pectoral due to the strings knotted in the center, while Mathew Looper (2003:104, 133) calls it a "white pectoral" because the lateral parts have elements similar to the logogram **SAK**, "white." The pectoral of Stela 10 is one of the variants in which cut shells or beads decorate the side extremities of the lateral parts (Coe and Benson 1966:16, 18; Houston and Taube 2012). According to García Barrios (2009:96-97) this kind of pectoral is a distinctive attire of Chahk, the deity of rain and storms that Maya rulers enacted in various ritual contexts to invoke rain (see also Houston and Taube 2012) and in enthronement ceremonies (Looper 2003). Likewise, the pectoral accompanied by pieces of war clothing, spears, shields,

and captives express Maya rulers' military role during the Late Classic period (García Barrios 2009:467-475). García Barrios (2006:137, 144) further suggests that rulers who use warfare paraphernalia, including the pectoral, enact a specific aspect of Chahk as a warrior, named Chak Xib' Chahk (Figure 8c), who often appears in the "confrontation" scenes in Late Classic codex-style pottery (e.g., K2096 and K2710).

Behind the pectoral we can observe a necklace of rectangular plates, and below it there are feathers that cover his right shoulder. The necklace and oversized pectoral highlight the military representation of Upakal K'inich, who indeed holds a spear. Similar warrior costume is found on Naranjo Stelae 1, 8, and 21 (Graham and von Euw 1975). At the height of the waist there exists a rectangular shape that appears to be a protector from which jade plates are hinged. The large round item carried on his back is most likely a shield. This is a common way of carrying shields among warriors of Central Mexico and later those of Chichen Itza. In fact, the garters parallel to the calves on the legs are in Yucatecan style, similar to those worn by the warriors portrayed on the carved columns of the northeast colonnade of Xculoc and the mural of the Temple of Jaguars at Chichen Itza (Proskouriakoff 1950: 84-85, Fig. 10i). Thus, the military paraphernalia of Stela 10 indicates that Upakal K'inich is a warrior ruler.

Stela 8

During the same expedition Thompson (1936b, [1963]1994) found Stela 8, which was placed in the Great Plaza of the Main Group. Thompson's
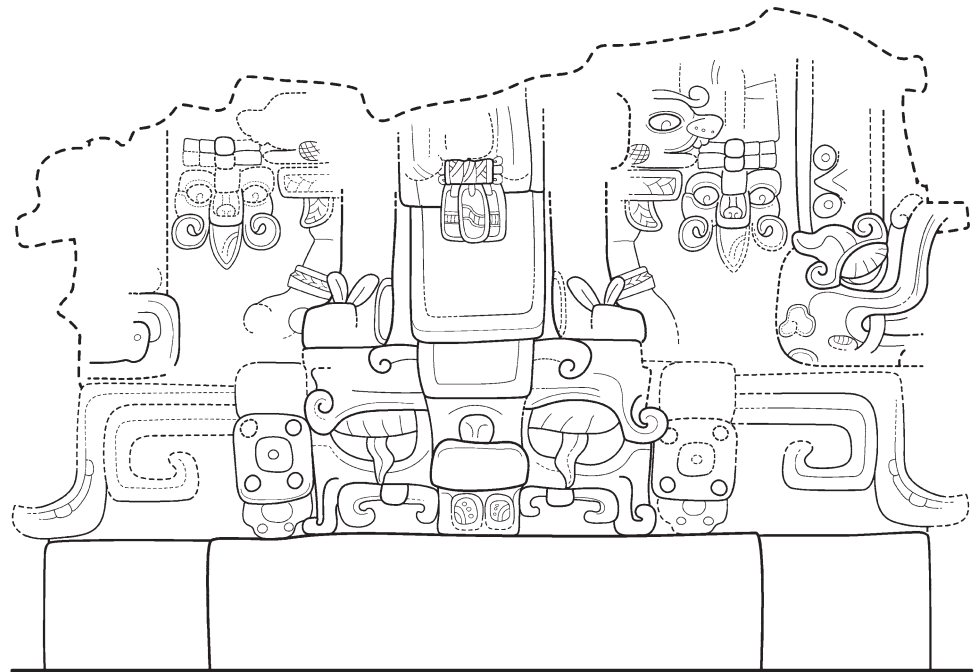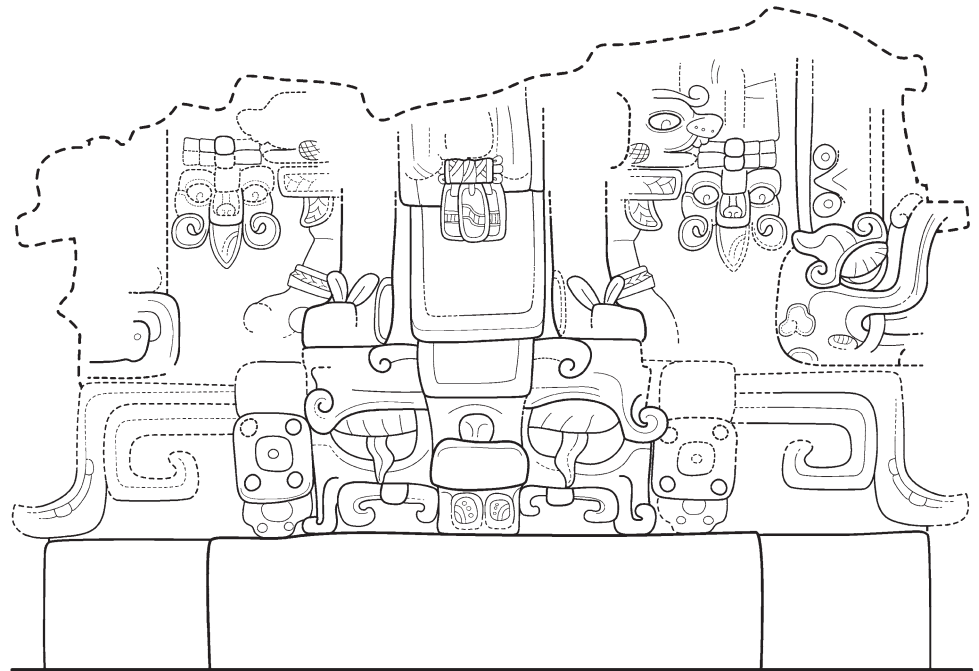
Figure 9. Roof comb at Kohunlich Structure B4: (a) Segment 1 East; (b) Segment 1 West; (c) Segment 2 West. Note the bicephalic thrones on which rulers are seated over *witz* masks, and the two heads shown on the both sides of the thrones.

Figure 10. Recovering process of Stela 8. The fragmented lower part of the stela can be seen on the photo's upper left side.

Figure 11. El Palmar Stela 8 after exposure. One of the authors, Luz Evelia Campaña Valenzuela, is cleaning glyphs.

map plots the location of Stela 8 within a structure that is one of the several structures that close the east side of the Great Plaza. He photographed and did a rubbing of the stela, and read its Calendar Round as 5 Ahau 3 Mac, which dates to 9.14.10.0.0 (October 10, 721 ce). Thompson's photo shows that Stela 8 stood during his survey while Stela 9 had fallen. On the map Stela 9 is placed together with Altar 1 about 10 m west of Stela 8 (Šprajc 2008, Map 6). In his table, Lhuillier (1945) follows Thompson's reading of the Calendar Round. Years later Proskouriakoff (1950:128) used Thompson's photo for her iconographic study

in which she briefly described the stela as "…the best-preserved monument of the site, [showing] a pose and an arrangement of feather work quite advanced for the date 9.14.10.0.0, as indicated by its inscription." She suggests that the iconographic style dates to 9.16.0.0.0, while providing no detailed analysis. Carlos Brokmann (1997:13) reported the relocation of the "heavily deteriorated" Stela 8, mentioning that it was found 250 m east of the principal pyramid. Because 250 m east of the principal pyramid is only a small compound, he most likely lost the azimuth orientation in the field and was confused with the other stela. He also mentioned that he buried looter's trenches but did not report that he buried monuments. We suspect that he did not find Stela 8 but buried it accidentally when filling a looter's trench.

PAEP spent two field seasons relocating it. During the first season in 2007 Tsukamoto, López Camacho, and Esparza Olguín conducted surface surveys and topographic mapping of the Main Group. Before the field season, we analyzed Thompson's map carefully to estimate the stela's original location in the middle of Structure T22-1 on the Great Plaza. While we found Stela 9, which was moved some meters south of the original location, we could not relocate Stela 8. What we observed in Structure T22-1 was a large looter's trench in which a fragment of stone monument was laid aside. We did not detect any inscriptions and iconographic images on Stela 9, probably due to its heavy erosion. A decade later during the 2018 field season Campaña Valenzuela and Tsukamoto again attempted to relocate Stela 8. Campaña Valenzuela hypothesized that the fragment we found in 2007 was part of the stela, which was broken apart for some reason. If this

Figure 12. El Palmar Stela 8.

Figure 13. Chert objects that are probably a cache dedicated to El Palmar Stela 8.

was the case, another part or parts should be displaced toward the foot of the structure. When cleaning the looter's trench from the top to the bottom of the structure during the 2018 field season, Campaña Valenzuela successfully found a missing part at the foot of the structure (Figures 10 and 11). This part contained beautiful inscriptions and iconographic images (Figure 12). The fragmentation of the stela appears not to have been a natural phenomenon but intentional, most likely done by looters for the purpose of finding an associated cache. Through clearing looters' debris, we recovered a chert eccentric in the form of a crescent and a chert biface that were probably part of a cache dedicated to Stela 8 (Figure 13). A few meters from the cache Campaña Valenzuela found the original location of the stela, which had been excavated probably by Thompson. Putting the two parts of monuments together, Stela 8 measures 3.91 m in length, 1.73 m in width, and 0.47 m in thickness and weighs 3.9 tons.

Stela 8 has an iconographic pattern similar to that observed on Stela 10: the oversized body of the protagonist in front view but face in profile, legs apart, feet pointing outwards, and a complex attire (Figure 14). The military aspect is also present. A distinctive feature is a scene with two figures: the main figure standing in front view, looking to the left, and the other in full side position with his arms tied behind his back, kneeling in front of the first person. The protagonist is Upakal K'inich, and the second figure a captive. The inscriptions provide important information regarding Upakal K'inich. The texts are distributed in three columns on the front face. We did not detect any glyphs on the lateral sides. The back side remains underexplored although we think there is no carving due to the absence of information in Thompson's report. On the front face we denominate Columns A to C from left to right (Figure 14). Column A consists of four glyph blocks that read 5-**AJAW** 3-**ma**-**MAHK TAHN**-**LAM-wa CHOK**-**wa**, *ho' ajaw ux mak tahnlamaw (u)chokow*, "It was October 10, 721 CE (9.14.10.0.0), half-diminished, he scatters." This means the scene carved on the front face is a period-ending ritual performance that was carried out presumably in the Great Plaza.

The text of Column B is problematic. It is heavily eroded and we can identify four glyph blocks although there may have been one additional block judging from a space under the fourth. There are three possibilties for Column B. First, it continues from Column A. In this case, the first glyph block reads **ch'a-ji** and the following glyph blocks are a ruler's name. However, as we can see below, the ruler's name starts in Column C. The second possibility is that it refers to a place name where the incense-scattering ceremony took place, as we can see a similar expression on Dos Pilas Stelae 1, 8, 11, and 15 (Houston 1993). Unlike Dos Pilas whose place name is depicted as a single glyphic block, however, Column B of El Palmar Stela 8 contains four or five glyphic blocks. The place name seldom uses more than two glyphic blocks in the
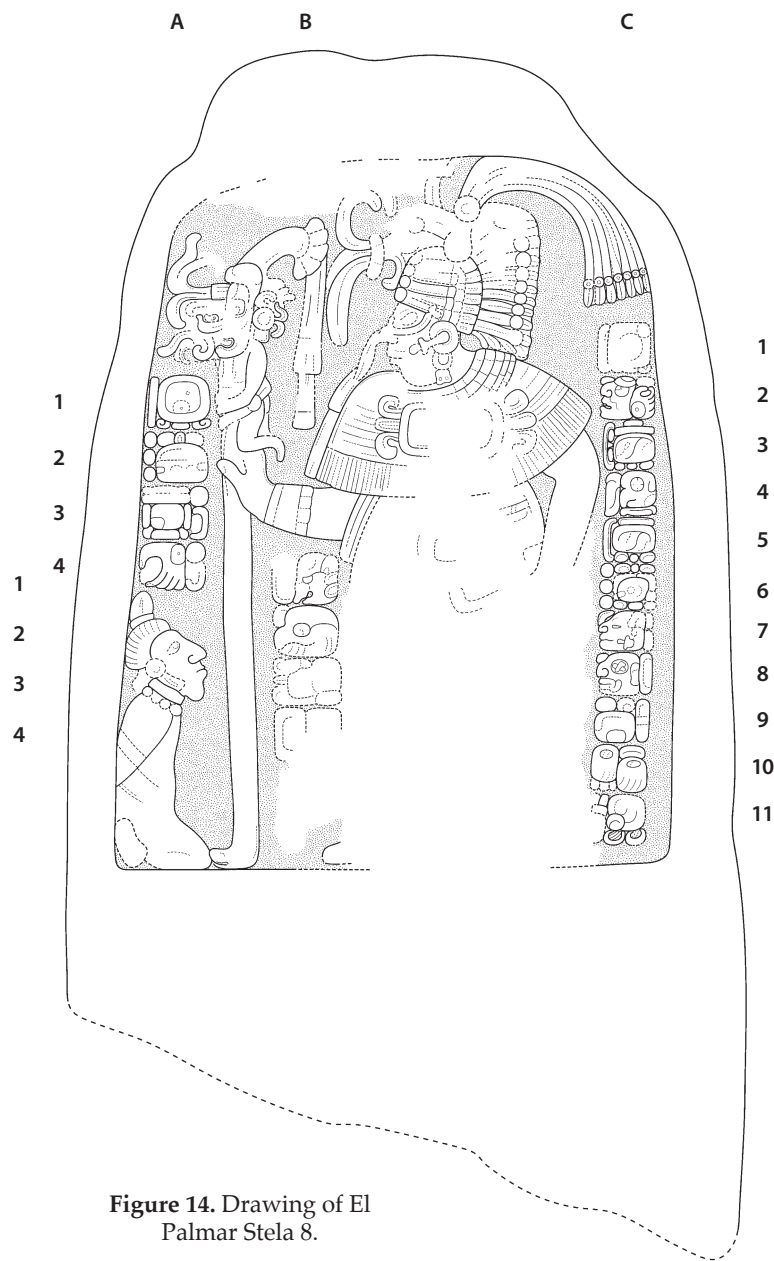
Figure 14. Drawing of El
Palmar Stela 8.

White Valley." Yok'in (also *yohk'in* or *yok'ihn*) is a title meaning "sun foot, the base of the sun, or sunset" (Boot 2009:211; Gómez 2007:3-4; Johnson 2013:331). The title is seen in a number of inscriptions. For instance, Copan's travertine vessel depicts the lord Yax Pasaj Chan Yopaat, who carries the title *nohol chan yok'in baahkab ch'ahom* (Kerr 1992:406; Tokovinine 2002:4). Naranjo Stela 20 and Stela 21 give Wak Kab Yok'in as a substitution for Wak Kab Nal Winik (Boot 2009:197). In the Dresden Codex Waklajuun Yok'in refers to a deity, while the god Bolon Chan Yok'in accompanies period-ending celebrations in the Temple of the Inscriptions at Palenque (Callaway 2011). Another proposed reading for the dog head glyph with infixed *k'in* sign is **OON**, (**yo-OON**?-**ni**?, *yoon*), which means "relative" or "family," a title or noun that refers to succession or parentage (Schele and Grube 1997:87). The main sign of glyph C6 remains elusive. Returning to Column B, the glyph blocks refer to a longer name of Upakal K'inich if the first reading is the case. However, we have not yet found his extended name in any other inscriptions. If the third reading is correct, Column A continues to Column C, which starts with Upakal K'inich. This latter case is also problematic because the transitive verb (*u*) *chokow* lacks an object such as *ch'aaj*.

There are notable differences in physical appearances between Upakal K'inich and his captive that embody social distinctions and political authority. The front and profile views define social hierarchy (Benson 1974:110-111; Houston 1998:341-344; Velásquez García 2019:136-137). On Stela 8 Upakal K'inich stands in front view but his face is in profile. His legs are apart with feet pointing outwards. In contrast, the captive is in the full side position. In many monuments at Maya sites rulers or captors are invariably in front position while the prisoners are shown in full side view. In addition to Stela 8, we can see these positional differences on Piedras Negras Stela 26, Uaxactun Stela 20, Yaxchilan Lintel 12, and Laxtunich Lintel 1.[2]

The inequality of body scale and attire frequently generates different ranges of visibility that enhance scenic importance and narrative weight (George 2004:78; Schapiro 1999:48). In

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[2] The front and side views are not exclusively used to symbolize the relation between the captor and captive. Maya sculptors also applied it to highlight other sociopolitical relations such as between elites of different ranks and between rulers of different dynasties (Velásquez García 2019:137, Fig 7).

Classic Maya corpus of inscriptions, and therefore this reading is less plausible. We think the third possibility is the most likely candidate. Column B gives the name and title of the captive who sits at the lower left corner. If this is the case, the first block could be the syllable **u** and a variant of the logogram **BAAH**, *ubaah*, "his image," followed by the captive's name and title. We will come back to these interpretations shortly.

Column C has a long text that consists of 11 glyph blocks. The text reads **u-PAKAL-la K'IN-ni-chi u-6-TAL-la yo-OHK-K'IN-ni**? **u**-5-**TAL-la** 3-? ? **WAK-ka PIIT-ta ba-ka-ba SAK-o-ka**, *upakal k'inich uwaktal yok'in uho'tal ux ?? wak piit baahkab sakho'ok*, "Upakal K'inich, he is the sixth successor of *yok'in*, he is the fifth successor of three…, Six Litters, Baahkab, the

Mesoamerica the oversized image of rulers in front of other smaller individuals symbolizes political authority, greatness, and majesty (Velásquez García 2019:132). This is precisely what happens with El Palmar Stela 8 where the diminutive captive contrasts dramatically with the size of the ruler Upakal K'inich, who occupies the center of the front face (Baudez and Mathews 1979). Likewise, Upakal K'inich is fully dressed while the captive is stripped of almost all clothing. Examples similar to this scene include Aguateca Stela 2, Ceibal Stela 11, Piedras Negras Stela 8, and Yaxha Stela 31. These monuments were erected on public plazas, suggesting that acts of humiliating captives took place in front of a large audience (Baudez 2004; O'Neil 2012:81-87). We should note that the kneeling captive of Stela 8 has a beaded necklace with his name and title on Column B if our reading is correct. These features suggest that the captive had a certain status. Baudez (2004:58) suggests that this is a common treatment when one wants to emphasize the relevance of the capture and importance of the captive's submission. Several dynasties applied this technique to captives carved on stone monuments that include Yaxha Stela 31, Yaxchilan Hieroglyphic Stairway 3 Step 3, an altar paired with Ucanal Stela 3, the stairs of Building E-13 at Dzibanche, and Tonina Monuments 27, 83, 84, 108, and 122.

The portrait of Upakal K'inich contains important features. He wears a mask that covers the upper part of his face with a kind of a cord that runs from the headdress to his nose, a diagnostic element of the Jaguar God of the Underworld (Figure 15a). According to Taube (Taube and Houston 2015:214), the prototype of this motif could be a pair of serpents or a double-headed snake that goes back to the end of the Late Preclassic period,
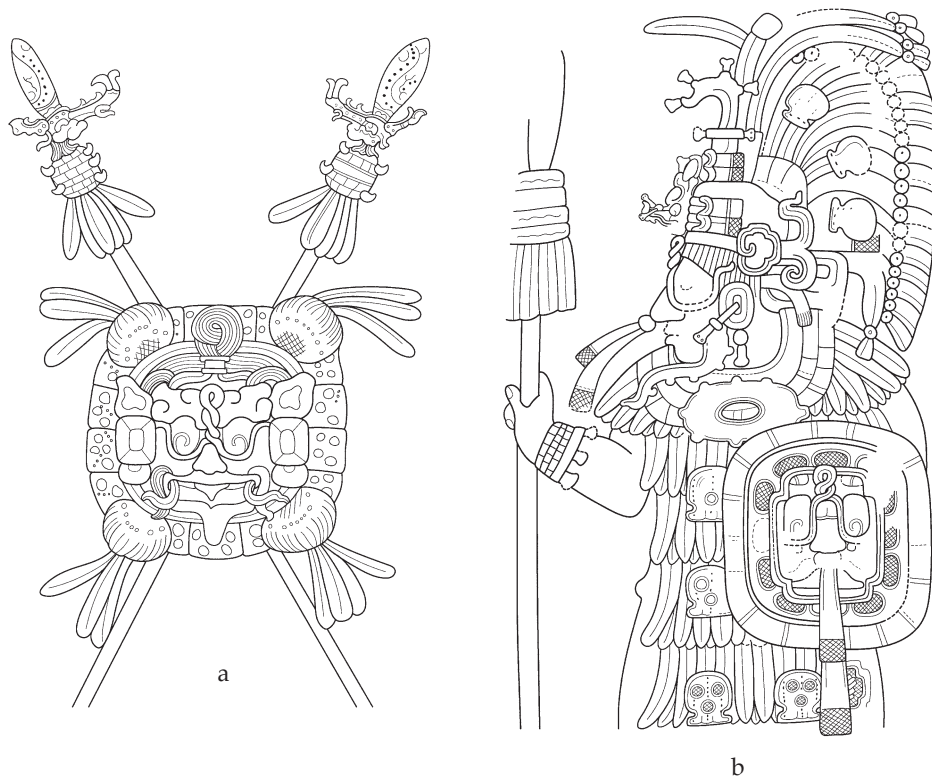

Figure 15. (a) Jaguar God of the Underworld in Palenque, Temple of the Sun interior panel; (b) detail of Naranjo Stela 21.

as is shown in the stucco masks attached to Structure 5D-22-3rd of the North Acropolis at Tikal. Facial masks similar to that of El Palmar Stela 8 can be observed in Naranjo Stelae 21 and 30, among other instances (Figures 15b). The Jaguar God of the Underworld is also considered to be the sun of the Underworld or a nocturnal aspect of the sun in relation to fire and sacrifice, imagery materialized in El Zotz Mask 2 of the Temple of the Night Sun (Taube and Houston 2015) and a polychrome lidded bowl from the burial chamber of Structure IX of Becan (Boucher et al. 2004; Stuart 1998:408, 2005:62, 176). Throughout the Classic period, this god was linked to warfare because of its recurrent presence on war shields such as a panel of the inner sanctuary of the Temple of the Sun in Palenque (Figure 15a), Naranjo Stelae 11, 19, and 21, Ixkun Stela 1, and Aguateca Stela 19. Thus, Upakal K'inich impersonates the Jaguar God of the Underworld linked to warfare during the ceremony that took place in the Great Plaza.

The bodily expression of Upakal K'inich on Stela 8 represents his political power and authority. He grasps a full-bodied K'awiil staff whose right foot represents a serpent head. While many iconographic images on monuments represent the deity K'awiil in the form of a scepter, the full-bodied K'awiil staff that reaches the ground plane is unique to date (compare to Figures 16a and 16b). K'awiil is a deity associated with the abundance of food and lighting that announces rain, but more importantly during the Classic period *uch'amaw k'awiil*, "He takes K'awiil," was a textual phrase which alluded to the enthronement of rulers who grasp political authority. The way in which Upakal K'inich holds the K'awiil staff in front of a captive recalls Yaxchilan Stela 11 where the ruler Yaxnuun Bahlam IV holds a K'awiil scepter over the heads of three captives. The performance of these rulers demonstrates the military nature of their political authority.

Other elements of Upakal K'inich's attire also symbolize the military aspect. The pectoral of Upakal K'inich is a smaller version of the pectoral carved on Stela 10. The headdress base of Upakal K'inich resembles a Teotihuacan war helmet known as *ko'haw*. The Teotihuacan-inspired mosaic helmet is usually made of small plaques of shell (Figure 16a). Claudia García-Des Laurier (2000:114-115) suggests that this type of helmet is associated with the Teotihuacan War Serpent, whose skin is made of shell mosaic (see also Taube 1992). The war helmet of Upakal K'inich is adorned with a bundle of feathers on the front, short feathers with beads on the back, and long feathers—also with beads—that rise and curve backwards. There are similar sets of feathers attached to the head of the Teotihuacan War Serpent (Figure 18a), especially when it is worn by Maya rulers. Teotihuacan military costume became prestigious among Maya ruling elites during the Late Classic period as exemplified on Piedras Negras Panel 2, Stelae 7 and 40, Bonampak Stela 3 (Figure 18b), and Naranjo Stela 2 (Stone 1989; Taube 1992). It is possible that the style of helmet came from the Usumacinta region because El Palmar had interactions with Yaxchilan (Tsukamoto 2014b:316). By wearing this helmet together with a feathered headdress, Upakal K'inich embodies a warrior ideology.


Figure 16. (a) K'awiil staff on Aguateca Stela 3; (b) K'awiil staff on Tzendales Stela 1.

Figure 17. Reference to Upakal K'inich on the Guzmán Hieroglyphic Stairway at El Palmar.

## Upakal K'inich in Other Inscriptions

The first instance of the name of the ruler Upakal K'inich was recovered from El Palmar Hieroglyphic Stairway Step 2 of the Guzmán Group (Tsukamoto and Esparza Olguín 2015). The inscription records the travel of the ambassador Ajpach' Waal, who went up to Copan to see the ruler Waxaklajuun Ubaah K'awiil. The El Palmar ruler, or more likely Ajpach' Waal himself, commemorated his travel by building the hieroglyphic stairway on the period-ending 9.14.15.0.0 11 Ahau and 18 Zac (September 14, 726 CE). Ajpach' Waal claims that his ancestors were standard-bearers who served successive rulers of El Palmar. One of the standard-bearers is his father who worked for the lord Upakal K'inich. The glyph blocks that name Upakal K'inich were partially broken, and we did not find the missing part at the moment of discovery. However, Tsukamoto analyzed fragments scattered around the stairway during the following seasons and one of these was refitted. Thus, the new reading of Step 2 Q1–W1 and Step 3 A1–B1 is **yu-ne AJ-lu-#-chi-hi AJ-ti-xa-ha u-LAKAM u-pa-ka-la K'IN-ni**… **SAK-o-ka**, *yunen ajlu..chih ajtixah ulakam upakal k'inich…sakho'ok*, "He (Ajpach' Waal) is the son of Ajlu…Chih, his title is *tixah*, he is a *lakam* of Upakal K'inich, the White Valley" (Figure 17). As we mentioned earlier when Ajpach' Waal commemorated the building of the stairway the El Palmar ruler was Yunen, implying that Upakal K'inich's reign ended before 726 CE.

The second case comes from Naj Tunich, Guatemala. Drawing 29 consists of 34 glyphic blocks that form two columns (Figure 19). Unlike other inscriptions, the texts are read not from Column A to B but from the top to the bottom of Column A followed by Column B. Column A1–2 starts with the Calendar Round 6 Akbal 16 Xul. Barbara MacLeod and Andrea Stone (1995:155-184) proposed the correlated Long Count of these dates as 9.17.0.6.3 (May 24, 771 CE) but the texts in the Guzmán stairway prove this implausible. They also considered 9.14.7.11.3 (June 6, 719) as an alternative Long Count but rejected it based on other texts in the area of the cave. We support this latter date because of the duration of Upakal K'inich's reign lasting at least from 711 CE (Stela 10) to 721 (Stela 8).

Column A3-8 reads **yi-IL-wa? mo-no pa-na CHAK-BALAW-wa ma-yi-ki K'AN-na-bi-ya?-ni,** *yilaw monpan chak balaw mayik k'an biyaan?*, "Monpan was witnessed by Chak Balaw, offering, yellow, *biyaan*." Although some sections of the text are difficult to read due to their state of deterioration, it recounts that a vassal who served Upakal K'inich visited Monpan, the ancient name of Naj Tunich (MacLeod and Stone 1995:169). The person, whose name can be partially read as Chak Balaw (Carter and MacLeod 2021:5; see also Prager 2015 for the reading of logogram **BALAW**), bears the unusual title *mayik* that MacLeod and Sheseña (2013:216-220) translate as "offering," since in various Mayan languages such as Ch'olti' and Kaqchikel, the words *mayi*, *ah mai*, and *maih* mean "gift," "offering," and "authority" respectively. In a similar vein, they suggest that the title indicates ritual specialists who devote offerings to ensure agricultural abundance and fertility during ceremonies and propitiatory rites. In this regard, the meaning of Monpan is "taking care of sprouts" which is associated with agricultural ceremonies to promote good harvests (Carter and MacLeod: 2021: 5; MacLeod and Shaseña 2013). If this is the case, the El Palmar priest-scribe visited Naj Tunich to attend an agricultural ceremony related to
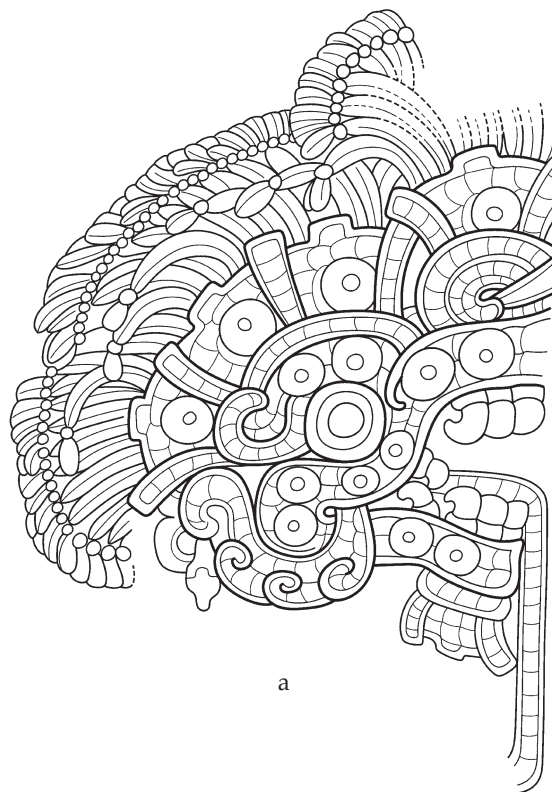
a
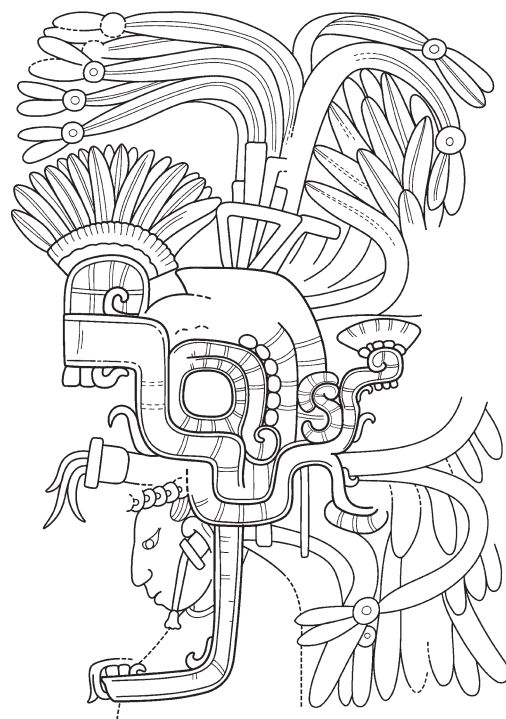
b

Figure 18. (a) Teotihuacan War Serpent on Lintel 2, Temple I, Tikal; (b) Bonampak Stela 3 headdress.

Figure 20. Naj Tunich Drawing 52 (based on photographs by James Brady and Gene Were).

Figure 19. Naj Tunich Drawing 29 (based on photographs by James Brady and Gene Ware).

the new growth of maize at the beginning of the rainy season. The following title is *k'an biyaan*. The meaning *biyaan* remains unclear but it often combines with adjectives of color such as *sak*, "white," *k'an*, "yellow," and *yax*, "green-blue," and also with nominal clauses of rulers and their consorts (Boot 2009:80). For instance, Yaxchilan Lintels 11 and 56 depict *sak biyaan* and *yax biyaan*.

The text continues with the royal title *k'uhul ajaw* suggesting that Chak Balaw is the holy lord of a dynasty or a relative of Upakal K'inich. Alternatively, he is a vassal of Upakal K'inich but aggrandized himself using the *k'uhul ajaw* title. The following glyphs relate that Chak Balaw is subject to El Palmar's Upakal K'inich. They begin with a directional glyph of south with a title of *anahb*, a title that appears constantly in the signatures of various sculptors (Houston 2016:407-409). The meaning of *anahb* is controversial. Sheseña (2008a:16) proposed the meaning of *ajnahb* as "he of the well" that identifies the titled person as a specific type of priest or ritual specialist who visits a body of water within a cave in order to collect virgin water for diverse purposes (see also Redfield and Rojas 1934; Thompson 1970). Sheseña thinks that the *anahb* also plays several roles such as a scribe, priest who brings offerings to deities, and a ritual performer who provokes rain and food abundance. More recently, Houston (2016:407) proposed two possible meanings. First, **AJ**-**na**-**bi** is a common title of Maya officials with close to the same sequence of glyphs. Therefore, the person who possesses this title would be a courtier. The second possible meaning is a sculptor as an instrument of the ruler based on the lexicon of Colonial Tzotzil Maya. Drawing 29 continues at A10 with **no**-**NOH**?-**lo? a**-**na**-**bi ya**-**na**-**bi**-**li u**-**PAKAL**-**la K'INICH**-**chi SAK**-**o**-**ka** 6-**PIIT ba**-**ka**-**ba K'UHUL**-**i**-**bi**-**li WINIK**-**ki**?, *nohol ajnahb yanahbil upakal k'inich sakho'ok wak piit baahkab k'uhul ibil winik*, "a south *anahb*, he is an *anahb* of Upakal K'inich, the White valley, Six Litters, *baahkab*, holy Ibil person." Here we observe an unusual repetition of *ajnahb* and its possessed form *yanahbil*, emphasizing that the person Chak Balaw is not just a south *anahb* but an *anahb* of Upakal K'inich. Considering that this repetition is not a scribal error, we suggest that the text intentionally attests that Chak Balaw is Upakal K'inich's courtier who was responsible for collecting virgin water in the cave.

Rituals at Naj Tunich were often attended by a pair of ritual specialists. Chak Balaw was accompanied with his younger brother Tz'itz'il who also held a string of titles **ma-yi-ki K'AN-na-bi-ya-ni u**?-**chi-chi wi-WINIK-ki pa-li**?-?-**ku**? **BAAX**?-**TUUN**?-**AJAW**? **8-20**?-**ya**?-**AJAW**?-? **K'UHUL**?-?-**AJAW**?, *mayik k'an biyaan uchich? winik paal? …baax tuun ajaw? waxakwinik ajaw? yajaw?… k'uhul ajaw?*, "offering, yellow *biyaan*, of Paal...Baax Tuun lord? lord of the twenty eight? vassal of the holy…lord." McLeod and Stone (1995:174) proposed the meaning of *chich winik* as a storyteller[3] since in colonial Yukatek the expression *ajchich* refers to a person skilled in telling stories or outstanding events (Sheseña 2008b:1042). As with Chak Balaw, his younger brother uses the title of *mayik k'an biyaan* and, perhaps, he was associated with a lord of the Baax Tuun dynasty (Carter and MacLeod 2021:9). Other pairs of participants at Naj Tunich are linked with terms *itz'in winik*, "person younger brother" or "the lesser" and *sakun winik*, "person older brother" or "the largest," which appear to be related to a ritual hierarchy of individuals. The most important person in the ritual is the *sakun winik* while the least relevant is the *itz'in winik* (MacLeod and Sheseña 2013; Sheseña 2010). The term *yitz'in*, "younger brother," that appears before his title suggests that Tz'itz'il is a lower-ranking official.

Naj Tunich Drawing 52 (Figure 20) depicts the arrival of Aj Chak at the cave in the company of Naah Chan…K'awiil? Tz'uul who is the *anahb* of *sakho'ok* (MacLeod and Stone 1995:174; Sheseña 2008b:1044). It is unclear whether this official Chak Balaw is the same person as Chak Balaw mentioned on Drawing 29. One of the reasons is that the chronology of this event is problematic since the text only contains the date of the Calendar Round 3 Ahau 3 Mol, which MacLeod and Stone (1995:158) tied to 9.15.10.0.0 (July 27, 741 CE). However, it is equally possible that the Calendar Round corresponds to 9.12.17.5.0 (June 10, 689). The official Chak Balaw of Drawing 52 could be the same person as in Drawing 29 if Upakal K'inich reigned El Palmar in 689. At this point, there is no evidence of his accession date and Drawing 52 is too damaged to understand the entire text. Finally, Drawing 37 contains the *sakho'ok* title but it is too eroded to identify its context.

Discussion

Classic Maya titles provide clues to the political organization of the El Palmar dynasty during the Late Classic period. The El Palmar royal titles *sakho'ok wat piit* were

used at least from 554 CE (Esparza Olguín et al. 2019; Tsukamoto and Esparza Olguín 2021). While the duration of his reign remains unknown, Upakal K'inich presided over El Palmar no less than a decade according to the period-ending events on 9.14.0.0.0 (December 2, 711 CE) and 9.14.10.0.0 (October 10, 721) that are carved on El Palmar Stelae 10 and 8, respectively. Upakal K'inich also holds the title of *k'uhul ibil winik*, "holy bean person" (Tokovinine 2014). This enigmatic title remains underexplored but the relationship between Upakal K'inich and his officials hints at some hierarchical position. On 9.14.7.11.3 (June 6, 719 CE) at the beginning of the rainy season, Upakal K'inich appears to have sent Chak Balaw to Naj Tunich. The titles of *anahb* and *mayik* suggest that these officials attended an agricultural ceremony in this case, invoking abundant rain and harvest. The spatial configuration of the El Palmar Main Group places emphasis on the significance of water and cave. Upakal K'inich's impersonation of the Aquatic Serpent attests to the importance of water related rituals. Chak Balaw and Tz'itz'il who probably collected virgin water in the cave, therefore, could have been of high status in the El Palmar dynasty. Chak Balaw holds the title of *k'uhul ajaw* which was usually possessed by powerful rulers. The use of *k'uhul ajaw* was highly restricted even among rulers in southeastern Campeche until the middle of the eighth century (Grube 2005). Indeed, El Palmar royal titles lack the *k'uhul* sign. Because Chak Balaw states that he is the *anahb* of Upakal K'inich, the political rank of *k'uhul ibil winik* could have been higher than *k'uhul ajaw*. It is equally possible that they had heterarchical relations and those relations constantly changed. Further archaeological, epigraphic, and iconographic studies will continue to reveal the nature of political organization in Classic Maya society.

In addition to these titles, there existed other officials in the El Palmar dynasties. *Lakam* were diplomats who negotiated political alliances with other dynasties in the southern Maya lowlands, particularly Copan (Tsukamoto and Esparza Olguín 2015). The Guzmán stairway suggested to Tsukamoto (2014a) that Ajpach' Waal, a descendant of standard-bearers (*lakam*), emphasizes his political ties more to the Copan ruler than to the El Palmar ruler. Other titles include *ajk'uhuun* who appear in an El Palmar courtly scene on the Señor de Peten cylinder vessel, which was found by Cortés de Brasdefer (1996) at Icaiche, a site located about 16 km east of El Palmar. The courtly scene represents the El Palmar ruler, his princes, and two *ajk'uhuun*. The ruler's adolescent prince sits on the lowest step where two *ajk'uhuun* are placed. Tsukamoto and Esparza Olguín (2021) suggest that this spatial arrangement represents the political importance of *ajk'uhuun* in the El Palmar kingdom. Thus, the presence of different elite titles indicates the complexity of the El Palmar political organization, and their appearances at different sites imply

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[3] This probably entailed among his roles the reciting of various prayers during the ceremonies carried out in Naj Tunich. This resembles *ajb'ix*, "reciter or singer" of the modern town of Momostenango where priests specialize in the narration of prayers in K'iche' during diverse ceremonies (Sheseña 2008b:1043).

that the El Palmar dynasty had complex geopolitical networks during the Late Classic period.

In the Maya lowlands the war victory of Jasaw Chan K'awiil over Yuknoom Yich'aak K'ahk' in 695 CE swayed neighboring dynasties (Martin and Grube 2008). Iconographic images in El Palmar Stelae 8 and 10 attest the shrinkage of the Kaanul dynasty in the Maya lowlands during the early eighth century. The king Upakal K'inich wears military costume carrying a spear to perform a period-ending ceremony that took place in front of a large audience in the Great Plaza. On Stela 8 Upakal K'inich wears a Teotihuacan-style headdress in the company of a captive. Monuments of neighboring sites erected around this time also represent rulers with military costume and captives. The frequency of militaristic representations in public ceremonies denotes increase in conflicts in southeastern Campeche during the eighth century. At El Palmar a sign of militarization was already visible around the time when a powerful ruler of the Kaanul dynasty, Sky Witness, oversaw the accession of a ruler, Sak Baah Witzil, at Los Alacranes in 561 CE (Grube 2008:193-195). El Palmar Stela 42, which is paired with Altar 10, represents a ruler with military costume somewhat similar to that of Upakal K'inich on Stelae 8 and 10 (Esparza Olguín et al. 2019). Altar 10 was placed in 554 CE under the supervision of El Palmar ruler K'ahk' P'ulaj Chan Yopaat. Inscriptions on Stela 42 are heavily eroded and therefore it is difficult to discern the ruler's name. If Stela 42 was erected together with Altar 10 in 554, the protagonist on the stela is most likely K'ahk' P'ulaj Chan Yopaat, suggesting that his theatrical performance on a large public plaza already had some military aspects around the sixth century. The study of contemporaneous monuments at El Palmar will allow us to evaluate the degree of militarization at El Palmar during the Middle Classic period (400–600 CE).

Notwithstanding the historical defeat in 695 CE, Yuknoom Took' K'awiil attempted to prevent the Kaanul dynasty from collapsing vassalage networks that his predecessors built eagerly in the Maya area, particularly in the Peten region. At Calakmul he ordered the erection of six stelae at the foot of Structure I, commemorating the period-ending of the 15th katun on 9.15.0.0.0 (August 19, 731 CE). Elsewhere, he visited former allies such as La Corona where he supervised the dedication of a building on 9.14.3.5.15 (March 11, 715). On 9.14.9.9.14 (April 27, 721) he sent one of his daughters to the city of Sak Nikte' to ally with its local ruler Yajaw Te' K'inich (Martin 2008). Four years later on 9.14.14.7.2 (February 8, 726) Yuknoom Took' K'awiil visited Naranjo together with a ruler of Dos Pilas in order to supervise an impersonation ceremony performed by K'ahk' Tiliw Chan Chahk, a son of the famous Lady Six Sky (Martin et al. 2017). In the same year (9.14.15.0.0)

Yuknoom Took' K'awiil appears in the inscription on the El Palmar Hieroglyphic Stairway at the Guzmán Group, overseeing the political alliance with Copan (Tsukamoto and Esparza Olguín 2021). Another site is El Peru-Waka' where Yuknoom Took' K'awiil supervised the enthronement of a local ruler although the event cannot be dated with confidence (Martin and Stuart 2009). Because El Palmar had a long-term relationship with the Kaanul dynasty (Esparza Olguín and Tsukamoto 2011), interactions of Upakal K'inich and his son with rulers of other sites were probably tied to the political campaigns of Yuknoom Took' K'awiil.

The political strategy of the Kaanul dynasty under the reign of Yuknoom Took' K'awiil was likely to incorporate Copan into his confederated networks and ultimately attempt to encircle Tikal (Tsukamoto et al. 2015:214). Considering the dynastic events mentioned above, it is difficult to think that El Palmar *anahb* and *mayik* visited Naj Tunich only for a religious purposes. As with *lakam*, they were likely emissaries who negotiated political alliances with other dynasties. At this point there is no evidence that Upakal K'inich went to the south. However, a Copan-style eccentric flint in the cache dedicated to Stela 10 attests that Upakal K'inich or his officials had a certain contact with Copan's authority. If so, the negotiations of political alliance with Copan occurred not just once in 726 CE, which the Guzmán hieroglyphic staircase commemorates, but also several times that go back to 711 when Stela 10 was erected and 719 when Upakal K'inich's officials attended the agricultural ceremony at Naj Tunich. Furthermore, Upakal K'inich or his son attempted to consolidate political ties to the Usumacinta region that are attested by the presence of an El Palmar sculptor on Yaxchilan Lintel 26 in 724 (Tsukamoto and Esparza Olguín 2015). Nevertheless, Yuknoom Took' K'awiil could not regain the ancient regime since a few years later around 734 he was defeated and captured by Tikal's Yik'in Chan K'awiil (Martin and Stuart 2009). This event would bring with it a series of misfortunes for Kaanul's old allies such as El Perú and Naranjo, who suffered bloody military defeats from Tikal in 743 and 744 respectively.

Conversely, some dynasties in southeastern Campeche flourished culturally after the collapse of the Kaanul dynasty. Rulers at Oxpemul, Chactun, and La Muñeca commissioned several monuments throughout the eighth century (Šprajc 2008, 2015). In the Río Bec region ruling elites enjoyed new architectural and ceramic styles (Nondédéo et al. 2013). El Palmar rulers did not throw their lot in with the Kaanul dynasty. They continuously erected stone monuments at the Main Group during the ninth century, and *sakho'ok* elites appear at other sites such as Río Azul (Stela 2, 790 CE) and Cancuen (Panel 3, 795 CE), demonstrating that the geopolitical

network of the El Palmar dynasty was maintained after the collapse of the Kaanul dynasty.

Conclusion

Upakal K'inich is thus far the best-known and best-documented ruler in the El Palmar corpus of inscriptions. His name was recorded on El Palmar Stelae 8 and 10 that celebrate period-endings on a large public plaza. He also appears as a former ruler in the inscriptions of the Guzmán stairway. Several officials worked for Upakal K'inich not only to support the internal political organization but also to assist in interregional negotiations. He experienced a dramatic change in the geopolitical landscape of the Maya lowlands after 695 CE. His military costume symbolizes political turbulence and simultaneously his attempts to stabilize and control the dynasty. However, the fall of the Kaanul dynasty was not immediate, giving Upakal K'inich an opportunity to enhance a sense of his presence in the geopolitical landscape. In this regard El Palmar officials played critical roles, negotiating political alliances with other dynasties that were not limited to southeastern Campeche but also distant regions such as Quintana Roo, the Usumacinta, Peten, and Copan. Despite the second defeat of Calakmul against Tikal around 734 CE, El Palmar managed to survive, maintaining its networks with other dynasties.

A number of carved monuments have not been studied yet in detail at El Palmar. Future research will provide additional insights into a deeper understanding of the El Palmar political organization and its interregional interactions in the Maya lowlands during the Classic period.

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"Teotihuacan," "Spearthrower Owl," and *Kaloomte'*: Clues to the Language of Teotihuacan Writing$_2$ in Classic Maya Texts

THOMAS VONK

Many Assumptions, One Objective: On Teotihuacan Writing$_1$

Without doubt the people of Teotihuacan made use of *writing$_1$*: a set of graphic signs often labeled "writing in the broad sense" (see, e.g., Harris 2000:10-11; Sampson 1985:26-45). The question remains whether a part of this system also constitutes *writing$_2$*: a set of graphic signs correlating with a specific language, called its *correlate language*, and often labeled "true writing" (for further details on the definitions of *writing$_1$* and *writing$_2$* offered here, please see Vonk 2020a). Naturally, this question cannot be satisfactorily answered while this presumptive subsystem remains undeciphered.[1] In recent decades, however, Mesoamericanists have begun to embrace a view of Teotihuacan writing$_1$ as a regional predecessor of Nahuatl writing$_1$, which has been demonstrated to include an increasingly well-understood writing$_2$ subsystem (see, e.g., Lacadena 2008a, 2008b; Whittaker 2009, 2021; Zender 2008). In particular, because of graphic continuities and other similarities, there is now a growing consensus that Teotihuacan writing$_1$ largely prefigures Nahuatl writing$_1$ with respect to the manner in which narratives are constructed—i.e. by means of an admixture of iconography, calendrical notation, and writing$_2$, where the latter is primarily employed to denote proper names of individuals and places.[2]

Provided this is correct—and I would like to emphasize that while I am not personally convinced of this possibility, neither do I rule it out—it would undeniably be desirable to decode these ancient messages from Teotihuacan. But if it is indeed the case that Teotihuacan writing$_1$ has a writing$_2$ subsystem, it will be indispensable to know the correlate language *before* any meaning can be ascertained from the texts.[3] Unfortunately, the supposed Teotihuacan writing$_2$ subsystem—even if we were able to ascertain which signs in Teotihuacan writing$_1$ are writing$_2$ signs and not notational or iconographic—cannot be deciphered *uniquely* because of what may be termed the "corpus issue" involving the quotient produced by the number of actually attested distinct signs of a morpho-phonographic writing$_2$ system divided by the total number of all attestations of these signs, which is simply a measure of the corpus size. As noted in Vonk (2020b), if the quotient « 0.1, the writing system cannot be deciphered uniquely. With particular applicability to Teotihuacan writing$_2$, this means that any proposed reading of sign groups in any language, even if the reading allegedly shows an isotopy between, for instance, an assumed logogram and an assumed phonographic indicator, cannot be distinguished from random coincidences, which appear in all writing$_2$ systems for combinatorial reasons (for details, see Vonk 2020b). Hence a seemingly fitting or successful decipherment of any Teotihuacan text based on some language model cannot in and of itself serve as evidence for the correct identification of the correlate language of Teotihuacan writing$_2$. In plain words: the correlate language of Teotihuacan writing$_2$ (if such a subsystem existed) cannot be ascertained from the available corpus.[4]

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[1] Taube (2000, 2011) long ago demonstrated the high probability of a writing$_2$ subsystem at Teotihuacan and its diaspora, as well as numerous structural similarities with Nahuatl writing$_1$ (see also Whittaker 2012b, 2021).

[2] The proportional distribution of these three subsystems of writing$_1$ within a written$_1$ text can be nicely illustrated by means of what I have called the "writing$_1$ continuum triangle" (Vonk 2020a).

[3] This is what we have learned from Nahuatl and Mixtec texts. Neither in Nahuatl writing$_2$ nor in Mixtec writing$_2$ does a curved hill *mean* "Curved Hill" but, for example, Colhuacan "Place of those who have ancestors" in the former system and Yucu Yoho "Hill of the Thread" in the latter system (for the reading **yo** of the "curved" sign, see Vonk 2019). Accordingly, approaches heretofore pursued, e.g., in Helmke and Nielsen (2014), are valid only if one additionally assumes that the analyzed sign groups consist solely of logographic signs, which is in contradiction to the general conjecture of Teotihuacan writing$_2$–Nahuatl writing$_2$ equivalence, because Nahuatl writing$_2$ is unequivocally not pure logography.

[4] It should be noted that many scholars hold that Teotihuacan was a multiethnic city and that the people of Teotihuacan might have spoken several different languages. This assumption often goes hand in hand with the notion that a prevalent usage of iconography instead of writing$_2$ may have led to the intelligibility of graphic messages. However, I personally consider the "multiethnicity" hypothesis improbable (the remains of different cultural origins in Teotihuacan, e.g., from people of Monte Alban, only point with certainty to strong interethnic contacts), and in particular the notion that iconography *per se* promotes intelligibility among people of different cultural backgrounds is naive: even if these different people share the same set of signs (or similar signs)—and this was evidently the case in many parts of Mesoamerica at different times—the *meaning* of these signs is always culture-specific (in fact, this is what actually constitutes a "culture"). Iconography is not intelligible *per se*, but needs to be learned just as a language gets acquired. In this sense, iconography *can* be used as a sort of "visual *lingua franca*," but this is obviously also true for writing$_1$ systems as a whole, i.e., especially also for writing$_2$ systems: in either case one has to become familiar with the sign system, its signs, and its system of meaning. Consequently, the assumed prevalent usage of iconography should not be seen as *a priori* evidence of a cosmopolitan Teotihuacan.

However, there existed a writing$_2$ system contemporary to Teotihuacan writing$_1$ that is largely deciphered: Classic Maya writing$_2$. As Stuart (2000) has convincingly argued, not only were there trade links between Teotihuacan and the Maya region—something which is also abundantly attested in the archaeological record (see, e.g., Braswell 2003)—but there is considerably epigraphic evidence that people from Teotihuacan decisively influenced the early dynastic history of several major Maya sites, among them Tikal and Copan. Consequently, it bears consideration that these intruders may well have left traces of their language (and their writing$_2$ conventions) in the Maya region, and in particular in the early inscriptions of Tikal and Copan.[5] If their language is traceable in these inscriptions, this would provide a strong clue towards the correlate language of Teotihuacan writing$_2$. This, then, is the main aim of the present paper, which can therefore be seen as a continuation of previous research, it already having been proposed by David Stuart that the Nahuatl word *cōzcatl* "jewel" may have been written$_2$ on Tikal Stela 31 (L2) in the syllabic representation **ko-sa-ka**[6] (Stuart in Boot 2010:154; see also Macri 2000, 2005; Macri and Looper 2003). The advantage of this approach is that the risk of being misled by random coincidences is reduced, because the logographic and phonographic values of most Maya writing$_2$ signs are well established.

What follows is therefore based on a set of assumptions:

1. Teotihuacan writing$_1$ has a writing$_2$ subsystem similar to Nahuatl writing$_2$.

2. Stuart's (2000) hypothesis is correct (as noted above).

3. Whittaker's (2012) hypothesis on the Nahuatl names of Teotihuacan is correct (to be discussed below).

These assumptions cannot be proven from the available data (for the first point I have given my reasoning above). Rather, one may consider the respective evidences either suggestive or insufficient, so this paper is offered as a thought experiment. It is a play in three acts: the following three sections address a possible toponym for Teotihuacan, a personal name of an enigmatic individual in the early history of Tikal, and a title whose first appearance seems to be strongly connected with the "arrival of strangers" first suggested by Tatiana Proskouriakoff (1993) and more recently elaborated by David Stuart (2000; see also Martin and Grube 2008:29-31).

The Names of Teotihuacan: Whittaker's Hypothesis and An Early Toponym at Tikal

In his thought-provoking paper "The Names of Teotihuacan," Gordon Whittaker (2012b) presented evidence that one of the original names of Teotihuacan
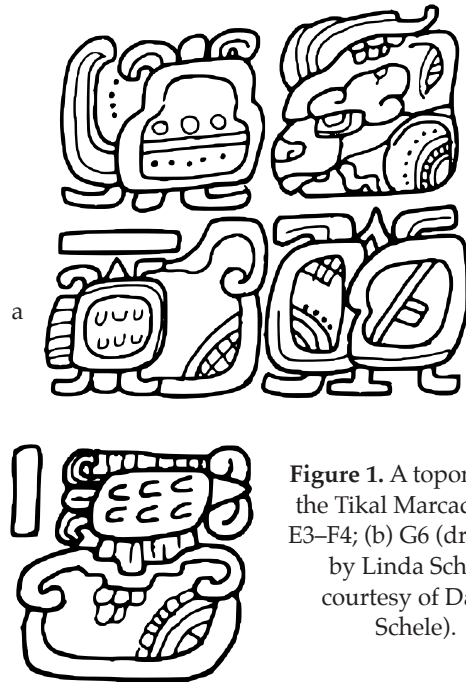

Figure 1. A toponym on the Tikal Marcador: (a) E3–F4; (b) G6 (drawings by Linda Schele, courtesy of David Schele).

may have been Macuixco or Maquizco, both meaning "at the Bracelet," though their respective etymologies are somewhat different (see also Whittaker 2021). While such a tentative identification of a presumptive place sign in Teotihuacan writing$_1$—i.e., a hand with a bracelet accompanied by a footprint, which he reads ᴍᴀ̄ǫᴜɪ̄ᴢ[QUIZ], *māquīz(co)*[7]—cannot in and of itself be distinguished from coincidence, Whittaker draws attention to another remarkable congruence. A toponym appearing twice on the Tikal Marcador inscription (Figure 1), a ballcourt marker associated with the "arrival of strangers," is

[5] It is now beyond question that epigraphic traces of the presence of people from Teotihuacan can be found at Tikal, particularly in the form of "foreign signs" (e.g., the Aztec-style *icpalli*-seat on Tikal Stela 31, L2) and "foreign-influenced signs," (e.g., the snake head **KAAN** rendered in a manner atypical for Maya inscriptions on the Tikal Marcador, G7) (see Boot 2010).

[6] Throughout this paper, in partial compromise to house style, I transcribe written$_2$ signs as follows: logograms in small capital boldface, phonographic complements in lowercase boldface, phonographic indicators in lower case boldface superscript, and semantic indicators in small capital boldface superscript. Hyphens separate adjacent signs. Square brackets transcribe infixed signs. Transliterations are given in italics (in adjusted orthography where advisable). Underspelled/abbreviated elements are indicated in parentheses.

[7] Orthography adjusted to that employed by Karttunen (1992). The "hand with bracelet" would thus be a logogram, whereas the footprint sign relating to *quīza* "to emerge, come out" would be a phonographic indicator. Accordingly, Whittaker (2012b) assumes that Teotihuacan writing$_2$ is equivalent to Nahuatl writing$_2$ system with respect to its underlying principles, such as the use of logograms and phonographic indication, but also the characteristic omission of locative suffixes.

believed to refer to Teotihuacan and is written₂ by means of the numeral **5**, which, provided we understand this as a reference to Nahuatl *macuilli* 'five,' could well allude in rebus-fashion to part of the assumed toponym Macuixco/Maquizco.

Interpretations of this particular sign group, which consists of the bar sign **5**, two syllabograms (**no** and **ma**), and the hill sign ᴡɪᴛᴢ, have varied. Stanley Guenter and Albert Davletshin previously interpreted it as **5-no-ᴡɪᴛᴢ**, *ho' no(j) witz*, "Five Large Mountains" (according to Nielsen and Helmke 2008:474 and Whittaker 2012b:56), a name which Whittaker (2012b:56) has linked to the Cerro Gordo/Hueitepetl located close to Teotihuacan. Similarly, Nielsen and Helmke (2008:467, 474) saw it as **5-no-ma-ᴡɪᴛᴢ**, *ho' noom witz* "Five Small-Bird Mountain." More recently, Stuart and Houston (2018) have proposed that the **no** syllabogram might simply have an alternative logographic reading ᴛɪɴᴀᴍ "cotton" (with phonetic complementation provided by the **ma** syllabogram). In this view, *ho' tinam witz* might refer metaphorically to snowy mountains unknown to the Maya but well known in Central Mexico.

However, each of these readings has its disadvantages. The reading of Guenter/Davletshin seems to ignore the **ma** syllabogram, though they evidently take these elements as part of a "full form" of the **no** syllabogram, which admittedly seems possible given how much these elements vary from the bona fide **ma** in the nearby ᴋᴀʟ-**ma**-ᴛᴇ' compound (see Figure 1a, F4). Whittaker's interpretation is appealing but unconvincing insofar as one of the assumed names of Teotihuacan (i.e., Macuixco/Maquizco) would have been written₂ in Nahuatl, while the other name, Hueitepec, would instead have been translated into Mayan as Noj Witz (or Tinam Witz), which seems unlikely. The reading proposed by Helmke and Nielsen (i.e., "Five Small-Bird Mountain") seems arbitrary to me, even though they suggest a link with the bird/owl motif explored in their paper). Finally, Stuart and Houston's interpretation requires an additional ad hoc value for a sign whose value seems to be otherwise well established, without (at least at present) additional contexts where this value might be regarded as demonstrable.

Returning to Whittaker's observation concerning the bar sign, which as previously stated may refer to Macuixco, it might be worth considering that the **ma** syllabogram has here been added precisely to indicate a value for the bar sign in the neighborhood of Nahuatl *macuilli* 'five' instead of Mayan *ho'* 'five.' This makes additional sense in light of Classic Maya writing₂, which would naturally have no syllabogram for the syllable **kʷi**, since /kʷ/ is absent from the Classic Mayan language. As such, a potential strategy for the scribe intending to write₂ the foreign toponym Macuixco/Maquizco might have been to use another sign as a reinterpreted "foreign" rebus in order to fill this gap. (Note, incidentally, that only the rebus deployment of the sign would here be taken as having a foreign origin; the graphic manifestation—i.e. the bar itself—is of course a common Classic Maya numerical sign).

However, the flaw of this interpretation is equally clear. For what reason does the **no** syllabogram appear? Here I should acknowledge that we are in uncharted waters, but at least potentially, we might consider that the original pre-proto-Nahuatl[8] form of Nahuatl *māitl* 'hand,' which has a variant *mah* in compounds, was *man* and not *ma(a)*/*mah* as commonly reconstructed for proto-Nahuatl (e.g., Dakin 1982:120, 149). This pre-proto-Nahuatl form persisted in proto-Nahuatl in compounds such as *mankʷiz* 'bracelet' (which became *mahcuex-tli* in Nahuatl), *mankʷil* 'five,'[9] or *mankʷi* 'to grasp something with the hand.'

Note that the most recent reconstruction for proto-Nahuatl 'hand' is indeed *man* (Stubbs 2011).[10] The sound shifts that then must have taken place—i.e. *VN → VV (as in *māitl*) and *VN → V' (as in the variant *mah*), depending on the phonetic environment—are indeed possible according to known sound laws. As reconstructed by Dakin (1996) and Ramer (1995), the first change occurs whenever certain syllables fail to follow the cluster *VN (as in Nahuatl *māitl*, where *N simply disappears without lengthening the preceding vowel; Dakin 1996), whereas the second change occurs if certain consonants follow *VN, e.g., /k/ (as in *mankʷiz* → Nahuatl *mahcuex* 'bracelet'; Ramer 1995). The scenario I suggest, then, is that proto-Uto-Aztecan *man* initially persisted in pre-proto-Nahuatl but later shifted to *maa(y)* in its free form in proto-Nahuatl. (Then, still later, a certain syllable *yV* was added, leading to the weak *i* vowel in Nahuatl *māitl*.) Nonetheless, the *man* still persisted in compounds, although it shifted to *mah* in certain environments (e.g., before /k/) in which, by analogy, it had become a common variant for *mā-*.

Be that as it may, the reconstruction of this etymon is in any case problematic, as Ramer (1995:13) has pointed out. Consequently, it remains an unsolved problem how

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[8] Although (as just noted) I generally employ Karttunen's (1992) orthography when writing Nahuatl words, the reconstructions in the following paragraphs are instead given in orthographies respecting their sources.

[9] Compare proto-Numic *maniki-yu* (Numic is a group from the northern branch of Uto-Aztecan), e.g., *manegite* in Shoshone and *manīgin* in Ute, and proto-Taracahitic *maniki* (Taracahitic is a group from the southern branch of Uto-Aztecan), all meaning "five" and etymologically equivalent to the corresponding Nahuatl lexeme.

[10] For details see asjp.clld.org/languages/PROTO_UTO_AZTECAN. This form may also be reconstruced for proto-Uto-Aztecan. Note that the final *-n* also seems to have survived in Tongva *maan* 'hand'. A Swadesh list for Uto-Aztecan can also be consulted at en.wiktionary.org/wiki/Appendix:Uto-Aztecan_Swadesh_lists.
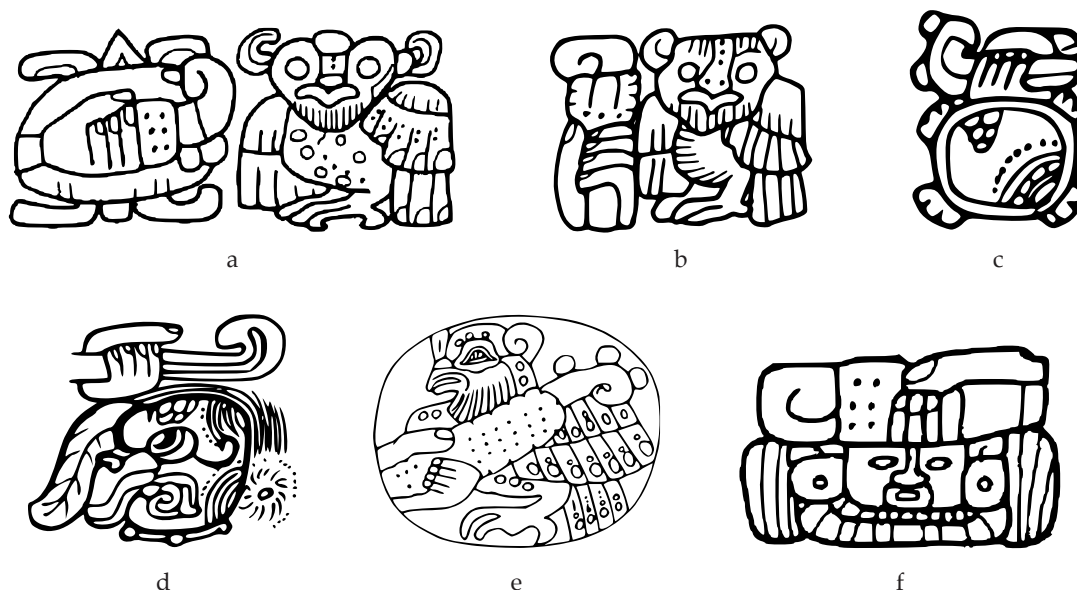
Figure 2. Several writings₂ of the name "Spearthrower Owl": (a) Tikal Marcador, E9-F9 (drawing by Linda Schele, courtesy of David Schele); (b) Tikal Marcador, C3 (drawing by Linda Schele, courtesy of David Schele); (c) Tikal Stela 31, L4 (after Stuart 2000:Fig. 15.10); (d) unprovenanced tripod vase (after Nielsen and Helmke 2008:Fig. 7); (e) Tikal Marcador, central emblem (after Stuart 2000:Fig. 15.14); (f) Tikal Marcador, H9, perhaps indicating a toponym (drawing by Linda Schele, courtesy of David Schele).

with, Teotihuacan. Diagnostic for this identification is the figures' clothing, including coyote tails, mosaic headdresses, square shields, and especially the *ahtlatl* spearthrower. The spearthrower is usually regarded as an iconographic marker for someone from Teotihuacan (compare Uaxactun Stela 5; Stuart 2000:Fig. 15.7).

Interestingly, the spearthrower also appears in Maya writing₂ in the form of a hand holding the *ahtlatl* sign. In particular, this sign appears in association with a personal name of an individual who is labeled as "the Kaloomte' of Macuizco/Teotihuacan" (provided the interpretation of the toponym as referring somehow to that city is correct; the Kaloomte' title will be discussed below). Examples of this name are given in Figure 1a, as well as in Figure 2a–e.

Grube and Schele (1994) long ago proposed that the owl in this name is to be read *kuy/kuh* '(the) owl (of omen,' since the substitutions in Figures 1a, 2c, and 2d show either a rounded variant of the **ku** syllabogram with some sort of appendices (Figure 2c), or head variants of the **ku** syllabogram (Figures 1a and 2d). Figure 2d additionally seems to be accompanied by a **yo** phonogram, which could potentially point to *kuy* 'owl,' although presently only **ku**-**yu** spellings are attested for this lexeme. The main idea is that this part of the sequence is either a title or a part of the individual's name that alludes to the owl as a Central Mexican symbol related to warfare.[13] David Stuart (2000:508) on the other hand expressed his doubts concerning the *kuy/kuh* reading because the respective signs are

"so different from other **ku** syllables." This quality of being "so different" will likewise play a crucial role in the interpretation presented here.

Particularly "different" is the sign of the hand holding a spearthrower. Recently this has been read by Albert Davletshin (in Boot 2010:158) as *jatz'oom* 'one who hits/wounds.' (The verb *jatz'* is attested several times in Classic Maya inscriptions, -V*m* commonly denoting deverbal agentive nouns.) Davletshin reaches

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[13] See Nielsen and Helmke (2008) for the semantic interpretation of the owl. The Central Mexican association of owls and *ahtlatl* is evident, e.g., in the "Spearthrower Owl Hill" toponym discussed in Nielsen and Helmke (2008). There seems to be iconic reasons for the association: the spearthrower (cf. Fig. 5g in Nielsen and Helmke 2008) standing upright with the hook pointing downwards and the haft with its two holes for the fingers pointing upwards clearly resembles an owl staring at you with its two haunting eyes and the downwards pointing beak. Note that the aforementioned "Spearthrower Owl Hill" does not necessarily need to be related to the historical "Spearthrower Owl" discussed here. If we assume Nahuatl as the correlate language for Teotihuacan writing₂, then the "Spearthrower Owl Hill" consisting of an owl *tecolō-tl* with the accompanying blades *tecpa-tl* may point to a reading with initial *tec-*, while the grasping hand, crucial for the writing₂ of the individual's name in Tikal, is absent. For the Mesoamerican owl symbol, compare also the owl motif accompanied by arrows/spears that appears in Monte Alban writing₁ on a cylindrical ceramic vase discussed in Urcid (2003), and the spear-with-owl-head, one of 8 Deer's symbols of power, that appears frequently in the *Codex Colombino* (1966), e.g., on pages IV and VI.

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that conclusion on the basis of the initial glyph block in Figure 1a, where we find the syllabic sequence **ja-tz'o**?-**ma** in substitution for the usual "hand holding spearthrower" logogram. Consequently, Jatz'oom Kuy 'Owl that hits/wounds,' provides an entirely Maya reading of a name whose constituent signs are often either peculiar (e.g., the **ku**) or thoroughly "foreign" (e.g., the owl and the spearthrower). Comparing this with the writing$_2$ of the names Sihyaj K'ahk' and Yax Nuun Ahiin (see Stuart 2000:Fig. 15.4), both candidates for figures of Teotihuacan affiliation, it is evident that their names, possibly loan translations, are written$_2$ as decent Maya phrases using proper signs of the Maya writing$_2$ system. The question therefore is, why would the Maya translate the foreign name of "Spearthrower Owl" as Jatz'oom Kuy, while nonetheless writing$_2$ it using "foreign" signs?

So let us once again take a step back, shelve the existing proposals for a moment, and take the "foreignness" of the signs as our starting point. Let us consider that the *ahtlatl* was not intended to have a reading value of its own, but was merely intended as a marker for the grasping hand. This is itself a common sign in Maya writing$_2$, but rather than give it a Maya reading value, perhaps the *ahtlatl* marks it as expressing a lexeme from the language of the "foreigners" (because, as noted above, this is in fact one of the roles of the *ahtlatl* in iconography). Per the discussion above, "to grasp something with the hand" in proto-Nahuatl is *$mank^wi$*, which would again point to MANKWI, *mancui(zco)*. If so, passages such as those in Figures 2a or 2b (both including the owl) might be interpretable as "Owl of Mancuizco/Teotihuacan".[14] This reading would also be in accordance with the **ma** syllabogram that appears in Figures 1a and 2a. The reading MANKWI for Macuizco might perhaps also have been intended in the sign group in Figure 2e, where the grasping hand (+ spearthrower) is succeeded by a face sign depicted frontally, as is typical for Teotihuacan iconography, so this additional sign is perhaps a semantic indicator for Teotihuacan and could perhaps be transcribed as MANKWI[TEOTIHUACAN], *mancui(zco)*.

This interpretation is certainly challenged by the appearance of the **ja** sign in the apparent substitute sign group of Figure 1a, and I cannot give a decisive explanation of the appearance of the sign that would be in accordance with the tentative proposal worked out here, so a resolution of this problem must be left open.

Turning now to the owl, which should provide something like TEKOLO(TL)[15] if we assume a logographic reading in proto-Nahuatl, we may ask if it is possible that the stony head, as well as the **ku** syllabogram that is "so different from other **ku** syllables," should in fact be read **te** (cf. Nahuatl *tetl* 'stone') because of its distinctiveness from common Maya signs. Also taking into account the more usual form of the **ku** syllabogram infixed into the stony head on the Marcador (Figure 1a, F3), could

these not together have provided **te**[**ku**] for *teku(lotl)*? Finally, we might also ask about the otherwise unexplained **yo** syllabogram in the name from a tripod vase (Figure 2d). One possible explanation might be that in proto-Nahuatl the /r/ from proto-Uto-Aztecan *$tukur(i)$* "owl" (Troike 1963) persisted, so that the Maya rendered a possible proto-Nahuatl *$tekuro(tl)$* as **te**[**ku**]-**yo** *tekuyo*.[16]

At this point it seems worth noting that several Mayan languages have *tukuru/tukul/tukur*[17] for 'owl,' a term that evidently diffused through the Maya region (Kaufman 2003:610; see also Kettunen 2016). All of these variants show a conspicuous similarity with proto-Nahuatl *$tekurotl$*/*$tekulotl$*, which becomes even more apparent if one assumes that the vowel of the initial syllable of proto-Uto-Aztecan *$tukur(i)$* might have persisted in proto-Nahuatl, which would then be *$tukulo$*/*$tukuro$*.[18]

Is it possible that with the "arrival of strangers," such as the obscure figure "Spearthrower Owl," a new term for 'owl' entered the Mayan language family? If so, then one would have to assume TUKURO for the owl logogram, in which case an interpretation of the stone sign as **te** would no longer be applicable.[19]

To sum up this section, if we take the noted distinctiveness of several of the signs in the glyphic name of "Spearthrower Owl" as significant, we might perhaps find some explanation on the basis of proto-Nahuatl *mancuizco tukuro/tecolo*, i.e., 'Owl of Mancuizco/Teotihuacan.' Note that in this case the WITZ sign—evident in two writings$_2$ of the toponym—does not appear in the writings$_2$ of the personal name. This is something to be expected if one considers Teotihuacan writing$_1$ as a predecessor of the Nahuatl and Mixtec writing$_1$ systems.

Was the Kaloomte' Title of Nahuatl Origin?

The title commonly read as Kaloomte' is so strongly linked to the intrusive "foreigners" that it seems quite natural to consider that it may itself have originated in

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[14] Similar names relating to an individual's place of origin are abundantly attested in the Mixtec codices.

[15] I leave the length of the final vowel in proto-Nahuatl open here, although Colonial Nahuatl has *tecolōtl*.

[16] Note that Proto Mayan */r/ shifted to /y/ in the Lowland Mayan languages. As such, it seems at least conceivable that the sound cluster /ro/ of the presumed *tekurotl* has been approximated by means of the **yo** syllabogram.

[17] Adopting the linguistic notation of Kaufman (2003), we find *inter alia* Tzeltal *tuhkul*, Tojol *tujkul*, Mocho *tu:kul*, Tz'utujiil *tukul*, Ch'orti7 *tijkirin*, Akateko *tukulin*, Uspanteko *tukur*, K'iche7 *tuukur*, Sipakapense *tukr*, Sakapulteko *tukor*, Kaqchikeel *tukur* (all cited after Kaufman 2003:610).

[18] Note, by the way, the onomatopoeia (Kettunen 2016:121-122).

[19] One might speculate whether the scribes of that time perhaps experimented with the derivation of an acrophic **tu** value from the stone sign's logographic value TUUN.
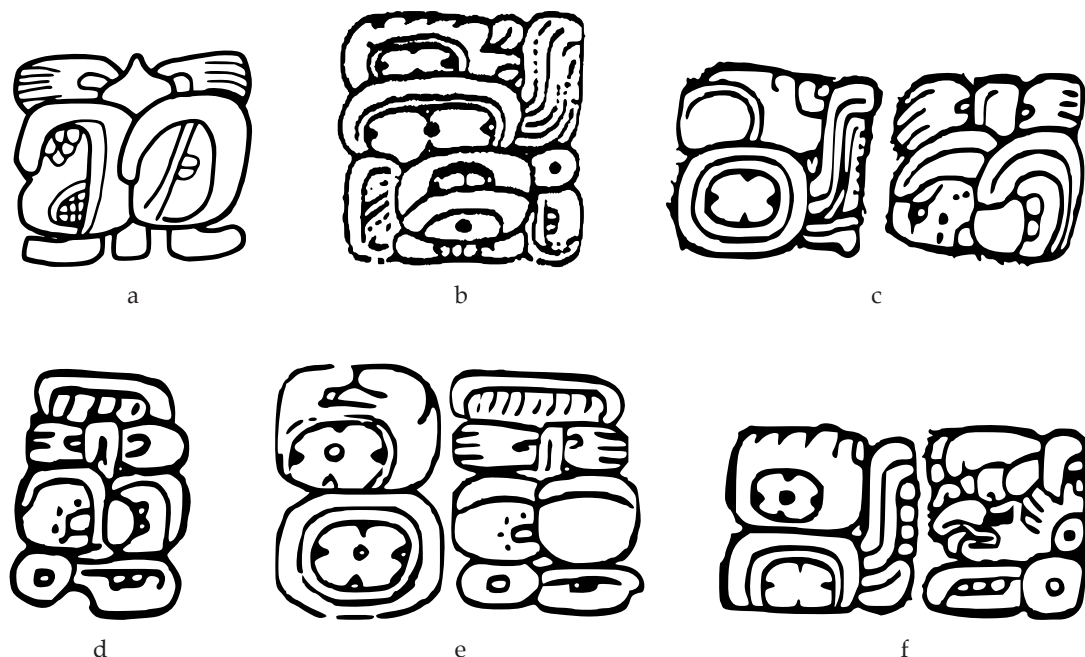
Figure 3. Several writings$_2$ of the Kaloomte' title: (a) Tikal Marcador, B8 (drawing by Linda Schele, courtesy of David Schele); (b) Copan Stela 19; (c) Naranjo Stela 29; (d) Aguateca Stela 7; (e) Seibal Stela 13; (f) Yaxchilan Lintel 1 (*b* after Stuart et al. 1989:Fig. 1; *c-f* after Stuart et al. 1989:Fig. 2).

Teotihuacan. It should be noted, however, that several Mayan etymologies have been offered for the title—e.g., 'tree-opener, predicated on the root *kal* 'to open' (Hopkins 2021). That the final sign in all versions of the title is logographic TE' 'tree, wood' (see e.g., Stone and Zender 2011:170-171) was long ago noted by Stuart et al. (1989), and they have further suggested an association of the title with directional trees given its occasional prefixing by cardinal directions such as *ochk'in* 'west' (see, e.g., Figures 3b-c, e-f). In the same study, Stuart et al. (1989) further demonstrate that a phonetic substitution at Copan provides **ka-lo-ma-TE'**, indicating what is today taken to be Kaloomte'. Furthermore, they note that the main sign can also be substituted by Chahk wielding an axe (presumably providing the KAL root alone, given occasional spellings of antipassive *kaloon* in the inscriptions of Naranjo as KAL-**ni**; Marc Zender, personal communication 2021).

According to the present consensus, the most common representation of the title, consisting of an apparent 'stone' sign (elsewhere **ku**/TUUN) and the wood sign (usually TE') has to be read as a single, logographic compound KAL. The logic is mostly substitutional, since this conflation clearly signals KAL in other contexts (Marc Zender, personal communication 2021), but it is also iconic: if the title indeed means 'wood opener,' then the pairing of 'stone' + 'wood' may be understood metaphorically either as "the stone that hits the wood" (= the stone blade of the axe; as a

synecdoche for axe), or as *dvandva*-like compound "the stone and the wood" (= the stone blade and the wooden shaft = axe). In this view, *kaloom* 'opener' might also function as a metaphorical designation of the axe itself.

That said, and in line with our earlier assumptions, it seems reasonable to ask whether a proto-Nahuatl interpretation might also be productive. The earliest known instances of the Kaloomte' title are of course related to the "arrival of strangers" at Tikal, where the title is associated with figures like "Spearthrower Owl" and Sihyaj K'ahk', and also at Copan, where Ochk'in Kaloomte' (West Kaloomte') appears as the title of K'inich Yax K'uk' Mo', Copan's dynastic founder, who is also iconographically indicated as a "stranger" (cf. Stuart 2000:490-494). In order to ascertain the title's possible original meaning, it is advisable to concentrate first on these earliest instances of the title.

Taking the stone and the wood sign "literally," it is remarkable that the scribes from Tikal seem to prefer the sequence **ku-ma-TE'** (Figures 1a and 3a), whereas the scribe of Copan Stela A instead produced **ka-lo-ma-TE'** (Figure 3b). Perhaps this peculiarity hints at a targeted term containing a sound unfamiliar to the Maya, so that there might have existed an uncertainty among the scribes as to how best to capture this sound in Maya writing$_2$. In this view, the alternation between **ku** and **ka** might be taken as different attempts to capture the sequence /k^{w}a/. (It seems at least reasonable to entertain both *ku* and *ka* as potential approximations

of such a sound.) The ending TE', on the other hand, may instead reflect Nahuatl /tł/.[20] In this view, **ka**/**ku-lo-ma-TE'** may hence point to something like *cual(o)matl* or, better, *cualmā(i)tl* which could be translated as 'the good hand,' perhaps an appropriate title for a ruler whose decisions can have considerable consequences for the fates of the governed.[21]

Given the foregoing, let us now consider Figures 3d-e, where an explicit **ka** syllabogram and additional **TE'** logogram bracket the traditional Kaloomte' title. Granted, this makes considerable sense in the context of a logographic **KAL** value here merely receiving phonetic complementation. However, further developing the interpretation proposed here, perhaps the scribes considered the Tikal spelling **ku-ma-TE'** as the proper orthography but nonetheless recognized that in the spoken language *kaloomte'* (or *kalmate'*) had gained some currency, so that they felt compelled to prefix the whole gestalt with an additional **ka** syllabogram to guarantee the correct reading. In this view, the **ku-ma-TE'** complex would have become a sort of "frozen" logographic compound for **KAL** such that another **TE'** sign had to be added. Note that the latter sign is commonly considered a logogram **TE'**, but according to our interpretation it would here be used in rebus fashion to approximate Nahuatl /tł/. Alternatively, perhaps the Late Classic Maya had in fact begun to reinterpret the Nahuatl-derived title as in fact proceeding from *kal-* 'to open' and *te'* 'wood,' which would be a folk etymology according to this interpretation.

As noted, an alternate writing₂ of the Kaloomte' title consists of Chahk wielding his axe (Figure 3f). As this is always accompanied by the logogram **TE'**, this has been taken as the somewhat abbreviated writing₂ **KAL-TE'**. The reasoning behind this spelling is hard to ascertain, because ascertaining the origin of logographic values always bears the risk of a certain arbitrariness and can lead to improper speculation. It may be the case, for instance, that this title was a common epithet of the Teotihuacan rain god, or that the Maya indeed reinterpreted the title folk-etymologically as *kaloomte'* 'tree-opener' quite early on.

Discussion

Based on an admittedly considerable number of assumptions, I have presented three *possible* terms of Nahuatl origin in the early inscriptions of Tikal and Copan: the toponym Mancuizco 'At the Bracelet,' the anthroponym Mancuizco Tukuro(tl)/Tecolo(tl) 'Owl of Mancuizco,' and the title Cualmaitl 'Good Hand.' Some may be regarded as more convincing than others, depending on whether the mentioned flaws of the respective interpretations can be cleared out of the way. It seems particularly noteworthy that it is possible to find numerous references to the sequence *mancui(z)*, provided one

is willing to entertain a proto-Nahuatl explanation: (1) the numeral 5, MANKWI (*mancuil-li* 'five'); (2) the "hand with bracelet" sign, MANKWI (*mancuiz-tli* 'bracelet'), and; (3) the grasping hand sign, MANKWI (*mancui* 'to grasp something with the hand').

A main criterion in the arguments pursued above was the novel consideration that graphic distinctiveness (*soi disant* "foreignness") may have served as something of a *caveat* for the recipient: "Look out! This sign has to be read based on a foreign language." Notwithstanding these warnings, the "foreign" signs may nonetheless appear in conjunction with common Maya phonograms forming hybrid writings₂. Depending on the analysis of certain signs, these writings₂ may give hints of the writing₂ principles of the presumptive Teotihuacan writing₂ system—e.g., the hill sign as a general marker for "places of any kind."

Be that as it may—remaining true to our approach, a "what if" analysis pursued as a thought experiment—let us now assume that these proposals are correct, and that future research may bring to light even more convincing evidence for our conclusions. In other words, let us assume that (proto-)Nahuatl is indeed the correlate language of Teotihuacan writing₂. Packing these conclusions into our luggage we may now travel back in a northwesterly direction, just about 1,100 km as the crow flies, straight to Teotihuacan, where our journey began. Almost unnoticed, mixed in with other items from Tikal, there are two additional sign compounds unearthed in the Maya region that have been linked to "Spearthrower Owl," but which we have not thus far examined. They appear: (1) on a jadeite earspool from the Central Peten (Figure 4d), and; (2) in a cartouche within a depiction of a headdress presented by Sihyaj Chan K'awiil II on the front of Tikal Stela 31 (Figure 4e).

To my mind, however, neither of these sign complexes refer to "Spearthrower Owl," since they consist neither of an *ahtlatl*-spearthrower, nor of an owl. Nonetheless, it seems clear that they are indeed variants of the so-called *lechuza y armas* motif, which is several times attested in Teotihuacan writing₁ (Figures 4a-c) and which might be better termed the "bird of prey grasping

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[20] Compare the Classic Mayan term *patan* 'service, tribute,' which some have taken as a borrowing from Nahuatl *patla* 'to exchange' (see Macri and Looper 2003; Boot 2010), in which Nahuatl /tł/ seems to have been adopted as /t/. If indeed a borrowing, however, it may also be possible that at the time of this interaction the shift /t/→/tł/ in proto-Nahuatl had not yet occurred.

[21] Alternatively, one may make an educated guess that *cuallōmāitl* 'the hand of goodness' is intended, in accordance with the appearance of the **lo** syllabogram in the spelling on Copan Stela A. Note that, should the suggested reading of the Kaloomte' title as *cualmā(i)tl* be adopted, the syllable-final *-n* of the free noun **man* must be seen as having already ceased to lengthen the preceding vowel, just as proposed above.
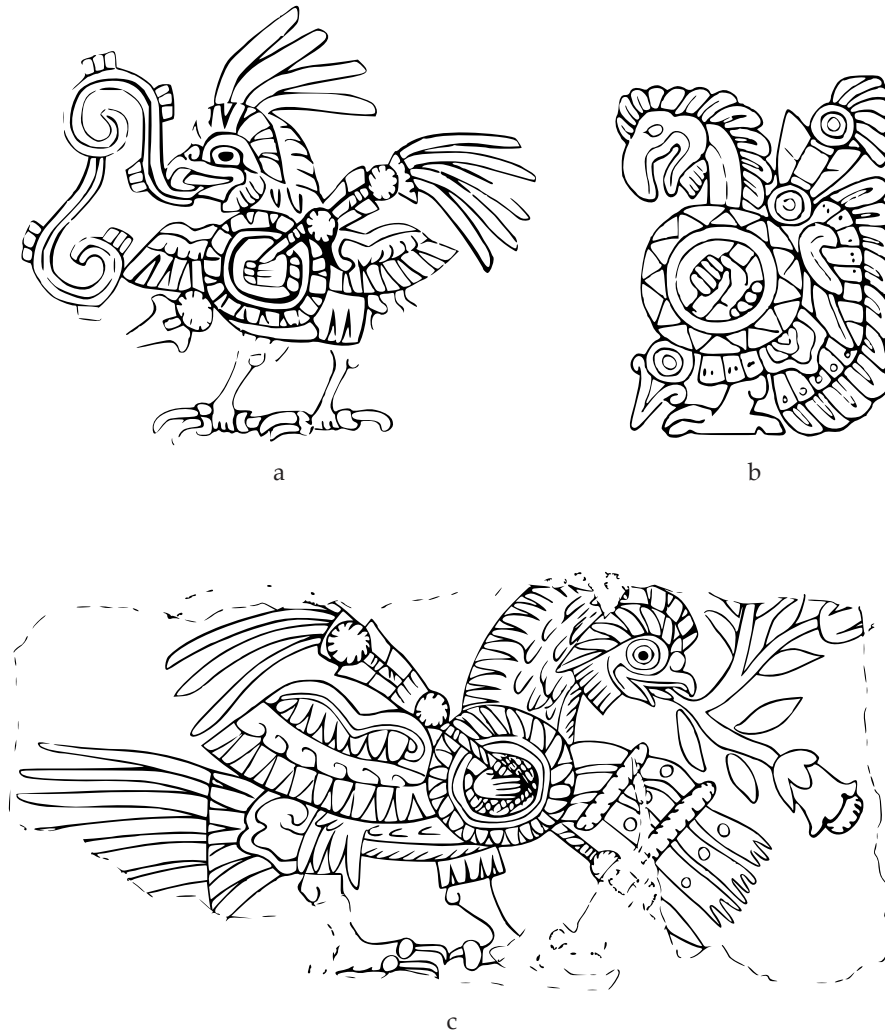
Figure 4. The *lechuza y armas* motif: (a) Techinantitla, mural fragment (after Nielsen and Helmke 2008:Fig. 6); (b) vase fragment (after Nielsen and Helmke 2008:Fig. 6); (c) Techinantitla(?), mural fragment (after Nielsen and Helmke 2008:Fig. 6); (d) northern Peten, earspool (after Nielsen and Helmke 2008:Fig. 7); (e) Tikal Stela 31 (after Nielsen and Helmke 2008:Fig. 7).

arms" sign complex. The attentive reader may already have inferred what I am driving at. Within this sign complex the most prominent sign is the grasping "hand with bracelet"! Why? Because the scribes always permit us a look at this particular sign even though it should actually be hidden *behind* the shield, just as if the shield were transparent (and, of course, just as if birds actually had hands). Such an emphasis must be meaningful. With our proto-Nahuatl hypothesis in mind, we may therefore consider a reading of MANKWI for the grasping hand, and of MANKWIS for the bracelet.

The bird, however, is additionally marked as a bird of prey by means of the carried weapons.[22] In Nahuatl, such birds are known as *cuīxin* "large bird of prey," so might it be possible that the bird in these glyphic compounds provides KWIX ~ KWIS? (Just such an interchange is indeed attested for Nahuatl writing$_2$.) In my opinion this is quite conceivable, for it seems that this reading is phonographically indicated in two of the examples (Figures 4a and 4c). The speech volute in the former is in fact a song volute which is implied by

the fact that the latter example unambiguously shows a flowering volute. But the Nahuatl verb *cuīca* 'to sing' may also provide the basis for a derived phonogram **kwi**. To sum up, both the grasping hand MANKWI and the bird of prey KWIX ~ KWIS, itself indicated by the "chant" sign **kwi**, can phonographically indicate the reading of the inconspicuous bracelet sign MANKWIS worn by the hand, hence: ^{MANKWI}MANKWIS$^{kwi_{kwis}}$, *mancuiz(co)*, "At the Bracelet (Teotihuacan)."

Note that, in the instances depicted in Figures 4d-e, the bracelet and the chant sign are absent (hence optional), so they would instead read MAN(KWI-KWI)S, *mancuiz(co)*. For this reason, I suspect that these two examples discovered in the Maya region refer to the city

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[22] This is equivalent to the later practice in the Central Mexican Highlands and Oaxaca that any predatory animal (e.g., eagle, jaguar, alligator; also their corresponding day signs) can be labeled additionally as such by means of appended flint knives (e.g., *passim* in the Codex Borgia).
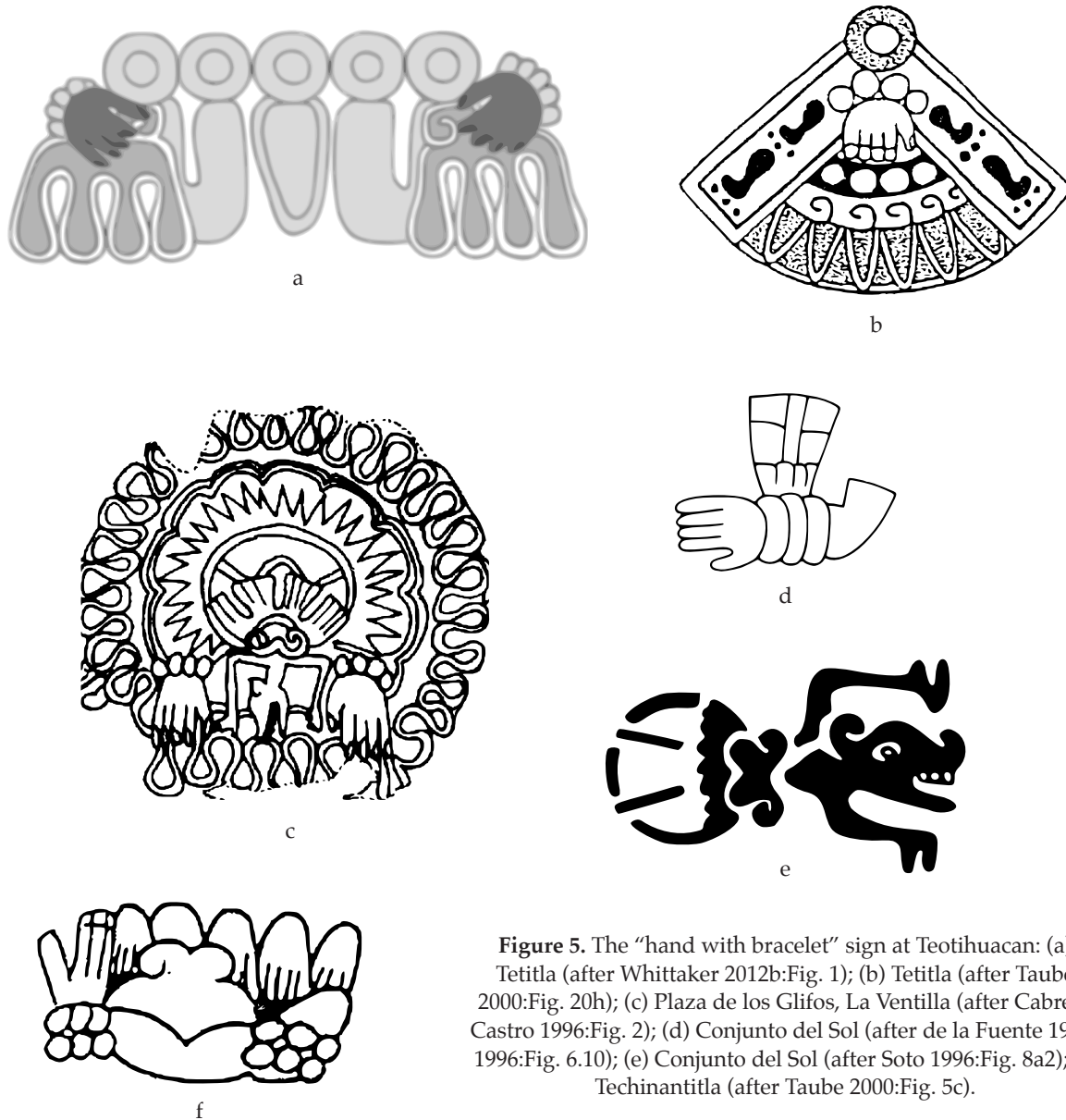
a

b

c

d

e

f

Figure 5. The "hand with bracelet" sign at Teotihuacan: (a) Tetitla (after Whittaker 2012b:Fig. 1); (b) Tetitla (after Taube 2000:Fig. 20h); (c) Plaza de los Glifos, La Ventilla (after Cabrera Castro 1996:Fig. 2); (d) Conjunto del Sol (after de la Fuente 1995-1996:Fig. 6.10); (e) Conjunto del Sol (after Soto 1996:Fig. 8a2); (f) Techinantitla (after Taube 2000:Fig. 5c).

Teotihuacan and not to "Spearthrower Owl."[23]

Undeniably such an interpretation would be highly appealing, since this writing₂ complex for the assumed name of Teotihuacan would at the same time have a further symbolic expressive power due to the widely-depicted armed raptorial bird yielding an emblem-like sign compound, which would in turn provide a truly appropriate representation of such a mighty metropolis.

Possibly there are yet other writings₂ of the name of Teotihuacan, as Whittaker (2012b) has previously suggested, consisting primarily of the "hand with bracelet" sign (Figure 5) accompanied by other signs providing phonetic complementation. The first (Figure 5a) shows two braceleted hand signs MANKWIS and the numeral "five" **mankwi** (the five discs), so taken together one

may perhaps read this sign complex as ᵐᵃⁿᵏʷⁱMANKWIS, *mancuiz(co)*. The other sign compound (Figure 5b) has previously been analyzed by Whittaker (2012b) as MAKIS^{kis} for Maquizco, a variant form of Macuexco (see above). However, given the previously-entertained readings seemingly targeting Mancuizco (the proposed ancient form of Macuexco), one may ask if a similar reading may be applicable here. Considering, for instance, that the footprints may have denoted *huītz* 'to come' instead of *quīza* 'to come out, emerge,' perhaps

[23] This would of course have consequences for the usual interpretation of the scene on Tikal Stela 31, for it would mean that Sihyaj Chan K'awiil II holds a "Teotihuacan headdress" rather than one bearing the name of his grandfather.

this sign provided the phonogram **witz ~ wis**, indicating ᴍᴀɴᴋᴡɪs.[24] The fan on the other hand (*tlapīptzalōni* in Nahuatl) is based on the root *pītz(a)* 'to blow on something,' which may thus provide either a rhyme-like hint of the reading **witz** (or the reading **kwis** proposed by Whittaker 2012b), or an approximate rendering of **witz**, as the bilabial stop /p/ may have been perceived as approximately corresponding to the labio-velar approximant /w/.[25] Cautiously, then, one may perhaps transcribe ᴍᴀɴᴋᴡɪs^(**wis**)^(**wis?**) for *mancuiz(co)*.

Another occurrence of the "braceleted hand" sign can be found in the Plaza de los Glifos, La Ventilla (Figure 5c). The appended sign is hard to identify, so it cannot be ascertained whether it is another phonographic indicator, but the emphasized bracelets may point once more to the reading Manquizco/ Mancuizco.[26] Two other appearances of the "hand with bracelet" sign (Figures 5d and 5f), on the other hand, can clearly be read as Manquizco, the alternative name of Mancuizco. Consider first the example in Figure 5d, which consists of two hands with bracelets and a certain animal/being descending from a large round, patterned object, perhaps representing a shell. Very probably this being denotes the verb *quīza* 'to emerge' (this is also very likely the reason why the being is depicted as an unidentifiable "animal"; if it were, for instance, a clearly identifiable, specific animal or a human being, the recipient might mistakenly interpret the sign as relating to that specific creature). This is suggested by the fact that, in other instances, it indeed appears together with the shell sign (Figure 5e), where either the shell itself (*quiquiztli*) indicates the reading *quīza* 'to emerge' or, conversely, the emerging creature indicates the shell in order to distinguish it from *tēcciztli*. So both signs may in principle stand for *quiz*, meaning that the sign group in Figure 5d can be read as ᴍᴀɴᴋɪs^(**kis**)^(**kis?**), where it is hard to decide whether the patterned round object indeed depicts a shell (hence the query). Finally, the sign group in Figure 5f, found at the base of a tree sign and therefore assumed to refer to a toponym (cf. Taube 2000:6-10), consequently may also be read as ᴍᴀɴᴋɪs^(**kis**), *manquiz(co)*, for it appears in conjunction with yet another shell sign.

We therefore have several different writings₂ based on alternative phonographic isotopies that may well confirm Whittaker's initial hypothesis, as well as our proposals from previous sections of this paper. Now we may also check whether some of our proposals concerning the rulership of Teotihuacan—in particular the proposed title *cualmaītl*—can somehow be corroborated from the inscriptions at the city Teotihuacan itself. In my opinion there are certain interesting agreements worth mentioning, but in this case the evidence does not come from the writing₂ system of Teotihuacan but rather from its iconography. Carefully examining the four individuals depicted in Figure 6, one may notice that they are all accompanied by additional signs, for which it is quite natural to assume that these provide written₂ captions

denoting the titles (in particular the tasseled headdress) and names of the depicted individuals (which is, of course, common practice in Nahuatl, Mixtec, and Maya writing₁). Consequently, it is also reasonable to suppose that the depicted individuals—which were originally part of one and the same mural at Techinantitla (Taube 2000:10)—are rulers of Teotihuacan (who else would have their individual names recorded?), comprising part of a "king list" for the city (compare also Taube 2000:Figs. 8, 9).

Their occupation, however, might express another title iconographically: each of these rulers is shown sowing—in other words their hands(!) guarantee the subsistence of the people. In fact, sowing hands are truly omnipresent at Teotihuacan (e.g., Figure 7a), so it can be said that the giving hand, the *cualmaītl* or 'good hand' (*kaloomte'* in the Classic Maya inscriptions), is one of the key concepts in the ancient worldview of Teotihuacan, and that the ruler of Teotihuacan had to live up to the people's expectation that he too would be a giving, "Good Hand," titled accordingly "the *cualmaītl*."

Now only one piece of the puzzle remains. Observe that these goggle-eyed rulers are all shown impersonating the rain god. Even more astonishing, it is the rain god himself who is frequently depicted sowing and pouring water from his hands—i.e., the so-called *Tlāloc sembrador* motif (Figure 7b). But this is precisely what we surmised at the end of the previous section, namely that *cualmaītl/kaloomte'*, the 'Good Hand," might have been an epithet of the rain god, and that this might have been the reason why the head-of-Chahk sign ᴋᴀʟ(-ᴛᴇ') had became a common logographic substitute for the **ka-lo-ma**(-ᴛᴇ') sequence.

Before closing this paper, I would like to take a quick detour to Monte Alban, whose presumptive writing₂ system also cannot be deciphered uniquely due to the corpus-size issue. As with Tikal, here too it has been proposed that certain inscriptions provide accounts of the interaction between Monte Alban and Teotihuacan. In particular, on the Lápida de Bazán (Figure 8a) we find two individuals with apparent "foreign" attributes.

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[24] It seems unlikely that ancient scribes analyzed the phoneme /kʷ/ as a unitary sound rather than as the sequence /k-w/.

[25] The alternation between /p/ and /w/ can be observed in Colonial Nahuatl documents in attestations of the name of Don Diego Alvarado Huanitl, whose Nahuatl name occasionally appears as Panitl (Whittaker 2012a:141-142). Intriguingly, the alternation occurs in both alphabetic writing₂ as well as in Nahuatl writing₂.

[26] In a talk held at the Americas Conference in Bonn in 2019, Whittaker proposed that this sign might be the arm sign ᴀᴋᴏʟ (derived from *ahcolli* 'shoulder') that in Nahuatl writing₂ frequently appears in rebus usage. According to his interpretation, the appended sign might be (a part of) an arrow read **ac** (from *ācatl* 'reed'). Taken together, he therefore reads ^(**ac**)ᴀᴋᴏʟ-**ma** (the hand might be read additionally as **ma**) as a writing₂ of the nearby community Acolman (see also Whittaker 2021).
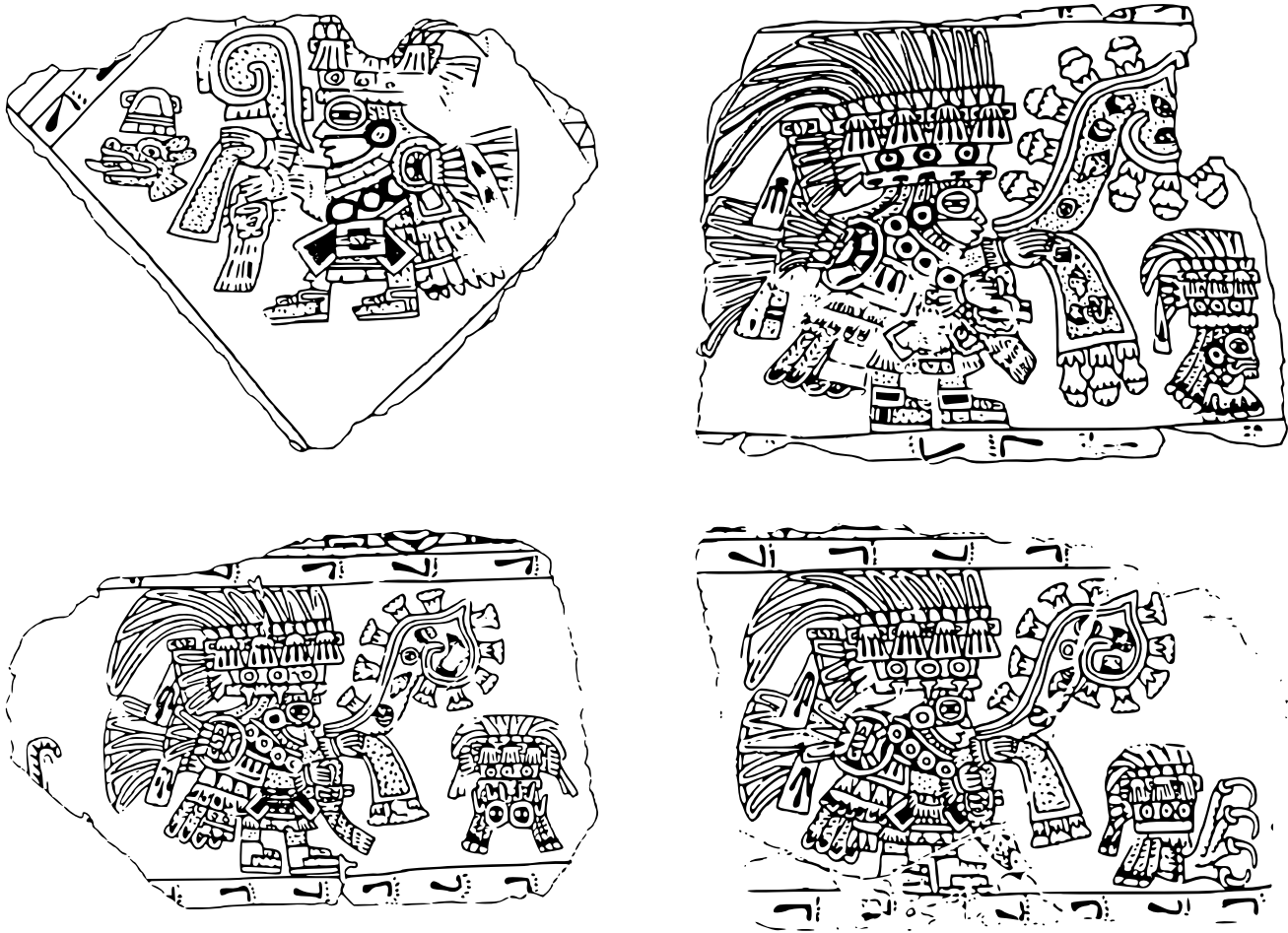
Figure 6. Four rulers(?) of Teotihuacan (after Taube 2000:Fig. 7).

Without describing the whole scene further, and without going into detail regarding the sign sequences (presumably providing writing$_2$), I would at least like to call attention to the grasping hand sign[27] that accompanies these two "foreigners" in the sign sequence on the right. Is it too farfetched to assume that this may write$_2$ MANKWI in order to name the place of origin of the visitors (i.e., Mancuizco / Teotihuacan)? This proposal must of course be treated with caution, for we are now dealing with more than a few assumptions and "what if"s. In the case of the presumptive Monte Alban writing$_2$, we are also dealing with an entirely undeciphered system, hence the risk of overstepping into mere speculation.

However, another aspect relevant to the themes explored in this paper may briefly be mentioned here in conclusion. As the later Mexica / Aztecs cherished Teotihuacan as an important mytho-historical place (thus it was very probably the Aztecs who later re-named the site honorifically as Teotihuacan), one may wonder whether they may have included the site in (at least some versions of) their migration account. Of course they may simply have referred to Teotihuacan by

means of the rather generic name "Tollan" (e.g., in the *Codex Boturini/Tira de la peregrinación* of ca. 1540), but this commonly refers to the capital of the Toltecs, which the Aztecs considered to be their "civilized" predecessors. However, one sign group in the *Codex Telleriano-Remensis* (ca. 1563) that is part of the early migration account (Figure 8b) perhaps refers to Teotihuacan as Macuexco (i.e. *mahcuexco*, the Nahuatl form of the proposed proto-Nahuatl **mancuizco*).

As noted in previous work (Vonk 2020a), the writer of the glosses is not particularly trustworthy, so we can ignore the provided gloss <maxuqtepetl>. In the same study, I analyzed the elements of the sign group as being composed initially of a phonogram **ma**, derived from *māmā* "to carry something," for the depicted individual is carrying an arm and a leg, which shows

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[27] The Monte Alban writing$_1$ system has a similar sign depicting a hand grasping a certain impact weapon, but this common Monte Alban sign nonetheless shows some differences (such as its orientation, for example) in comparison with the grasping hand sign under discussion here.
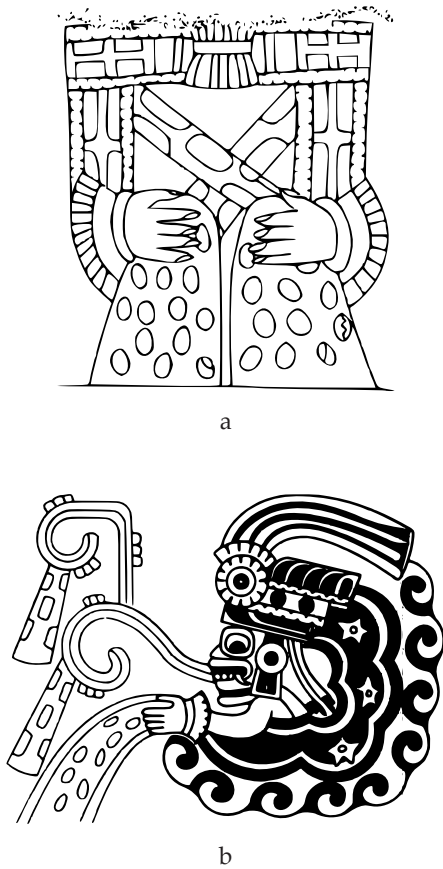
a

b

Figure 7. (a) Sowing hands (after
de la Fuente 1995-1996:Fig. 19.1);
(b) *Tláloc sembrador* motif (after Soto
1996:Fig. 16a2).

a

b

Figure 8. Macuizco in
Monte Alban writing$_2$
and Nahuatl writing$_2$?:
(a) Lápida de Bazán (after
Urcid 2001:Fig. 5.61); (b)
Codex Telleriano-Remensis
(ca. 1563), fol. 25v.

an isotopy with the two hand signs (again, *māitl*): one carried by the individual, and one on top of the container perched on the hill. (If the interpretation Macuexco "at the bracelet" is correct, the hand signs will be **mah** logograms, otherwise they will be phonograms.) This is followed by another phonogram **makwi**, because the individual is grasping something (this is the same sign discussed for the Teotihuacan system), and then a leg and a pot. The reading of the latter two depend on our interpretation of the place sign. Both of the latter may stand for **xo**, derived from *xoctli* 'pot,' and *(ac)xo-tl*, an older variant of *icxi-tl* 'leg' according to Lehmann (1938:416). Taken together, a possible reading may then be [^{ma}^{ma}**makwi-xo^{xo}**] ^{HILL}, *mahcuexhu(ahcān)*, a place that is recorded in the *Codex Chimalpopoca/Historia*

de los Reynos de Colhuacan y de Mexico, §16.

However, what if the presumed older name of Teotihuacan, Macuexco, vanished into oblivion among the Aztecs once the newer name Teotihuacan became established? Might it be possible that the writer of the *Codex Chimalpopoca*, who certainly based his work on older manuscripts written$_1$ in the Nahuatl writing$_1$ system, could no longer appropriately interpret a writing$_2$ of the toponym Macuexco (= Teotihuacan) and hence substituted "Macuexhuacan" into his alphabetically written$_2$ text? The *Codex Telleriano-Remensis* is apparently a copy of such an older manuscript, so the sign group in Figure 8b might in fact be taken as referring to Teotihuacan by that older name: [^{ma}^{ma}**makwi-x(o)-ko**]^{HILL} *mahcuexco*, with the usual **ko** phonogram deriving from *cōmitl* "pot."

As a final remark, it should be recalled that, however impressive the edifice built herein seems to me, it has nonetheless been

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constructed with a considerable number of assumptions, and its foundations are therefore far from stable. Several assumptions were followed to a possible identification of proto-Nahuatl remnants in early Maya inscriptions, but is such reasoning sufficient to conclude that proto-Nahuatl was the correlate language of Teotihuacan writing$_2$? That this may indeed be the case has been further assumed in order to investigate what might possibly be learned from Teotihuacan writing$_1$ itself, albeit only under the foregoing assumptions. If the question has to be negated, then the readings and agreements found at Teotihuacan presented here cannot be distinguished from random coincidence; we are unable to fight the laws of statistics.

Acknowledgments

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Site: Chichen Itza
Building: Northwest Colonnade
Monument: West Dais, west side, part 3
Mon. Type: Bench/Dais/Throne
Border: Serpent
Primary Figure: Warrior
Direction: Profile facing left
Position: Walking
Face: Human, Mask

Headdress: Helmet, Pointed hd, Feathers, multiple kinds
Pectoral: Double circles
Clothing: Hip cloth, Loincloth, tied, Feather panache from waist
Ears: Round ear ornament
Arms: Padded arm
Legs: Knee gaiters
Feet: Anklets, Low sandals

Floral/Fauna: Feathered Serpent
Object in hand: Arrows, Atlatl, Curved stick
Objects: Shell/star
Paint: Paint
Gods: Celestial serpent

Rubbing by Merle Greene Robertson.