

A Possible Logograph XAN “Palm” in Maya Writing

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This research note concerns an undeciphered sign in Maya monumental inscriptions that is not included in Eric Thompson’s (1962) standard reference for identifying elements in ancient Maya writing (Figure 1).¹

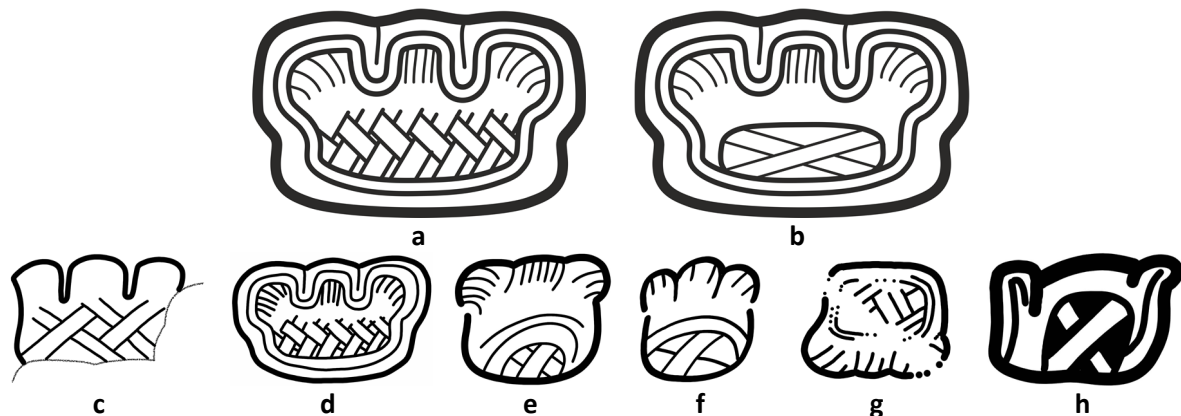


Figure 1. Abstract renderings (a, b) and attested forms of the possible logograph XAN “palm”, in typological order: c) Tres Islas Stela 1; d) Copan Stela 49; e) Palenque Platform of Temple XIX, West Side; f) Comalcalco Urn 26, Pendants 10A/10B; g) COL “Walter Randall Stela”; h) Codex Dresdensis 25c (Drawings by Christian Prager).

¹ Maya hieroglyphic signs are classified on the basis of Eric Thompson’s (1962) standard catalog, hereafter designated with a capital T before the sign number (e.g., T552). Occasional citation of “Z” or “G” prefixes (e.g. G28, Z1350) refer to William Gates’ (1931) or Günter Zimmermann’s (1956) sign classifications. Martha Macri’s (2003) alphanumeric three-digit code is used to refer to graphemes that are not included in the aforementioned catalogues. Following a recent suggestion by David Stuart (2016), we employ the traditional spelling of days and months as recorded in contact-period documents.

The sign was first classified under the name A27 by Nikolai Grube (1990) in his revision and extension of Thompson's original work; the graph exhibited in Grube's study is taken from the undated Copan Stela 49, which has been attributed to the Early Classic period (Grube 1990:126). In Martha Macri's sign classification, Grube's grapheme A27 has later been cataloged as ZZ9 (Macri and Looer 2003, Macri and Vail 2009), and we will further argue in this working paper that Macri's sign XQB is actually a codex variant of A27/ZZ9. The above-named authors neither provide a description of the sign icon nor propose a semantic or a linguistic interpretation. However, several Late Classic examples attested in the hieroglyphic inscriptions at Temples XIX and XXI at Palenque led David Stuart to the conclusion that the icon of A27 represents some type of tri-lobed flower with crossed bands in its interior (Stuart 2005:19, 101). He observed that A27 is used in the partially deciphered architectural term **CHAK-?-NAH-li** > *chak ? naahil* "red ? House", the question mark standing for A27 (Figure 2).



Figure 2. The use of the sign A27 in the context of the hitherto undeciphered architectural phrase CHAK-?-NAH-li, Palenque Temple XIX Platform, West Side (drawing by Christian Prager).

However, Stuart (2005:101) does not propose a possible meaning or a linguistic decipherment of the element in question, assuming that the hieroglyph itself refers to a building. He thus associates it with an inner structure that may have been built within Temple XIX based on archaeological evidence of postholes around the platform bearing the inscription under discussion.

As noted by Stuart, the sign A27 is usually combined with the prefixed color term **CHAK** "red" and a suffixed **ni** or **na** syllable. Early variants of A27 on the undated Copan Stela 49 (Figure 3) and Tres Islas, St. 2 (9.2.0.0.0) (Figure 4) underscore that the Late Classic crossed-band element of A27, which is formally similar to T552, is most likely a simplification of an interlacing ornament or plaited band pattern (Figure 1a). Elements diagnostic of the Late Classic variant of A27 thus are the tri-lobed foliage and the crossed or plaited band element in its interior. On the alfarda panel of Temple XIX at Palenque (Figure 5), the graph A27 is rendered in such a way that it at first glance looks like two separate graphs, of which the lower one could be confused with a lobed version of the sign T552, usually read **AT**. However, there is no known substitution in the corpus of Maya texts that would support identification of A27 as an elaborated allograph of T552, making a decipherment of A27 on the basis of T552 highly unlikely.



Figure 3. Earliest variant of the sign A27 on Copan Stela 49 (drawing by Christian Prager after David Stuart [published in Schele and Grube 1991]).

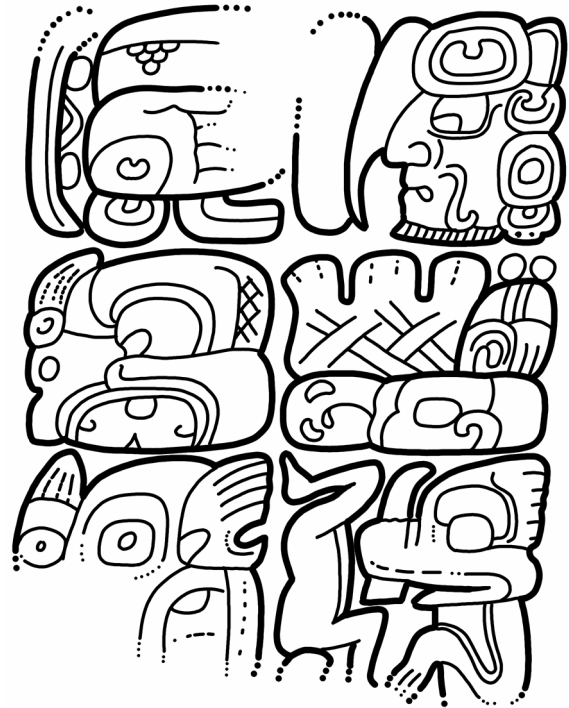


Figure 4. Earliest variant of the sign A27 on Tres Islas Stela 2 (drawing by Christian Prager after Ian Graham [published in Schele, Grube, and Schele 1994:94]).

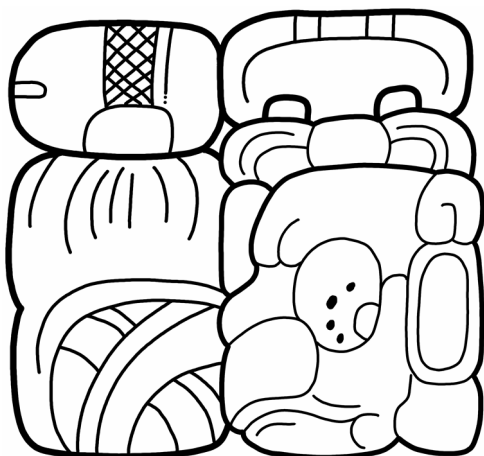


Figure 5. The architectural term CHAK-A27-NAH-hi on Palenque, Temple 19, Alfarda Panel (drawing by Christian Prager after a drawing by David Stuart).

The dictionary project's recent revision of published inventories of Maya graphs yields that a previously unrecognized codical variant of A27 is also contained in page 25c of the Codex Dresdensis (Figure 6).² It is part of the compound **CHAK-Z1350a-ni**, and as such it is most likely identical with the expression **CHAK-A27-NAH-li** discussed above. In the New Year pages of Codex Dresdensis, the sign is shown in a sequence of stative expressions for negative qualities of the new year: according to this section of the Codex, the year will bring *yah ajan* "woe to the maize god" (i.e., crop failure), *k'in tun haab* "year of drought", and the mysterious compound **CHAK-Z1350a-ni** as a third, and most likely also unlucky aspect (Grube 2012, Schele, Grube, and Schele 1997).

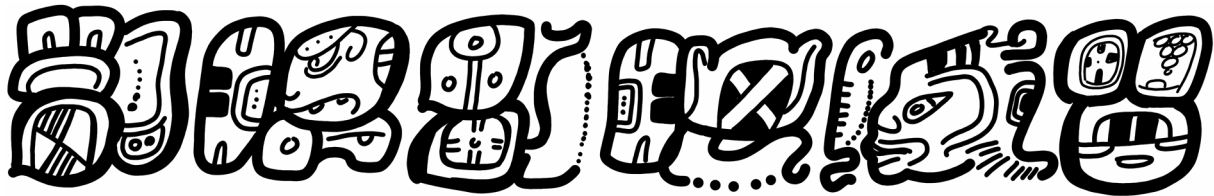


Figure 6. Hieroglyphic text exhibiting the term **CHAK-Z1350a-ni** in COL Codex Dresdensis, Page 25c (drawing by Christian Prager).

The codex the variant of A27 shows a crossed band element in its interior with tri-lobed foliage on top (Figure 1d). This very graph has already been catalogued by William Gates (1931), who classified it as the sign G28a. Günter Zimmermann (1956) lists this element as the sign 1350a, whereas Yuri Knorozov (1963, 1967) labels it as an independent sign under the nomenclature 359. The Novosibirsk project misidentified the grapheme as variant of the sign for **K'IN** "day" (Evreinov, Kosarev, and Ustinov 1961), however, and a Mexican research team devoted to the study of the Maya codices labelled it as B12b (Rendón and Spescha 1965). Based on the infixed crossed-band element, Gates, Zimmermann, and Thompson suggest that this rare codex sign is simply a spelling variant of the graph G28 = Z1350 = T552 (the syllable **ta** and logograph **AT**). This view is also shared by Macri, who uses a different nomenclature and classifies the codex variant of A27 as XQB (Macri and Vail 2009:152).

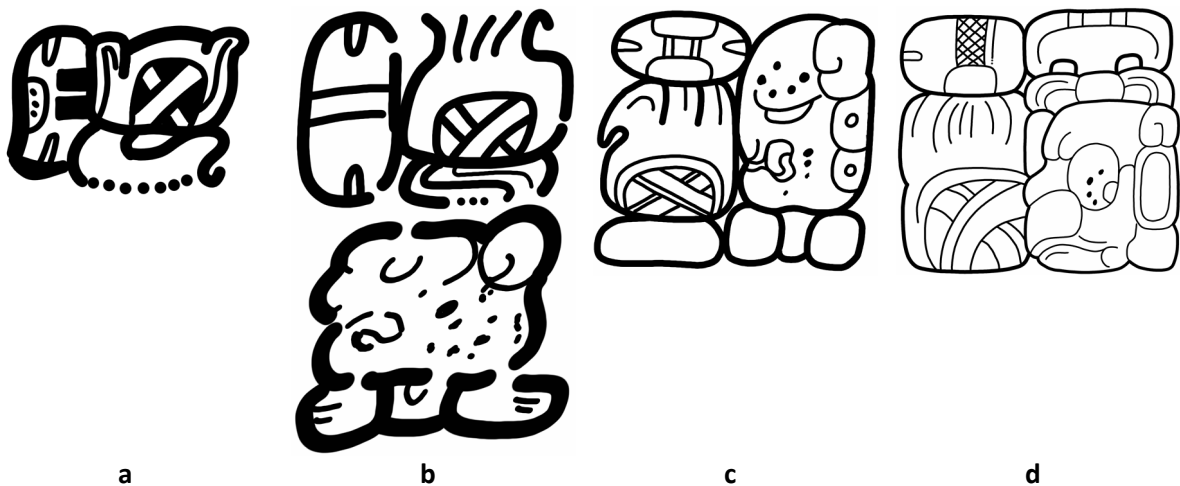


Figure 7. A comparison between examples of the glyph sequence **CHAK-Z1350a-ni**: a) in Postclassic form (Codex Dresdensis, page 25c); and its late Classic renderings from b) Tayasal (Vase "T7B/6-22"); c) Cancuen (Ballcourt Marker 2); d) Palenque (Alfarda Panel of Temple 19 (drawings by Christian Prager).

² http://digital.slub-dresden.de/fileadmin/data/280742827/280742827_tif/jpegs/00000025.tif.pdf

However, we deviate from the aforementioned authors and propose that Zimmermann's tri-lobed sign with the infixed cross element, variously referred to as Z1350a or XQB, is actually the codex variant of Grube's graph A27. In accordance with the sign's morphology and the graphs occurring with it in the glyph block, we argue as a working hypothesis that the hieroglyphic compound **CHAK-Z1350a-ni** on page 25 of the Codex Dresdensis is the same as that recorded in texts found at Palenque and elsewhere, in which the syllable **ni** is suffixed to A27 (Figure 7).

A survey of the literature shows that the glyph A27 and its codex variant Z1350a have so far evaded an accepted decipherment. As a purported allograph of T552, the codex version has tentatively been read **ta** or **TAN** by Gabrielle Vail, who nonetheless does not provide a translation or interpretation of the compound in question (www.mayacodices.org).³ Nikolai Grube and Linda Schele propose that Z1350a represents a word ending with *-n*, given that the syllable **ni** is suffixed to it (Schele and Grube 1997:206). To date, however, this sign has eluded decipherment. In this note, we would like to propose a reading based on an iconographic analysis of the graph icon, the sign's affixation, and its textual contexts. Furthermore, affixation pattern and use indicate that A27 is a logograph ending in *-n*.

Graph Icon

Some formal similarities of A27 with graphic variants of the logograph **TE'**, *te'* 'tree, wood' (Figure 7) have led us to the working hypothesis that the graph icon A27 is related to vegetation-related imagery. The rendering of the upper part in particular, with lobes with fine parallel lines at their tops, suggest that it is a conventionalized and simplified rendering of branches and roots of trees and shrubs.

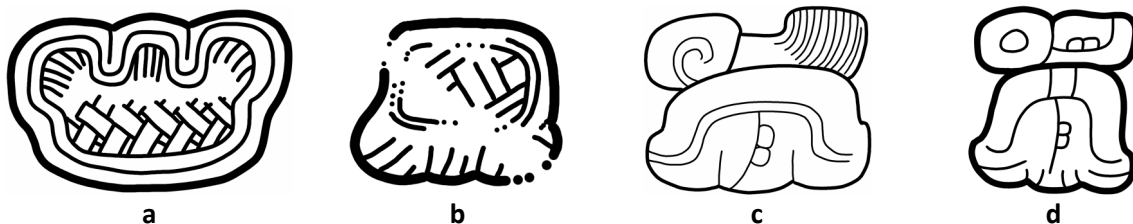


Figure 8. Graphs with striped lobes representing roots and trees: a) abstract rendering of A27; b) example from COL "Walter Randall Stela"; examples of T514 from c) Yaxchilan Lintel 35; d) Tortuguero Monument 6 (drawings by Christian Prager).

These elements represent branches and twigs when appearing on the top of a graph. If they occur on the graph's underside, they represent roots, as in various renderings of T514 and T87, and T78:514 **TE'** (Figure 8). One late example from COL "Walter Randall Stela" exhibits branches and twigs on the bottom, although the context shows that it is simply an allograph of A27 (Figure 14e). These striped lobes seem to be a generic feature of graph icons derived from depictions of trees. This formal similarity leads us to assume that A27's icon represents a certain plant or plant-part, in particular the crown or roots of a tree or shrub. Building on this first working hypothesis, the second distinctive feature, the plaited- or crossed-bands design at the bottom, brings us to the second working hypothesis of the sign's relation to plant-fibers used by the (ancient) Maya for the production of plaited objects like mats, baskets, etc.

³ <http://www.mayacodices.com//frameDetail.asp?almNum=357&frameNum=3>

A search through the literature for such plants and materials in Maya material culture has pointed us to the *guano* palm. The term “*guano*⁴ palm” encompasses various New World genera of palms used for thatch and for plaiting mats, baskets, hats and other objects among the Maya. Studies of both ethnobotany (Caballero 1993, 1994, Cuevas 1909, Lentz 1991, Martinez-Balleste, Caballero, Gama, Flores, and Martorell 2002, McSweeney 1995, Ortíz Paiz 1999, Standley 1930) and traditional building methods (Wauchope 1938:104ff.) indicate the importance of palms, which in addition to the *guano* also includes the *corozo*, *coyol*, and *cohune*, among other palms. Besides their leaves being important for material culture, the Maya also used and continue to use extracts from the plant in traditional medicine and to snack on their fruits. The importance of palms and their manifold uses is recorded not only in the ethnographic record, but also in a number of ethnohistorical sources (Caballero 1993:210-211, 221-223). Archaeologically, various genera and species of palms are well-attested by pollen and macrobotanical remains, including seeds and wood, as well palm fibers, mostly preserved in the form of plaited mats. Based on these findings, a number of studies (Caballero 1993:211, Lentz 1991, McKillop 1996) have already discussed the importance of palms in the ancient Maya subsistence economy, since these plants provided a significant resource for both food and non-food products.

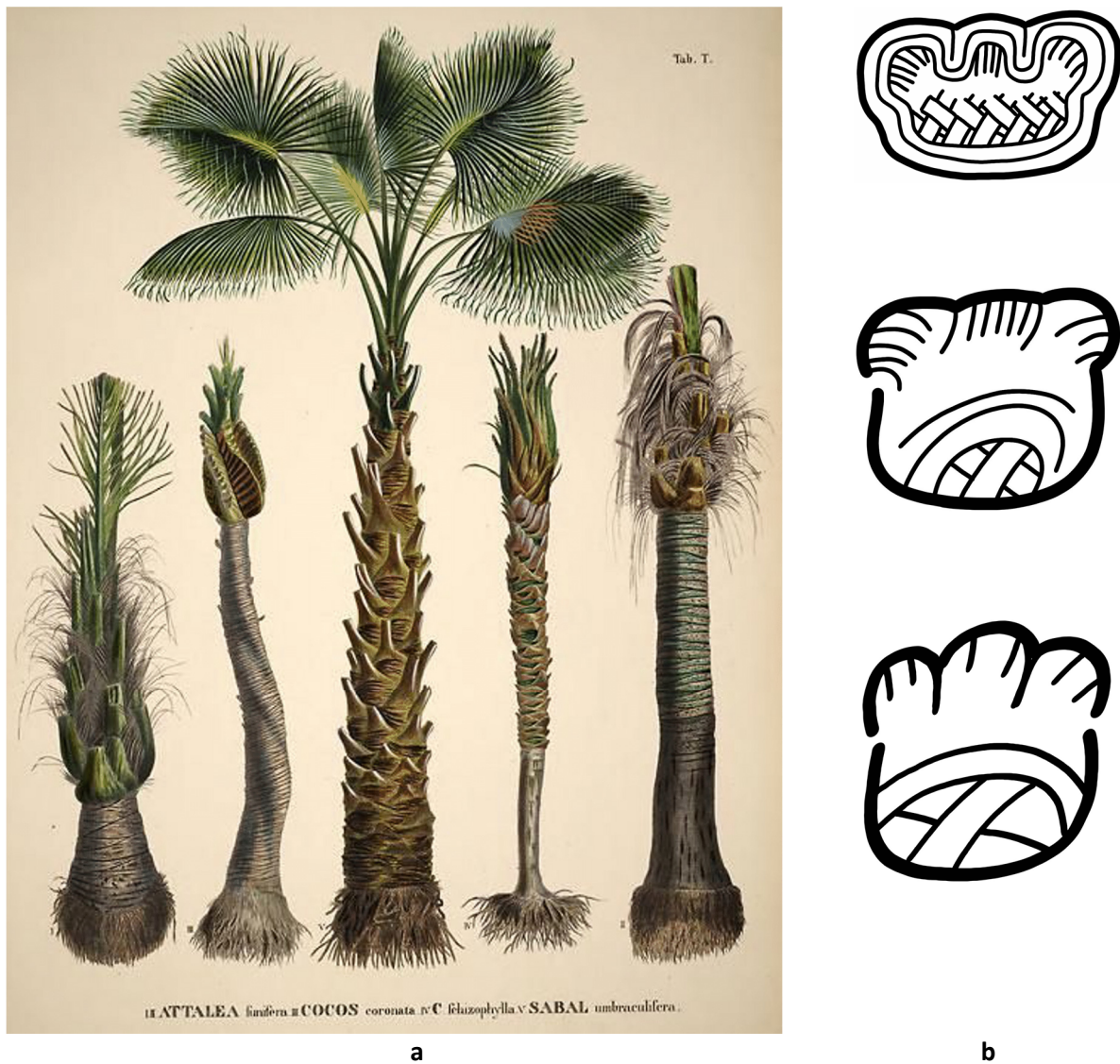


Figure 9. a) Botanical painting of the *sabal* palm (from Martius, Mohl, and Unger 1823: Tab. T) in comparison to b) its graphical representations in Maya writing (drawings by Christian Prager).

⁴ *Guano* or *huano* derives from a Taino term meaning “dried palm leaves”.

The fan palms of the genera *Sabal* and *Coccothrinax* seem of particular interest for our discussion, since both display characteristics that also appear in the graphic rendering of A27. These prominent features are the tri-lobed, upper part of A27's icon and a design of plaited bands at its base. As has already been mentioned, the upper part seems to be conventionalized rendering of the crown of a tree; in the case of the palm, it evokes the tree's fan-shaped leaves (Figure 9a and b) (Martius, Mohl, and Unger 1823: Tab. T). The plaited bands in the lower part of A27 may not only allude to the prominent use of the palm leaves, but also to the distinctive pattern in which the leaf stripes are arranged at the base of the palms' stems (Figure 9a). Their stubs feature the highly distinctive look of the palm, especially in the state after which the leaves have been broken or cut off from the stem. To summarize these observations, we hypothesize that the graph icon of A27 is a simplified representation of a guano or other (fan) palm, thus rendering a prototypical image of a palm as a graph in Maya writing. Commenting this paper, Albert Davletshin suggested that the graph may allude to the icon of an unfinished woven basket with unplaited ends representing the image for "palm leaves, guano" used to plait baskets and mats⁵.

Lexical Evidence

Although a complete phonetic substitution for the sign A27 has yet to be identified, it mainly occurs in the inscriptions with a suffixed **ni** syllable (Figures 3, 7 and 12). At Cancuen graph A27 is also attested with a final **na** (Figure 14d). Because this final **ni/na** does not appear in all spellings and thus appears to be optional, we presume that it represents a post-posed phonetic complement, indicating that the phonemic value of A27 ends in the consonant *-n*. However, two exceptions from this common *-n* suffixation pattern have been attested so far (Figure 10).

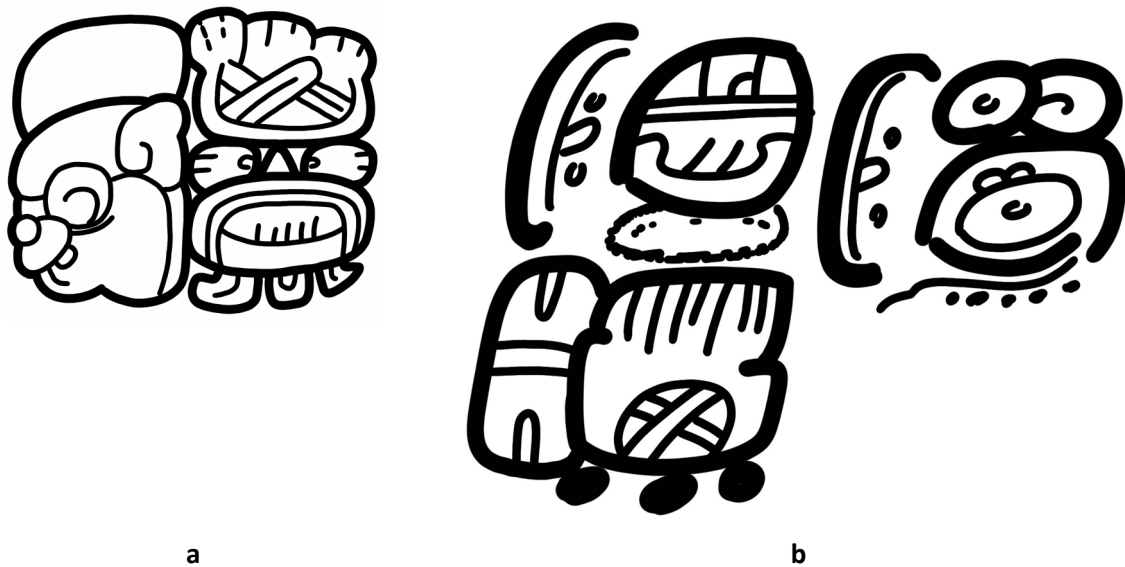


Figure 10. Two examples of A27 with final **-ma**. a) [.]BALAM A27-ma on Resbalon, Hieroglyphic Stairway 3; b) u-CHAN-na CHAK A27-ma u-yu > *uchan chak A27-ma uy* "guardian of *Chak A27 kinkajou*" on Kerr 1439 (drawings by Christian Prager).

Both examples with a final **ma** are exhibited in nominal phrases occurring on Resbalon, Hieroglyphic Stairway 3 and another is found on the ceramic vessel Kerr 1439. Interestingly, in the latter example the usual animal term *bahlam* or "jaguar" (Figure 7b and c) is replaced by an animal spelled **u-yu** denoting *kinkajou* or (CHL 'uyuj / uyú "kinkajou; mico de noche") (Josserand and Hopkins 1988). Later

⁵ Electronic mail dated 31st October 2016.

we will argue that the term ‘*chak* A27’ represents a specific attribute or quality of the animal associated with that expression. The other example with **ma** occurs in a personal name at Resbalon exhibiting most likely an eroded colour term ***CHAK**, a jaguar head for **BALAM** followed by A27-**ma**. However, the reading order remains dubious. Only two examples with final **ma** are known so far: due to the larger number of final **ni/na** syllables we argue that *-n* and not *-m* represents the final consonant of the logograph in question. The final **ma** is either a phonological variation or a suffix of unknown function.

Building on our proposed iconographic identification of A27’s graph as the representation of a palm or palm leaves, we searched for lexical entries in Mayan languages that end in *-n* and designate this plant. In his ethnobotanical study on the use of palm among the Yucatec Maya, Javier Caballero lists a number of Yucatecan terms for various genera and species of palms, which are also summarized under the generic term for palm *uch’ibalil xa’an*, of which *xa’an* alone is used for the *Sabal* palm (*Sabal ssp.*) (Caballero 1993:216, Figure 4). These entries yield a number of taxa which use *xan* or *xa’an* as a generic base for more specific terms, including various genera of palms used for thatch and commonly classified as “guano palm” (Caballero 1993:218-219, Figure 5) (Table 1). Apart from its use in native botanical terms, *xan*, *xaan*, or *xa’an* also designates adobe and other structural elements made from this material (Table 1). However, Davletshin comments to us that the two Mayan words “adobe” and “guano, palm” are not related. He writes that the word for “guano” is reconstructed as **xa7ng* for proto-Mayan. *Xan* “adobe” seems to be a so called Mesoamerican *wanderwort*; Davletshin notes that it is reconstructed as **xaan* for Eastern Mayan languages and as **xan* for Lowland Mayan languages (including Chontal and Choltil). It also seems to be related to Colonial Nahuatl *xaam-(i)-tl*, poss. *-xaan* ‘adobe’, etc., also pointed out by Lacadena stating that *xan* “adobe” may be loan from Nahuatl. If the reading **XAN** “palm” proves to be correct the probable disharmonic spelling **XAN?-ni** or **KaK-Ki** agrees with expected pattern of a *CV’C root in Proto-Mayan and Ch’olan context (**xa’n* > *xaan* > *xan*). Thus, the two reconstructions ‘adobe’ and ‘guano’ differ in vowel quantity and in the final consonant, a relation is unlikely.

YUK	<i>xa7n</i>	‘guano, especie de palma;hojas cubren casas de paja’
LAC	<i>šiw-šaan</i>	‘palm’
ITZ	<i>ša’an</i>	‘techo de palma, palma de guano’
MPN	<i>ša’an</i>	‘palm tree’
pCh	* <i>xan</i>	‘palm’
CHR	<i>xan</i>	‘palm’
CHL	<i>xan</i>	‘palma grade’ [sic!]
TZE	<i>xan</i>	‘palma’
TZO	<i>šan</i>	‘palma’
TOJ	<i>xa7n / ša’an</i>	‘palma’
CHJ	<i>xan</i> (sic)	‘palma’
pM	* <i>xa7nh</i>	‘palma’
MCH	<i>xa7n</i>	‘petate de palma’
POP	<i>xanh</i>	‘palma’
TUZ	<i>xa:q xa7nh</i>	‘hoja de palma real’
TEK	<i>xa7j</i>	‘palma’
MAM	# <i>xaah</i>	‘palma’
MAM	# <i>xa7j</i>	‘palma’
AWA	<i>xa7j</i>	‘palma’
PQM	<i>xaan</i>	[from Ch’olan] ‘palma’

CHT	# <i>xan</i>	'adobe'
CHL	<i>xan</i>	'adobe; pared de tierra'
TZE	<i>xan</i>	'adobe'
CHJ	<i>xan</i>	'adobe'
QAN	<i>xan</i>	'pared, adobe'
AKA	<i>xan</i>	'adobe'
AWA	<i>xan</i>	'adobe'
AWA	<i>xaan</i>	'adobe' 'terrón'
IXL	<i>xan</i>	'adobe'
USP	<i>xan</i>	'adobe'
KCH	<i>xan</i>	'adobe, pared'
KCH	<i>xaan</i>	'adobe'
KCHq	<i>xaan</i>	'adobe'
KCHc	<i>xaan</i>	'adobe'
KCHk	<i>xaan</i>	'adobe, pared'
SIP	<i>xan</i>	'adobe, terrón'
SAK	<i>xan</i>	'adobe, pared'
TZU	<i>xaan</i>	'adobe'
KAQ	<i>xan</i>	'adobe, pared'
KAQp	<i>xan</i>	'adobe'
KAQc	<i>xan</i>	'adobe, pared'
KAQi	<i>xan</i>	'adobe' 'pared'
PQMp	<i>xaan</i>	'adobe'
PCH	# <i>xan</i>	'ladrillo'
PCH	<i>xaan</i>	'adobe'
QEQw	<i>xan</i>	'ladrillo'
QEQc	<i>xa:n</i>	'palma, ladrillo [adobe (no se usa)]
QEQI	<i>xa:n</i>	'palma, ladrillo [adobe (no se usa)]
PQMj	<i>xaan ak'al</i>	'adobe'

Table 1. Linguistic evidence for *xa'n* > *xaan* > *xan* "palm" in Mayan languages (Kaufman and Justeson 2003:1119,419).

Summary and Working Hypothesis

Basing on both graph-icon and lexical evidence, we propose a working reading of A27 as **XAN** 'palm'. At this moment this proposal is only supported by the fact that this term must end with *-n*. In order to test the usability and plausibility of this proposed decipherment, we examine here all currently known occurrences of A27 in ancient Maya texts and their respective contexts.

Toponyms

Most examples of A27 are found in texts from Palenque, all in the hitherto undeciphered collocation **CHAK-XAN?-NAH-li** > *chak xan?=naahil* that refers to or designates a specific type of building or construction. In this compound, the color prefix *chak* most likely alludes to the orange-red color of dried palm leaves. Additionally, in Yucatec, Ch'olti' and Ch'orti' *chak* also means "big, great, giant, intense" (Houston 2009:30-31). As such, we argue that the now deciphered term **CHAK-XAN?** > *chak xan?* "red palm" refers to such dried palm leaves or simply means "giant palm". If this interpretation proves to be correct, the occurrence of the previously discussed collocation **CHAK-XAN?-ni** for *chak xan?* or "red or dry palm" in context of the new year auguries on page 25c of the Codex Dresdensis, together with *k'in tun haab* "year of drought" and *yaj ajan* "woe to the maize god", may allude to a time of intense torridity causing the palm trees to wither and other crops to die.

As David Stuart (2005:19, 101-102) has assumed, mentions of the generic architectural term *chak xan?=naah* in the inscriptions of Temples XIX and XXI at Palenque may refer to interior structures erected inside the respective temples. We therefore assume that the term *chak xan?=naah* refers to a kind of inner sanctuary built of perishable materials, namely a structure consisting of wooden or bamboo poles that was covered with a roof of dry *guano* palm leaves that rose over the sculptured platform, forming the base (*okib*) of the sanctuary (Taube and Houston 2015:219-220). As a note aside, it can be assumed from this context that *okib* was the emic term for a structure's footing, i.e., a building platform (Stuart 2007:226). Also noteworthy is that palm provided not only material for thatch, but apparently also wood for wall poles, as Robert Wauchope (1938:38) observed for traditional houses at Champoton, Campeche. The same author also reported the use of small stems of *escoba* palm (*Cryosophila argentea*) as wall poles in the Petén (Wauchope 1938:68).

Further, since David Stuart already noted the "evident parallels between *pib naah* and *chak .. ? ..naah*, it stands to reason that the Temple XIX term in some way names an area or space within the superstructure, if not the building as a whole" (Stuart 2005:102). These two generic architectural terms relating to spaces or structures built in the interiors of the Palenque Triad point to two types of sanctuaries. The first is the well-known *pib=naah* built of stone and stucco, which denotes inner sanctuaries regarded as symbolic earth ovens or sweatbaths that represented the birthplaces of the Palenque Triad gods in the three temples of the Cross Group, dedicated by *K'inich Kan Bahlam*. The second type, the possible palm leaf thatched *chak xan?=naah*, with stone masonry used only to construct its base, is attested from a group of temples dedicated at Palenque by *Ahkul Mo' Naab* for the Triad gods; these buildings' dedication, proper names and possessors are recorded in the inscription of Temple XIX (Stuart 2005:101, Fig. 73).

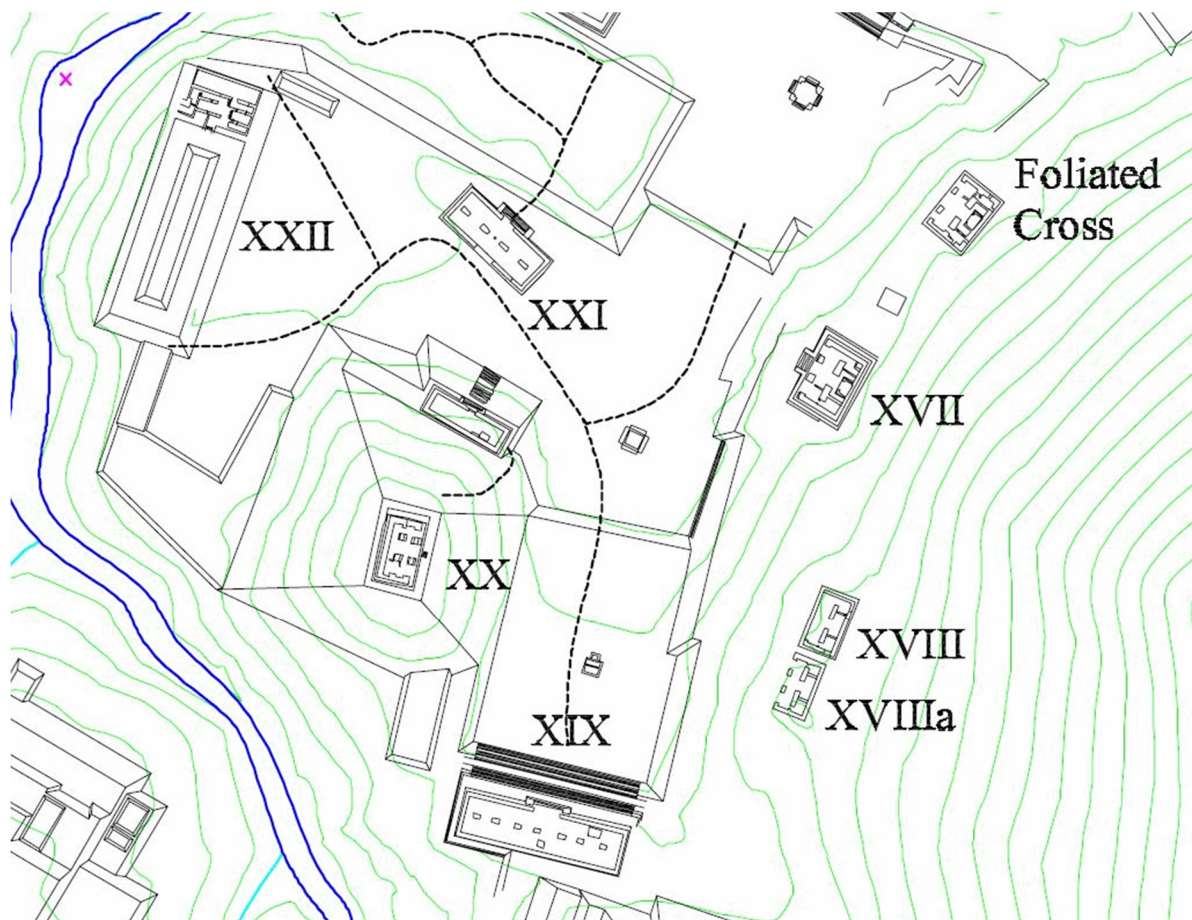


Figure 11. Detail of map of Palenque showing the locations of Temples XIX, XXI (*chak xan?=naah*) (drawing by Ed Barnhart, http://www.mayaexploration.org/pdf/pmp_map.pdf).

On the basis of this evidence, an association with *chak xan?=naah* can only be confirmed for Temples XIX and XXI. But the Temple XIX texts record the dedication of three *chak xan?=naah*, one for each Triad deity. Since each one of the Triad Gods usually has his own temple and sanctuary, we assume that there is a third structure with a similar interior sanctuary, which perhaps housed a sculptured and inscribed platform like those in Temples XIX and XXI. Assuming that these structures would be arranged in an approximately triadic formation surrounding an open space similar to the Cross Group temples, either Temple XXa or the as yet unexplored Temple XXII could be possible candidates for this third structure (Figure 11).

With respect to the attribution of different types of structures to the patron gods, this second building type *chak xan?=naah* may have symbolized a traditional Maya house and prototypical dwelling of each patron god after he was born in his proper *pib=naah*. The first dedication of the three patron gods' primordial houses, which occurred under the auspices of the Early Classic ruler nicknamed "Casper" by scholars, is recorded retrospectively in the inscription on the right margin of the Temple XXI panel, whereas Temple XIX's inscriptions record these structures' renewed construction and dedication as Temples XIX, XXI and probably a still unidentified temple (cf. Stuart 2005:101, Fig. 73).

Native Botanical Terms

Epigraphic and linguistic data strongly suggest that graph A27 renders the prototypical image of the *guano* or fan denoting the generic botanical term **XAN** for "palm". In written sources, at least one text refers directly to the palm as object of interest, or at least to an object made of *xan* or fan palm. On the ceramic vessel Kerr 4996, a painted inscription accompanies a courtly audience scene and records the payment of tribute or tax by three *lakam* officials to *Tayel Chan K'inich*, a ruler of Motul de San Jose (Figure 12).

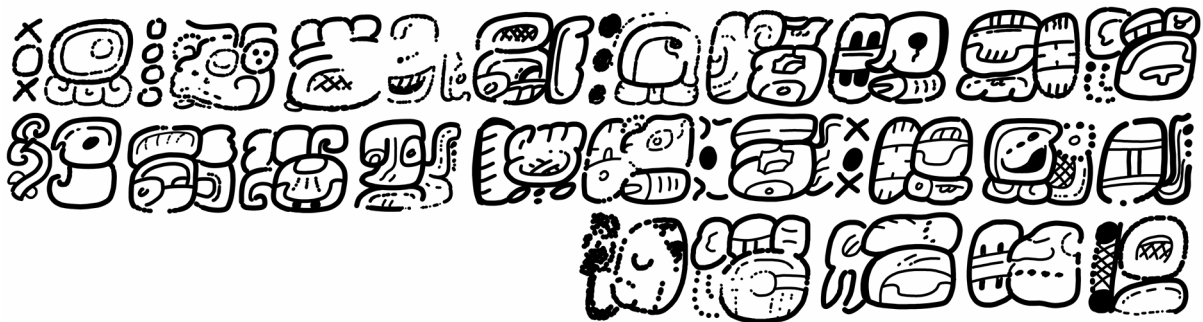


Figure 12. The main text on Kerr 4996 (drawing by Christian Prager).

A speech scroll between the central text box and the king's face indicates that the main text field contains the "transcription" of the king's speech to the three seated officials bearing the title *lakam*, an epithet most likely referring to administrative or tax officials (Lacadena García-Gallo 2008) or district governors (Tokovinine and Beliaev 2013:175). After the Calendar Round date 1 Cimi 4 Pax [9.15.3.6.6], this text explains that the payment of three *lakam* officials is set before the king of Motul de San Jose, *Tayel Chan K'inich* (*tz'a[h]paj u lakam ux? lakam yichnal tayel chan k'inich k'uh ik' ajaw*) (cf. Tokovinine and Beliaev 2013:175-176, Tokovinine and Zender 2012:Tab. 2.2). The text is read linearly from left to right and continues after the *Ik'* emblem glyph in the second line, although many portions are unreadable due to erosion and overpainting. This problematic section contains a series of phonetic spellings that are difficult to read and understand, including **ka-ta-wa wa-wa-tzi CHOK?-wi-li** > *kat-aw w-awaatz chokwil*, followed by **ka-XAN?-la te-e-le** for *ka-xanal te'el*. We speculate that *ka-xanal? te'el*

“our palmy sticks” may relate to palms, palm leaves, or object made of palm, potentially mentioned as tribute or tax items. Unfortunately, however, the context of the second part of this speech generally evades decipherment, and further research based on examination of the original vase is needed.

Terms for Objects Made of Palm Leaves

Mats of plaited fibers are well attested in the archaeological record as part of burial furniture, either as underlay (e.g. at Tikal Burial 116, all royal burials at Copan) (Fierer-Donaldson 2012:246-247, Trik 1963:10), a cover for the corpse (e.g. at Copan, Burial 08-01) (Fierer-Donaldson 2012:208-210, 246-247), or an underlay and wrapping for grave gifts (e.g. El Zotz', Burial 9) (Garrison, Houston, Newman, and Román 2015:158-159). Thus, the term *xan* is likely used in the phrase *bolon baak xan* on Copan Stela 49 to designate a burial bundle or burial location (Figure 3). We originally interpreted this term as a possible reference to a burial mat or bundle, or a container for bones made of plaited or woven material (Wagner and Prager 2006). Indeed, *bolon baak xan* in this context may designate such a container made of palm leaves or fibers that was deposited at a supernatural place or enclosure referred to as “wind god - deer” *nohol pik'*, apparently a tomb or shrine (Prager and Wagner 2008).

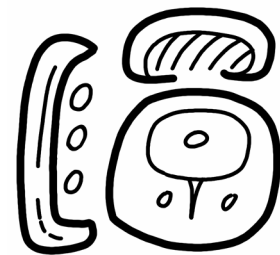
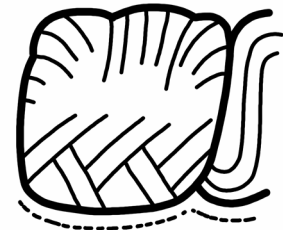
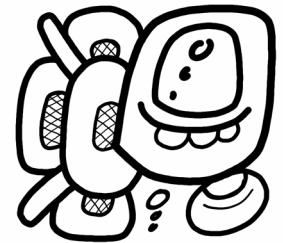


Figure 13. Jun Ajaw and Yax Bahlam seated in front of Itzamnaaj holding bowls with pulque (*chih*). The inscription between Itzamnaaj and Yax Bahlam reads *mi jay xa'n? ukal* “not of clay, (but) of palms is his mouth” (Rollout photograph by Justin Kerr, Kerr 732; drawing by Christian Prager).

A problematic context with sign A27 is found on a ceramic vessel of unknown provenance (Kerr 732) (Figure 13). The image yields a mythological scene at the court of *Itzamnaaj* who receives the Hero Twins *Jun Ajaw* and *Yax Bahlam*. Speech scrolls in front of their faces indicate that the glyph frames exhibit their spoken words. The left frame between the twins is partially deciphered and reads **me-k'e DOTTED.HEAD** > *mek'* ? “embrace the ...!”. The dotted portrait glyphs following *mek'* has neither been classified nor deciphered so far. The second frame between *Itzamnaaj* and *Yax Bahlam* reads **mi-ja-ya XAN?-ni u-ka-la** > *mi jay xa'n? ukal* “not clay, (but) palms is his mouth”. The text seems to be readable, but the meaning remains elusive to our understanding: the twins notice that *Itzamaaj* is an effigy made of palms instead of clay?

Anthroponyms

The term *xan* occurs in several personal names associated with both men and women. On Kerr K2707, for example, A27 occurs in a noble lady's proper name, **IX-SAK-TE' XAN?-ni** > *ix sakte' xan?*, which is painted as a caption in front of her portrait (Figure 14a). It remains open to speculation whether the name of this lady, *ix sakte' xan?*, derives from a possible ancient Maya term for the silver palm. This latter term designates various palms of the genus *Coccothrinax*, a fan palm which is also native to the Maya area and characterized by leaves with a dark blue-green top side and a whitish or silver-colored underside (Gilman and Watson 1993).

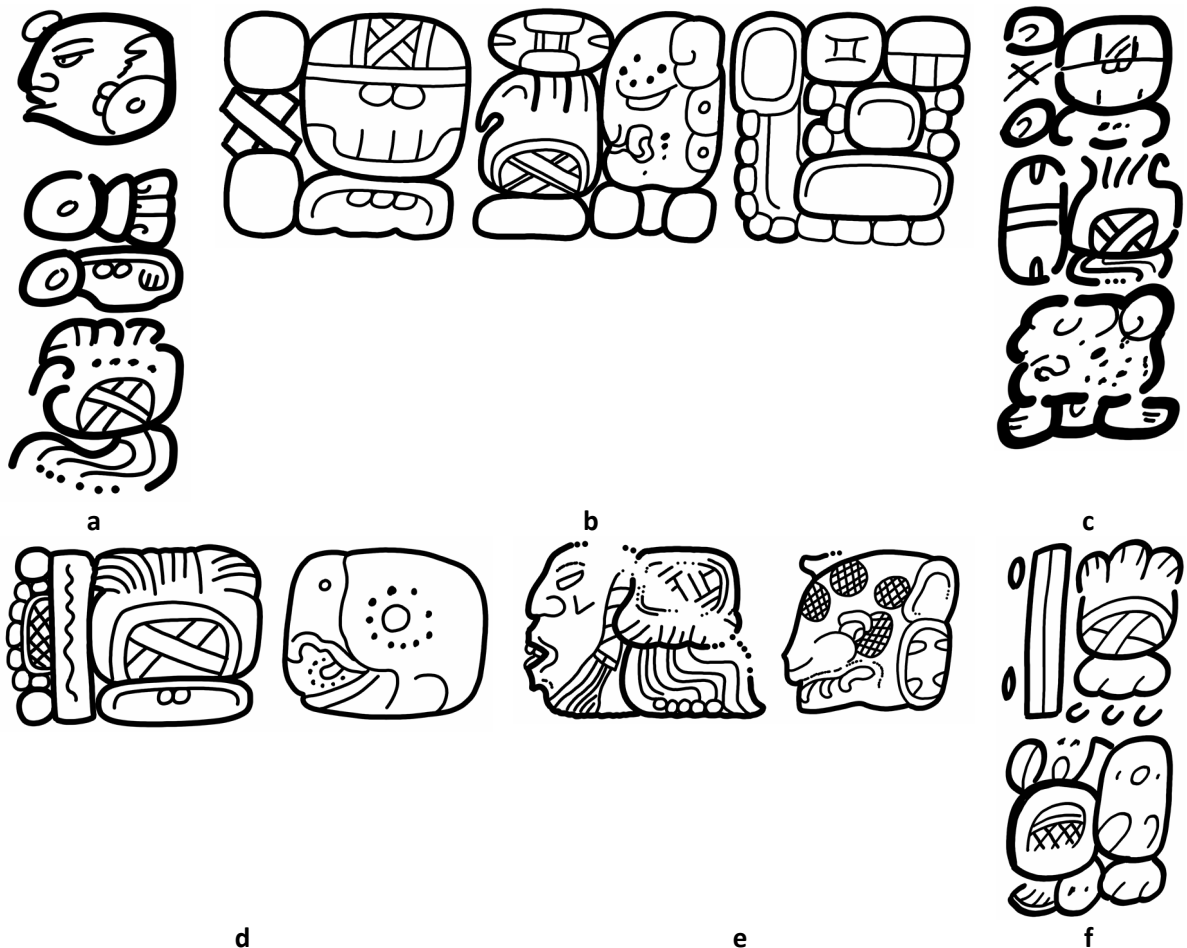


Figure 14. The use of A27 in various Late Classic personal names: a) the female name **IX-SAK-TE' XAN?-ni** > *ix sakte' xan?* on Kerr 2707; b) the captive titles **u-CHAN-na CHAK XAN?-ni BALAM-ma K'UH** [Machaquilá] **AJAW** > *uchan chak xan? bahlam k'uh ... ajaw* on Cancuen Ballcourt Marker 2 and c) the same epithet on Tayasal Vase "T2B/6-22"; d) the toponymic title **AJ-XAN?-na MO'** > *aj xan? mo'* (Cancuen Panel 1); e) the female name phrase **IX-XAN?-ni BALAM** > *ix xan? bahlam* on the Walter Randall Stela; f) **12-XAN?-na-ji A-pa-ka-la-TAN-na** > *12 xan? naaj aj pakal tahn* on Comalcalco Pendant 10B (all drawings by Christian Prager).

A27 also features in personal names that end with a term for an animal, which are usually preceded by an adjective and/or one or more terms denoting objects, plants, body parts or another animal. These names designate specific kinds of animals, often supernatural beings (Colas 2004:68-73, 82-85, 91-92, 173-176). Similar patterns may also be observed in cases of names containing the A27 glyph we are proposing as **XAN**, whose consistent occurrence as the penultimate element in these names supports the proposal that it indeed denotes a plant. One such example is the name of the Machaquila

ruler **CHAK-XAN?-ni BALAM-ma** > *chak xan? bahlam* (Figure 14b). This individual is mentioned on Cancuen Ballcourt Marker 2 as captive of an unnamed noble performing a ballgame in 796 AD with another noble who was an ally of *Taj Chan Ahk* (cf. Zender and Skidmore 2004). Each of these nobles is referred simply to as **u-CHAN-na** > *uchan*, “the guardian” of a king, one of them the aforementioned king of Machaquila. The same statement and name appears in a caption in front of an enthroned ruler depicted in a courtly audience scene painted on Vessel T7B/6-22 from Burial T7B-1, excavated in Structure T104 at the northern site core of Tayasal (Chase 1985:195, Fig. 3) (Figure 14c). Since the caption is connected by a wavy line with the illegible main text above the scene, we suppose that the now lost inscription mentions the unknown noble allied with *Taj Chan Ahk* of Cancuen as the main protagonist of the depicted event. Unfortunately, the name of the other individual directly facing the enthroned ruler is also illegible in the illustration available to us. Perhaps the individual laid to rest in Burial T7B-1 was either the depicted ruler, designated the captor of the Machaquila king and ally of *Taj Chan Ahk*, or the individual depicted on the vessel facing the ruler in a pose of reverence and subordination. Regardless, either scenario for the identity of the burial’s occupant could attest to either direct or indirect socio-political ties between Tayasal and Cancuen during *Taj Chan Ahk*’s reign (757–799 AD). In archaeological terms, this identification could help identify the occupant of the tomb and provide an approximate date and *terminus post quem* for the painting of the vessel and its deposition in the burial.

With respect to its semantic value, the name *Chak Xan? Bahlam* may refer to a jaguar that lives in palm groves. Alternatively, this term may allude to (dry) palm leaves used in the production of effigy figures – in this case, that of a jaguar. The same interpretation may also be valid for the proper name of **IX-XAN?-ni BALAM** > *ix xan? bahlam*, the mother of the *sajal* who commissioned the Randall Stela (Figure 14e).

Similarly, the personal name **AJ-XAN?-MO’** > *aj xan? mo’* on Cancuen Panel 1 (Figure 14d), literally “he (of) the palm parrot”, may be derived from a native zoological term, a name for a parrot that preferably lives on palms or in palm groves, or a parrot effigy made of palm leaves. Other possible interpretations of this name include a reference to the individual designated as caretaker of the aforementioned parrot. Finally, Tres Islas Stela 2 records **XAN? ta²-bu SUTZ’** > *xan? tatbu suutz’* as part of the nominal phrase of the protagonist of a stone setting event on 8.19.0.0.0 (Figure 3b). The collocation **ta²-bu** or **ta[-ta]-bu** > *tatbu* remains elusive to decipherment and linguistic interpretation. The *-bu* suffix represents a causative marker on positional verbs (Stuart, Houston, and Robertson 1999) meaning that **ta-ta** > *tat-* should denote a positional verb. However, *tat-* is not attested as positional verb in colonial or modern Mayan dictionaries. Interestingly, the collocation *tatbu* is attested in a number of royal names throughout the hieroglyphic corpus. At Yaxchilan it occurs in the personal names of four kings named *K’inich Tatbu* “Skull” I-IV. Other examples are found on monument of unknown provenance (e.g. “Houston Panel” or “Hauberg Stela”).

Interestingly, all personal names known thus far that contain *xan?* in connection with an animal in provenanced inscriptions designate individuals from the dynasty ruling Tres Islas during the Early Classic and Machaquila and Cancuen during the Late Classic. This observation raises the question of whether personal names with *xan?*, and especially *xan? bahlam*, are specific to that line, and whether the lady mentioned on the Randall Stela could have originated from the same dynasty or region.

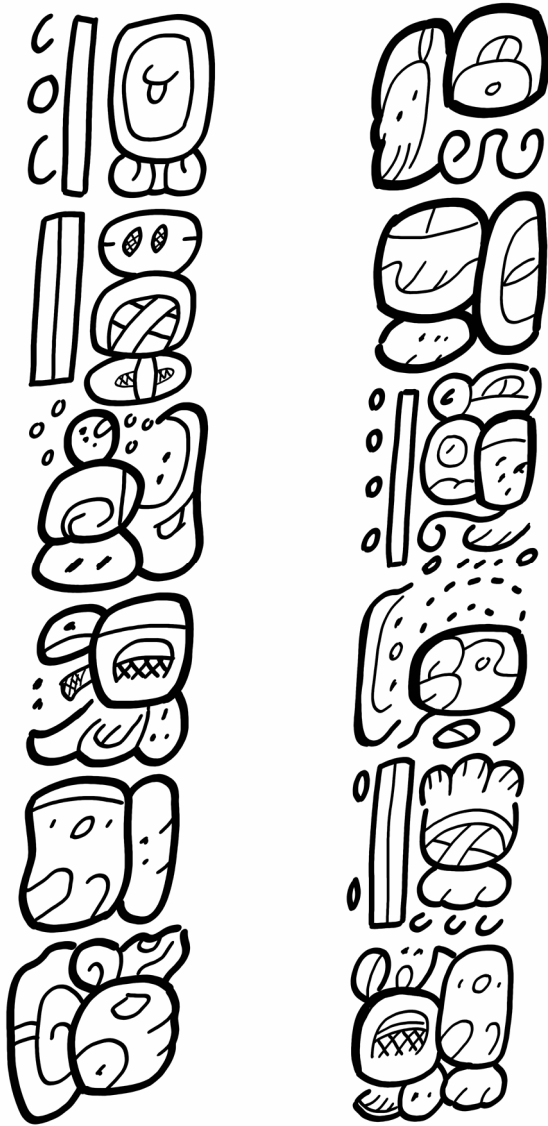


Figure 15. The epithet “12 palm/adobe houses” for the local main priest *Aj Pakal Tahn* on the incised pendant 10B from Urn 26 at Comalcalco (drawing by Christian Prager after a drawing by Marc Zender).

Less clear, however, is the significance of the expression **12-XAN?-na-ji** > *12 xan? naaj*, which precedes the proper name of *Aj Pakal Tahn* of Comalcalco on Pendant 10B from Urn 26 of the same site (Figure 14f and 15). Due to its pre-posed position, the term seems to be an epithet, and we wonder if **na-ji** is a syllabic rendering of *naaj* “house”, a spelling also attested in a text from Machaquila. According to Alfonso Lacadena, **na-ji** > *naaj* represents a phonological variant of *naah* “house”. Lacadena explains that the carved stone steps of Structure 4 thus contain the proper name of that same structure, spelled **HUN-la na-ji OTOT** > *huunal naah ootoot* (“Headband House of the Palace”) (Lacadena García-Gallo and Iglesias 2005:681-682, Zender 2006:11). If this interpretation proves to be correct, the title **12-XAN?-na-ji** > *12 xan? naaj* would mean “12 palm houses”, indicating that the Comalcalco priest *Aj Pakal Tahn* was the master of twelve buildings made of or thatched with palms. Accordingly, houses made of stone walls were called *pak’ naah* in colonial period Yucatan (Michelon 1976).

Conclusion

This epigraphic note explores the idea that Maya scribes invented and used a sign for “palm, guano” in their writing system. Epigraphic and linguistic data strongly support our hypothesis that the graph A27 renders the prototypical image of a guano or fan and denotes the generic botanical

term **XAN** > *xa'n*, *xaan*, *xan*, meaning “palm”. The majority of examples exhibit a final **ni** phonemic indicator, a spelling pattern that would be expected in the case of a *CV'C root like that identified here. Moreover, palm plants were of great importance to Maya subsistence economy, providing a significant resource for food, construction and daily life. Our investigation of the textual evidence indicates that tribute or goods made of palm leaves were exchanged, shrines were built of red or great palms (*chak xan*), and plaited palm leaves served as containers for bones or were used to construct effigy figures of jaguars or other animals. Our identification of the sign for the word “palm” in various contexts exhibits that it is one of the rare cases in Maya scribal art where a common material that was used by all strata of Classic Maya society was introduced as sign into the writing system.

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