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Hidden in Plain Sight: The Codical Sign T648 and its Forerunner T694 in Three Classic Period Contexts

Escondido a plena vista: el signo codical T648 y su precursor T694 en tres contextos de período Clásico

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ABSTRACT: The grapheme T648 in the Maya script occurs exclusively in the Postclassic period. Whether it is a CV syllable or a CVC logogram has been in question. In this paper we resolve that issue. Also, we suggest that the Classic version of the sign is T694, which led us to query relevant environments of both versions of the grapheme. We have found a solid substitution in the Postclassic codices with which we can answer several unknown collocations in the Classic Period. We offer CVC and V values for T648/694 and demonstrate their productivity in different contexts.

KEYWORDS: Maya, Classic, Postclassic, hieroglyphic writing, codices, decipherment, T648, T694

RESUMEN: El grafema T648 en la escritura maya ocurre exclusivamente en el período Posclásico. Se ha cuestionado si se trata de una sílaba CV o de un logograma CVC. En este documento resolvemos tal controversia. A continuación, sugerimos que la versión clásica del signo es T694, lo que nos llevó a consultar los entornos relevantes de ambas versiones del grafema. Hemos encontrado una sólida sustitución en los códices posclásicos con la que podemos responder a varias colocaciones desconocidas del período Clásico. Ofrecemos valores CVC y V para T648/694 y demostramos su productividad en diferentes contextos.

PALABRAS CLAVE: Mayas, Clásico, Posclásico, códices, escritura jeroglífica, desciframiento, T648, T694

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In Maya epigraphy we regularly observe little difference, other than a stylistic one, between signs of the Classic (AD 300-900) and the Postclassic (AD 900-1500) periods. However, the surviving Postclassic period documents belong to another genre, so there are situations wherein a codical glyph is not recognizable as a reflex of an earlier sign of the Classic period. Thus, it may appear in the catalogs as a distinct sign, with the missing piece in the dustbin perpetuating an unsolvable mystery.

But sometimes it happens that the earlier and later versions of a sign appear in one document, leading the investigator to understand that the two are actually the same. It is more fortunate still when the behavior and associations of the sign have led to a reading. Moreover, it is rare (but it happens) that the sign has two readings: one as a logograph and the other as a syllabic sign. And it is rarer still that the two readings appear in both Classic and Postclassic texts such that we can cross-check the examples of the sign in diverse contexts.

In this paper we will show that the T648 of the Postclassic codices is indeed the later version of the Classic period sign T694 (Figure 1). The productive reading **MUK** of the Postclassic script will be shown to be equally robust in the Classic period, while the syllabic value 'o' in numerous Classic-period spellings will be identified in several Postclassic texts. In the following pages we will examine first the relevant passages in the codices and then we will focus on the Classic examples—in particular those of three discrete contexts.

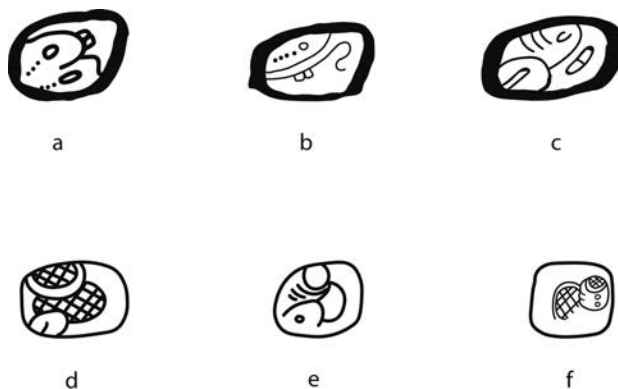


Figure 1. a, Dresden p. 47b; b, Dresden p. 48c; c, Dresden p. 46c; d, Piedras Negras, Panel 3; e, Palenque, K'an Tok Panel; f, Copan, Panel 5 of Temple 11 (All drawings by Péter Bíró, 2019).

The Codices

T648 (or in the Macri and Vail [2009:164] *New Catalogue* YSA) is a frequent ‘citizen’ in the Dresden, Madrid, and Paris codices where it functions as an augural glyph. According to Thompson (1951: 268) it bodes ill fortune. It is prominent in the Moon Goddess almanac of the *Dresden Codex* (1975: 16-23) wherein the goddess carries (*ukuch*) on her back birds, gods and sometimes glyphs referring to the coming omens. The sign often appears in the *Dresden Venus Table* (1975: 24, 46-50); there it is found in texts associated with images of belligerent Venus deities and their speared sacrifices. In the other two codices, the pattern is similar to that of the *Dresden Codex*. In the *Paris Codex* it appears in the *k’atun*-wheel pages (1968: 2-14) and also in the Zodiac pages (*Paris Codex*, 1968: 22-24). In rare cases it occurs in non-augural contexts in which phonetic complements cue that the reading of the sign is different from the augural contexts (*Dresden* 54b and 65b; *Madrid*, 1967: 54b and 88a).

Due to substitutions between **u-T648-ka** and **u-mu-ka** scholars of the codices long ago determined that the augural word to which T648-**ka** refers is *muk*; however, they had not reached consensus on a firm reading of T648 itself. This confusion is aptly summarized on page 164 of the Macri and Vail *New Catalogue* (2009), wherein the suggestions of previous investigators include both **MUK** and **mu**; the compilers opted for the syllabic reading.

Nevertheless, it seems to us that in this context the reading of T648 should be **MUK**, a logogram. While the glyph usually has only a phonetic complement **-ka** cueing the final consonant /k/, on four occasions the augural glyph block is written as **mu-MUK-ka** (*Dresden* 72b, c and 73a, c). Because a putative syllabic sequence **mu-mu-ka* (employing different **mu** allographs) is highly improbable, these examples prove T648 to have a logographic reading *muk* whose meaning is “noticia, fama” (Barrera Vásquez, 1980: 534) or “news, tidings, fame”. In one case, however (*Dresden* 17c), it seems to function as a sign **mu** in the spelling **u-T648-ti** or *u mut* ‘its bird, omen’; *mut* is a synonym of *muk* (Barrera Vásquez, 1980: 542). We suggest this to be a scribal error amid a series of bird/omen *t’ols* containing the closely-related spellings **u-mu-ti**, **u-mu-ka**, **u-MUK-ti** (the error) and even **u-mu-wa** in identical environments.

Dresden 46c

Parallel texts from each of the five pages of the Dresden Venus Table from 46c to 50c repeat twice the common collocation *umuk*, ‘its (negative) augury’, with the final text on 50c repeating it three times (Figure 2a). In one instance, the usual Postclassic T648 has a slightly different graphic form, and we see this as an unambiguous substitution. This appears in the text of Dresden page 46c (Figure 2b). Here, above the speared K’awil, one finds this short text:

2-UH-WINIK u-T648v-ka
 po-po-TZ'AM-ma u-mu-ka
cha' uh winik umuk
pop tz'am umuk

ma-CH'AB'-b'u-si AJAW-wa
 ma-AK'AB'-si CH'OK-ko
ma' ch'ahb'is ajaw
ma' ak'ab'is ch'ok

'Two [days] plus one lunation plus twenty [days]¹ are its (negative) augury,
 Mat and throne are its (negative) augury,
 Without creation are the lords,
 Without darkness are the youths.'²



Figure 2a. Dresden page50c (Förstemann, 1892).



Figure 2b. Dresden page 46c (Förstemann, 1892).

¹ We think that this refers to a *distance number*, as one notes in most of the other parallel texts on Dresden 48-50 (with an anomaly on D.47), and that this skull reads UH 'moon'. Nikolai Grube first suggested these as UH (Schele and Grube, 1997: 148), and one can see that these contexts suggest some type of distance number on D.49, wherein the UH is separated from the WINAL. The latter shows the typical *ji-ya* suffix of a DN. Harvey and Victoria Bricker (2011: 208-212) read this UH as a lunar interval of 29-30 days, arguing that the numbers and winal are to be *added* to these intervals, so that the DN on Dresden p. 46 in question would actually be equivalent to $2 + 29/30 + 20 = 51/52$ days, which is a common actual interval for the invisibility of Venus during superior conjunction. Velásquez García (2017: 63) also reads this skull as UH.

² Following Alfonso Lacadena, Velásquez García (2017: 62-63) translates this passage slightly differently as 'durante dos lunas, [dos] veintenas, es el anuncio de la estera y el trono, es el anuncio de los señores sin generación, de los niños sin noche.' He notes that this contains a familiar diphastic kenning or *difrasismo* that connotes sexual creation, and he reads the first component of this difrasismo as *ch'ahb'ij's*, though he does not specify a reading for the *b'u* suffix.

This example, hitherto hidden in plain sight, is the dust-laden missing link between the Postclassic T648 and the Classic T694. The common grapheme T648 has two dots in a row ending in a bigger circle, and in the upper right part there is a dark spot. But in our T648v example we have three different oblong shapes; that of the upper left resembles—but has no phonological relation to—the syllable **le**. The whole sign is identical to the T694 infix in the “banded bird” glyph on the Palenque K’an Tok Panel and in several examples of the El Palmar dynastic title spelled **SAK-T694 (-ka)**. This discovery invites a rethinking of several hitherto problematic Classic contexts for T694—known to be syllabic ‘o’ elsewhere—to prove an additional **MUK** logographic reading.

Before we proceed, it behooves us to explain the Dresden examples of T648 which co-occur with affixed **yo-** and **-la** or, in one case, prefixed **yo-**. Since we have now identified T648 as the Postclassic version of T694, and since the latter in certain contexts has a reading of **o**, we will explore this value in two relevant passages.

Dresden 65b

The first example shows up in page 65b, which is one part of the Seasonal Table (Dresden, 1975: 61-69; see Bricker and Bricker, 2011: 489-550; Figure 3). In the Lower Table, the Rain God Chahk is depicted holding various objects (Dresden, 1975: 65-68). The text follows the usual pattern, opening with the verb *an*, ‘to be’;³ the location (*ta kab’* or *ta b’ih* and so on) follows, and finally the Rain God himself ends the clause. Next, one reads auguries such as *uxwi’il*, *yutzil*, *chakhal*, *tz’ak* or *ta ajawel* in sequence with different types of tamales (9 *waj*, *sak k’uh waj*, *aj chij waj* and so on). The clause consistently closes with the **u-T1038b** formula, which previous epigraphers over many years have read as either *kan* or *sih* (offering, gift or sacrifice; see Macri and Vail, 2009: 114), however we consider these readings unlikely.⁴

³ A thorough analysis of **AN**, **a-nu** as “to exist” in this context occurs in Prager (2013: 191-198).

⁴ We propose T1038b to be **PA**, ‘tortilla, food’. This proposition comes from the logographic pattern of signs referring to food or drink, and also from other contexts in which the “food” solution matches the intended meaning. In the Classic period, the logographic sign **WE**, ‘to eat’, consists of a head with the sign **WAJ**, ‘tortilla’, in its mouth. **UK**, ‘to drink’, consists of a head with the sign **HA**, ‘water’, in the mouth. T1038b represents a head whose mouth is open, without another sign in it, but at the top appears the ‘cleavage’ motif known elsewhere to read **PA**, ‘split’. We suggest that it functions as a rebus where *pa* ‘as ‘broken, cleavage’, cues the phonetic reading of Ch’olan *pa*, ‘tortilla, food’ (Hull, 2016: 328). The clearest context appears in Dresden page 23b. On the left, the Moon Goddess holds a bowl with fish, with the text above. The first sentence connected to the image is *joyaj 5 -Itzam Tun kay u-T1038b* ‘Moon Goddess’ and the augury, ‘The Old God N acceded to the throne (in time); the food (*pa*) of the Moon Goddess is fish, the augury is ...’. The second sentence is *joyaj yax ?? tok’ u-T1038*. ‘The ?? God acceded to the throne (in time); the food (*pa*) of the [Moon Goddess] is flint.’

The metaphorical expression endured well into the Colonial period. In the manuscripts of Chilam Balam one notes in several places the expression ‘flint is food, flint is water’, especially in situations

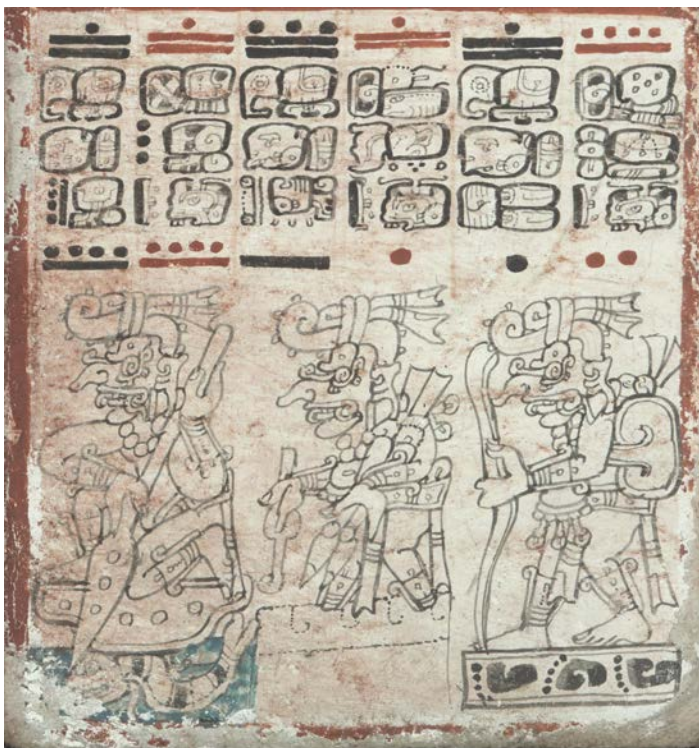


Figure 3. Dresden page 65b (Förstemann, 1892).

The clause where T648 occurs begins with *an* and the location follows; here the first sign is *o* and the second sign should be *me*. Linda Schele and Nikolai Grube (1997: 192) suggested the whole word to be *om*, ‘foam’, which may refer to the clouds. Later, Grube (2012: 156) proposed that the location might be sand; however, he did not explain the proposition. The suggested *om* is followed by Chahk and *yo*-T648-*la*. The sentence finishes with *aj chij waj* (AJ-chi-ji-wa) and the “sacrifice/offering” formula (‘deer tamales are his offering’).

Schele and Grube (1997: 192) suggest the sequence *yo*-T648-*la* to read *yo-mu-la*: *yomul*, ‘foamy’. Nevertheless, we do not know of any augury ‘foamy’ in the codices. We would also expect the spelling *yo-mo-la*. In the first image the pattern is *an ta kab’ Chah kux wi’il b’olon waj u*-T1038 or ‘Chahk is on the land, (it will be)

of conflict and war. In the parallel versions of the 8 Ahau *k’atun* in the first *k’atun*-wheel we have the lines: *cit bolon uah ua u uich tu caanil tokil uah tokil haa*, ‘Cit Bolon Ahaw was the face of the lordship in the heaven, its food was flint, its water was flint.’ (*Chilam Balam of Tizimin* and *Codex Pérez* in Bolles, 2010: 154-155, translation by Péter Bíró).

We wish to acknowledge the independent proposal PA’, ‘tortilla, food’, by Erik Velásquez García (2017: 17) for T1038b. (An anonymous reviewer told us that the PA’ suggestion was also proposed by Alfonso Lacadena. We have not found a reference for it, but we trust the information).

abundance, his food offering will be lots of tamales'. The text associated with the third image opens with *an ta b'ih Chahk yutzil* or 'Chahk is on the road (it will be) goodness...'.

These examples demonstrate that in these texts the scribes listed abstract nouns as auguries with positive attributes. If instead of **mu** we employ the Classic Period **o** in the sentence in question, we will have **yo-o-la**: *y-ohl*. This was a common word for 'heart' and 'center' in the Classic Period (see Itza *jool* in Hofling and Tesucún 1997: 492 or Yucatec *óol* in Bricker, Poot and Dzul, 1998: 17). We suggest that in the Dresden example the meaning of *ohl* is 'heart' in this context. Moreover, we agree with Erik Velásquez García (2017: 17) that *aj chij waj* is 'male deer tamale' (*tamal de venado macho*), in contrast with the previous suggestions 'deer tamale' and 'deerslayer bread' (Schele and Grube, 1997: 192, and Bricker and Bricker, 2011: 521, respectively). Altogether, *yohl aj chij waj* would be 'tamales made from the heart of the (sacrificial) male deer'.

Dresden 54b

The other example of **yo**-T648 appears in Dresden D54b as part of the eclipse pages from 51 to 58 in association with Picture 7, which shows the icon of a solar eclipse; the Sun glyph is flanked by black and white wings. The white wing is partially hidden by a piece of cloth, while the Sun sign floats in the black wing, pierced by two bones projecting from the corners.

According to Bricker and Bricker (2011: 249) the Eclipse Table provides a warning of all solar eclipses occurring anywhere in the world. The structure of the table shares generally the same format as the other tables in the Dresden Codex, in that the base dates and their multiples appear at the beginning (51a-52a) followed by the proper data of the eclipses (D.53a-58b).

The table begins with three entry dates separated by 15 days each, spanning an interval of one month. Using the 584285 GMT correlation constant, we propose:

9.16.4.10.8, 12 Lamat 1 Muwan	November 12, 755 (11/8 J)
9.16.4.11.3, 1 Ak'bal 16 Muwan	November 27, 755 (11/23 J)
9.16.4.11[10].18, 3 Etz'nab 11 Pax	December 12, 755 (12/8 J)

These dates are understood to represent potential intervals between new moon and full moon, again returning to the next new moon, and they were likely used to adjust for the occurrence of actual eclipses and the ways in which the table may have been recycled. Indeed, the preface of the table shows repeating multiples of the 11,960-day interval of the table in association with five Tzolk'in days, including the three mentioned above: 12 Lamat, 1 Ak'bal, 3 Etz'nab, 5 Ben, and 7 Lamat.

How the initial entry dates correspond to the text remains somewhat obscure, though there is a general consensus that the captions refer to actual or potential

eclipse events. The **yo-T648** expression occurs in the text of Picture 7, which refers to the period January 24, 779 to February 23, 779, Gregorian. None of the entry dates lead to any visible eclipse event, though the third entry date of 3 Etz'nab would reach the date **9.17.8.3.12. 1 Eb 5 Wo, February 23, 779 (1/19 J)**. This would have been one day prior to an *invisible* solar eclipse in Pisces at Maya longitudes. Indeed, Picture 7 itself as well as the two-glyph caption prior to the caption in 54b, column D both appear to refer to a solar eclipse, with **K'IN** signs surrounded by half-darkened foliation.

The text associated with Picture 7 on pg. 54b reads (Figure 4):

YAJ? CHAN-na YAJ?-KAB'
u-KAB'-ji-ya CHUM-IXIK-UH
NAH-CHAN yo-o
ta-CHAN-YAL-la HA'?-CH'EN-na

yaj? chan yaj? kab'
ukab'jiy chum ixik Uh
nah chan yo'
ta(j) yal chan ha'? ch'en⁵

'Misfortune to the heavens, misfortune to the land
because of the seating of the Moon Goddess,
Nah Chan is over the (Lord) who throws a torch/dart at (One) Sky, [it will be] flood
in the cave.'



Figure 4. Dresden page 54b (Förstemann, 1892).

⁵ The text finishes with the prognostication (*ha'*, perhaps flood or tempest) at the location (*ch'en*, 'cave'). This may refer metaphorically to "the world, everywhere". In this sentence the scribe mentions *chan*, *kab'* and *ch'en*; these are also seen on page 53 (misfortune to the land, sky misfortune to the sky, B1-A2, B4). *Chan-kab'-ch'en* is a kenning or *difrasismo* creating a comprehensive category "everywhere, from the heavens through the earth to the underworld".

While this is a relatively short text, it requires considerable explanation due to poorly understood astronomical references, which we will be exploring in a future publication. Nevertheless, we propose that the text describes the position of an invisible solar eclipse in Pisces on February 24-25, 779 AD (February 20-21 Julian). Here, the *yo*-T648, which we read as *yo* 'above, upon' (*yóo*⁷ in Bricker, Poot and Dzul, 1998: 317) specifically states that *Nah Chan*⁶ is 'over' *Taj Yal Chan*.⁷

⁶ Some epigraphers read this sign as **TOLOK**, 'basilisk lizard' (Bricker and Bricker, 2011: 308) and suggest that it refers to stars of the constellation Cancer. Nevertheless, we believe that this is a misnomer, and that this monster is none other than the "Ceremonial Serpent Bar", which refers generally to the *ecliptic*. In the Dresden Codex it is usually composed of **NAH** and an elongated serpent head. Another spelling occurs in D52b: A3 where a tobacco leaf appears instead of the **NAH** logogram, along with the prefixed syllabic sign **to**. This is very similar to the spelling on an unprovenanced vase in the Ethnologisches Museum Berlin, where at the end of a list of supernatural entities the name of the Water Lily Snake appears as: **to?**-LEAF-**NAH-CHAN** (see Grube and Gaida, 2006: 108–111). This collocation is part of the name of the Water Lily Serpent (and the Ceremonial Serpent Bar; see Bíró, 2017: 32). On Copan Stela 7 and P the serpent is undulating from the belt area downward. On the Palenque sarcophagus at the end of the death narrative, the supernatural being is named as *Nah Chan* with the tobacco leaf. Grofe considers the body of the serpent to be the *ecliptic proper* while the two heads who bite the Sun and the Moon are most likely the eclipse nodes. Indeed, upraised serpents can be seen to symbolically devour the image of the eclipsed sun in the images associated with pages 56b and 57b in the Dresden.

⁷ The spellings of this expression vary widely; therefore, several scholars interpret it differently. The first example is from Early Classic Tikal in the full name of Yax Nun Ahin I. The spelling consists of the **YAL** logogram holding an undeciphered glyph (which in some places reads as **AH**, but here it has a distinct tail) and **CHAN-K'INICH**, which substitutes with **TAJ-YAL-la CHAN-na-K'IN-ni** on the Hombre de Tikal statue (C2-D2). In the Late Classic Period it appears as **JUN-ya-YAL-CHAN a-AJAW-TAK-ki** (Cancun Panel 1: K6-L6), **JUN-ya-YAL-wa-CHAN AJAW-wa-TAK** (Palenque TI East: P10-O11), **JUN-ya-YAL-ja-CHAN** (Copan Ballplayer Panel 3: C2) and on the ceramics connected to Ik'a there are spellings **ta-YAL-CHAN-na K'INICH** or **ta-ye-le CHAN-na-K'INICH-ni** (K2573). The spelling **ti-JUN-ya-YAL-la-CHAN AJ-AJAW-ke** appears at Yaxchilan (St.18: C5-B6), where **ti** is likely a preposition. A similar **ti** occurs in the Paris Codex in **ti-YAL-CHAN**, but this is not yet analyzable. In the Postclassic Period the spellings are **JUN-ta-YAL-la-CHAN AJ-AJAW-TAK** with the number 1 sometimes absent, and once instead of *ajawtak* we see **AJ-OCH-KAB'-AJAW** (D56b: I'2-J'2). Contrary to the interpretation of Tokovinine and Zender (2012: 41-43), we analyze the expression as *Taj Yal Jun Chan*. The crucial examples at Palenque (**YAL-wa/yalaw**) and Copan (**YAL-ja/yahla**) demonstrate that the underlying verb is the transitive *yal* 'to throw' in an antipassive construction which fronts the demoted former object. As in other coronation names (such as *K'ahk' Tiliw Chan Chahk* 'Chahk who burns fire in the sky') we can reconstruct the full expression as *taj yalaw jun chan k'inich*, 'the Sun God who throws a dart at One-Sky' or *taj yalaw jun chan ajawtak*, 'Lords who throw the darts at One-Sky'. We cannot at present analyze the regnal name *taj yelew chan k'inich*. We believe that the expression *taj yalaw chan ajawtak* refers to deities that appear in the Dresden Venus Table. These are specifically the *Five Venus Regents as the five constellations where the heliacal rise of Venus repeatedly takes place*, but which change very slowly over time. Indeed, these five deities are referenced with this title in the preface to the Venus Table. As Dennis Tedlock (2010: 203-212) interprets it, when Venus traveled in the sky, it was 'taken hold of' (*k'ahlaj*) by these various deities, and the gods transformed into warriors. These warrior gods then loaded Venus into their atlats and shot another deity or constellation (Tedlock, 2010: 203). We differ slightly from Tedlock's interpretation, in that the spearing deities in the central panel are all clearly named as Venus itself, rather than as transformations of the five Regents. This can be explained as sidereal locations in which the heliacal rise of Venus repeatedly occurs. According to Grofe, the dramatic descent of Venus as evening star just prior to inferior conjunction may symbolize the 'shooting' of the sun, with Venus as an agent of eclipses, as first proposed by Michael Closs (1989: 396-398). The curious reference to

Reading *Nah Chan* as the eclipse node and the devouring mouth of the sky serpent, and *Taj Yal Chan* as representative of one of the five sidereal positions in which Venus rises heliacally, we find that the solar eclipse associated with this date occurred in the position of Pisces, which was indeed one of the five sidereal constellations in which the heliacal rise of Venus took place in the era of the Lunar Table.

It is perhaps significant that the text in the caption associated with Picture 7 mentions the 'seating of the Moon Goddess' as **CHUM-IX-UH**. The only other reference to this name of the Moon Goddess in the Dresden Codex occurs in the Venus Table, where she appears as the fourth of five Venus Regents on page 49. Dennis Tedlock (2010: 211) proposes that these five Regents correspond to five constellations in which Venus repeatedly rises as morning star; we will explore how these Regents relate to the *Taj Yal Chan* title in a future publication. Meanwhile, if we may simply draw a parallel between the seating of the lunar month and the more commonly referenced seating of Haab winals as the *beginning* of these periods, the reference to the *seating* of the Moon Goddess as **CHUM-IX-UH** in the caption on pg. 54b would correspond with the *new moon* during this month. Therefore, the reference here would appear to conform to the proposed invisible solar eclipse, with the new moon in Pisces on February 24-25, 779 (February 20-21 Julian), in keeping with the solar eclipse imagery in the associated image.

Copan Temple 11: the Panels

Copan Structure 11 is the last building at the northern end of the Acropolis. On its platform stands the magnificent Temple 11 with eight panels (Riese and Riese, 1991). The reading order of the panels is ambiguous and nonlinear, and there are at least two solutions proposed by Becquelin and Baudez (1982: 884-888), and Schele, Stuart, and Grube (1989), respectively. The dates are generally more precise, with the exception of one Calendar Round, although the content in some places is not well understood. As is common in long inscriptions, the Maya connected astronomical events to mundane episodes in the lives of the rulers, while they also narrated the past achievements of the ancestors. In the Copan Structure 11 panels Yax Pasaj Chan Yopat (763-822) spoke about his accession to the throne, the dedication of the bench inside of the temple, and the building itself. He also referenced the dedications of two past rulers, Waxaklajun Ub'ah K'awil (695-738) and K'ahk' Yipyaj Chan K'awil (749-763).

1-CHAN in this title may refer to the 'throwing' of Venus to the western horizon towards the sun, if we may read '1-Sky' as the position of the first visible lunar crescent following new moon nearest to the Western horizon, and '13-Sky' as the position of the full moon on its thirteenth visible day. Indeed, a Yucatec name for the full moon at opposition is *oxlajun ka'an* in the *Motul Dictionary*, while *oxlajun ka'an* is well attested as 'highest heaven.'

Prior to the accession of Yax Pasaj Chan Yopat on 9.16.12.5.17, there are two earlier dates mentioned in the text. One narrates the dedication of the ballcourt by Waxaklajun Ub'ah K'awil on 9.14.15.0.0 in Panels 2-3, and the other is an astronomical event on Panel 5 (East Door, North Panel). Following the date of his inauguration, the inscription details several dedications culminating in the last dedication date of 9.17.5.0.0 on Panel 7, when Yax Pasaj Chan Yopat animated the bench in the temple.

On Panel 5 (East Door, North Panel), the text describes two events, but it is unclear how they may relate to one another (Figure 5):

11-9-WINIK-ji-ya 1-HAB'-ya ALAY?-ya b'i-hi ti-9-CHIKCHAN 13-CHAK-AT-ta Aj-na ti-
b'i-TE'-SAK xa-ya tu-pa-CHAN-ni-ma? u-TZ'AK-AJ 5-KIB'-10-K'AN-JAL-b'u K'AL-wa-ni-yi
AJAW-wa-CHAK-EK' u-MUK-ka-1-AJAW-WINIK-ki

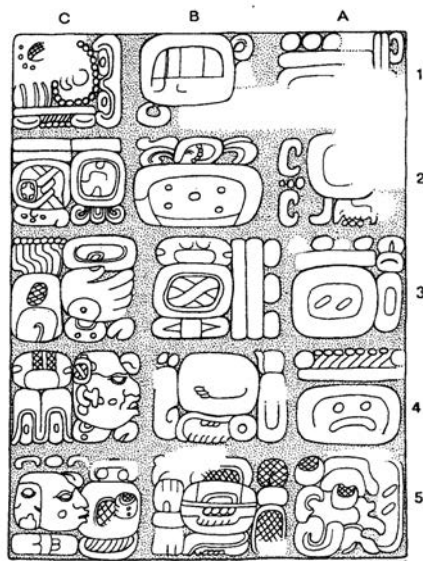


Figure 5. Copan Panel 5, East Door, North Panel (Drawing by Berthold Riese, 1991).

The inscription begins with a distance number of 1.9.11 to reach the date of 9.17.1.3.5 9 Chikchan 13 Zip, on March 24, 772 (March 20 J). This date is immediately followed by another Calendar Round date with a uniquely rare Classic Period Venus event that is unconnected to any other dates by way of a distance number. Several authors suggest that this unanchored Calendar Round of 5 Kib 10 Pop associates with the Long Count of 9.15.15.12.16 or February 15, 747 (Feb. 11 J), during the life of Ruler 14, K'ahk' Joplaj Chan K'awil (Lounsbury, 1982; Schele, Stuart, and Grube, 1989; Riese and Riese, 1991: 231; Plank, 2004; Aldana, 2011). Indeed, this clearly stated Venus event is precisely 15 cycles of 584 days, or 3 Venus-Haab cycles prior to the last date given in the inscription on Panel

8 (West door, South panel), 9.17.0.0.16, 3 Kib 9 Pop, February 7, 771 (Feb. 3 J), and both events correspond with the first evening visibility of Venus in the west (Lounsbury, 1982).

The Calendar Round date of 5 Kib 10 Pop is a non-traditional date, with the Haab position advanced by one, as is common in other inscriptions associated with Yax Pasaj Chan Yopat. Following this date, we find a sentence that closely resembles a clause that occurs in the Dresden Venus Table (Lounsbury, 1982; Aldana, 2001, 2014):

K'AL-wa-ni-yi AJAW-waCHAK-EK' u-MUK-ka1-AJAW-WINIK-ki

k'alwaniy ajaw chak ek' umuk jun ajaw winik

"It took its position [above the horizon], the Lord Big Star; this is the omen to Jun Ajaw Winik"

On page 48 of the Dresden, in the middle section, we find the sentence (Figure 6):

K'AL-ja la-K'IN-ni ta-wi-si-ka-la CHAK-EK' AJAN u-JUL u-mu-ka la-K'IN-ni tu-KAB'-b'a tu-CH'EN-na u MUK-ka NAL-??-WINIK

k'ahlaj lak'in tawiskal chak ek' ajan ujul umuk lak'in tu kab' tu ch'en umuknal ?? winik

"It is held in position in the east, Tawiskal the Big Star, the Maize God is its spearing, this is the omen to the east of the earth, of the well [i.e. the eastern region or cities], this is the omen to the maize people?"



Figure 6. Dresden page 48 (Förstemann, 1892).

Given the parallel with the Venus Table, Gerardo Aldana (2014: 83) first speculated that the inscription in Copán Temple 11 likewise includes *umuk*, though he did not explore this further. Although the Copan example is shorter than that in the Dresden, we believe we can reconstruct the meaning using the codical example. In Temple 11, the text begins with the positional verb *k'alwaniy*. In this context and in the Dresden Venus Table, we read the verb root *k'al* as 'to hold in position' relating to the consistent appearance of Venus in a position just above

the horizon in each case.⁸ While it leaves out the cardinal direction, the subject of the verb in the Copan example is *Ajaw Chak Ek'*, and this refers to the god who impersonates Venus (*k'alwaniy ajaw chak ek' = k'ahlaj ... tawiskal chak ek'*). In addition, the Copan example lacks the “spearer” clause and the omen follows directly. As in the Dresden case, the omen (*muk*) in the Temple 11 case associates with a god, Jun Ajaw Winik. He is recognizable as one of the hero twins, popular both in the Classic and the Postclassic Periods and closely associated with the planet Venus in the Dresden Codex Venus Table.⁹ As in the Dresden example, it is conceivable that the omen is negative for the god mentioned.

The Banded Bird Title

The Banded Bird Title (BBT) makes frequent appearances in the inscriptions, especially in the texts of the western region such as Palenque and Yaxchilan. There are many varieties of the title, both in spellings and in composing elements, which has led to the unfortunate situation of its not having yet been deciphered. Bernal Romero (2009: 89-94) has suggested a reading **NAB'** (*nahb'*) for the main sign (T694 plus the signature headscarf, which he thought to be a water lily plant representing the act of anointing [**nahb-at*: ‘one who anoints’]), but this has found little support. Proceeding from the foregoing discussion, we have an alternative proposal. Stuart (2005: 133-136) has assembled all the known forms of the title, though he has not suggested a reading. Polyukhovych (2008) has proposed the

⁸ Marc Zender (2016: 1) proposed a reading of ‘to hold’ in the context of raising a crown above the head during coronation events. Danny Law and David Stuart (2017: 153) thereafter read *k'al* as ‘raise’ in the context of crown-raising and stone-raising events. However, the meaning ‘raise’ is not attested for this root, and Zender (2016: 21) specifies that the verb *k'al* as ‘to hold’ becomes ‘it is held [above the head]’ when in the context of crown-raising as *k'ahlaj tu b'ah*. Given its additional positional usage and its attested transitive meaning as ‘to hold’, we propose the meaning of *k'al* to be ‘to hold in position’, and that of *k'alwan* to be ‘go into/take position’. This applies to the astronomical contexts of the appearance of Venus on the horizon equally in the examples from Copan Temple 11 and the Dresden Venus Table.

⁹ *Junajpu*, the analogous K'iche' name for the Hero Twin from the *PojoVuh*, is still used to refer to Venus as morning star (B. Tedlock, 1992: 180). In addition, the Dresden Venus Table commensurates the reappearance of Venus as morning star with the Tzolk'in day 1 Ajaw (Jun Ajaw), after a cycle of 104 years of 365 days, equivalent to 65 Venus cycles of 584 days (Thompson, 1951: 221; Milbrath, 1999: 163, 170). Likewise, a form of Jun Ajaw appears wearing a skeletal costume as the last of the five Regents in the Venus Table (Milbrath, 1999: 175), depicted together with the Maize God. This Jun Ajaw Regent is named in the text with what appears to be a unique rattlesnake rattle on his forehead, appearing only in the four examples of this name in the Dresden Venus Table. Grofe tentatively suggests that this rattle may represent the sidereal location of the Pleiades, known in Yucatec as *tzab'*, ‘rattlesnake’s rattle’, whose seasonal disappearance and reappearance after heliacal conjunction is associated with the sowing and sprouting of maize (Milbrath, 1999: 38). This serves to partially explain the appearance of the Maize God together with Jun Ajaw in the image, which Milbrath (1999: 176) likewise sees as a reference to the time of growing maize. Thus, Jun Ajaw appears to be associated with both the planet Venus itself, as well as one of the five Venus Regents as a specific constellation in which the heliacal rise of Venus takes place.

reading of NAAT, but he has not accounted for every known spelling; therefore his solution has not been accepted widely by epigraphers.

The simple form of the BBT is a bird head with a special headscarf. This allograph usually has a suffixed phonetic complement *ta* (occasionally *ti*), although at Tortuguero the headscarf alone appears with *ta*. The latter examples are crucial, showing that the headscarf and the bird-with-headscarf substitute for each other. One tiny fragment from the Palenque Temple XVI stucco ensemble has the spelling **AJ-AJAW-BIRD.HEADSCARF** (Stuart, 2005: 135), which is substituted for by a spelling **AJAW-wa-HEADSCARF-T694-wa-li**; the latter occurs several times in the text of the K'an Tok Panel from Temple XVI of Palenque. Also at Palenque, on a censer from Temple XIV, the spelling **IX-HEADSCARF-ta-wa** is seen (Schele and Mathews, 1979: 70).¹⁰ In three instances at Palenque and Yaxchilan, the expression is possessed by the third singular ergative pronoun *u*; thus the collocation's initial phoneme must be a consonant.

We may identify the spelling patterns of the BBT as follows (Figure 7):

HEADSCARF.BIRD
 HEADSCARF.BIRD.-ta/-ti (7a))
 HEADSCARF-ta (7b)
 HEADSCARF-ta-wa (7e)
 HEADSCARF-T694-wa-li (7c-d)
 AJ-AJAW-HEADSCARF.BIRD (7f)

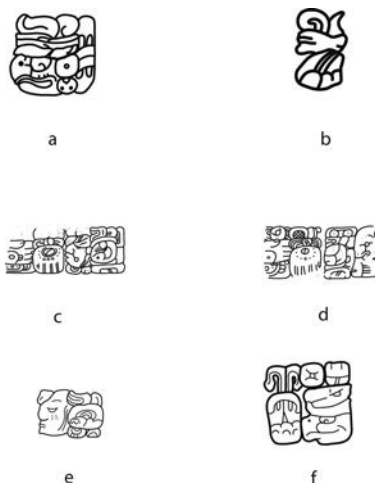


Figure 7. Banded Bird Title. a, Palenque, Tablet of the Foliated Cross, M1; b, Tortuguero, Wooden Box; c, K'an Tok Panel, C9-D9; d, K'an Tok Panel, H6-G7; e, Palenque, Temple of the Foliated Cross, censer; f, Palenque, Temple XVI, stucco fragment (All drawings by Péter Bíró).

¹⁰ At present, we do not know why the BBT always requires the presence of the headband. We tentatively suggest that the **HEADSCARF** could be functioning as a semantic determinative. This issue should be investigated in the future to better understand the substitution pattern.

From these examples, we can provisionally reconstruct the expression as either *CVta-w(a) or *CVC-ta-w(a) or *CVC-(V)ta-w(a) with a -li suffix on the K'an Tok panel.

Given our identification of T694 as **MUK** and **o**, we have four options to consider. For the complex form **HEADSCARF-T694-wa-li** these are:

- (1) **HEADSCARF-MUK-ta-wa-li**,
- (2) **HEADSCARF-o-ta-wa-li**

But if T694 is fused with the **HEADSCARF** into a single logogram (which is our analysis), then

- (3) **MUK-ta-wa-li**
- (4) **o-ta-wa-li**.

Option (4) is impossible because the third singular ergative **u**¹¹ already obligates an initial consonant. Option (1) is also unlikely because of the phonemic regularities of the Mayan languages, which would not allow a spelling *CVCCVC-CVC (or *CVCmuktaw) representing a single noun. Option (2) does not match any other lexemes in Maya. Therefore we have provisionally chosen the third option, namely that T694 replaces the **BIRD** logograph, which leads to a spelling **MUK-ta-wa-li** or *muktawil*. We understand the morphological elements of the expression to be *muk-Vt-ta-aw-il* in which -Vt derives a noun from a transitive root; -ta retransitivizes the stem; -aw derives a nominalized antipassive, and -il is an abstract nominal suffix.¹²

The underlying root is *muk*, whose antecedents are the proto-Mayan transitive *muq 'to bury it, to hide it' (Kaufman and Justeson, 2003: 173) and proto-Ch'olan transitive *muk (Kaufman and Norman, 1984: 126). Nevertheless, we have only

¹¹ Examples of the BBT with an ergative pronoun are: (1) The Palenque K'an Tok' panel in the spelling **u-HEADSCARF-T694-wa-li** at G7; (2) **u-HEADSCARF-wa-li** (Yaxchilan Stela 7, caption text to the kneeling person); (3) Incised vase, Mundo Perdido, Tikal, **u-HEADSCARF-BIRD ta-li**. The latter bears a fascinating text that has many unknown expressions. The BBT occurs in the second main caption at the sixth glyph block (a partial drawing appears in Stone and Zender, 2011: 132, figure 2).

¹² We believe that *muktaw* has the following underlying forms:

- (1) *muk* (vt) 'to hide, to bury'
- (2) *muk-ut* (n) 'one who awaits (as an attendant)' with -ut from proto-Mayan *-eht 'nominalizer'; this appears in proto-Cholan in *semeht 'comal', *y-okeht 'trivet', *peteht 'spindle', and perhaps *bak'et 'meat' (Kaufman and Norman, 1984).
- (3) *muk-ut-ta-* a transitive stem derived by a 'superfactive' suffix *-tä : *muk-ut-tä [in proto-Cholan, *äk-tä, *uhs-tä and *känän-tä; (Kaufman and Norman, 1984: 144)].
- (4) *muk-ut-t(a)-aw* 'the act of awaiting' or 'the act of planning or designing', a verbal noun employing the antipassive suffix *-aw (cf. Tzeltal *mil-aw 'murder' *nuc-aw HUNT-aw 'hunting' or *co'b-aw GATHER-aw 'gathering'; Kaufman, 1971: 56, 67).

It bears mentioning that only a transitive stem in Mayan can be antipassivized; therefore *muktaw* must contain a transitivity suffix. We propose that to be *-tä.

found the form *muk-ut in Colonial Yucatec as ‘to wait for’ (Bolles, 1997) or ‘to give order(s), to plan or design’ (Barrera Vásquez, 1980: 535).¹³

We believe that *muktaw* (<*mukut-ta-aw) may be analyzed as a nominalized antipassive meaning ‘the act of (at)tending (to)’ as well as ‘the act of planning or designing’. *Muktawil* would be ‘attendantship’ or ‘(the office of) designer, planner, or administrator’.

As David Stuart (2005: 115, 133-136) and Karen-Bassie (n.d.) have argued, nobles with the BBT were caretakers of ritual objects and implements. On the Temple XXI tablet at Palenque, the two Banded-Bird attendants hold or transfer a bundle of feathers and textile bands tied with three knots. This object appears identical to a feather *manta* seen on K1440. On that vase, one of two gods holds the textile band, while the second one grasps a container and a prismatic blade (González and Bernal, 2012: 103). A similar container might be the box presumed to be from Tortuguero possessed by Aj K’ax B’ahlam *muktaw*.¹⁴

On two occasions at Palenque, several attendants with the Banded Bird title officiate at the king’s accession. Janab’ Ajaw, who had been installed many years earlier as *umuktawil ch’ok* on the K’an Tok Tablet (discussed below), is portrayed on the Temple XIX Tablet giving the white headband to K’inich Ahkul Mo’ Nahb’ III.

Deities with the Banded Bird Title

On the main tablets of the Temple of the Cross and Foliated Cross (E10-F13), the texts mention a *Nun Yajaw Chan Muktaw* who is the patient of a third god-conjuring (*utzak k’uh*) by Kan B’ahlam in a ritual engendering (*tu ch’ahb’ yak’(ah)*). We conclude from these and other occurrences at Copan that *Nun Yajaw Chan*

¹³ *Mucutmucut, muctah*: esperar, aguardar.
mucut in cah ti Juan: estoy aguardando a Juan.
in muctahech holhe: ayer te espere o aguarde.
muctenex: aguardadme.
mucut: cosa que espera o aguarda.
mucuton ti padre: estamos aguardando al padre.
Mucut mucut: cosa que aguarda o espera por momentos.
mucut mucuten ti, maix tan v talel: estoyle aguardando por momentos y nunca viene.
mucut: aguardar y esperar assi.
mucut mucutex yulel padre: aguardad por momentos la venida del padre.
Mucut; paktah: esperar.
tech ca mucut: así esperamos.
muctex yulel padre: esperad que venga el padre.
 Aguardar o esperar: *mucut* .l. *muctah*.
 (Bolles, 1997)

MUKTAH: 2: trazar o dar orden 2. MUKUT 2: *idem*. (Barrera Vásquez, 1980: 535).

¹⁴ In addition to the names of B’ahlam Ajaw (the king of Tortuguero) and his father, the inscription mentions the accession [*ta muk[tawil]*] of Aj K’ax B’ahlam into the office of the BBT. The text of the box also refers to itself as *yotot umayij*, ‘the house/container of the offering/tobacco of Aj K’ax B’ahlam’ (about *mayij* see Bíró, 2012).

Muktaw is a supernatural being who holds this office. This places the title within a mythological milieu which in turn has bearing on its meaning.

The “Paddler Gods” (so labeled by Stuart, 1988: 190) because they are depicted at bow and stern of canoes carved into small bones from Tikal Burial 116 (MT 38a-d) may also carry the Banded Bird Title, as noted on Ixkun St. 2, D12 and Sacul St. 1, B6-C6. Of the fifty-plus corpus examples of the Paddler Gods assembled by Prager (2013: 564-565), all are associated with Period Endings in the calendar. Some twenty of these employ the verb or nominalized verb *y-atij*, ‘they count it/ (it is) their count’.¹⁵ These deities are distinguished in the script as the “Jaguar Paddler” vs. the “Stingray Paddler” (anthropomorphic aged heads with jaguar features or a stingray spine through the nasal septum, respectively), and they have symbolic allographs as “day” and “night” associated with the (as yet poorly-understood) suffixes *-ti* and *-na*. It is clear that these beings operate in primordial time as adjuncts to creation and the celebration of time counts along with their human counterparts, which highlights the translation ‘trazar o dar orden’ (‘plan/contrive or set in order’) for <muktah/mukut> in Yucatec (Barrera Vásquez, 1980: 535). With this, we further speculate that the Paddlers may have been the antecedents to the deities termed “Maker and Modeler” in the *Popol Vuh*.

In the human sphere, *mukut* ‘one who tends to X, one who designs or plans?’ and *muktaw* ‘the act of tending or planning’ aptly describe what the associated iconography demonstrates.¹⁶ This, in turn, leads to the consideration of an abstract status *muktawil* into which a candidate may accede via receipt of a headband. It parallels the well-understood and very common term *ajaw(a)lel* ‘lordship’.

The K’an Tok Panel

The hieroglyphic text from Palenque’s Temple XVI is known as the K’an Tok Panel due to the second of three elusive elements in a complex, repeating event fea-

¹⁵ The ‘count’ interpretation was originally proposed by Prager (2013: 261-264) and Biró (2017) as a more viable alternative to the older and now less persuasive reading ‘he/they bathe it’ (Stuart, Houston and Robertson, 1999; Wichmann, 2004). The stem in Common Mayan is analyzed as *aj-t- with reflexes *’ajtay* in Tzeltal and *’at* in Tzotzil (Kaufman and Justeson, 2003: 185). Other than its proposed occurrences in the script, *aj-t/*at, ‘count’ does not appear in Ch’olan. The question of its grammatical status in the spelling *ya-ti-ji/ya-AT-ji* (active derived transitive vs. nominalization) is beyond the scope of this discussion (but see MacLeod, 2004 and Sanz-González, 2006).

¹⁶ The Banded Bird Title (BBT) carried by some Classic Maya nobles in the iconography is relatively rare compared to other non-royal titles such as *sajal*, *ajk’uhun* or *ti’ sakhun*. Nevertheless, we have enough examples that we may speculate about the duties of those in the royal court who have the title. As Karen Bassie-Sweet (personal communication, 2019) has noted, nobles with the BBT are often seen attending the king in scenes depicting the ritual use of stingray spines for bloodletting. The best example appears in the iconography of Palenque Temple XXI. Bassie-Sweet cogently argues that these attendants guarded the sacred object in a toolbox. One of these is the famous Tortuguero Box, whose inscription names the box as the ‘house of offerings’ (*yotot umayij*), a term referring to the bloodletting spines. Its owner carries the Banded Bird title.

tured in the text (Figure 8). It has been studied by multiple investigators including Mathews [unpublished analysis cited by Stuart (2005: 134) and discussed by Bernal (2009: 80)], Stuart (2005: 133-136), and Bernal (2002; most extensively in 2009, in his volume dedicated to the panel). It was discovered in pieces in Temple XVI in 1993, and it remains incompletely reconstructed due to some fragments never having been recovered. Thus, its dates are partly in dispute (Stuart, 2005: 134). It contains a list of Palenque rulers spanning the interval 445-768 C.E., who are well known from other sources (Bernal, 2009: 12). However, the events recorded do not occur elsewhere at Palenque or at any other Maya site.

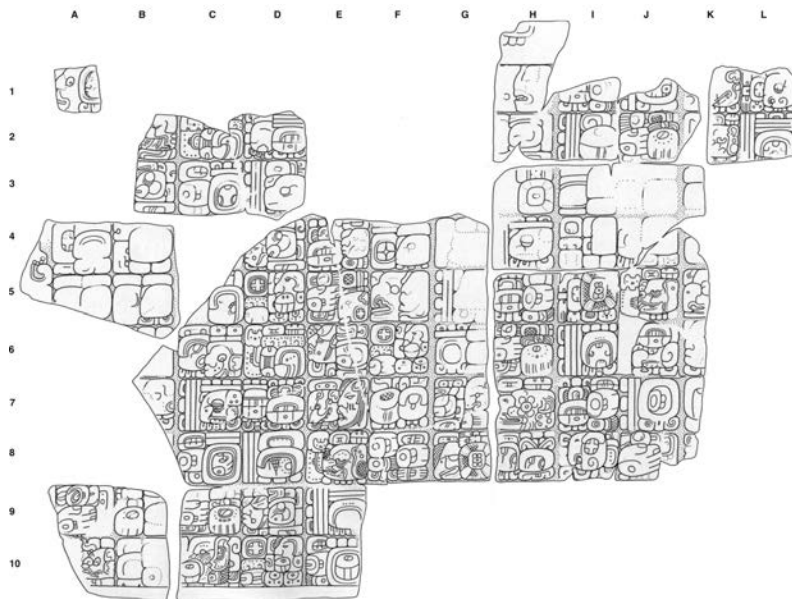


Figure 8. K'an Tok Panel (Drawing by Peter Mathews, 2007).

Each of the events consists of a Calendar Round date followed by the installation of a different individual into the office of *Ajaw Muktawil* 'Lord of Attendantship', or 'Lord of Setting-in-Order' which suggests a court management role of high status. Each of these is supervised by (*ukab'jiy*) the contemporaneous Palenque ruler, including the queen Ix Yohl Ik'nal; all rulers are represented by a personal name and the title *K'uhul B'ak Ajaw*. The initiates into the office are also named; with the exception of Janab' Ajaw mentioned above—who sits before the king on the panel of Temple XIX holding a headdress—they are not known elsewhere at Palenque.

The structure of each event is as follows, with a few variations:¹⁷

¹⁷ In one case the personal name appears after *Ajaw Muktawil* and before *k'an tok*, and in another case the phrase is *k'ahlaj hun tu b'ah UMuktawil Ch'ok*-name. This is the one which features the installation of Janab' Ajaw by the king K'an Joy Chitam, who employs his pre-accession name.

CR Date- *k'ahlaj hun tu b'ah* -personal name followed by three titular or event-specific elements:

- (1) AJAW MUKUT-wa-li
- (2) K'AN-to-ko or in the earliest example, K'AN-na to-ko-la
- (3) wa-WE'-la.

While no -tV syllable appears in any of the *Muktawil* examples, we reconstruct *mukut(aw) from the foregoing analysis of the BBT in other contexts. In this case the final -li is analyzed as the -il abstract nominalizing suffix marking a category of office which elsewhere might be translated with the suffix '-ship'.

The other two components of this phrase remain less transparent, although we may offer contexts for them. For K'AN to-ko *K'an Tok* Bernal (2009: 94) proposes 'Nube Preciosa/Amarilla' ('Precious/Yellow Cloud'), with which we are in general agreement without being confident that we understand it. Because there are other occurrences of the sequence "color term-to-ko" in the corpus, we consider *k'an* to be specifically 'yellow' and *tok* to likely be 'cloud'.¹⁸ The context is nonetheless opaque and the phrase is likely to refer to a mythological toponym or cosmogram.

In relation to wa-WE'-la, Bernal (2009:95) notes the presence of the WE' sign and its relationship to food or sustenance, but suggests that the wa- prefix may change its reading to *WA'—a cognate of *we' 'to eat' in several highland Mayan languages. In this case we prefer to speculate in a different direction and maintain the integrity of WE' as we' 'eat' or with wa- and -la, perhaps *wa(j) we'-al* 'tamale feast'.¹⁹ We note the co-occurrence on Site R Lintel 4 of YAX to-ko with WE'-ne-la, but while *we'en-al* appears to be a noun related to meat or eating, the sequence—which is part of a nominal phrase—remains opaque. We are by no means confident of "tamale feast" here, but the context is ceremonial and celebratory, and we leave it as a working hypothesis.

In closing, we may recall that the *mukut(aw)* title is held by gods and the *k'an* (or other color term) *tok* appears toponymic. Perhaps with the denouement of

¹⁸ While we have explored other possible *tok/took candidates, 'cloud' remains the best choice because of the complete spelling to-ko-la *tokal* seen at A4 on the panel; *tokal 'cloud' is found in both branches of Ch'olan and is reconstructed for proto-Ch'olan (Kaufman and Norman, 1984: 132).

Other examples of similar sequences in nominal phrases are: La Corona Glyphic Panel D LOK'-yi ti-K'AN-na to-ko CHAM?-mi, Jonuta Stela 1 ta-K'AN-na to-ko JOL, Site R Lintel 4 YAX to-ko WE'-ne-la (Looper, 2004).

Elsewhere, we note that on Yaxchilan Lintel 8 and K8019c (Weaving Bone 7) *Yax Tok* and *K'an Tok* are followed by WAY(-bi). This title (*yax/k'an/chak wayib'* or *wayab'*) (Beliaev, 2004) appears frequently in the inscriptions (more often with *chak*) and is used by secondary nobles, both male and female (see, for example, Tikal Altar 8, Yaxchilan Lintel 6 and Lintel 37, K2358, K8019). The 'color-cloud' title and toponym refer to an as-yet-unknown mythological schema.

¹⁹ The following entries appear in Wisdom's Ch'orti' dictionary:

wia'ar [? we'-ar], 'meal, an eating'
nohwia'ar, 'important meal, feast' (Stross, n.d.: 270).

muktawil, we or another investigator will eventually come to understand these significant and unique events at Palenque.

The Toponymic Title of El Palmar, Campeche

El Palmar was a major Middle and Late Classic center in southeast Campeche which until recently has received little attention since its initial discovery in 1936 by Thompson, when he and his crew spent several weeks mapping and doing surface collection. They excavated a noteworthy cache of obsidian and flint eccentrics beneath one of the stelae (Thompson, 1936; Tsukamoto, Hirokazu, and Campaña, 2012). Thompson described El Palmar as having been built around two lakes (one with an island with its own structure and stela) and having no standing architecture but for fragmentary unfaced walls. Numerous badly-eroded stelae and altars were also noted. Twenty-three of forty-four stelae were carved, but due to the poor quality of the limestone were in such poor condition that only a few Late Classic dates were recoverable. Subsequent investigations by Tsukamoto (Tsukamoto, Hirokazu, and Campaña, 2012) have documented eight plazas and evidence of major construction and monument erection during the Middle Classic, continuing to a lesser degree into the Terminal Classic. A new cache of eccentrics was discovered beneath the Middle Classic Altar 10, dated 9.6.0.0.0 (Tsukamoto, Hirokazu, and Campaña, 2012). This monument bears the El Palmar dynastic title/toponym *Sak*-T694, dubbed *Sak* “Ok” by epigraphers for want of a better candidate, one which we will here propose (Figure 9).

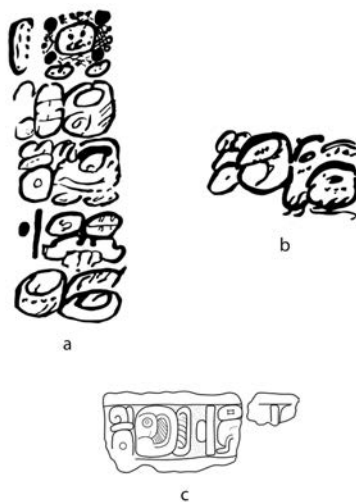


Figure 9. El Palmar Toponym: a, Naj Tunich Drawing 29 (Drawing by Barbara MacLeod); b, “Señor de Peten” vessel (Drawing by Kenichiro Tsukamoto); c, El Palmar Hieroglyphic Stairway Step VI (Drawing by Octavio Q. Esparza, 2015).

A recently-discovered hieroglyphic stair (Tsukamoto and Esparza, 2015: 52, 53; Figures 8 and 9) depicts multiple examples of the royal title amid a narrative featuring a secondary lord named *Aj Pach' Wal*, designated a *Lakam* or 'bannerman' of El Palmar. The long reach of this polity —perhaps in collaboration with neighboring Calakmul— is proven in the detailed record on the stair of an audience by *Aj Pach' Wal* with the king of Copan in the presence of the latter's patron gods on June 24, 726 (Tsukamoto and Esparza, 2015). A fragment of the narrative includes the name *UPakal K'inich* —an individual also referenced in the contemporaneous Drawing 29 of Naj Tunich Cave in Guatemala, 200 kilometers to the south. Pilgrims from El Palmar appear several times in the cave texts between 719 and 740 CE. The first of these pilgrimages was an agricultural rite shared with ritualists from the region of the cave; the others featured end-of-year ceremonies shared with travelers from Altun Ha and the Petexbatun.

In consideration of the sad condition of El Palmar's carved monuments, it is ironic that during the Late Classic, this kingdom frequently exported highly-skilled sculptors. Bíró has noted that an El Palmar sculptor was present in Yaxchilan in 724 during the reign of the long-lived king *Itzamnaj B'ahlam*, one of whose two wives was from Calakmul.²⁰ An El Palmar sculptor named *Aj Mut* (Beliaev, 2017) signed his name on Rio Azul Stela 2, dated 9.18.0.0.0 (October 11, 790). Bíró also notes that Panel 3 at Cancuen (dated 9.19.0.0.0, June, 810) credits its production to another El Palmar sculptor, while the name *Aj Chak Max* appears in the nominal phrase of the seated Cancuen king *Tajal Chan Ahk*. Finally, amid the foregoing references to an El Palmar presence at foreign cities, it is significant that this polity had a second center at Chacchoben, a predominantly Late Classic site strategically located on a perennial lagoon near the northern tip of Lake Bacalar in Quintana Roo, and forty kilometers from Chetumal Bay.²¹

Given the foregoing evidence for a **MUK** reading for T694, we propose that the El Palmar toponym reads *Sak Muk*, 'the *muk* plant'. We identify *muk* as the shrub/small tree *Dalbergia glabra*, 'muk enchantment' (Roys, 1931: 266), which has white flowers. It has both practical and medicinal uses and is particularly abundant in Campeche (GBIF Backbone Taxonomy, 2017; Cervantes, Linares and Quintero, 2019). This identification conforms to a common Classic Maya practice of deriving toponyms from features of the local geography.

²⁰ In February of 724 CE a sculptor from *Sak Muk* (*Xukub'? Chahk Sak Muk*) carved Lintel 26 at Yaxchilan. This artisan may have years earlier traveled from Calakmul with the bride-to-be (mother of the successor *Yaxun B'ahlam* "Bird Jaguar the Great") as an attendant in her court. One notes again the ties between Calakmul and El Palmar at a time when the Kan empire has been quiescent for three decades following its conquest by Tikal.

²¹ Two eroded stelae are known from Chacchoben. On the legible one, the entire inscription reads *ubah* 'it is his image' *Uxlajun Chan Kuynal* 'Thirteen Sky Owl-Person', followed by *K'uh* and then the same nominal phrase seen in Naj Tunich: *Sak Muk Wak Pit Ajaw* (drawing shared by Yuriy Polyukhovych, personal communication, 2003). While Thirteen Sky Owl-Person can designate a deity, here it should be a personal name; thus, one could argue that *K'uh* signals an Emblem Glyph —unique for this polity. There is otherwise no iconography on the stela.

Piedras Negras Panel 3

Ever since its discovery, Piedras Negras Panel 3 has been viewed as one of the most beautiful Classic Maya monuments known. In subsequent work by epigraphers, its long text has unraveled as the record of a banquet of Itzam K'an Ahkul II (r. 729-757) which occurred in the interval between 9.15.18.3.13 and 9.15.18.3.15 (July 31 – August 02, 749). The inscription then jumps to the death of the king (9.16.6.11.17 or November 30, 757) and then to his burial three days later on 9.16.6.12.0 (December 03, 757). The last event is a tomb re-entry ceremony by K'inich Yat Ahk II in 9.17.11.6.1 (March 28, 782).

A short caption above the heads of Individuals 2-4 on the curtain consists of two slightly separated texts, one having three glyph blocks in a single vertical line while the other also contains three glyph blocks, the first having a coefficient of seventeen (Figure 10):

ha-a ta-ka CHAN-nu 17-yo-o WINIK-HAB'-ya wa-ya-la-wa
ha'at ka chanul 17 yo' winikhab'iy wa' yalaw

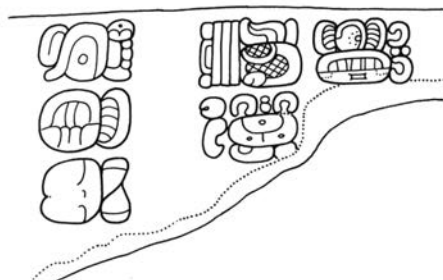


Figure 10. Piedras Negras Panel 3 (Drawing by Alexander Safronov, 2011).

Two different papers have dealt previously with this short text, with slightly disparate solutions (Bíró, 2011: 295-299; Beliaev and Safronov, 2013: 577-578). While the first clause is agreed upon in both papers, the second clause has alternative interpretations. The first part of the sentence is 'You are our master (as a supervisor)', meaning that this utterance was spoken by one of the invitees from Yaxchilan or Hix Witz who attended the banquet. The three were princes who came to the city of the overlord to learn the court's etiquette; they may also have been hostages.

We understand the transcription of the second clause to be *17 yo' winikhab' wa' yalaw* (with the full text naming the speaker continuing on the curtain to the right). This contrasts with the view of Beliaev and Safronov (2013: 578) who suggested it to be *17-oy winikhab' wa' yalaw*.²² The order of the signs in the glyph

²² *Wa'* functions either as an aspectual marker (Stuart, Houston, and Robertson, 1999: II-33) or as a deictic reconstructed back to proto-Ch'olan as *wa'* or *wa(i)* with the meaning of 'here' (Kaufman

block favors the sequence **yo-o** rather than **o-yo**. Moreover, we suggest this to be an apparent distance number formula employing *yo'* in the sense of 'over, in addition to'.

Therefore *17 yo' winikhab'iy* should be 'seventeen (something, probably "days") on top of/added to... one winikhaab', or better '17 days on top of one winikhab' (there)'—literally a *k'atun* plus 17 days.

Conclusions

The quest to decipher the remaining unknown signs in the Maya script has tended to proceed along predictable paths. Progress typically results from an obscure context hitherto overlooked, or from a newly-discovered text which corrals the elusive sign within new constraints. In the present era of Maya epigraphic research, it is uncommon that a sign (or in this case, a pair of signs) having a known reading is suddenly shown to have an additional reading which allows several of its murky occurrences to spring into focus.

In our paper we explore a historical relationship between T694 and T648 leading to the conclusion that they shared the same pattern of bivalence during different epochs of script usage. Our investigation was initially prompted by an unusual codical example of T648 which bears a striking resemblance to T694, leading to our proposal that in the Classic script T694 has two independent readings: logographic **MUK** and syllabic **o**. Likewise, in the Postclassic Period T648 (a slightly different version of T694) has the same readings. We have analyzed both the earlier and later signs in distinct contexts such as the K'an Tok panel of Palenque, Piedras Negras Panel 3, and the panels of Copan Temple 11, as well as several occurrences in the codices. We have found a productive substitution on page 46c of the *Dresden Codex* in which both versions of the sign occur side by side in a secure context. This discovery enabled the re-analysis of other appearances of the glyph and a new perspective on expressions which had not yet been deciphered. For example, we propose that the reading of the Banded Bird Title (BBT) is *mukut/muktaw*, 'attendant', while the toponym of El Palmar is Sak Muk, 'White Muk Plant (*Dalbergia glabra*)'.

On the Copan Temple 11 Panels, T694 as **MUK** is perfect for an omen formula occurring for the first time in the Late Classic Period—one which is the forebear of the known examples in the codices. The current investigation has given collateral birth to new understandings of old decipherments and expressions such as *taj yalaw chan ajawtak*, which we propose to refer to deities that appear in the Dresden Venus Table. These are specifically the Five Venus Regents as the five constellations where the heliacal rise of Venus repeatedly takes place.

and Norman, 1984: 139). *Yalaw* we analyze as *y-al-aw-0* 'he says (it)...' with the subject then named on the curtain to the right.

Finally, we have reexamined the *yo'* collocation both in the Classic and Post-classic Periods, and we have suggested for these the reading 'upon, on top of'.

This pair of new decipherments and resulting interpretation naturally leads to a better understanding of each known context. While it may be that some of our proposals are not as conclusive as others, future scholars proceeding even from those may formulate new ideas to further explain remaining unknown glyphs in the Maya script.

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