

# Of Heat, Holes, and Hollow Places: The Semantics and Phonetic Value of T650

## *De calor, agujeros y lugares huecos: la semántica y el valor fonético de T650*

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**ABSTRACT:** The reading of the T650 glyph has been a puzzle for decades. Here, we analyze the semantic contexts in which the glyph appears together with available phonetic evidence to arrive at a phonetic reading of JOM. We provide grammatical reconstructions of the lexical contexts and discuss the rebuses involved in non-semantic contexts.

**KEYWORDS:** Classic Maya, epigraphy, T650, semantics, phonetic value.

**RESUMEN:** La lectura del glifo T650 ha sido un rompecabezas durante décadas. En el presente trabajo analizamos los contextos semánticos en los que aparece el glifo, junto con la evidencia fonética disponible para llegar a una lectura fonética para dicho glifo como JOM. Además de ello, proporcionamos reconstrucciones gramaticales de los contextos léxicos y discutimos los *rebus* presentes en contextos no semánticos.

**PALABRAS CLAVE:** Clásico Maya, epigrafía, T650, semántica, valor fonético.

**FECHA DE RECEPCIÓN:** 5 de diciembre de 2022.

**FECHA DE ACEPTACIÓN:** 31 de enero de 2023.

**DOI:** <https://doi.org/10.19130/iifl.ecm/62/000XS00146W03>

## 1. Introduction

Despite its diminutive size, the incised shell known as K8885 is a gem of Maya scribal art (Figure 1). The inscribed text is distinguished for its use of first- and second-person pronouns, referring to a parrot and a scribe, with the artist himself interacting in an intimate scene from which we are missing a significant portion. The parrot is perching within a T-shaped window, the scene apparently taking place in a room within a building. Part of the headdress of the scribe is visible, as is one of his hands reaching up to the parrot, perhaps to feed her. The unusual text immediately generated considerable interest and discussion among epigraphers (Kerr, 2009).

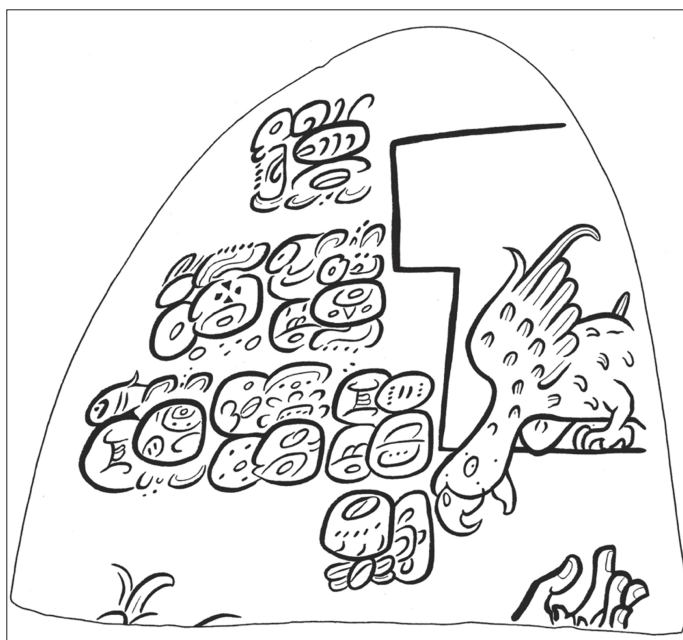


Figure 1. The incised shell K8885 (drawing by Peter Matthews)

In this article we argue that it also presents a unique opportunity to constrain the semantics of the rare T650 glyph, providing valuable clues towards its phonetic reading.<sup>1</sup> The text in the shell can be analyzed as follows:

<sup>1</sup> To the best of our knowledge, the only prior attempt at the decipherment of T650 proposed a logographic value of K'AS (Lopes and MacLeod, n.d.(a) and (b)). In October 2010, the authors initiated correspondence on the glyph, kindled by the recent K8885 and Tonina Wall examples. The working hypothesis was that in the Yaxchilan theonym, the k'a- prefix (the "HAND") and the -si suffix were phonetic complements. In this proposal the authors analyzed the full set of occurrences of the glyph and its morphosyntactic role. For a brief period in May 2021, the same authors explored an alterna-

‘a-hu-le-li-ya ti ni-T650-la me-te ya-‘a-la-ni ‘o-po ya-‘a-[la]-ji-ya hu-bi  
‘u-ju-chi [2]po-lo tz’i-i ba-che-bu

*‘ahuleliiy ti ni- ? met ya’alan ‘op ya’alajiiy huub  
‘ujuhch Popol Tz’i baah cheeb*

‘(it is) your arrival/you arrive at my ? nest,’  
he says (tells) it, the parrot, said (had told) the shell;  
it is the conch shell of Popol Tz’i,’ first of the brush (scribe)’

The first sentence, spoken by the parrot (Polyukhovych, 2007; Zender, 2017), ends with the word *met*, which is glossed specifically as ‘nest’ in Ch’ol (Aulie and Aulie, 1978) and whose cognates in other Mayan languages point to a more general meaning of ‘any object bent or twisted into a circle’ (Zender, 2017). It is reasonable to think that the preceding collocation is adjectival, specifying some aspect of the nest. This interpretation is reinforced by the presence of a *-la* suffix on T650.<sup>2</sup>

As seen in K8885, T650 has a CHUM-like contour, with a very visible body part marker and in the center, four radial “dark cake slices”. The glyph, or simply the “dark cake slices” iconographic element, is relatively rare in the corpus, and besides K8885 itself appears in only a few but important contexts: a sculptured wall and Monuments 8 and 156, at Tonina; a theonym of Kokaaj Bahlam, king of Yaxchilan, and in the plate K9072; the name of two Kaanul kings from Dzibanche’, including “Sky Witness”; a theonym of K’ihnich Waaw, king of Tikal; a narrative in Panels 5 to 8 at Xcalumkin; a stucco text at Palenque; the shells of certain turtles, and; a paired tree/stone-setting in “The Regal Rabbit Vase” (K1398). Below we present our proposal for the reading of T650. We will begin with a presentation of the phonetic evidence which supports this proposal, followed thereafter by a discussion of how this reading explains all contexts (lexical and non-lexical) where the sign appears.

tive K’AT value for T650. Recently, new phonetic evidence allowed us to set aside these proposals and to put forward the decipherment of T650 that we describe in this paper.

<sup>2</sup> There are other grammatical issues raised within this short text, all of which are worthy of further discussion but tangential to the focus of our article. They are: (1) the evidence that the nominalized intransitive verb *hul* ‘arrive’ may appear with an ergative pronoun in the main clause - effectively the antecedent to a split-ergative pattern; (2) the presence of both the incomplete and the completive forms of the verb ‘*a’al* ‘to say (to someone; ‘to tell)’ (MacLeod, 1987: Figures 2, 12) and (3) the derivation ‘*a’al* itself, which contrasts with the reconstructed root \*‘äl (Kaufman and Norman, 1984: 116). An investigation in progress by Kaufman, MacLeod and Mora-Marín will explore the development of the surface form ‘*a’al* in this text as evidence for an underlying indirective suffix \*-be via the following sequence: \*\*y-al-b’e-... > \*\*y-al-e... > \*y-a[’]l-e... > y-a[’]l-a, with the final step being regressive assimilation of final -e to the vowel of the preceding syllable, yielding *y-a’al-* (Mora-Marín, personal communication, June 2021). *Juhch* ‘conch shell’ is supported by the Ch’ol entry <jujch> ‘concha’ (Aulie and Aulie, 1978: 59) and Colonial Tzeltal <ghuch> ‘ostiön’ (Ara, 1986: 296; Mora-Marín personal communication, June 2021).

## 2. Phonetic Evidence

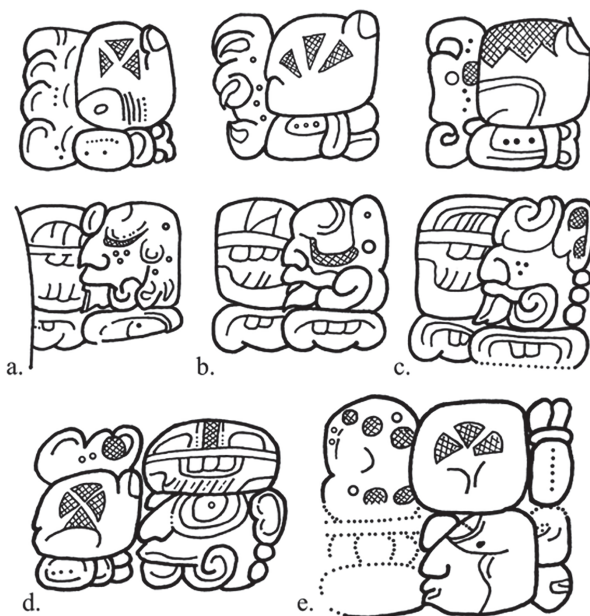


Figure 2. (a) Dos Caobas stela 1, after drawing by David Stuart, (b) K4614E, after drawing in Schele (n.d.), (c) Yaxchilan stela 18, after drawing by Ian Graham in Tate (1991) and (d,e) lintel 23 and HS3 step V, after drawings in Graham (1982).

The contexts in which T650 appears, namely in theonyms and royal names, suggest a non-syllabic value for the sign, as does to a lesser degree its rarity in the script. The Yaxchilan examples (Figure 2) are all confined to a rather opaque theonym, part of the long string of epithets carried by Kokaaj Bahlam “The Great”. The theonym involves the so-called “Bloody-Mouthed God” (henceforth “BMG”):

‘ICH’AK-“HAND”[T650]-si CHAN “BMG”

Most of the examples of this theonym (Yaxchilan Lintel 23, Stela 18, Dos Caobas Stela 1 and Site R Panel K4614E; Figures 2d, c, a and b, respectively) have T650 conflated with a “HAND” syllabogram; this could be either *cha*, *k’a*, or *ho* because the diagnostic element in the hand is hidden by T650. Moreover, the text in HS3 step V shows that theonyms were shared among generations. Kokaaj Bahlam and his son, Yaxuun Bahlam, share theonyms with their father and grandfather, Aj Wak Tuun Yaxuun Bahlam, respectively:

TE'-ku-yu ?SIP CHAN-"BMG"<sup>3</sup>

and

'ICH'AK-"HAND"[T650]-si CHAN "BMG"

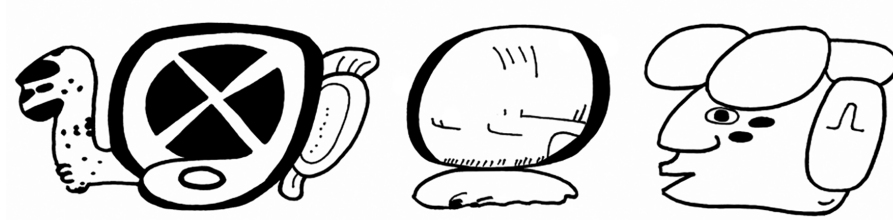


Figure 3. The theonym on plate K9072, after photo in Kerr (n.d.).

We also note that in HS3 step V, the "HAND" sign is not conflated with T650 and thus appears to be optional (Figure 2e). The "HAND"[T650] examples (occurring exclusively at Yaxchilan) are unusual in that preposed phonetic complements are rare and usually served to disambiguate readings (Grube 2010). Despite this writing convention for T650 (the example in HS3 Step V seemingly an exception), the "HAND" in these collocations can hardly be understood as a phonetic complement, as the scribes covered the diagnostic part of the sign which would have allowed the reader to distinguish between a *cha*, a *k'a* or a *ho*. This is presumed to encode an archaic convention for the theonym or be a case of scribal play.

In this context, it is noteworthy that plate K9072 carries a structurally similar theonym (Figure 3) with the CHUM-like contour of T650, but as with the HS3 Step V example, it lacks the "HAND":

'ICH'AK-T650-si CHAN "God"

This CHUM-like contour is also seen in some of the conflated examples at Yaxchilan (Figures 2b, d). The final *-si* is consistently present at Yaxchilan and appears in K9072 as well; it is very likely marking the absolute or non-possessed (body part) noun suffix *-is*. While many glyphs carry body markers without cueing body parts (e.g., the syllabograms *chi*, *ke*, *k'o*, *ye*, *yo* and the logograms 'AHN, CHOK, CHUM, HUL, TZUTZ, 'UK', and WE') the assumption that the final *-si* marks the absolute also conforms with other theonyms at Yaxchilan, namely T533-si CHAN-"BMG" (a title of Chelew Chan K'ihnich) and K'AK'-?-wa-si CHAN-"BMG" (a title of Jatz'oom Jol).

<sup>3</sup> For the reading ?SIP in "Deer God" contexts, c.f. Grube (2012).



Figure 4. Detail of the text on the back of Yaxchilan Stela 23. Photo by Carlos Pallán Gayol (2007), courtesy of Ajimaya/INAH, National Archaeology Coordination, Mexico. Drawing of theonym passage after photo.

In May 2021, Alexandre Tokovinine shared a fully phonetic substitution for T650 in the same theonym from a portion of Stela 23 at Yaxchilan (Alexandre Tokovinine, personal communication May 2021; Fash *et al.*, 2022).<sup>4</sup> In this context,

<sup>4</sup> On May 21st, 2021, we sent a preliminary proposal for a reading of T650 (based on the “HAND” sign as k’a) to fellow epigraphers by e-mail to solicit feedback. That same day Alexandre Tokovinine replied to Luís Lopes with a drawing and photo indicating that there was a phonetic substitution *ho/ jo-ma?* (T672 plus a damaged suffix) for T650 in the same theonym on Yaxchilan Stela 23. He communicated that the drawing of this portion of Stela 23 (which had not previously been available to us) was to be published in a forthcoming volume of the Corpus of Maya Hieroglyphic Inscriptions project. Tokovinine suggested that the final syllabogram might be *-ma*, but that it could also be *-to* or *-tz’i* or *-su*, and that there were interesting glosses for the roots *jom/hom*, *jotz’/hotz’* and *jot/hot* in this theonym, with his preference being *hot* ‘to cut, to pierce’ (proto-Ch’olan \*hot). Any of these invalidated our previous proposal. On May 25th we circulated a summary of Tokovinine’s reply (with his consent) to the colleagues to whom we had sent the initial note, fully crediting him with the identification of the substitution and possible candidates. Based on a preliminary analysis of the contexts we had explored (all now presented here), *hot* initially seemed the most promising for several contexts, but it was less so in others. Once we had sorted out the problems raised by the eroding h/j distinction at Yaxchilan (see the following note), the contexts involving fire (K’ihnich Waaw plate), holes (the K8885 shell), metaphorical heat and body parts (Yaxchilan and Kaanul theonyms, K9072 and the agentive title at Tonina), coupled with the evidence presented in Sheseña’s research on metonyms and metaphors for anger in Classic Maya royal names, the scales tipped dramatically towards *jom*. We note that in Zender’s comments on the text of K8885 (Kerr, 2009), there is a reference to the T650 collocation that qualifies the parrot nest as “*Ti-ni-ho?-la* (“on my head”)”, although no rationale was presented for the suggested value of *ho?* for T650.

Kokaaj Bahlam's name is preceded by the theonym wherein T650 is replaced by T672:? (Figure 4). After much discussion of the alternatives for the partially eroded suffix, we have satisfactorily determined this sign to be T74 **ma**:

#### 'ICH'AK-T672:74 CHAN-na "BMG"-na

We argue that this is a *bona fide* substitution. First, **jo-ma** occurs in the exact same syntactic position as the "HAND"[T650] in the other examples of the theonym at Yaxchilan. Second, the "HAND" is unambiguously shown in this example to be a **ho/jo** hand sign. Finally, the **-si** is absent due to a lack of graphic space. Its absence does not alter the meaning, as the primary function of **-si** in this theonym is to mark the name that follows 'ICH'AK as an unpossessed body part noun -- a formality given that the theonym must have been well-understood by the reader. Thus in what follows, we assume that the **ho/jo-ma** collocation is a full phonetic spelling of T650 signaling a reading of **HOM** or **JOM**.<sup>5</sup>

We now refer the reader to Appendix 1 for a complete inventory of *jom* entries in all relevant Mayan languages. These sources will be useful amid our discussions of each text example of T650.

The semantics of *jom* entries present a significantly wider range than that of the cognate set identified by Kaufman and Justeson (2003) for the reconstruction of proto-Mayan \*johm, but this narrower inventory is the essential backbone for the recognition of cognacy in many entries in the languages most relevant to the script. We note, for example, in the reconstruction of \*johm 'gourd' (of different types and uses) and '(dugout) canoe' a fundamental attribute "hollow" resulting from human activity. This "hollow" concept leads directly to the many entries

<sup>5</sup> The timeline of the loss of the archaic h/j contrast in Ch'olan is still undergoing refinement, in part due to emerging evidence from the hieroglyphic script. What is known for certain is: (1) proto-Ch'olan had the contrast, and (2) no modern Ch'olan language preserves it (Kaufman and Norman, 1984:86). Now that the script /hV/ and /jV/ syllabograms have all been identified, the idiosyncrasies of Yaxchilan have sprung into focus. Syllabic spellings in the texts of this site repeatedly ignore the h/j phonemic contrast at a horizon when other polities continue to honor it, which signals that in this Ch'olan speech community the contrast has already been lost. Evidence is seen in spellings such as **ba-ji** for *baah* 'person, self, image' on Yaxchilan St. 35 front, B4. Pertinent to our interface with the Yaxchilan problem are recent questions about the phonetic value of T672. There is an active controversy among epigraphers regarding the canonical value of T672, with some scholars (Helmke *et al.*, 2020: 9) proposing the sign to be both **jo** and **JOM** due to problems with the ubiquitous "incense offerer" spelling **ch'a-ho-ma/ ch'a-ho** for the correct *ch'ajoom*. Nonetheless, an unambiguous coefficient "five" in a Long Count on Copan Stela E spelled with three T672 signs (**ho-ho-ho**) for *ho'* 'five' (Kaufman and Justeson, 2003: 1475-1476) demonstrates decisively that the canonical value of T672 cannot have been **jo** and must have been **ho**. Neither do the rare **ch'a-ho** spellings (for *ch'ajoom*) favor a CVC logogram over an underspelling. Further argument is beyond the scope of this essay. We thus conclude that the **ho-ma** spelling on Yaxchilan St. 23 represents a widely productive root reconstructible as \*jom, and which appears as /j/-initial in the Colonial-period Tzotzil, Tzeltal and Yucatec dictionaries preserving the contrast. Modern linguistic studies demonstrate the leveling of the phoneme to /j/, but the root under consideration is \*jom regardless of how its reflexes are represented orthographically (i.e., as <j> or <h>) in modern dictionaries. Reflexes of \*hom are relatively scarce and not pertinent to the environments for T650.

above related not only to gourds, canoes, and wooden basins, but also to Spanish *incensarios*, then to natural things and places: trunks of trees, the trunks and abdominal cavities of people and animals, hollow quills and thorns, eye-sockets in the skull, then to canyons and narrow valleys; then to holes: embrasures (narrow windows), *troneiras* (portholes) and in the original \*johm set: sinkholes, holes in the ground, cave-ins, and by extension, Yokot'an bogs. This, in turn, evokes an array of transitive verb entries having to do with making holes, opening (cutting) paths, piercing, biting, demolishing, and submerging, as well as intransitive verbs referring to the 'ending' of certain events and acts and the sinking and collapsing both of structures and in nature.<sup>6</sup> A curiosity in the original \*johm set is Q'eqchi' *'pelón'* ('bald man') which must relate to an underlying idea also seen in Yucatecan entries pertaining to clearing brush and removing vegetation.

However, we have identified another cross-linguistic set of homophonous *jom* entries related to (a) "heat" and "fire" in both the physical and metaphysical (as well as emotional) sense, and to (b) the rising/piling-up of natural or body/heart forces. We propose this set to include at the outset the Colonial-period \*jVC entries *ghomoltay*, *ghomoltez* 'amontonar/pile up' as well as *homel* 'diluvió' (which we believe to be \*jomel) in Colonial Tzeltal, and in Colonial Yucatec (all under "H rezia" [jVC] ), *hom* 'cresciente de mar o río', *homkaktah* 'quemar o pegar fuego', *homocnac ik* 'viento rezio y bravo que hace ruido/ strong, wild wind which makes noise', and *homol ol ti menyah* 'el apresurado, acelerado para trabajar/ one who is rushed/in a hurry to work'.

These now open a path to the inclusion of modern entries such as *jomlij* and *jomomet* in Tzotzil with meanings 'running suddenly' and 'pushing oneself'; Ch'ol participles *jomol* and *jomtäl* 'amontonado(s)/piled up'; and Itzaj *jom* 'large flame' and *jom k'ak'* 'burn with flames of torch'. But of all these, the entries in this second set most applicable to the regnal names we will shortly analyze are the *jom* entries glossed specifically as 'anger' and 'hot vapor' or 'heat' in Ch'orti.' Although employed for the fever of illness, this *jom* is also a metaphysical heat, an "inner heat" possessed by humans and gods that emanates from body parts such as the heart, hands, mouth, and eye in the form of ire/wrath in humans and lightning in the gods.

This view is supported by ethnographic fieldwork among the Ch'orti,' wherein this metaphysical "heat" is viewed as a powerful and complex concept. The Ch'orti'

<sup>6</sup> On Copan Stela 11 there is a consummate script example spelled *jo-mo-yi jomoy*, 'collapse(d)' employing the Eastern Ch'olan root intransitive/mediopassive verb form *CVC-Vy*. Its subject is *WIN-TE' NAH Win Te' Naah* - an enigmatic term of probable Teotihuacan origin which serves as a metaphor for 'dynasty'. Given the militant symbolism and the "exit" of the founder and the last member of the lineage stated in the rest of the text, plus the history supplied by Copan Altar Q, we take this "collapse" to be not of a building but of the dynasty itself. In the text of *The Ritual of the Bacabs* (Roys, 1965), a compilation of incantations for the curing of afflictions and diseases, one finds these two "sinking" female celestial supernaturals amid the lengthy pedigrees of a type of ulcer termed <chac anal kak> 'red *analk'ak*'.



perceive it as an intrinsic property of bodies and spirits and assign it - in company with *jom(ir)* - names such as *jolchan*, *hijillo* and *k'ahk'*. One's heat may protect him/her from evil spirits and disease; however, it can also lie at the source of diseases, death, and "demonic possession." The equilibrium is precarious and conditioned by many internal and external factors, the latter because it can be transmitted between persons and spirits through physical or visual contact and through moving air (Wisdom, 1940; Kerry Hull personal communication, June 2021).<sup>7</sup>

As we proceed through the script contexts for T650, we will recognize many of the above glosses from both the \**johm* '(make) hole/hollow/open path' set and the \**jom* 'fire/metaphysical heat/wrath' set. While these overlap in the milieu of rising seas and floods and of *incensarios*, we do not propose these sets to be cognate.

Finally, we suggest that the human-trunk-like or CHUM-like form of T650 may find an explanation in the entries *homtanil* (H rezia) 'estomago, entrañas y lo hueco de cualquier animal' (Arzápalo, 1995) and *homtanil* 'hueco del pecho, la cavidad del pecho' (Barrera Vásquez, 1980: 214), indicating this to be the "hollow" part of the body.

We now turn to the discussion of the script contexts for T650, starting with the lexical examples.

### 3. Lexical Examples

#### 3.1 *The K8885 Shell*

In the scene, the parrot perches in a narrow T-shaped window in a palace room positioned above his owner's head, thus invoking the Tzotzil entry 'embrasure, tronera (porthole, small window)' in Appendix 1.

<sup>7</sup> The following is based on comments to the first version of this paper kindly sent by Kerry Hull (personal communication, June 2021). We quote him:

*Jomir* and its verbal form *jomi* are common to mean just basic meanings of 'burn' such as a burning of the stomach after eating a super-hot chili. Also, when someone is sick with a fever, it's a common way to refer to that heat. It can be the literal heat of a flame also. In addition, it is commonly used metaphorically to mean 'anger'....

But the meaning that is most relevant to your argument in the paper is the ritual use of the term *jomir* that I give in my dictionary. Curanderos do use it (as that entry shows, which was taken from a healing prayer). It is a form of 'evil heat' that emanates from menacing spirits that cause disease. A fever is sometimes said to be a result of evil spirits transferring their *jomir* to humans. Here it means an infectious 'heat' that weakens the person.

The tight relationship between anger and 'heat' is certainly there in Ch'orti,' and it is something that is readily transferred through embarrassment, fear, and other negative emotional experience. Much of Ch'orti' etiology is based on this notion of weakening someone's body through these emotions, which then leaves one vulnerable to being infected with a myriad of different 'evil heats,' of which *jomir* is one.

For *ti ni-jomal met* we propose the translation ‘to/at my window-nest,’ wherein the noun *jom*, now with the suffix *-al*, functions as an adjective.

### 3.2 The Stucco Wall and Monuments 8 and 156 at Tonina

A new stucco wall was discovered in 2007 in the “Templo de las Luciérnagas” at Tonina. The text (Figure 5a) mentions the inauguration of a wall (*u-kot*) by a vassal of the Tonina king K’ihnich Baaknal Chahk (Polyukhovych, 2007). The text clearly states that it is the vassal’s wall, not the king’s, and refers to him through a sequence of titles: ‘AJ-K’UH-na, ‘AJ-?][JOM]-na and ‘AJ-CHAN-k’u-NAL. Clearly, only a high-ranking court official would have the privilege of owning a wall and be named thereupon.

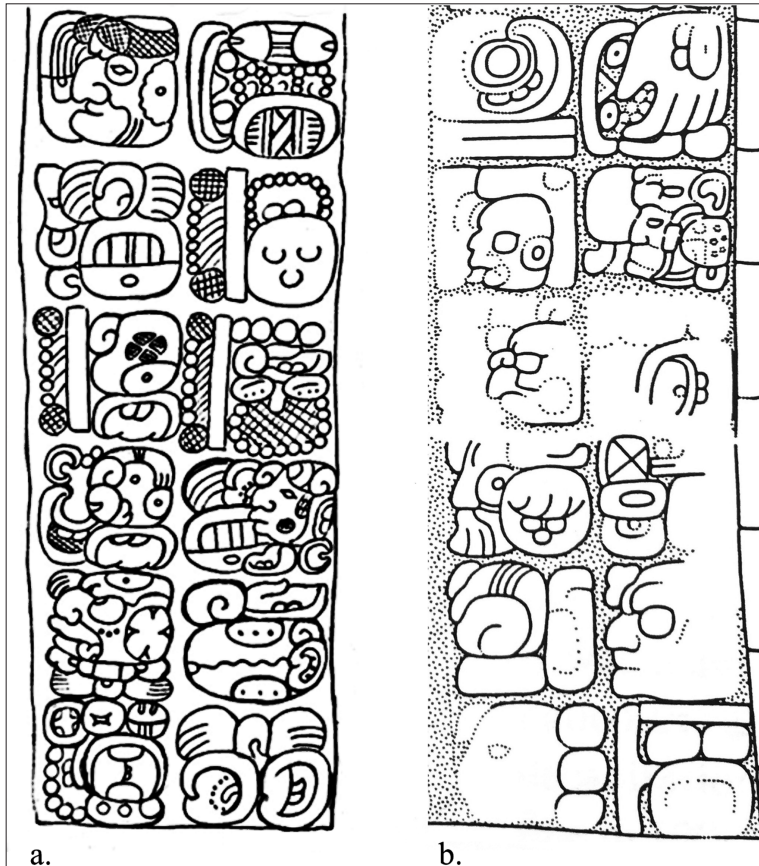


Figure 5. (a) The Tonina wall (drawing by Yuri Polyukhovych) and (b) Tonina, Monument 8, side 3 (detail), drawing by Peter Mathews. © President and Fellows of Harvard College, Peabody Museum of Archaeology and Ethnology, 2004.15.6.14.13, from Graham (1983).

The first expression is *'aj k'uhuun*, a high-ranking court office that included multiple functions (Jackson, 2001; Zender, 2004a; Wald, 2015; Sanchez *et al.*, 2019: 47).<sup>8</sup> The final expression is *'aj chan k'u[h]nal* ('he of the four temples/gods-place'), perhaps a precinct in the city or a local toponym. Pertinent to our discussion is the middle expression, in which T650 is infixed into an elusive sign, noted by Polyukhovych to also follow T650 on Monument 156 (Figure 6) in association with the *'aj k'uhuun* title (Sanchez *et al.*, 2019: 49), and is suffixed by the syllabogram *-na*.<sup>9</sup>

Using high-quality photographs of Monument 156, we identified the elusive sign as the “half-head” sign **TI** the full form of T128 (Figures 6 and 7a-c), which compares favorably to examples with the same “forehead curl” (Figure 8). This leads to a reading **AJ JOM TI** *'aj jom ti* 'he of the heat-mouth.' The heat-related entries that clarify the semantics of this title can be found in Appendix 1.

The example in the Wall is a variation involving the inchoative *-an*, resulting in *'aj joman ti* 'he of the mouth which becomes heat.' In both cases, the title should be understood as a linguistic figurative reference with the meaning 'he who is ireful' (Sheseña, 2020).



Figure 6. The collocation in Monument 156. Photo ©Jorge Pérez de Lara and Proyecto de Conservación y Documentación de Toniná de la CNCPC-INAH, drawing based on photo.

<sup>8</sup> The *'aj k'uhuun* title has been interpreted in several distinct ways by scholars (Jackson, 2001; Zender, 2004a; Wald, 2015; Sanchez *et al.*, 2016: 47). The most persuasive interpretation in our opinion is that of Wald (2015): 'he of the holy headband', or metaphorically, 'he (who is) in the crown's service'.

<sup>9</sup> Yuriy Polyukhovych observes that the two signs written separately in Block L of Monument 156 are conflated, then followed by *-na*, in Block A8 of the wall text from the “Templo de las Luciérnagas” (Sanchez *et al.*, 2019: 49). He considers the collocation of T650 with the “*chu*-like” sign either paired or conflated with it to be a special title of unknown meaning for a new *'aj k'uhuun* of the court of K'ihnich Baaknal Chahk and identifies these as belonging to the same individual. Our views differ with respect to the identification of the “*chu*-like” sign: we recognize it as **TI** 'mouth'.

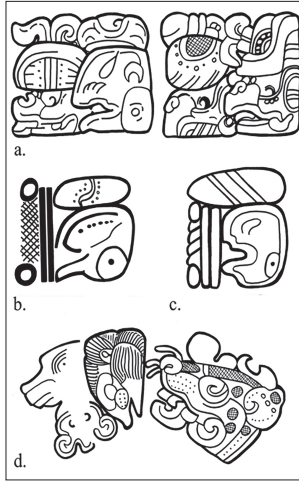


Figure 7. (a) Copan Altar K, after drawing in Schele (n.d.), (b) K635, after photo in Kerr (n.d.), (c) Naranjo Stela 19, after drawing in Graham (1975) and (d) incised bone at Dallas Museum of Art, after drawing in Mayer (1989).

Indeed, in colonial and modern vocabularies we find special linguistic figurative expressions that, referring to anger or courage, relate fire to parts of the human or animal body, especially the heart, mouth, face, and head. These metonymies and metaphors of anger in the Mayan languages manifest themselves as type [N + N] diphrasisms composed of the word fire, or other phenomena or objects of the same semantic domain, preceding the word relative to one of the parts of the body, human or animal. In this way they create a third concept: anger. These diphrasistic compounds in turn come to function as qualifiers for a noun to indicate that the latter is “angry.” Consider, for example, the case of Tzeltal *k’ajk’al o’tan winik* ‘fire-heart man’ > ‘angry man.’ In classical hieroglyphic texts, this type of resource has also been found, e.g., in K1652 we have K’AHK’-‘OHL CHAM *k’ahk’ ohl cham* ‘fire-heart death’ > ‘wrathful death’ (Sheseña, 2020: 441). We note also that in Yucatec the expression *chakaw chi* ‘hot mouth’ is used precisely to express the idea of anger (Barrera Vásquez, 1980: 78). In classical hieroglyphic texts we find a similar expression to indicate an angry person: ‘AJ-TOK’-TI’ *‘aj took’ ti’* ‘he of the flint mouth’ (K635 and Naranjo Stela 19) (Figure 7b-c). In this case, ‘flint’ is metaphorically equivalent to ‘fire’ in the sense that it is wounding (Sheseña, 2020). Therefore, we propose that the epithets *‘aj jom ti’* ‘he of the hot mouth’ and *‘aj joman ti’* ‘he of the mouth which becomes hot’ should be understood along the same lines as the linguistic metonymies and metaphors of anger.

Wald (2015) notes that the characters *‘aj k’uhuun* had a variety of functions at court, including sculptors (*aj uxul*, Bonampak Lintel 4) and warriors (*yajaw k’ahk’*, Tonina Monument 140). This shows the high status of the carriers of this title, although this varied from one place to another. In the case of Tonina, these

characters stood out even more due to the preponderant role they played in the wars for the territorial expansion of this political entity (Martin and Grube, 2008: 181-185; Sanchez *et al.*, 2019). It is therefore not surprising that one of these characters ‘*aj k’uhuun*’ bears an epithet as potent as ‘he who becomes ireful,’ otherwise reserved for kings.

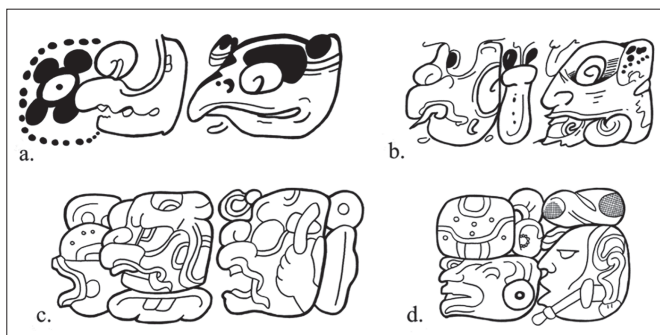


Figure 8. TI' with a forehead curl: (a) K1387, after drawing in Martin and Reents-Budet (2010), (b) K1440, after drawing in Matteo (n.d.) and (c,d) La Corona Miscellaneous Monument 1 and Copan Stela A, after drawings in Schele (n. d.).

Another possible reference to the epithet appears in the badly damaged Tonina Monument 8 (Figure 5b, grey inset square) where the main theme is the celebration of a period ending by “Ruler 2” in the presence of K’elen Hiix, an ‘*aj k’uhuun*’ known to have served the royal court for several decades (Martin and Grube, 2008: 181-185; Sanchez *et al.*, 2019), and the Paddler Gods, the patron gods of Tonina. The proposed TI' logogram appears to the right of T650 and looks like the beak of a wind god (for another such variant of TI' see Figure 7d). It is not clear whether this refers to K’elen Hiix or to someone else who attended the ceremony.<sup>10</sup>

<sup>10</sup> Monument 8 describes the celebration of the 9.12.10.0.0 (May 8th 682 A.D.) period ending by “Ruler 2”. The glyphs between the name of the king and that of K’elen Hiix likely refer to the presence of the latter in the ceremony. The date of the dedication of the Wall in the “Templo de las Luciernagas” is 9.13.16.8.10 (June 11th 708 A.D.). The date of the death of K’ihnich Baaknal Chahk is not known but his successor, K’ihnich ?Chuwaaj K’ahk’ acceded to the throne in 9.13.16.16.18 (November 24th 708 A.D.) at the tender age of 2. Thus the wall was dedicated at the very end of K’ihnich Baaknal Chahk’s reign. K’elen Hiix himself died in 9.14.5.8.4 (April 19th 717 A.D., as mentioned in Monument 165). After his death, one of his peers - an ‘*Aj K’uhuun*’ called ‘*Aj Ch’aaaj Naah*’ took the office of *Sak Ti’ Huun* (Sánchez *et al.*, 2019) and the epithet ‘*Aj Jom Ti’*’ seems to disappear from the record. While this information is consistent with K’elen Hiix and ‘*Aj Jom Ti’*’ being the same person, with the current data it is impossible to be sure.

### 3.3 The Theonym at Yaxchilan and in K9072

At Yaxchilan, T650 appears in a theonym that is part of the long name phrase of Kokaaj Bahlam “The Great”. These examples, together with a similar one on K9072 (Figures 2, 3 and 4), provided the main phonetic clues to the reading of T650. Besides suggesting a reading of **JOM**, the examples show that the final **-si** is not working as a phonetic complement but rather as the absolutive *-is* for unpossessed body parts (Zender, 2004b), in line with other theonyms at Yaxchilan. We note that the reading for the head variant on K9072 is uncertain and accordingly we use an unassuming label “God”. Thus, we propose the literal translation for these theonyms *‘ich’aak jomis chan* “BMG” / “God” as ‘the BMG / God whose claw [is] heat in the sky.’ In our view, this ‘claw-heat’ might be understood as a metaphor for “lightning,” thus yielding ‘(the) BMG / God (who is) lightning in the sky’. The same set of dictionary entries presented in the Tonina contexts relating to “heat”, “burning” and “flames” are relevant for this translation.

The use of the absolutive in the compound *‘ich’aak jomis* (‘claw-heat’) might initially be unexpected, as it is not anatomically a body part. But not only does it fit in the category identified by Zender as “metaphorical extensions of the king’s body – symbols of his ability to tame nature” (Zender, 2004b: 203-204), it is ratified by the Ch’orti’ belief that “heat” - both physical and metaphysical - is “a part of a human” (Hull, personal communication June 2021). In current indigenous Mayan conceptions, the strength of the person, both physical and moral, is associated with the possession of a certain type of “heat” that is brought with him from birth. This “heat” becomes more intense with age and with the exercise of office: the principals of each community have accumulated enough “heat” and that allows them to occupy the highest positions. The possession of a strong “heat” is visible in the practice of socially correct behavior, in the management of wisdom and courage, and in the ability to relate to various supernatural entities. In the language these conceptions are reflected in expressions such as *k’ajk’al winik* gobernador ‘brave governor’ (literally ‘hot governor’) (Mendez, 2019: 74), or *k’ak’ tepeu* ‘inaccessible majesty’ (literally ‘hot majesty’) (Villa, 1985: 189). That is why “heat” endows leaders with a certain power that in turn instills respect and fear among ordinary people (Guiteras, 1986: 237; Villa, 1985: 188-189; Sanchez, 1998: 130-133; Page, 2005: 164). In the Yucatecan language, for example, the term *k’inam*, which derives from the root *k’in* ‘heat,’ is used in the sense of “virtue”, “strength”, “vigor”, but also “respect” and “fear” (Barrera Vásquez, 1980: 402). We observe the same conceptions among the Nahuatl (López, 1980). Finally, Hull (personal communication, June 2021, see note 7) states that Ch’orti’ curanderos regard the “heat” of anger as “part of a human”. Thus, *jomis* may refer to this “heat”.<sup>11</sup>

<sup>11</sup> We regard the *-is* suffix as evidence that *jom* is not an antipassive form in this context; it has to be a noun. Considering the inventory of available *jom*-related nouns, ‘heat’ is not only the most

In the example of the Kokaaj Bahlam theonym on Yaxchilan Stela 18 (Figure 2c), we may observe a visual play on the homophony between the “heat-related” *jom* and the “collapse” *jom*. Here the top part of the T672 hand is jagged and blackened as if the “dark cake slices” of T650 have been expanded to represent a collapsed roof or ceiling with broken edges and ruined interior remaining.

Also at Yaxchilan, we find another relevant theonym in the sculptor’s signature on Lintel 46 (Figure 9). It is spelled **ho-ma-la CHAK-ki**, likely reading *jomal chahk* (this form of the final **-la** is used elsewhere at Yaxchilan, e.g., in the name of Lady K’abal Xook at I1 on Lintel 25 and in the name of K’awiil at B2 on Lintel 39). We propose a translation of **ho-ma-la CHAK-ki** as *jomal chahk* ‘Hot Chahk (Lightning).’ The inscription says that the sculptor Tz’ihb Chahk is an assistant (*y-an-ab-il* ‘his helper’) of a person carrying the titles *k’uhul* ? ‘*ajaw bakab*. Here *k’uhul* is written with an unusual “tamale-eating skull” element that might at first be interpreted as part of the emblem glyph. However, the inscription of Dos Caobas Stela 1 shows that the element simply reads *k’uhul*, as it appears as part of a clear *k’uhul pa’chan* ‘*ajaw* collocation referring to Kokaaj Bahlam. Moreover, recent research suggests that the rare emblem glyph carried by Jomal Chahk, portraying a raptorial bird with another bird’s paw coming out of its mouth, may be associated with the site of Itzimte (Beliaev et al., 2017). The example lends further support to the lightning metaphor in the theonym ‘Ich’aak Jomis Chan “BMG” and its translation as ‘Bloody-Mouthed God whose claw [is] heat in the sky.’

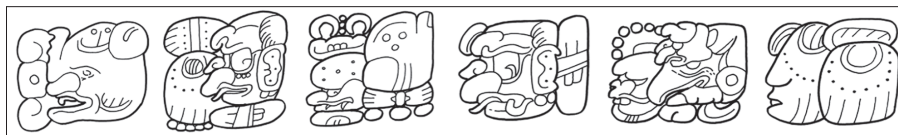


Figure 9. The sculptor’s signature in Yaxchilan Lintel 46. Drawing after Graham (1979).

### 3.4 The Names of Two Kaanul Kings

Two Early-to-Middle Classic kings of the Kaanul dynasty at Dzibanche’ have T650 in their names. They are kings #11 and #17, as listed in the “Dynasty Vase” K6751. We start with king #17, nicknamed “Sky Witness”. In this context, the glyph appears conflated with a ‘UT ‘eye, face’ logogram on Caracol stela 3, on K6751, on the Palenque HS, and at Yo’okop (Figure 10a, c, d, e, and f). On a bloodletting bone from Dzibanche’ (Figure 10b), it appears conflated with **CHAN** ‘sky’.

appropriate; it is the only one meeting both grammatical and semantic constraints. In the Kaanul theonyms, however, the absence of *-is* leaves open the antipassive possibility.

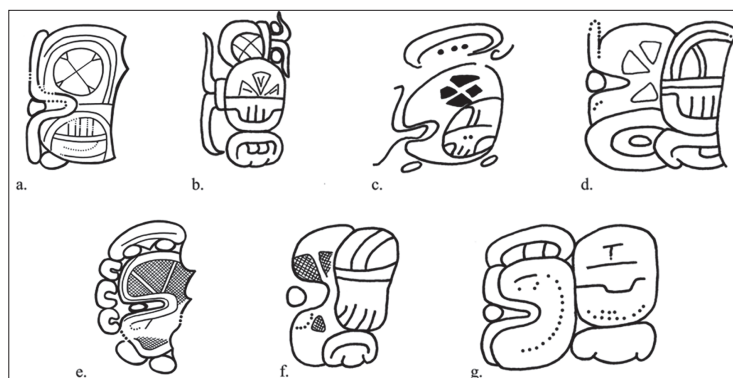


Figure 10. (a) Caracol Stela 3, (b) Dzibanche' bloodletter, (c) K6751, (d) Palenque HS, (e) Yo'okop, (f) Naranjo Stela 47 and (g) Los Alacranes Stela 1. After drawings in (b) Velásquez García (n.d.), (a, c-g) Martin (2005), Martin and Stuart (2009) and Martin et al. (2016).

In some examples, an apparently optional 'u prefix is present, whereas the bloodletter from Dzibanche' includes a **tu** superfix--perhaps a preposition, but more likely a space-restricted phonetic complement following 'UT (Martin, 2017). The example from the Palenque HS clearly shows the CHUM-like contour of T650, with its body part marker, conflated with 'UT. In this context, it is obvious that the glyph is to be read. At Yo'okop the **CHAN** part of the name is not visible, and additional **-no** (and probable **-ma**) syllables are represented, perhaps part of a complex confluence with the Yuhknoom title carried by the Kaanul dynasty kings (Martin, 2017). Indeed, Olguín and Velásquez (2013) have proposed a **YUK** value for the rare hand variant sign T217 based on T217-**no-ma** spellings in the name of "Sky Witness" at El Resbalón and Pol Box. These in turn substitute for a **yu-ku-no-ma** spelling preceding the recurring **UT[T650]** collocation on the Dzibanche' bloodletter. The reading order in this name is more challenging, as the scribes exercised considerable aesthetic freedom. Nevertheless, examples from the Palenque HS and Naranjo Stela 47 (Figure 10d and f), and from Los Alacranes Stela 1 (Figure 10g) indicate that **CHAN** should be read last. Martin (2017) reaches a similar conclusion and suggests that the full spelling could be reconstructed from all available examples as **YUK-no-ma 'u-'UT[T650] CHAN K'AK'-BALAM**. With our present understanding of T650, we translate this as 'fire jaguar (who is the) shaker (of the) eye (which is) heat (in the) sky'. The core phrase, and the focus of our effort, is (**'u-**) **'UT JOM CHAN** '(the) eye (which is) heat (in the) sky'. Here we would have a metaphor very similar to that in the theonym of Kokaaj Bahlam at Yaxchilan. In the Yucatecan figurative language of emotions, the expression *chilak ich* refers to 'anger' (Bourdin, 2014: 246) and literally means 'eye that eats or burns' (*ich* 'eye', *chilak* 'thing that eats, stings, burns or burns as a rash, fire or sore' (Barrera Vásquez, 1980: 99). In this case anger is conceptualized as physical damage caused to another person by "gazing" (Bourdin, 2014: 153), as in "heat" in the "Sky Witness" name. This is a



potent metaphor for a gaze that is forbidding, even dangerous. Thus, the name *‘ut jom chan* would ultimately mean ‘Wrathful Eye in the Sky.

As for king #11, the only known spellings for the name are T217-CHAN[T650]-ka-KAAN (K1372) and T217-CHAN[T650]-ka-KAAN-wa (K6751) (Figure 11). The final *-wa* in the K6751 example is likely an elliptical spelling for T217-CHAN[T650]-ka-KAAN-*\*K’UH-*\*KAAN-*\*AJAW-wa**, the snake head providing both a part of the name and the emblem glyph. Such compact spellings are common in the “Dynasty Vases.” The spellings involve the T217 hand variant assumed to read YUK. With so few examples available it is not clear if the sign stands for the royal title *yuhknoom* ‘shaker’ or if it is part of a verbal construct involving an antipassive *yuuk* ‘shake’. The transcription YUK-[JOM]CHAN-KAAN *yuhk[noom]/yuuk jom chan kaan* is either ‘(the) snake (is the) shaker (of) heat (in the) sky’ or ‘the snake (who) shakes (the) heat (in the) sky’. As with the foregoing “heat” theonyms, this ‘shaking of the heat’ may be understood as a metaphor for “lightning,” yielding ‘(the) snake (who is) lightning in the sky.’ This is in conformity with the Maya perception of lightning as ophidian in nature - that is, its materialization in the form of K’awiil. For these translations, we refer the reader to the entries related to “heat,” “burning” and “flames” in Appendix 1.*



Figure 11. The name of Kaanul king #11: (a) K1372, after photo in Kerr (n.d.), and (b) K6751, after drawing in Olguín (2013).

### 3.5 The Theonym at Tikal

In this context, T650 appears in a theonym that is part of the long name phrase of K’ihnich Waaw and is always conflated with the T20 “top curl” logogram. We understand this as a “Fire-T20[T650]-Sky-God” construct that specifies a particular aspect of the Yopaat storm deity (Figure 12). The as-yet undeciphered sign T20 (in the following cases having an infix **WINIK**) is associated with the 4 Ajaw (8 Kumku) Era Day statement on the Early Classic Escuintla Mask, likely from Río Azul, and serves as a unique Glyph D in the Lunar Series of Quiriguá Stela E (east) on the Period Ending date of a solar eclipse (Kelley, 1977). In these contexts, it is certainly a verb, while here we postulate that it is a nonverbal part of the logogram.<sup>12</sup>

<sup>12</sup> The behavior of T20 in this theonym, and its absence from the “Canoe with Paddler God” allo-graph described below, has led us to speculate that it may be a front-facing “torso” allo-graph of the CHUM-like T650. While the various contexts of this rare sign will be explored in a future investigation, we note (setting aside the **WINIK** infix for the moment) that a reading *jom-iy* ‘he (G) or it (the Sun) sank’ for T20 would fit both the Escuintla Mask and the Quirigua Stela E eclipse contexts. This speculation is

We suggest that **K'AK'** and T20[T650] should be equated due to the pattern typical of other fire-initial agent-focus theonyms.

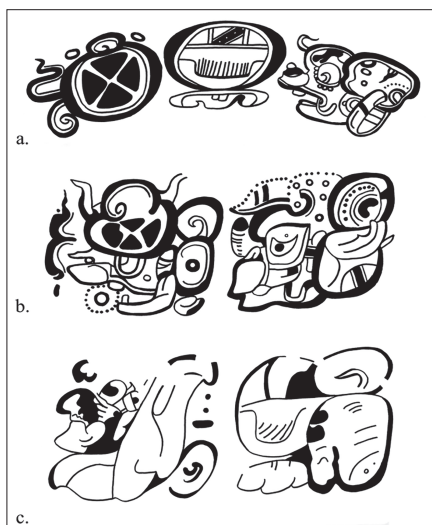


Figure 12. (a) K1261, after drawing in Montgomery (n.d.), (b) K772, after photo in Kerr (n.d.) and (c) vessel from Tikal's Burial 195, after drawing in Moholy-Nagy and Coe (2008).

In the several examples of the K'ihnich Waaw theonym on ceramic vessels, it is (almost invariably) written as: **K'AK'** T20[T650] **CHAN YOPAT** *k'ahk'* X-*jom chan yopaat* 'the Yopaat whose Fire is X-Heat in the Sky' (with X representing T20). However, one example of the theonym (Robiscek and Hales, 1981: 155) features an ergative pronoun *u-* between *k'ahk'* and T20[T650]. So, it is possible that the actual spelling and translation should be: **K'AK'**-*u*-T20[T650] **CHAN YOPAT** *k'ahk'* *u*-X-*jom chan yopaat* 'the Yopaat whose Fire is his X-Heat in the Sky'. The simplest possible structure for the theonym suggests that T20[T650] may, in fact, be a single sign and an allograph for T650. Were this the case the title would be read *k'ahk'* *u*-*jom chan yopaat* 'the Yopaat whose Fire is his Heat in the Sky'. The interpretations presented in the Tonina and Yaxchilan contexts relating to "heat," "burning" and "flames" are relevant here; to these, we add the Itzaj and Yucatec *jom-k'ak'* entries translated as 'incendiarlo' and 'burn with flames of a torch' (cf. Appendix 1).

Of particular interest is one plate (Figure 13) naming K'ihnich Waaw as the owner. The PSS begins with '*u*-**K'AK'**-T20[T650] **ka-la** *u-k'ahk'* X-*jom lak* 'his Fire-X-Heat plate', with **K'AK'**-T20[T650] being the same collocation seen in the Yopaat theonym, but now possessed as a noun phrase.

further motivated by parallel Era Day events in the mask text and on the Tablet of the Cross at Palenque, wherein the deity GI "descends" (*ehm ta chan*) from the sky (Callaway, 2012: 104, 217, 247).



Figure 13. Initial glyphs of the Dedicatory Formula in a plate naming K'ihnich Waaw as the owner, after drawing in Coe (1988: 106).

Also related to this theonym, we note the unusual and telling substitution of the K'AK'-T20[T650] collocation with a “Canoe with Paddler God” logogram (Figure 12c) in a vessel found in Tikal’s Burial 195. This almost certainly names K'ihnich Waaw, as inferred from the archaeological context and from the remainder of his appellatives in the Dedicatory Formula. We suggest this to be an example of artistic virtuosity, the scribe replacing T650 JOM with a homophonous “Canoe with Paddler God” logogram. The absence of *k'ahk'* before the “Canoe with Paddler God” might be explained by the elemental (fire vs. water) clash introduced by this playful substitution, but one must bear in mind that an earlier part of the text has been lost due to breakage. Anyone reading the plate would know this to be *jom* ‘to sink’ as well as *johm* ‘dugout canoe’ (cf. relevant entries in Appendix 1), and would recognize the theonym. Another example of this very rare “Canoe with Paddler God” logogram appears on an incised shell from Hiix Witz (K4692) in a context that clearly marks the death of an individual, paired with (*y-itaj*) a second death represented by the common form CHAM-mi *cham-i* ‘he dies’. These deaths are in turn linked via a Distance Number to the death (*k'a'ay u-sakbak y-ik'il* ‘ended his vitality and breath’) 104 years prior of a Hiix Witz ruler named *utis chan 'ahk*. We suggest that the passage of interest here (Figure 14) reads as follows: ?JOM ti-?YEH-TUN ?-AHK *jomi ti yeh tuun ? 'ahk* ‘sinks(=dies?) by/with tooth/sharp stone ? Turtle.’ This manner of death “by sharp stone”, possibly suggesting assassination, is observed elsewhere in the corpus of inscriptions. The parallel between the contexts suggests that the logogram “Canoe with Paddler God” is a metaphor for death in the sense of *'och-i ha'* ‘he entered the water’. The scenes incised on the famous bones from Tikal’s Burial 116 and painted on several ceramic vessels, in which the Paddler Gods steer a sinking canoe that carries the Maize God and animal companions, clearly provide a metaphor for the latter’s death (Stuart, 2016). We thus propose that the “Canoe with Paddler God” logogram is an allograph of T650 representing the intransitive root *jom* ‘to sink’. In this light, it is perhaps not a coincidence that the idiosyncratic example from Tikal (Figure 12c) was found in a funerary context.

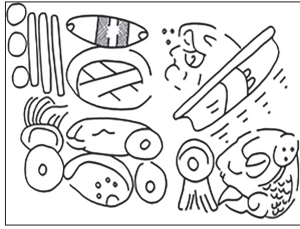


Figure 14. Text fragment from the Hiix Witz shell. Drawing after Fitzsimmons (2012).

### 3.6 The Xcalumkin Panels

Panels 5 to 8 at Xcalumkin (Figure 15) were placed on an internal wall in the South Building of the Hieroglyphic Group at the site (Grube, 1994; Boot, 1996). They form a pair (5,6 and 7,8) on each side of a doorway between an antechamber and a room in the building. According to Grube (1994: 321), these panels mention two individuals that may have shared power at Xcalumkin in the middle of the 8<sup>th</sup> century: Kelem Baah Tuun and Kit Pa'. They carry titles such as: *sajal* (a common court title of unclear meaning), *kelem* ('young one') and *baah tuun* (a patronym from the province of Ah Canul where Xcalumkin is located) (Boot, 1996 and references therein). In this context, the short text in Panels 7 and 8 can be analyzed as follows (assuming a reading order for Panel 8 of B1-C1-B2-C2, as in Panel 6):

**K'AL?-la-ja 'u-wo-jo-li ke-KELEM-ma ba-TUN-ni  
2-TZ'AK CH'AK-ja-li 'u-JOM-la ki-ti-PA'-a**

*k'ahlaj? u-wojil kelem baah tuun cha' tz'ak ch'akajil u-jomal kit pa'*

'were fastened, the glyphs of Kelem Baah Tuun;  
two compartments (are) across from one another;  
it is the passageway of Kit Pa''

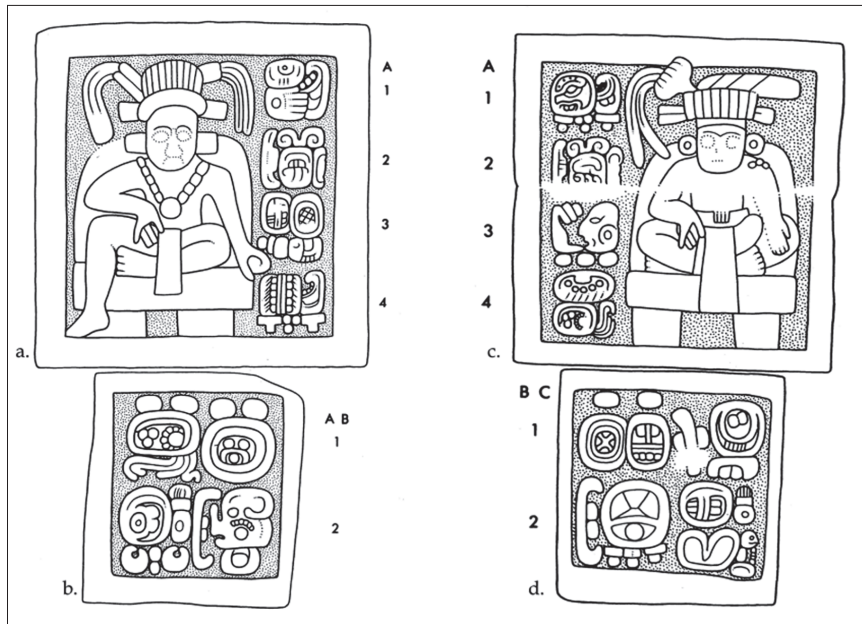


Figure 15. (a-b) Xcalumkin, Panel 5 and Panel 6, drawing by Eric von Euw. © President and Fellows of Harvard College, Peabody Museum of Archaeology and Ethnology, 2004.15.6.10.39. (c-d) Xcalumkin, Panel 7 and Panel 8, drawing by Eric von Euw. © President and Fellows of Harvard College, Peabody Museum of Archaeology and Ethnology, 2004.15.6.10.40. From Graham (1992).

The overall theme in the four panels is glyphs (*u-wojil*), carving (*'uxul*) and, apparently, in Panel 8, the placement of two sections (*cha' tz'ak*) of interior construction (two compartments or rooms, per the plan as described by Grube and Boot) opposing one another (*ch'ak[aj]il*) separated by a doorway. For the relevant *tz'ak* entries, Barrera Vásquez (1980: 872) gives '*juntura, añadidura, tramo*', for which we have elected 'compartment' in English.

We propose that the collocation at C1, **CH'AK-ja-li**, should be analyzed as *ch'ak-[aj]-il* 'something in a state of being across from something else', based on the root *ch'ak*, 'atravesar a la otra parte' (Barrera Vásquez, 1980: 122) and the fact that in Ch'olan *-aj* is an inchoative, here nominalized with *-il*. This nicely fits the layout of the two interior sections of the building.<sup>13</sup> The final two collocations, B2 and

<sup>13</sup> Some authors (see García Nava, 2017) interpret this passage as *cha' tz'ak ch'ak ohl* 'the second in line, the heart-cutter'. However, it is very unlikely that **CHA' TZ'AK** is a lineage statement, as it is missing the diagnostic **-bu** positional/transitivizer suffix. Occurrences of lineage statements missing this morpheme are very rare and Early Classic (e.g., Tikal Stela 12, Deletaille Vase). Moreover, a detailed stylistic and orthographic analysis of the text in Panel 8 shows that the putative 'heart-cutter' title (otherwise known only from texts at Chichen Itzá) is not present. The glyph that follows **CH'AK** is not the logograph **OHL** but rather the syllable **-ja**, followed by a final **-li**. At Chichen Itzá, the *ch'ak ohl* title not only features bona fide examples of logographic **OHL** but these are also invariably complemented

C2, specify a ‘passageway’ between the interior chambers themselves – *u-jomal kit pa’* – which we would accordingly translate as ‘(it is) the passageway of Kit Pa’. The relevant *jom* entries in Yucatecan and Tzotzil are found in Appendix 1.

#### 4. Non-Lexical Examples

There are several noteworthy contexts for T650 that cannot be explained lexically. In the first case, the term *u-k’ahk’* ‘his fire’ substitutes for a variant including T650, perhaps as a visual rebus. In the second, T650 serves to distinguish the hollow turtle shell from the living animal via the meanings ‘hollow’, and ‘hollowed out’ for *jom* found in Colonial Tzotzil and Yucatecan (see Appendix 1). The final non-lexical examples from the vase K1398 are more elusive, but we offer a rationale below.

##### 4.1 The Palenque Stucco Text

This is a particularly important example since the glyph is part of a well-controlled context found after the Initial Series that refers to fire-drilling rituals associated with gods (Grube, 2000).

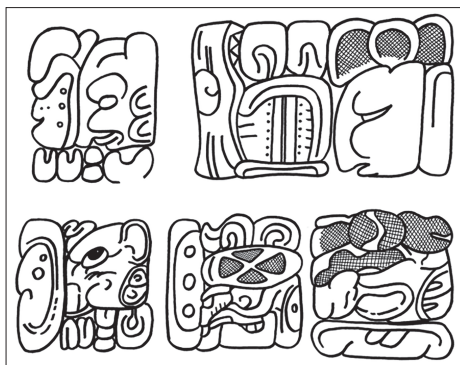


Figure 16. The fire-drilling rituals, after drawing in Grube (2000).

The collocation (Figure 16) clearly substitutes for *u-k’ahk’* ‘his fire’ in similar contexts. Although the typical outline of T650 is not visible and is replaced by a zoomorphic head that probably represents a censer, the “dark cake slices” and the body part marker are obvious. Given the uniformity of these fire-drilling statements, it is unlikely that the sign is to be read. Instead, we propose that T650 is involved in a visual rebus with “fire” or “heat” as the central concept (cf. heat-related entries in Appendix 1).

with a final *-la* syllable (e.g., Akab Dzib lintel). Finally, the character Kelem Baah Tuun never carries the title ‘heart cutter’ in the inscriptions of Xcalumkin.

## 4.2 The MAK Turtle Shells

In these turtle shells (Figure 17), only the black markings of T650 are represented. In this context, they are used simply as decoration, without phonetic value, as the reading **MAK** for the uninhabited shell is secure (Zender, 2006: 1-14).

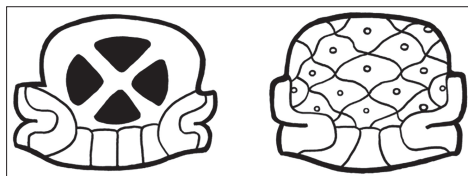


Figure 17. (a) the MAK turtle shell and (b) the AHK turtle. After drawings in Zender (2005).

We suggest that the “dark cake slices” are a rebus for the hollow turtle shell (cf. entries related to ‘hollow’ in Appendix 1).

## 4.3 The Regal Rabbit Vase

In the context of K1398, the “dark cake slices” appear conflated with the syllabogram **tz’a** which is part of a text that intertwines humor, myth, and political (martial) overtones (Carrasco and Wald, 2018).



Figure 18. Possible semantic play in K1398, after photo in Kerr (n.d.).

The text contains references to Bolon Ok Te’ K’uh and the difrasismo *Te’ Baah Took’ Baah* that are associated with war (also present in the Dresden Codex) and concludes with the following passage (Figure 18):

yi-bi k’e[se]  
 ‘u-TZ’AP[T650]-li-TE’ ‘u-TZ’AP[T650]-li-TUN-ni

*y-ib [i]k'es*  
*u-tz'apil te' u-tz'apil tuun*

'he founds it;  
(it is) the planting of the tree, the planting of the stone'

The similarity between this collocation and those of other 'planting/establishing' contexts in the Dresden and Madrid Codices suggests that the T650 infixes are a rebus for the planting (*u-tz'apil*) of trees and stones by making holes (*jom* (tv)) in the ground<sup>14</sup> (cf. entries related to making holes in Appendix 1).

## 5. Conclusion

The text in the incised shell K8885 - a delightful and personal keepsake of a Classic Maya lord - provides a contextual use of the rare T650 logogram that has been employed to pin down its semantics. The reading *ti ni-jomal met* 'to/at my window-nest,' spoken by the parrot, brings to fruition the combined efforts of epigraphers over more than a decade.

We have explored this instance of the glyph and the available phonetic evidence to propose a phonetic value **JOM** for *\*jo[h]m* and *\*jom* - a CVhC noun root and a related CVC transitive root with cognates found in many Mayan languages<sup>15</sup>.

<sup>14</sup> David Mora-Marín (personal communication, June 2021) suggests these 'plantings' to be a metaphorical couplet for "stela". Per his research on the acrophonic origin of the tz'a syllabogram, he further suggests the possibility that when T650 is present, what we have on this vase and in the codical cases is not tz'a-pa but rather the source logogram TZ'AP, itself the image of an upright tree (as on the Tikal Ballcourt Marker). It is now cued by the rebus usage of T650 for *jom* 'poke a hole'. Thus, no syllabogram pa is present in these examples, and the spelling is 'u-TZ'AP-li TE'/TUN.

<sup>15</sup> Two months after we submitted the original version of this article, a proposal by Dimitrios Markianos-Daniolos for the "Star War" glyph was published in the Research Notes series of the *Textdatenbank und Wörterbuch des Klassischen Maya* (Markianos-Daniolos, 2021). His Research Note proposes a **JOM** 'sinking, destruction, decline' reading for the "Star-Over-Earth" logograph in its canonical appearance, without the common T575 -yi suffix or polity names superimposed upon the EARTH component. The author evaluates the many contexts--most associated with warfare and attacks on enemy towns--for the hitherto undeciphered sign and offers reasonable semantic and grammatical arguments for his reading, with which we respectfully but firmly disagree. He has neither phonetic complements nor substitutions; rather he features specific examples which are assumed to substantiate his proposal. Key among them is the example from Piedras Negras Throne 1, which reads *tu* "Star War" *yi-la tahn ch'een* "Paw Stone", wherein *tahn ch'een* means 'center of the city' (Stuart 2004). Markianos concurs with David Stuart that the "Paw Stone" must be Altar 4 of the East Group Plaza and bases his 'decline in elevation' argument on this plaza as "one of the largest flat areas in this part of the site, sitting at the foot of a steep hill". This topography is referenced in support of a "split" or a drop in elevation of the terrain, which in turn, according to the author, explains *jom* as "a sharp decline in elevation or a split in the landscape" (p. 2).

Previous proposals for "Star War" involve terms for destruction, sinking, descent, defeat, or toppling, because--with one exception--the verb always appears in warfare contexts; the antagonists are well-known to epigraphers and their enmity is beyond doubt.



This reading can satisfactorily explain many of the known contexts for T650 with careful attention to the documented semantic domain. As a corollary we identify a homophonous root *jom* whose Ch'orti' reflexes reveal a fundamental immaterial property of bodies as perceived by the Maya. As *jomis*, in the line of *wahyis* and *ohlis*, it refers to one's "inner heat."

This understanding brings to light an epithet for a court officer at Tonina which adds to the corpus of known metonyms and metaphors involving body parts coupled with fire/heat, and having the general meaning of "wrath, ire." It also leads to readings for one of the theonyms used by the Yaxchilan king Kookaj Bahlam, for the theonym of K'ihnich Waaw of Tikal, and for the names of two Kaanul kings, including "Sky Witness." As corollaries, in the case of K'ihnich

Among these proposals is Erik Boot's 1995 HAY/HAY KAH reading, one he never published. MacLeod (n.d.) in 2009 took up the HAY banner on Erik's behalf in correspondence with him and with Christian Prager, and she remains confident that HAY is the best candidate. We note for *hay* the widely apropos 'asolar edificios o pueblos' ('ravage/ flatten buildings or towns') in Yucatec (Barrera Vásquez, 1980: 190). Other entries for *hay[aj]* are translated as 'destruir', 'asolar derribando', and 'morir o morirse todos'. Several carved bones from Tikal Burial 116 featuring the "Star War" sign depict the literal 'sinking' of the Maize God's canoe. This is the exception cited above.

The Piedras Negras Throne 1 text (dedicatory date 9.17.15.0.0) has been enigmatic due to controversy over the alleged abdication of the kingship by Ruler 6 (Beliaev and Davletshin 2013). A manuscript in preparation (n.d.) by Péter Biró and Barbara MacLeod has clarified the grammar and narrative of the text, yielding a new interpretation of events: the *y-aktaj* 'leave behind' verb was not an abdication and a flight from "Paw Stone" with the crown jewels by the king **tu HAY-yi-la** *tu-hay-il* 'amid the downfall... (of the city center)' during an internecine war". Ruler 6 vanishes from history (and was likely killed in the conflict), but the jewels return and his successor accedes to the throne.

The morphosyntactic support for HAY is beyond the scope of even this footnote but may be summarized as:

(1) The oft-present *-yi* suffix in "Star War" is a portmanteau providing the final consonant of the root *hay* plus the *-i* suffix of a root intransitive -- by far the most common syntactic role of the sign. This contrasts with the other well-attested function of *-yi* on script intransitive verbs (e.g. **PUL-yi** *pul-uy* 'it burned'; **lo-k'o-yi** *lok'-oy* 'he went out'; **TZUTZ-yi** *tzutz-uy* 'it closed'; **ju-bu-yi** *jub-uy* 'it descended') as a Ch'olan versive or inchoative (formerly "mediopassive") intransitive suffix (Mora-Marín, 2009). Due to grammatical constraints in two examples of "Star War", *-yi* cannot be the versive/"mediopassive" *-Vy* invoked by Markianos and others to explain "Star War" as a non-CVy root such as *jom*.

(2) In Aguateca Stela 2 (A2) case, the syntax obligates "Star War"-*yi* (followed by **ti** "Ceibal") to be a noun in a stative relationship with the Calendar Round, as '8 K'an 17 Muwan (was the) ravaging/leveling [of structures] at Ceibal'. The *-Vy* versive/inchoative cannot derive a noun, so the final *-yi* here can only be a phonetic complement on a CVy root.

(3) As with other scholars' CVy proposals (CH'AY, NAY, TZ'AY) listed originally by Prager in MacLeod (n.d.) (*op. cit.*) and later by Markianos on p. 3, HAY fulfills the morphosyntactic constraints offered specifically by the Piedras Negras Throne 1 example **tu HAY-yi-la** *tu hay-Vi*, followed by *tahn ch'een* "Paw Stone". The semantics of *hay* entries most closely match the warfare contexts.

Finally, the "water drops" flanking the "STAR" represent rain (*ha'*) in the Postclassic Maya codices; we propose **HA'** to be a fossilized phonetic complement to HAY.

Waaw, a playful substitution leads to an important clue about a reading for the rare “Canoe with Paddler God” logogram used as a death metaphor while at Yaxchilan, we identify another theonym involving Chahk in the name of a underlord of Kokaaj Bahlam. Finally, we identify a designation for an interior corridor or passageway in a palace building at Xcalumkin, and we explain the presence of the “dark cake slices” in several non-lexical contexts based on meanings related to heat, holes, and hollow places.

## Acknowledgements

The authors would like to fully acknowledge Alexandre Tokovinine’s contribution to the decipherment here proposed, as he identified and shared a key phonetic substitution which, together with our long-term work on T650, paved the way for our identification of the CV[h]C root at stake and the grammatical and semantic analysis of the contexts that we present here. He shares the credit for the decipherment.

Our special thanks go to Carlos Pallán Gayol, who kindly provided us with his detailed photographs of Stela 23 from Yaxchilan, via Ajimaya/INAH, and to Jorge Pérez de Lara, who kindly provided us with high-quality photos of Tonina Monument 156, via Proyecto de Conservación y Documentación de Tonina/CNCPC-INAH.

We would also like to thank Martha Cuevas García, Michael Grofe, Nikolai Grube, Kerry Hull, John Justeson, David Mora-Marín, Yuriy Polyukhovych, Christian Prager, Ángel Sánchez Gamboa, Robin Quizar, and Robert Wald for comments on various steps in the evolution of this note, and for sharing pertinent data. Last, but not least, thank you William of Ockham for your timeless wisdom. Any errors or misapprehensions are ours alone.

## Appendix 1

NOTE: we consider it important to preface the following dictionary sources with the clarification that all post-Colonial sources cited here as given will reflect (1) the leveling of the proto-Ch’olan <sup>\*</sup>h/<sup>\*</sup>j contrast to /j/ in initial position (Kaufman and Norman, 1984: 86), and (2) the orthography chosen to represent the phoneme by a particular lexicographer. We have done our best to confirm that the root under consideration is <sup>\*</sup>jom regardless of how its reflexes are represented in modern sources.

- **proto-Mayan** (Kaufman and Justeson, 2003)

\**johm* ‘jícara, canoa’

- **Mayan Etymological Dictionary** (Kaufman and Justeson, 2003)

pM \**johm*

YUK *hom* /j/ (s) ‘zanja, cima, hoyo, hundimiento de tierra’

TZO *ghom* (s) ‘canao’

TZE *jom te*’(s) ‘canao’

QAN *jom* (s) ‘jícara’

MCH *jo:m* ‘tol grande de tortilla’

PQM *joom* ‘jícara’

PQM *johm* ‘guacal’

PCH *johm* ‘guacal’

QEQ *joom* ‘guacal’

QEQ *johm* ERG-*jolom* ‘pelón’

(The above is a representative but incomplete list)

- **Colonial Tzeltal** (Ara, 1986)

*homolaghon* ‘amontonarse’ *ghomoltay*, *ghomoltez*

*homel* ‘diluvio’

*hom* ‘hacerse diluvio’

*homel haal* ‘agua grande’

*ghom* ‘morder’

*ghomal* ‘lo interior de la pluma’

(The above entries for both *hom* and *ghom* are reflexes of \**jom*, and ambiguous entries suggest that with some words the contrast was being lost in Colonial Tzeltal)

- **Tzeltal** (Polian, 2018)

*jom* (iv) ‘agujerearse’, ‘hoyarse’, ‘hacerse un hoyo’

*jom* (tv) ‘morder’, ‘dar una mordida rápida’

- **Colonial Tzotzil/Santo Domingo Zinacantán** (Laughlin and Haviland, 1988)

*jom* ‘embrasure, loophole, tronera.’

*jom ta* \**ut* ‘hollow/oja, cosa hueca.’

*jomal* ‘*av castillan pom*’ ‘censer, naveta de incienso.’

*jomal te*’ ‘dugout, arteza.’

*jomjom* 'hollow, hollowed out (embrasure, loophole). (1) tronera, (2) hueca.'  
*jomjom ta 'ut* 'hollow. hueca, cosa no maciza.'

- Tzotzil/San Lorenzo Zinacantán (Laughlin, 1975; Hurley and Ruiz, 1978)

*jom* 'la canoa, el pesebre /para los animales o para hacer sal.'

*jom te* 'el árbol o tronco hueco.'

*jomal* 'el barranco, el valle estrecho.'

*jómlij* 'corriendo de repente.'

*jomom* 'corriendo (la persona, la vaca).'

*jomomet* 'precipitándose.'

*jomel* 'hacer o cavar un hoyo, agujerear, perforar'

*jomol* 'roto, perforado'

*jomol ch'en* 'cueva'

*jom-te' mut* 'chinchere (pájaro carpintero)'

- Ch'orti' (Hull, 2016)

*jomi* 'arder, sentirse el vapor de calor de fiebre. Burn, feel the heat of the onset of a fever. (1) Ajomi u't e ijch'ok. K'ani apuruy. El cuerpo de la muchacha vaporea. Le quiere dar temperatura. The body of the girl feels hot. She's getting a fever. (2) Ajomi nik'ab'. Hay algo que arde en mi brazo. My hand burns. (3) Asta ajomi nisuy tya' ture'n to'r k'ajñ. Sentí la llama del fuego en mi trasero donde yo estaba sentado en el banco. It felt like a flame on my butt where I was seated on the bench. (4) Asta ajomi ninak' merix k'echb'ir k'ajk. Mi estómago hasta arde como si fuera llevado ante el fuego. My stomach burned as if it were carried in front of a fire.'

*jomi* 'estar enojado, enojarse. be angry. Ajomi taka unak' e winik. El hombre está enojado. The man is angry.'

*jomir* 'temperatura, vapor caliente. heat, heat vapor. Ch'a'r taka ujomir uk'a'b', ujomir uyok. Está con su vapor de las manos, el vapor de los pies. There he is with his heat of his hands, his vapor of his feet.'

*jomt'ix* 'snake's pillow' (*Byttneria aculeata* [Jacq.] Jacq.) The thorn is hollow inside.

(jom 'hollow' t'ix 'thorn')

- Chontal (Keller and Luciano, 1997)

*jomesan* (tv) 'hundir, sumir, sumergir'

Jinq'uín ya' ca xe t'ocob tanxin to'o, ni noj t'olja' u jomesi ni jucub y capete t'ocob yalon t'ocob ta ja' = Cuando íbamos en medio de la laguna, la marea sumergió el cayuco y todos nos caímos al agua.

*jome* (iv) 'hundirse, sumirse'

*jomen* (adj) 'lodoso, fangoso'

- Ch'ol (Aulie and Aulie, 1978; López and Guzmán, 2002)

*jojmel* 'acabarse'  
*jomol* 'amontonado (gente)'  
*jomtäl* 'amontonados así'  
*jomjomña* 'aglutinarse'  
*jomojtyañ* 'amontonarse'

- Colonial Yucatec "h rezia" = /j/ (Arzápalo, 1995)

*hom* 'crescente de mar o río'  
*homkaktah* 'quemar o pegar fuego de proposito y de presto a alguna cosa'  
*homchahal ik* 'ventar. Muy rezio algun viento'  
*homocnac ik* 'viento rezio y bravo que hace ruido'  
*homocnac kaknab* 'anda la mar brava e alterada'  
*homol* 'el que está de priessa, el apresurado acelerado para trabajar, en composición es, hazer de priessa alguna cosa'  
*homtanil* 'estomago entrañas y lo hueco de qualquier animal'

- Yucatec (Barrera Vásquez, 1980)

*hom* 'hoyo que deja el hundimiento de una cosa hueca'  
*homa'* 'especie de jícaras altas y angostas y de boca pequeña; jícara redonda y boca angosta, que no se parte por la mitad; jícara alta y angosta y de boca pequeña; jícara para tortilla entera' (< \**jom -ha*' 'gourd for water')  
*homah* 'desplomar lo abovedado, derribar edificios, cerros; va hundir cosas huecas, desplomar techos, derribar edificios, cerros, hundirse la tierra'  
*homa'n* 'camino abierto, desembarazado y ancho, monte rota y milpa así hecha abierta y limpia; escombrado; camino abierto, milpa o monte abierto y limpio'  
*homtan* 'encuentros del pecho del hombre o de animal'  
*homtanil* 'estómago, entrañas y lo hueco de cualquier animal, hueco del pecho, vientre, la cavidad del pecho, entrañas'  
*homtanil* 'significa 'cosa hueca''  
*homol ich* 'cuenca del ojo'

- Yucatec (Bolles, 1997)

*homhom elel kak* 'llama o llamarada de fuego que sale con ímpetu'

- Yucatec (Bastarrachea, 1992)

*jo'om* 'hoyo, concavidad'

- Yucatec (Roys, 1965: 37,38)

*lx Hom-ti-muyal* 'she-who-sinks-into-the-cloud'

*lx Hom-ti-tzab* 'she-who-sinks-into-the-rattles-constellation'

(Incantations 107 and 109 for ulcers termed <x- chac anal kak>)

- Lacandon (Hofling, 2014)

*jam* (t) 'abollarlo, perforarlo; perforate, dent'

*joom* (AP) 'abollarlo; *k-u-joom* 's/he dents'

*jamaknäk* 'visible in a clearing in the forest'

*joomon* 'hueco, hollow'

*jo'm-jo'm* 'derrumbado, collapsed'

- Itzaj (Hofling, 1997)

*jom* 'perforate, ahoyar'

*jom* 'large flame'

*joma'* 'cupping gourd'

*jom-ch'aktik* 'hacer una brecha, make a path'

*jom-k'ak'tik* 'incendiarlo'

*jom k'ak'* 'burn with flames of torch'

*jo'mol* 'acabarse, terminarse, terminar de sexo' ('end, use up, have an orgasm, end of sex')

*jo'ma'an* 'terminado, después, ya habia'

- Mopan (Ulrich and Ulrich, 1976)

*jomoc* 'pando, hundido, profundo'

*jomol* 'ligero, rápido, de prisa, presto'

- Mopan (Hofling, 2011)

*jom* (1) 'rápido; fast'

*jom* (2) 'hundir; (to) sink'

*joma'an* 'hundido; sunk'

*jomik* 'hundirlo; sink(it)'

*jom-k'aak'tik* 'prenderlo rápido; make blaze'

*jomol* 'rápido, rápidamente; fast, quickly'

*jomol tz'ak* 'medicina rápida; fast-acting medicine'

*jomtal* 'hundirse; sink'

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