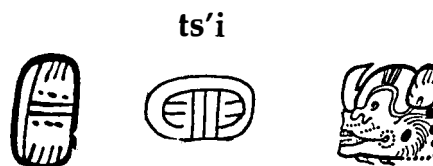


Ten Phonetic Syllables

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WITH THIS PAPER I wish to set forth the arguments for ten recent or new hieroglyphic readings—some building on the suggestions of my colleagues—in the hope that they will contribute to a fuller reconstruction of the phonetic syllabary of the ancient Maya script. The most recent summaries of progress in our knowledge of the Maya syllabary are those of Mathews (1984:311-314) and Bricker (1986:6-9). These reveal not only that our knowledge is far from complete, but also that there are disagreements among epigraphists concerning a number of the syllabic values attributed to various signs. The readings presented here, if correct, should help substantially in filling a number of gaps, and in so doing, result in some decipherments of interest.

This paper is divided into ten sections, each devoted to a particular syllabic sign. The readings proposed or elaborated upon here are *ts'i*, *pi*, *wi*, *tsi*, *yi*, *xa*, *xi*, *yo*, *lo*, and *hi*, in that order. The sections do not necessarily stand on their own, for certain discussions rely on ideas expressed in preceding sections. A summary chart of phonetic values, including those discussed here, appears on pages 46 and 47.

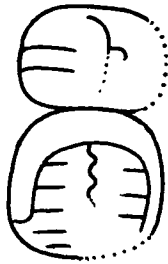


♣ Illustration key: p. 48

IN AN UNPUBLISHED PAPER, Justeson (1983) discusses the phonetic implications of a unique rendering of the glyph for the month *Zotz'* (Fig. 1), first pointed out by Liman and Durbin (1975). Justeson concludes that the upper sign may represent the syllable *so* or *su* (depending on the pronunciation *sots'* or *suts'*), and that the lower sign is another syllable with the consonant *ts'* preceding an undetermined final vowel (see Justeson 1984:343).

Sign T563a (see Thompson 1962:183) closely resembles the postulated *ts'V* of the syllabic *Zotz'* glyph in Figure 1. It is believed by many to be associated in some way with fire (Kelley 1968a; Justeson 1984:343). The only graphic difference between these two signs is the use of a zig-zag vertical center line in the *Zotz'*, while T563a has a straight line, or a pair of straight lines, in this position. I believe that this difference does not justify separation of these signs, especially since, to my knowledge, the zig-zag variant does not appear in any other inscriptions.

FIGURE 1. AN UNUSUAL ZOTZ' GLYPH



COL cylindrical "stela" in St. Louis Art Museum, C1 (Drawing after Liman and Durbin [1975: Fig. 2])

FIGURE 2. TWO *TS'IB* COMPOUNDS

- a: COL detail of Late Classic painted vessel (Drawing after photograph by Justin Kerr [No. 1211])
b: COL detail of Late Classic painted vessel (Drawing after photograph by Justin Kerr [No. 1599])

Instead, I see the latter as simply the reflection of an individual scribal style.

Beyer (1937:71) believed that Thompson's sign 563a represented a bundle of wood—hence its use in the "fire" glyph. I am not yet convinced of this identification, but it cannot be discounted with certainty. An alternate explanation of the use of T563a in the fire glyph is noted at the end of this section.

T563a occurs before the syllables *bi* and *ba* in many contexts which suggest a reading *ts'ib*, "to write/paint" (Fig. 2). On an unprovenanced painted vase illustrated by Clarkson (1978: Fig. 5), a seated figure is clearly shown writing in an open codex (Fig. 3a). He appears to be related to the supernatural scribes described by Coe (1977), for he has the "computer printout" of numerals issuing from beneath his arm. The figure occurs at the end of a long text, and the final two glyphs may represent his name and office. This conclusion is reinforced by an examination of the last glyph of the text, placed immediately in front of the seated scribe, which can be transcribed as *a-ts'V-b(i)*. The term for "scribe" in virtually all Mayan languages is *ah ts'ib*. Thus, from this example alone it seems reasonable to postulate that T563a is the syllabic sign *ts'i*, and that the compound on the vessel can be more precisely transliterated *a-ts'i-b(i)*, or *ah ts'ib*.

What may be a logograph for *ts'ib* (Fig. 3b) is painted on an unprovenanced bowl certainly

- a: COL detail of Late Classic painted vessel in the Museum of the American Indian, Heye Foundation (Drawing by Persis Clarkson [in Clarkson 1978: Fig. 5], courtesy of the Foundation for Latin American Anthropological Research)
b: COL detail of Late Classic painted vessel (Drawing after photograph by Justin Kerr [No. 772]; also see Robicsek & Hales 1981: Fig. 38 [39])

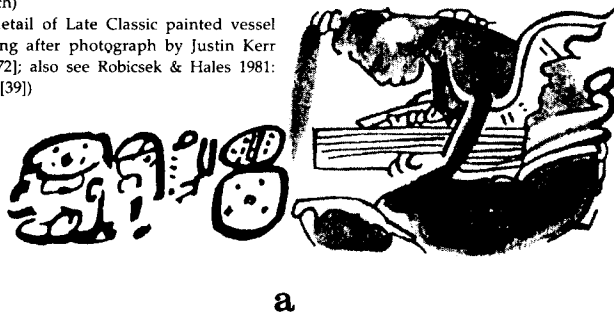
FIGURE 3. PHONETIC AND LOGOGRAPHIC VERSIONS OF *AH TS'IB*, OR "SCRIBE"

FIGURE 4. SCRIBES IN THE MADRID CODEX



MADRID 23c

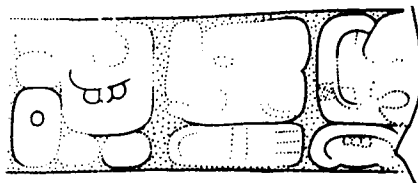
of Early Classic date and probably from the area of Tikal (Robicsek & Hales 1981: Fig 38a [sic]). The glyph shows a hand holding what appears to be a brush, followed by the syllable *ba*. It is preceded by the *a* sign just described in relation to the *ah ts'ib* of Figure 3a. All this strongly suggests that the "brush-in-hand" compound may be transcribed as **a-TS'IB-(ba)**, again, "scribe."

The *ts'ib* reading can be tested in a variety of differing contexts. On page 23c of the Madrid Codex (Fig. 4), two deities are pictured holding brushes and ink pots. One caption to this series includes the glyphs for **u-ts'i-b(i)**, or *u ts'ib*, "he writes/paints," or simply "his writing/painting." I assume that here the caption reads "he writes, [the particular deity]," as a description of the action depicted. James Fox has independently reached the same *ts'ib* reading for this example on Madrid 23c (see Justeson 1984:344).

Because the *ts'i* reading now has some reinforcement, we may at this point return to the syllabic *Zotz'* compound discussed in the beginning, and complete its transliteration as **so/su-ts'(i)**. As cases related to this reading, I cite two examples (Fig. 5a,b) in which the proposed *ts'i* syllable is attached to a *sots'* or *suts'* "bat" logograph, presumably as a phonetic complement. A comparison of two Yaxchilan examples (Fig. 5b,c) suggests that the *ts'i* sign is an optional affix to the bat glyph.



a



b

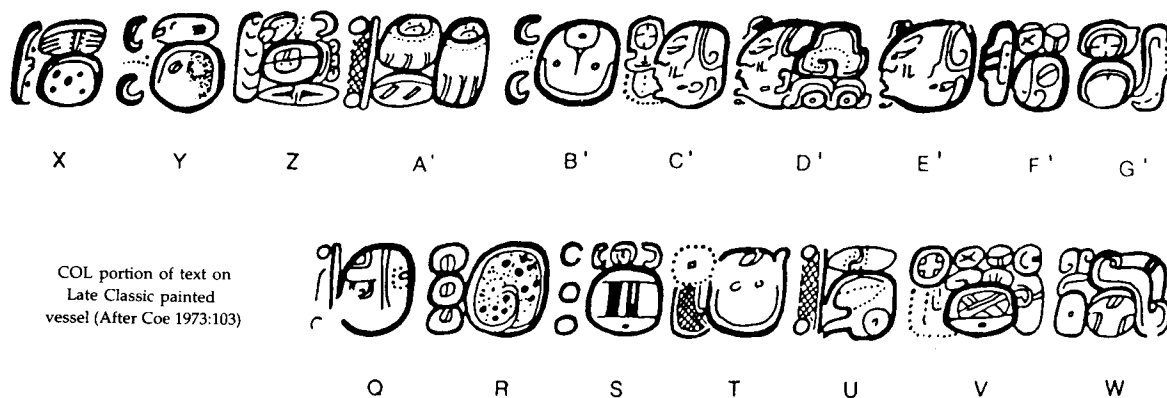


c

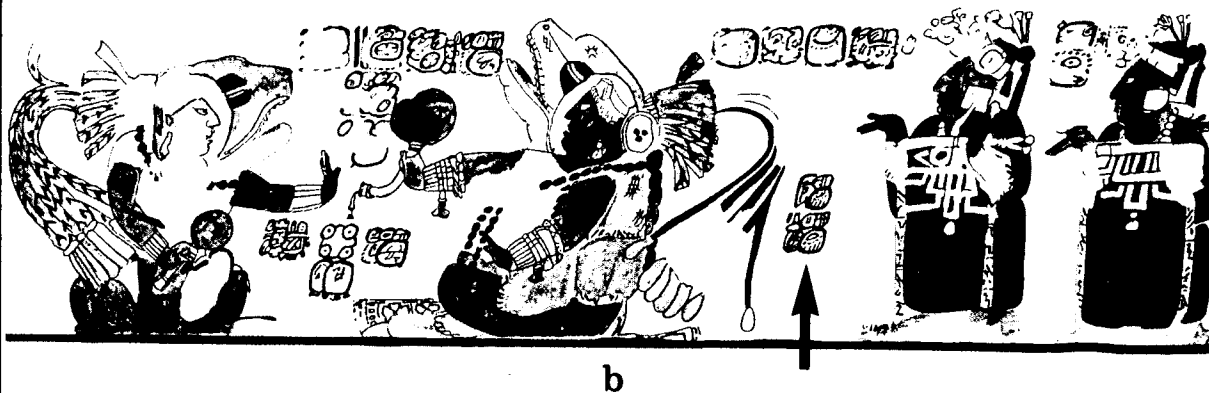
- a: CHN Hacienda water trough lintel, A5 (Beyer 1937: Fig. 700)
- b: YAX HS. 1, Step I, 60-62 (CMHI 3:143)
- c: YAX Lintel 11, C6-C7 (Field drawing by the author)

FIGURE 5. *TS'I* AS PHONETIC COMPLEMENT TO THE BAT LOGOGRAPH

FIGURE 6. A NARANJO PAINTER-Scribe AND HIS ROYAL PARENTAGE



- a: COL detail of Late Classic painted vessel
(Drawing by Persis Clarkson [in Clarkson
1978: Fig. 16])
- b: COL scene on Late Classic painted vessel
(Drawing by Persis Clarkson [in Clarkson
1978: Fig. 16])



(a & b courtesy of the Foundation for Latin
American Anthropological Research)

FIGURE 7. THE SIGNATURE OF A PAINTER ON A SCENE OF TOAD IMPERSONATORS

The *ts'ib* compound defined above is quite common on painted pottery vessels. It is often used to introduce sequences of glyphs that appear to name individuals, as in the example shown in Figure 6. The greater part of that sequence provides the names of the mother and father of the individual named with glyphs Y through A' [the designations are those of Coe (1973:103)]. The glyph preceding the name of that individual ("X" in Figure 6) is clearly that which also appears on Madrid 23c, namely *u ts'ib*, "his writing/painting." The whole Figure 6 text is painted around the base of a cylindrical vessel, and I propose that it represents the true *signature* of the artist who painted the vase, rendered as *u ts'ib*, "the painting of. . . ." If this is the case, then the parents of this artist-scribe are none other than the king and queen of the Naranjo polity, the Emblem Glyph of which appears at position "V" (Stuart 1985:1986a).

Such artists' signatures may be seen on a number of painted vessels. Some employ the spelling *ts'i-b(a)* in place of *ts'i-b(i)*, but this has no effect on the phonetic result. Stephen Houston has brought a number of such examples to my attention. Two are of particular interest since they appear to be signatures of the *same* artist (Figs. 7a & 8a). In support of this correspondence, the styles and line treatments of each of the painted scenes on the vessels in question are identical (Figs. 7b & 8b). If they were not produced by the same hand, as seems



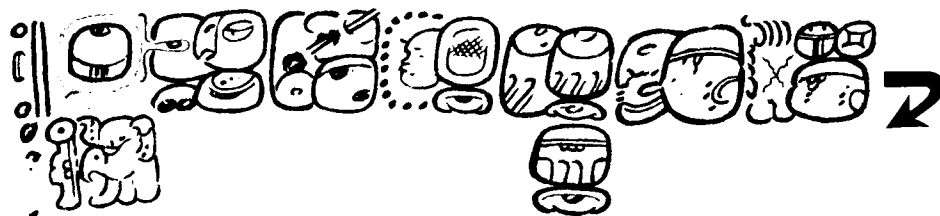
a

- a: COL detail of Late Classic painted vessel (After photograph by Justin Kerr [No. 1463])
- b: COL scene on Late Classic painted vessel (Photograph courtesy of Justin Kerr [No. 1463])



b

FIGURE 8. THE NAME OF THE SAME PAINTER ON ANOTHER PALACE SCENE



a



b



- a: NTN painted wall text, Group VIe
b: NTN painted wall text, Group IVj

(After field drawings by the author; for explanation of text numbering, see Note 1)

FIGURE 9. THE NAME OF A NAJTUNICH SCRIBE AS SIGNATURE AND GRAFFITO

most likely to me, then they are at least from the same artist's workshop. Both, unfortunately, are without provenance, but of undoubted authenticity.

A text painted on the cave wall of Najtunich (Fig. 9a) is pertinent to the matter of scribal signatures, for the second of its two "sentences" begins with *u ts'ib* and ends with a name. I believe it to be the signature phrase of the person who painted the text, the first part of which makes note of some dated event. Figure 9b shows another Najtunich inscription in which the same name (apparently by the same hand), occurs alone (Stuart 1981:20). Here, it appears that the scribe simply wrote his name on the cave wall (Note 1).

Neither space nor the scope of this report permit a more extensive discussion of the signatures of Maya artists and/or scribes utilizing *ts'ib* glyphs. The importance of the subject dictates that it must await more complete treatment in a separate study.

Let us now turn to the occurrence of the *ts'ib* glyph in those pottery texts which Coe (1973) first recognized and defined as members of a set which he termed the Primary Standard Sequence (hereafter rendered simply as the PSS). This occurrence is in what Coe termed the "fire-*imix*," **ts'i-b(a)**, and "fire-quincunx," **ts'i-b(i)**, glyphs. Both appear early in the PSS, and can take the possessive pronoun *u* under certain conditions. When the "God N" glyph (or an equivalent) precedes *ts'ib*, then *ts'ib* customarily takes the *u* prefix (Fig. 10a). When God N is absent, so, in most cases, is the *u* (Fig. 10b). In such instances, I doubt that *ts'ib* functions in the PSS as part of a signature phrase such as we have already seen. In fact, vessels that have artists' signatures, as described above, can *also* have PSS texts containing *ts'ib* or *u ts'ib*. I therefore believe that in the PSS, the occurrence of *ts'ib* or *u ts'ib* fulfills some other function, probably indicating the manner in which the vessel was decorated—that is, to denote a painted vessel versus a carved one (Note 2).

At this point, the discussion of *ts'ib* can be extended by some remarks on the head variant glyph for the *ts'i* syllable. This allograph represents a bat and, as far as I can tell, the sign is indistinguishable from the bat head used for the month *Zotz'*. The equivalence of the bat-head sign and the *ts'i* sign discussed so far is best shown by comparing examples of the PSS pottery texts (Fig. 11). In the illustration, a text using mostly head variants (Fig. 11a) is compared to one using more conventional forms (11b). The sameness of the two sequences is indicated by the parallel use of a few glyphs and by the employment of established allographic signs—the elaborate fish head (Fig. 11a, center) for the simple *u* "bracket" (11b, bottom), for example. In this case it can be shown that the bat head of the first example is a substitute for the *ts'i* sign in the second example. This equivalence has been revealed in a large number of examples of the PSS

a: COL detail of text on Late Classic painted vessel (After photograph by Justin Kerr [No. 2358])

b: COL detail of text on Late Classic painted vessel (After photograph by Justin Kerr [No. 1810])

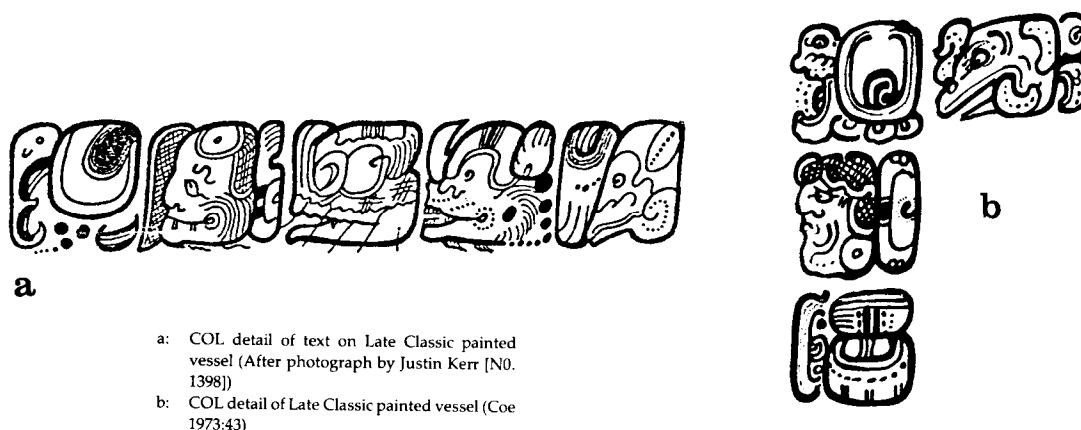


a



b

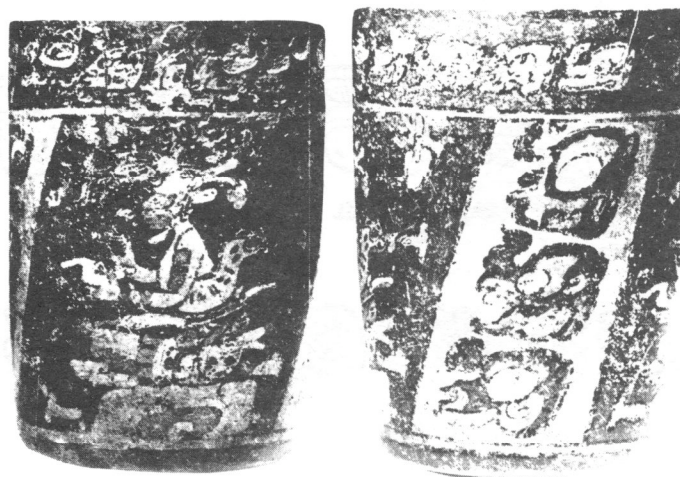
FIGURE 10. *TS'IB* COMPOUNDS AND GOD N IN THE PRIMARY STANDARD SEQUENCE

FIGURE 11. *TS'I* AND THE BAT HEAD IN THE PRIMARY STANDARD SEQUENCE

through the independent work of Nikolai Grube (1986), myself, and others. Such comparisons of the many examples have resulted in the identification of numerous allographs, including a skull sign, which we have recognized as a form of either the *ba* or *bi* syllable.

Figure 12 illustrates a vessel upon which is written (in three separate glyph blocks accompanying the figure of a scribe) the grouping *u-ts'i-b(i/a)*. This is rendered only by means of head-variant signs for the syllables—a fish head for *u*; the bat head for *ts'i*; and the skull for *bi* or *ba*. The figure itself is recognizable as a scribe by means of what Coe has termed the “computer printout” under his arm, just as was the case of the individual depicted in Figure 3a, above. It seems evident that, here, *u ts'ib* simply describes the action shown.

Returning to a broader discussion of the *ts'i* syllable in other contexts, it is appropriate to turn to Tonina Monument 89 (Fig. 13a,b). The sculpture, in the full round, is that of a crouching or squatting dog, and bears an inscription of four glyph blocks on its back—the top of the carving (Bequelin & Baudez 1982,3: Fig. 118). The first includes the sign under discussion, and can be transcribed as *u-ts'i-i*. The remaining glyphs are somewhat obscure, except for the third, which shows a clear notation of two *katuns*. For the present, I am assuming that the last two or three glyphs form the name phrase of an individual. The *u-ts'i-i* glyph, however, is most

COL Late Classic painted vessel, two views
(Robicsek & Hales 1981:132)FIGURE 12. THE *U TS'IB* PHRASE RENDERED AS HEAD-VARIANT SIGNS

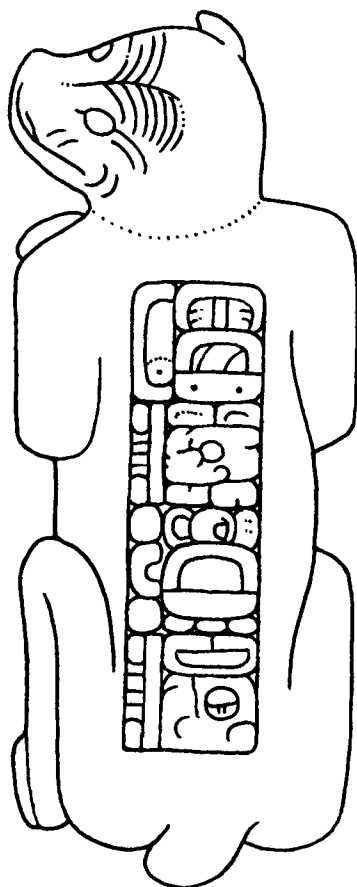
a: TNA Monument 89, top view (After drawing by Peter Mathews in Bequelin and Baudez [1979-1982,3: Fig. 118])

b: TNA Monument 89, side view (After drawing by Peter Mathews in Bequelin and Baudez [1979-1982,3: Fig. 118])

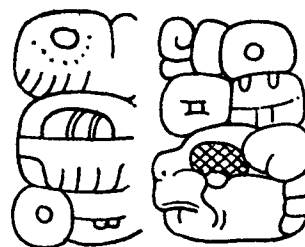
c: COL Stela in Royal Museum of Art and History, Brussels, B8 (Drawing after exhibition catalogue *Art de Mesoamerique*, published by the *Société Générale de Banque* [1976?: Fig. 166])

d: PNG Stela 26, lower left, above captive (Drawn from photograph by Teobert Maler [in Maler 1901: Plate 23])

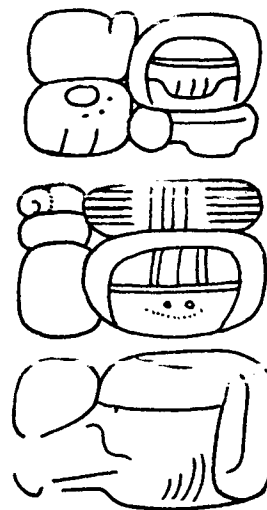
a



c



d



Monument 89 is 36 cm long; 14.5 cm high.

b

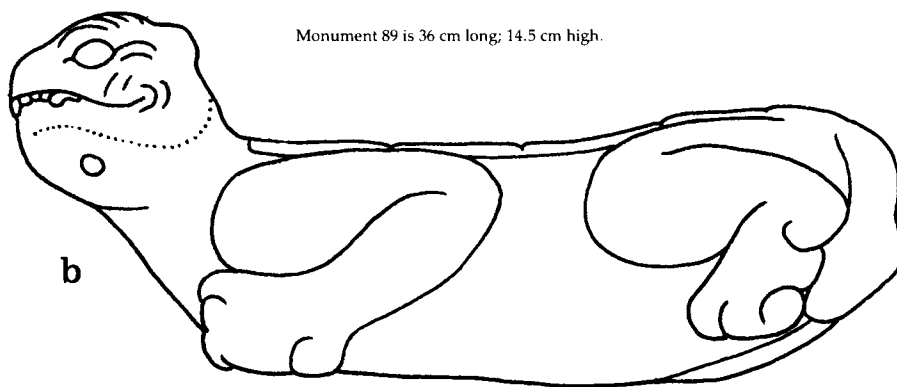
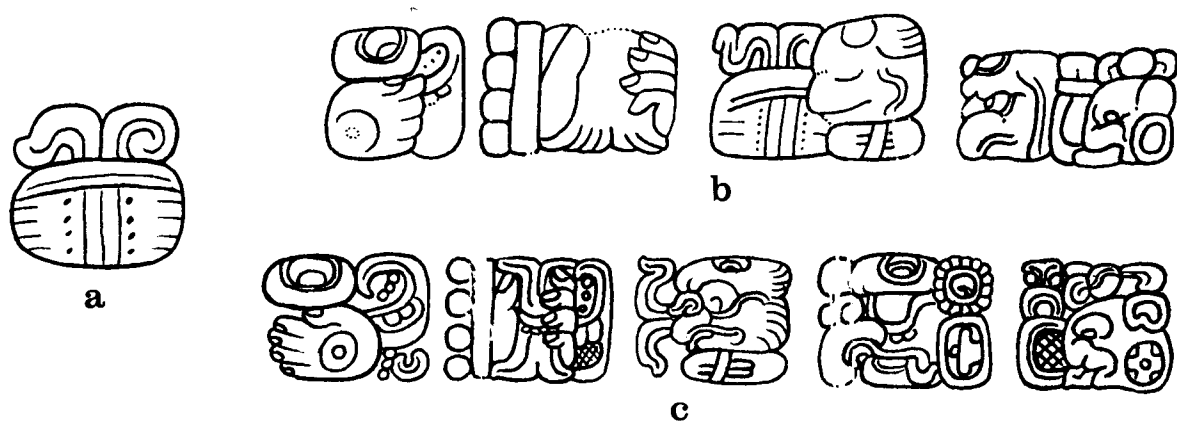


FIGURE 13. *TS'ŭ* EMPLOYED IN THE WORD FOR "DOG" IN THREE TEXTS

FIGURE 14. THE *TS'I* SYLLABLE AND THE NAME OF GOD K

a: Typical "Fire" Glyph (Generic composite based on various examples)

b: YAX HS. 3, Step III, D11-C13 (After CMHI 3:169)

c: QRG Stela J, H4-H6 (Drawing after Maudslay 1889-1902, 2: Plate 46 [Glyphs 76-80])

interesting, for the word for "dog" in many Mayan languages (including those in the Cholan group) is *ts'i'*. The initial glyph on Monument 89 would therefore make perfect sense as *u ts'i'*, "the dog of. . ." The use of the final *i* sign is most interesting here, for it would seem to reflect the glottal stop after the vowel, much as *o* (T99) works when attached to *mo* (T582), for *mo'* (see Lounsbury 1981:103). The function of this unusual sculpture is not readily apparent (Note 3).

Stephen Houston has kindly pointed out to me another phonetic rendering of *ts'i'*, "dog," in a title glyph that occurs in a number of inscriptions from the region of Piedras Negras and elsewhere. By comparing two (Fig. 13c,d), it can be seen that the "dog" logograph of the first example (13c, right) is replaced in the second (13d, center) by the sign combination *ts'i-i*, or *ts'i'*. The meaning of the full title, which Houston reads *k'ab kaan te' sak ts'i' ahaw* ("... white dog lord") is not clear at this time.

Finally, this discussion of the reading *ts'i* for sign T563a must address one of the most common occurrences of the sign, namely, as part of the "fire" glyph. The conventional form of this glyph contains the smoke or flame sign, T122, above T563a, the proposed *ts'i* (Fig. 14a). It should be noted, however, that the *ts'i* sign is apparently optional to the significance of the whole, as may be seen by comparing the two excerpts from texts shown in Figure 14 (b & c). In

- a: CHN Caracol, Hieroglyphic Band, 9 (Beyer 1937: Fig. 244)
b: CHN Four Lintels, II, G3 (Beyer 1937: Fig. 245)

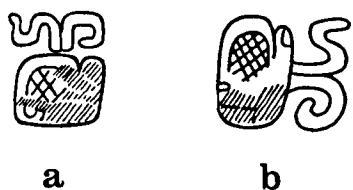


FIGURE 15. "FIRE" OR "SMOKE"?

COL detail of text on Late Classic painted vessel



FIGURE 16. "FIRE" AND "SMOKE"?

other words, T563a is in no way vital, it seems, to the reading or sense of the smoke or flame glyph. There are two possible ways to interpret the principles at work here: 1) The smoke/flame glyph with T563a is *itself* a logograph which may be abbreviated by shortening to the smoke/flame sign alone. (A precedent for this pattern exists, for example, in the common rendering of *ahaw* (T168), which is an abbreviated form of the T168:518a *ahaw*); or 2) T563a is a complement to a *separate* smoke/flame logograph, in which case its optional use makes it appear to be a phonetic complement.

Of the two alternative possibilities, I prefer the latter. This preference, however, is not very strong. As evidence that *ts'i* is a phonetic complement in such cases, I cite the widespread word for "smoke" in Mayan (including Cholan and Yucatecan): *buts'*. Therefore, I am inclined to read the fire glyph in its conventional form T122:563a as **BUTS'-(ts'i)**, or "smoke." When the "smoke/flame" logograph is to be read *k'ak'*, "fire," then the appropriate **k'V** phonetic complement (usually *k'a*) is added for **K'AK-(k'a)**, as in the examples from Chichén Itzá (Fig. 15). An additional piece of evidence for this arrangement appears as part of the rim text on an unprovenanced cylinder vase in Guatemala (Fig. 16). Here, two glyphs, with complements that I believe make them readable, respectively, as *k'ak'* and *buts'*, appear side by side. In this instance, it would seem implausible to read both glyphs as "fire."

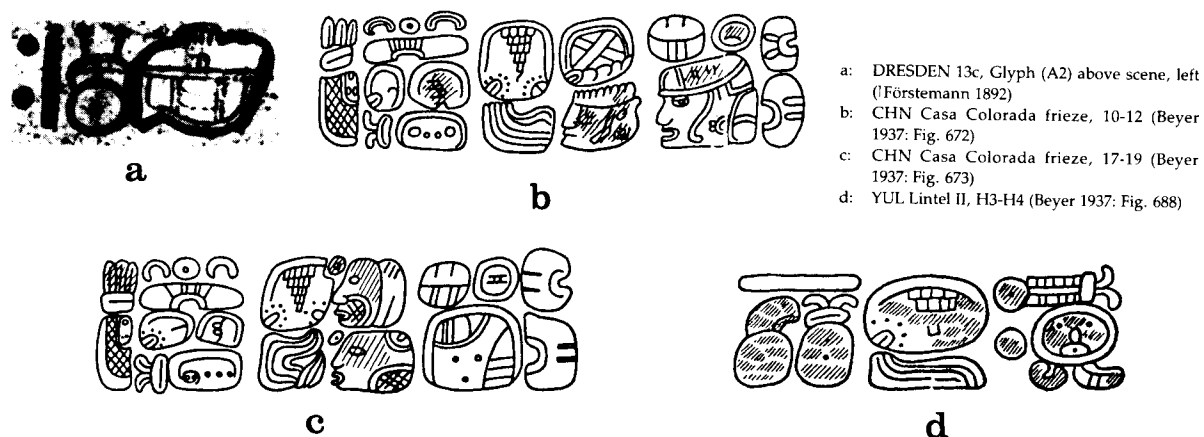
Nevertheless, there are examples of the T122 sign with *ts'i* which appear to work better as "fire" than as "smoke." Therefore I will reserve final judgement on this particular decipherment until more evidence is brought to bear.

pi



FOX AND JUSTESON (1984:39) suggest a value *pi* for the sign T854, sometimes referred to as "inverted sky." This sign, they point out, is used in the possible phonetic spelling of the name of God Y, *Uuc Yol Sip* [as 7-si-**p(i)**], on page 13c of the Dresden Codex (see Zimmermann 1956: *Tafel* 6; Anders 1963:266) (Fig. 17a).

In the inscriptions of Chichén Itzá, there occurs a use of the *pi* sign which may relate to the interpretation suggested by Fox And Justeson. The method of recording dates at Chichén Itzá, described by Beyer (1937) and Thompson (1937), includes, in some examples, a pair of elements that, together, appear to function as the numerical classifier for *tun*, or "year" (Fig. 17b-d, first glyph block of each). These elements are: (1) a unit composed of two *cauac* glyphs (Fig. 17b) or, sometimes, a *cauac* with a "muluc-like" sign (Fig. 17c), these joined by an arching element above, which, at times (as in Fig. 17c) can be abbreviated as a "cauac-with-elbow" (T177); and (2) sign T57 or T146, which Fox and Justeson (1984:37-39) convincingly read—as in the name *Uuc Sip*, above—as *si* (also see Justeson 1984:320). Being a numerical classifier ending in -s, the combination in the Chichén Itzá example, it seems, could be read as either *p'is* or *pis*. Given its context, I would much prefer the unglottalized *pis*, the numerical classifier for "years, days, months, . . ." according to Beltran, rather than *p'is*, a more general classifier for measures or weights (Beltran 1746:162). *Pis* is well known in various Chilam Balam passages such as *tu uucpis tun*, "in the seventh *tun*," from the Chumayel manuscript (Gordon 1913:80, bottom line; Roys 1933:51; Edmonson 1986:61), paralleling the Chichén Itzá hieroglyphic examples. If T177 and its variants are to be read as *pi*, then the Chichén Itzá example shown in Figure 17b can be transcribed **TU-HUN-pi-s(i)-TUN**, or *tu hunpis tun*, "in the first *tun*." James Fox (1984) was the first

FIGURE 17. THE SYLLABLE *pi* IN THE DRESDEN CODEX AND AT CHICHEN ITZA

to note this sign combination as a classifier at Chichén Itzá, and further suggested *p'is* as its reading, although he was not specific with regard to the phonetic transliteration of the individual constituent signs.

The *pi* reading for T177 and its variants is strengthened by the fact that it substitutes for the T854 inverted sky sign in the Emblem Glyph of Copan. Figure 18 shows the chief variants of this Emblem Glyph, and it can be clearly seen that the “*cauac*-with-elbow” (T177) is a commonly used suffix (Fig. 18a-c). In those instances where T177 is absent, however, the inverted sky sign is added to the back of the bat head forming the main sign (Fig. 18d-f). I take this to be a straightforward substitution between two signs that have the same value, or at least the same consonant. Moreover, if this is correct, it would suggest that the phonetic reading of the Copan Emblem Glyph ends in *-p*.

The possibility remains that a phonetic distinction does exist between T177 (*cauac*-with-elbow) and T854 (inverted sky). While the two forms substitute for one another in the *final* position, as noted in the cases of the Copan Emblem Glyph, no example is known to me in which the signs are interchangeable when they are in *initial* or *medial* position. This might indicate that “inverted sky” is a *p*-syllable with a vowel other than *i*, perhaps *pu*, given its occasion-

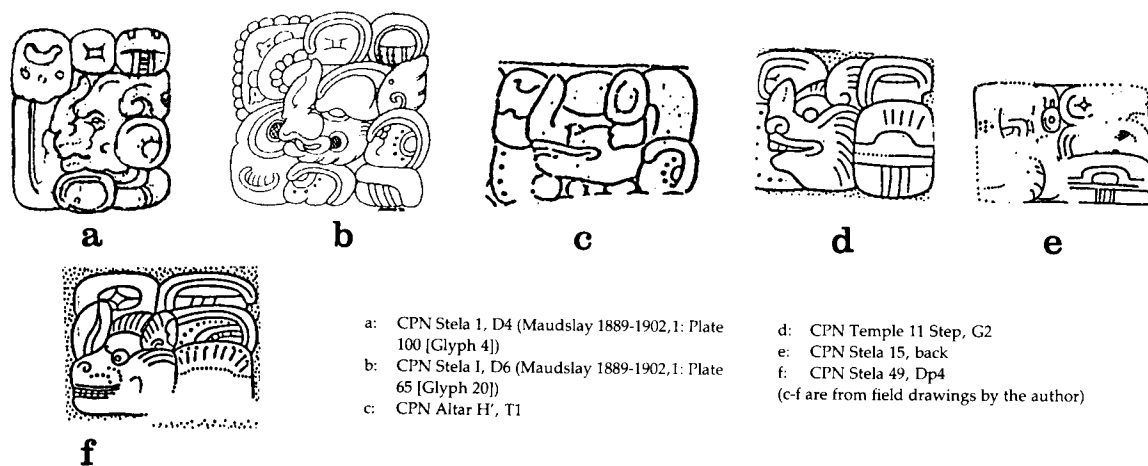
FIGURE 18. THE SYLLABLE *pi* IN THE EMBLEM GLYPH OF COPAN

FIGURE 19. THE SYLLABLE *pi* AND THE HEAD OF THE BAKTUN BIRD

- a: CPN Stela N, west side, 5-7 (After field drawing by the author [see also Maudslay 1889-1902, I: Pl. 79, 24-26])
 b: CPN Hieroglyphic Stairway (After drawing by Barbara Fash)

al use as an initial sign accompanying Landa's *lu*. One example occurs on the Tablet of the Temple of the Foliated Cross at Palenque, at position L2.

A possible head variant of the proposed *pi* sign is the head of the well-known "*baktun* bird" (the final sign in the row of five in the subhead illustration for this section [page 11, above]). This equivalence is clearly demonstrated in one instance in the inscriptions of Copan, where the *baktun* bird head replaces the more common "doubled *cauac*" in the name of the ruler "Smoke Squirrel" (Fig. 19). I am inclined to believe that here the doubled *cauac* functions as phonetic *pi* in the spelling of that ruler's name (BUTS' *yi-pi ya-ha-CHAAN-K'AWIL?*), and thus the *baktun* bird head presumably works in the same way. If this should prove to be the case, the application of the *pi* reading may have important implications for the eventual decipherment of the *baktun* glyph itself, the most common form of which is the doubled *cauac* (Thompson 1950: Fig. 26).

Additional evidence for the *pi* reading of the *cauac*-with-elbow is brought to bear in the discussion of the syllable *tsi*, below.

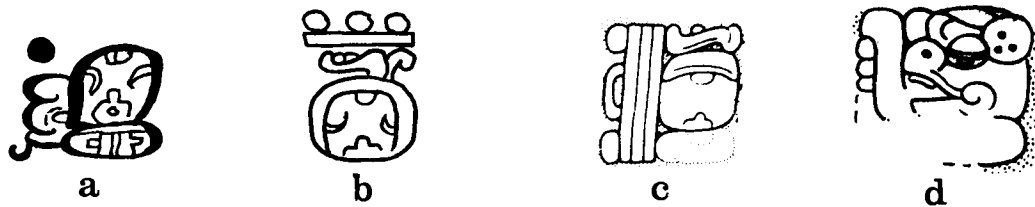


BOTH FOX AND JUSTESON (see Justeson 1984:334) read T277 as *wi*, and this appears to have strong supporting evidence. They also assign the value *na* to T117 (Justeson 1984:324), as does Bricker (1986:6). However, I am convinced that these two signs are but stylistic variants of the same character, read *wi*.

As Fox and Justeson note, the reading *wi* for T277 is best supported by its use as a prefix to the *uinal* glyph in the codices (Fig. 20a)—a logograph perhaps originally read as *winik*, *winak*, and, in some cases, *winal*. The fact that T117 is the Classic-monumental equivalent of T277 is demonstrated by the similar use of T117 as a prefix to the *uinal* glyph (Fig. 20b-d). The contexts are identical and the two appear to be similar in form.

There is considerably more evidence for the *wi* reading in a number of texts. For example,

FIGURE 20. SIGNS T117 AND T277 IN VARIOUS EXAMPLES OF THE "UINAL" GLYPH



- a: DRESDEN 61, left column, A15 (After Förstemann 1892)
 b: CPN Altar Z, A1b (After Maudslay 1889-1902, 1: Plate 112)

- c: NAR Stela 35, E8 (CMHI 2:92)
 d: CPN Temple 11, north door, east jamb, B3 (After field drawing by the author)

- a: PAL Tablet of the Slaves, II (Drawing by Linda Schele)
 b: PAL Temple XVIII, south jamb of sanctuary, C13 (Drawing by Hipólito Sánchez Vera in Ruz 1958 [Fig. 16])
 c: TIK Stela 31, back, D18 (Drawing by William R. Coe in Jones and Satterthwaite 1982 [Fig. 52])

- d: TIK Stela 31, back, F16 (Drawing by William R. Coe in Jones and Satterthwaite 1982 [Fig. 52])
 e: PAL, Temple of the Inscriptions, sarcophagus lid, 23 (Drawing by Merle Greene Robertson)
 f: NAR Hieroglyphic Stairway 1, Step X, V1b (CMHI 2:110)

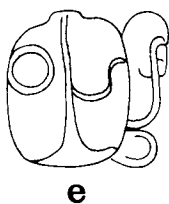
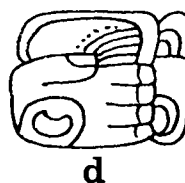
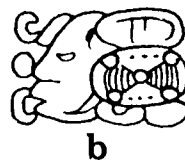
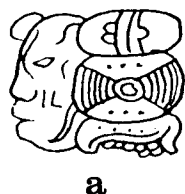
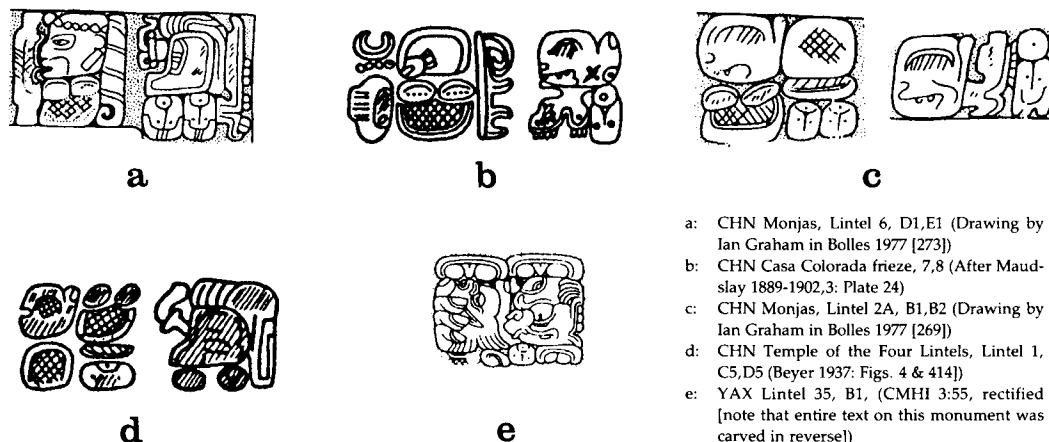


FIGURE 21. SIGNS T117 AND T130 IN THREE PARALLEL EXAMPLES

FIGURE 22. THE SYLLABLE WI IN THE GOD K NAME GLYPH



it can be shown that T117 is often a substitute for T130 *wa* in final positions, where the vowel is optional. Figure 21 shows the name of a Palenque woman referred to in two inscriptions (Fig. 21a,b); the “*tun-over-hand*” verb for monument dedication (21c,d); and, finally, the glyph for the month *Kankin*, the name for which was *Uniw* in the Southern Lowlands during the Classic Period (Fox & Justeson 1980:212). Regarding that, Michael Closs (personal communication, 1985) notes the syllabic spelling *u-ni-w(a)* for the month on Yaxchilan Hieroglyphic Stairway 3, Step 1 Tread, at position D1a (CMHI 3:166).

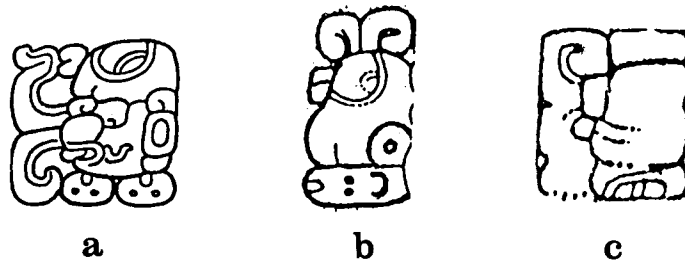
Given that evidence for the reading of T117 as *wi*, I offer a test case that produces a very interesting result: At Chichén Itzá, there occurs the name of an individual which includes, as a final part, the glyph for God K (Fig. 22a). The God K glyph has T117 as a suffix, along with T178 *la*. The pattern of the juxtaposition of these two signs in other glyphs suggest that when *la* (T178) and *wi* (T117) are combined so that T117 is placed to the side of the glyph block, as in the present example, the *la* is to be read as the final element. Thus, at Chichén Itzá the suffixes together seem to be readable as *wi-l(a)*, making *-wil*. In another example of this same name (Fig. 22b), the God K glyph is not immediately apparent, but in the final position is the phonetic combination *k'a-wi-l(a)*, or *k'awil*. Still another name in the Chichén Itzá inscriptions (Fig. 22c,d) exhibits the same combination. I suggest that *K'awil* is the reading for the “God K-*wil*” glyph in the previous example of this name (Fig. 22a,b). One additional conclusion that can be drawn from this is that the God K glyph, as a logograph, is to be read *K'awil*. To support this, I point out an example from Yaxchilan (Fig. 22e) in which the *-wi-l(a)* combination is added to the God K head sign. Moreover, it should be noted that the glyph for God K consistently carries *la* (T24) or *li* (T82/83) as a suffix, presumably as a phonetic complement to *K'awil* (Fig. 23).

K'awil is the name of an important deity in the Colonial Yucatec sources (Thompson 1970:289). Presumably related to *Itzamna K'awil* and the other god names that incorporate this word, he was one of the chief agricultural deities of Yucatan. Unfortunately, little of a specific nature is known of *K'awil*. The name *Amayte K'awil*, or “‘Corner Tree’ *K'awil*” (Thompson 1970:229), suggests that he had manifestations in the four worldly corners, much like the *Bacabs* or the *Chaacs*.

In any case, it is of interest that Thompson (1970:226) associated the name *K'awil* with God K—this because of the “emphasis on vegetation” he saw in God K, and the corresponding agricultural associations of *Itzamna K'awil*. I believe that Thompson’s identification of God K as *K'awil* is correct, and surely the best evidence lies in the spelling *k'a-wi-l(a)* in place of God K at Chichén Itzá. God K’s maize or agricultural associations during the Classic Period have been

FIGURE 23. PHONETIC COMPLEMENTS ATTACHED TO NAME GLYPHS OF GOD K

- a: CPN Stela N, B7 (Drawing by the author; see Plate 19, above [see also Maudslay 1889-1902, 1: Plate 79, 26])
- b: NAR Stela 32, W9 (CMHI 2:86)
- c: CRC Stela 11, B5 (Drawing by Stephen D. Houston [see also Beetz and Satterthwaite 1981: Fig. 12])



demonstrated by Taube (1986:21). Even with those ties—and, to be sure, most supernaturals of the Late Postclassic Period did have at least indirect ties to agriculture—the role of God K during the Classic Period appears to be consistently and intimately connected with notions of royal power and lineage.

An additional reading employing T117 as *wi* is discussed below, in the section devoted to the syllable *tsi*.

tsi



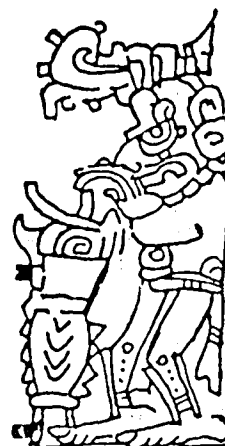
SO FAR we have seen the possible relationship of certain hieroglyphic signs to the phonetic syllables *ts'i*, *pi*, and *wi*. I would now like to propose another sign as having the value *tsi* (unglottalized). The sign is that which is sometimes known as the “spotted-” or “dotted-*Kan*,” and it is numbered 507 by Thompson (1962:105). The reading was first indicated to me by a variant of the name of God D—accepted by most epigraphists as *Itsamna*—in the Madrid Codex (Fig. 24). In that instance, the name of the deity, clearly God D, contains the usual component signs, except for the one in the initial position. Instead of the forehead tassels usually displayed in front of the face in the God D name glyph, this example suppresses at least the upper part of that feature, having instead the codical form of the spotted-*kan* sign. Upon seeing this example, I was struck by the possibility that the sign in question serves to indicate part of the phonetic reading of the name *Itsamna*. A value of *its* or, even better, *tsi* suggested itself as worth testing in other occurrences.

The spotted *kan* is one of three components of the “positive aspect” glyph of the codices (Fig. 25), first identified by Zimmermann (1956: *Tafel* 8, A22). The first component sign is T62 *yu* or *u* (Lounsbury, personal communication, 1983), a value that has been well demonstrated. The final sign, after T507, the postulated *tsi*, is T24, probably *li* or, at times, the suffix *-il*. Taking all these readings into account leads to the transcription (y)u-*tsi*-l(i), or *utsil*, “good”—a reading of the whole that makes perfect sense in light of Zimmermann’s conclusion regarding the posi-

FIGURE 24. "ITSAMNA" IN THE MADRID CODEX



MADRID 110b, detail (From photograph of the original manuscript by Victor Boswell and Otis Imboden, courtesy of the National Geographic Society)



tive aspect or augury of the glyph.

Additional support for the *tsi* reading derives from the use of the sign in a glyph that seems to spell **wi-ts(i)** or *wits*, "hill/mountain." As one might expect, this is a combination of the sign *wi*, discussed above, and the spotted *kan*. On Dresden page 66b, this **wi-ts(i)** compound occurs with a locative prepositional prefix *ti*, in which case it certainly refers to the location of *Chaac* in the scene below (Fig. 26). The god is shown seated on a large head with *cauac* markings—a common graphic convention for depicting things made of stone. The second and third glyph blocks of this caption (Fig. 26a, B1, A2) might therefore be read *ti wits Chaac*, or "Chaac [is] on the hill." Parenthetically, the glyph that follows the name of *Chaac* may here be read as something like *chak ha'il* or *chak ha'al*, which, in Yucatec, means *llover mucho*, "to rain a lot." This reading of *ha'* for the *Imix* sign, T501, is based on its frequent apparent use as a logograph for water—Yucatec *ha'*—sometimes with the phonetic complement *ha* attached (see Fox & Justeson 1984:55). Thus, the entire caption of this scene may be translated as "Chaac is on the hill; [there is] great rain; [and] turkey is its offering"—this following Kelley (1976:110) in reading the "offering" of *kutz*, "turkey" (at position A3 of the text).

The *wits* reading is applicable to a glyph on the Tablet of the Temple of the Foliated Cross at

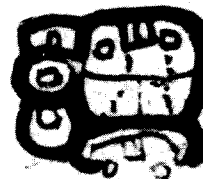
- a: DRESDEN 14c, right scene (After Förstemann 1892)
- b: DRESDEN 14b (After Förstemann 1892)
- c: MADRID 63b, C2 (After photograph of the original manuscript by Victor Boswell and Otis Imboden, courtesy of the National Geographic Society)



a



b



c

FIGURE 25. "POSITIVE ASPECT" GLYPHS IN THE CODICES

Palenque (Fig. 27). There, the elder "Chan Bahlum" is portrayed standing upon foliage which issues from a distinctive stepped cleft in the forehead of a three-sided "Cauac Monster." The eyes of the frontal face on the monster each contain a hieroglyph. Within the [observer's] right eye is the monumental version of the **wi-ts(i)** seen in the Dresden Codex, followed by a **na-l(a)** combination which may refer to the vegetation which emerges from the top of the monster—the iconic version of the T86 sign (read by Knorozov [1967:83, no. 066] as *nal*). I suspect that in this instance *wits* refers to the Cauac Monster itself, much as *wits* referred to the cauac head in the Dresden scene. The two glyphs in the eyes may together form the name of a specific mountain or location (Note 4). On a related note, the same two glyphs, or variants thereof, appear in the main text of the tablet where they would seem to be associated with the birth of GII of the Palenque Triad (Schele, personal communication 1978).

Sign T529 (Fig. 28), substitutes for the supposed **wi-ts(i)** combination; for this reason I would read it *wits* as well. T529 consists of a rather unusual version of the *cauac* sign that I believe to be the logograph for "mountain" in the Maya script. It is the hieroglyphic version of the elaborate Cauac Monster such as that at Palenque, and perhaps the Dresden *cauac* entity as well (this logographic relationship seems valid no matter what the reading of sign T529). The

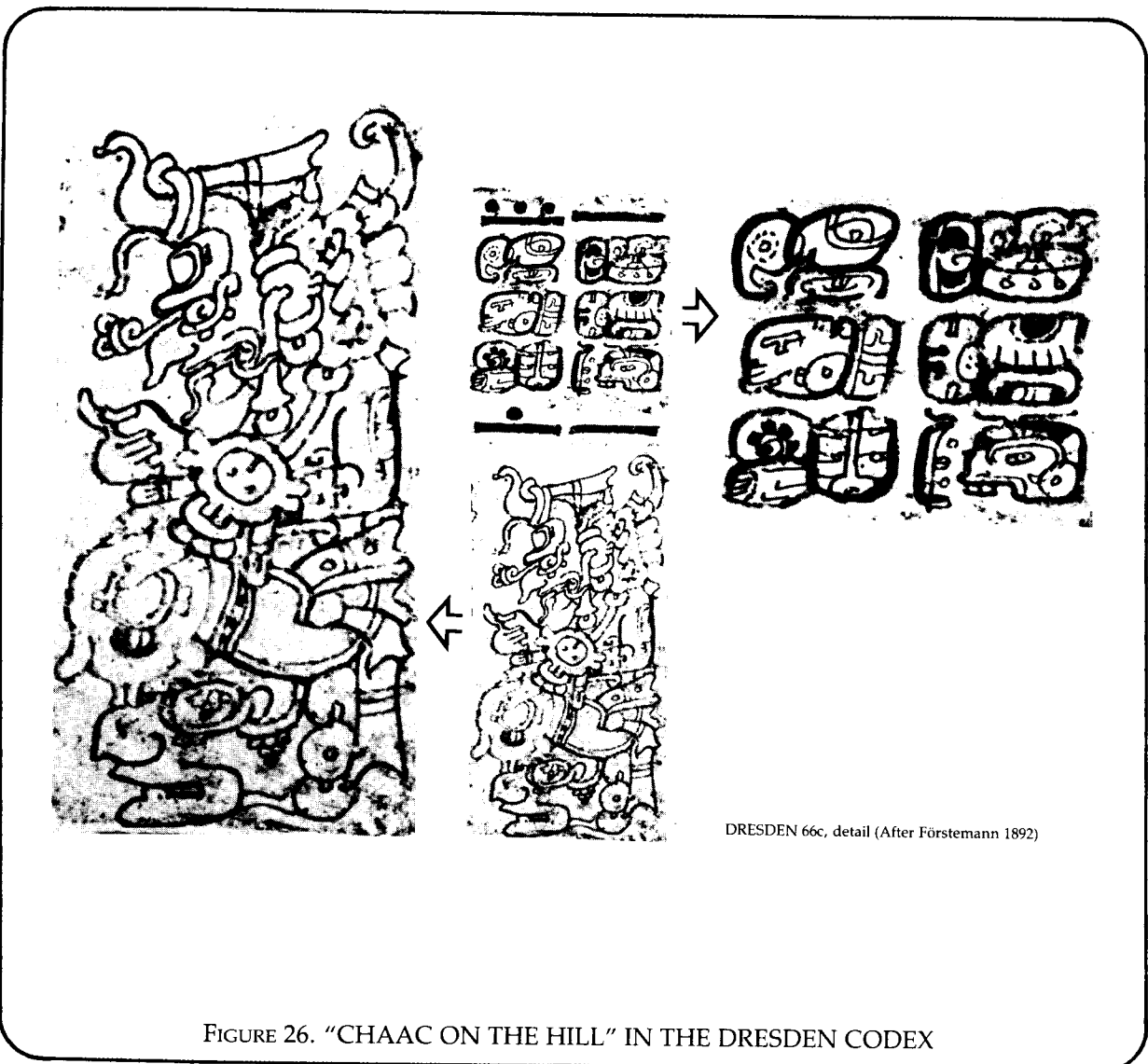


FIGURE 26. "CHAAC ON THE HILL" IN THE DRESDEN CODEX

equivalence can be demonstrated first in the inscriptions of Copan, where the **wi-ts(i)** combination is particularly common (Fig. 29).

At Yaxchilan and Piedras Negras, an Emblem Glyph, previously unrecognized, accompanies the names of captives, dignitaries, and one royal consort, and it clearly exhibits this logographic substitution for *wits*. The Emblem Glyph seems to refer to an unknown site, possibly located in the western area of the Peten district. It is composed of two principal elements: the day sign *Ix* (usually with its day-sign cartouche) and either the suggested phonetic **wi-ts(i)** syllabic combination (Fig. 30a,b), or the elaborated *cauac* logograph (Fig. 30c-e). Although one can not be certain that this represents one Emblem Glyph and not two, I suggest that the equivalence is highly probable, given the associations between the *wi-ts(i)* glyph and T529 discussed above. In any event, it is interesting that the logograph for “hill, mountain” might now be associated with place references. This is quite in keeping with the well-known Mesoamerican tradition of naming places after (or as) mountains, particularly evident in the Postclassic and colonial codices of Central Mexico and Oaxaca. Thus, the “*Ix-wits*” Emblem Glyph—whether or not that is its precise reading—recalls the sense of the Nahuatl place name *Ocelotepec*, “Ocelot Hill,” and the glyph that represents it in Aztec writing (Fig. 30f). Two other place references in the

PAL Tablet of the Temple of the Foliated Cross,
detail (Drawing by the author)

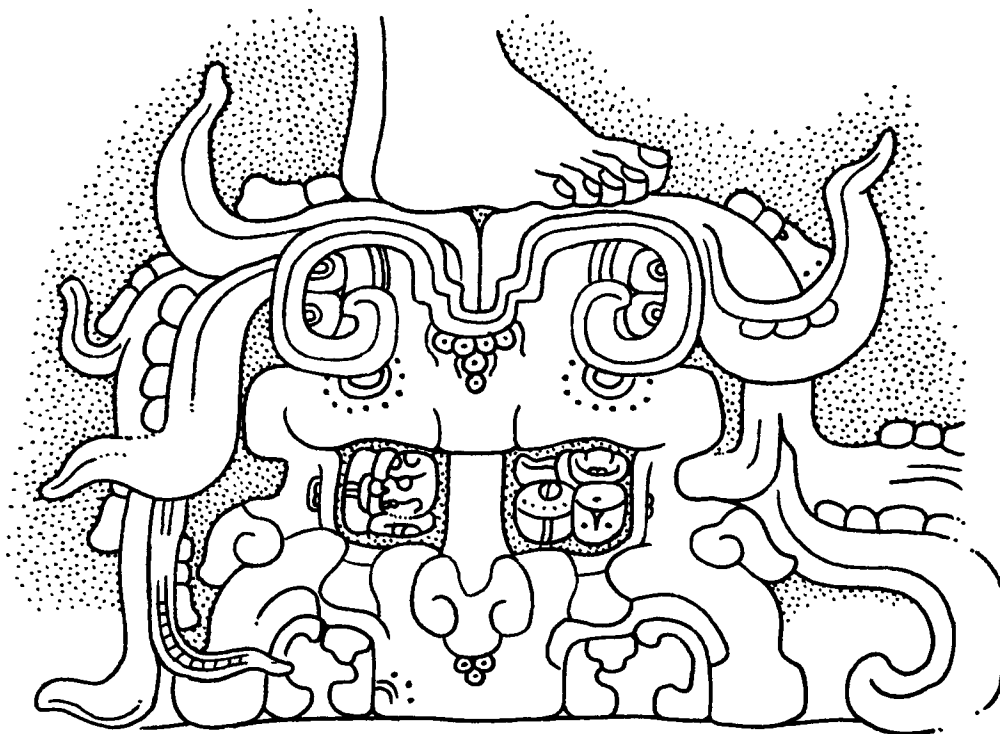
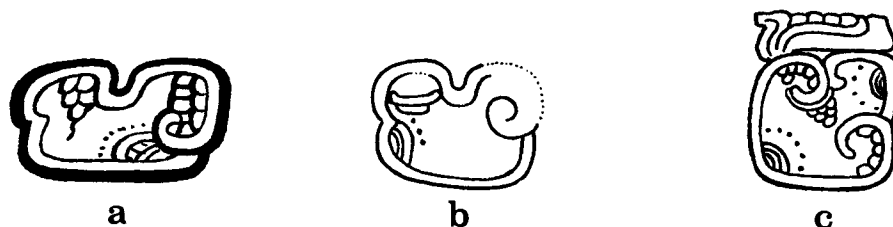


FIGURE 27. THE COUNTENANCE OF THE “CAUAC MONSTER” AT PALENQUE

FIGURE 28. THE LOGOGRAPH FOR "HILL" OR "MOUNTAIN"



a: RAZ Tomb 26 mural [main sign only] (After photograph by Otis Imboden, courtesy of the National Geographic Society, and with permission of Richard E. W. Adams, University of Texas, San Antonio)

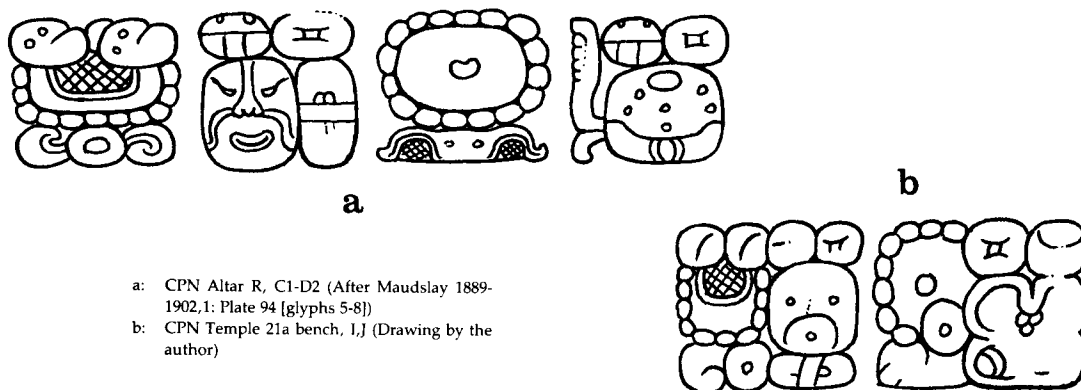
b: TNA Monument 106, pB2b (After drawing by Ian Graham)

c: CPN Stela I, C3a (Drawing by the author [see also Maudslay 1889-1902, 1: Plate 64, view of south side])

Maya inscriptions include the putative *wits* logograph. One is the Emblem Glyph of Ucanal (Fig. 31), first identified by Mathews (n.d.). Here the sign is customarily prefixed by *k'an*, "yellow," but often this is an infix. Another sign is the superfix *nal*, T86, which I believe is always to be read *after* the sign to which it is attached. In one example, T117 *wi* is a prefix to the logograph, presumably indicating its *wits* reading. Here, then, we have K'AN-(wi)-WITS-NAL as a possible transliteration of the Ucanal Emblem Glyph. Interestingly, the site of Ucanal is situated on "the southwestern extremity of a spur of hills ranging up to 400 m above sea level" (Graham 1980).

Another glyph containing the *wits* logograph (Fig. 32a) is to be found in the texts of Aguatega, where it is prefixed by the *mak'ina* compound described by Lounsbury (1974; 1985), itself equivalent to the familiar *k'inich* title. The distinctive characteristic of the *wits* glyph at Aguatega is the cleft in its top, much like that marking the *Pax* glyph and the "cleft-sky" Emblem Glyph of Yaxchilan. In one Aguatega example, just as at Ucanal, the "cleft *wits*" carries the *wi*-sign as a phonetic complement.

I believe it is significant that the "*mak'ina*-cleft *wits*" glyph occurs *only* in the inscriptions of Aguatega—a site described by Graham (1967) as having a huge fissure, or ravine, that runs across the top of the hill where the ancient buildings are situated (Fig. 32b). The fissure is up to 50

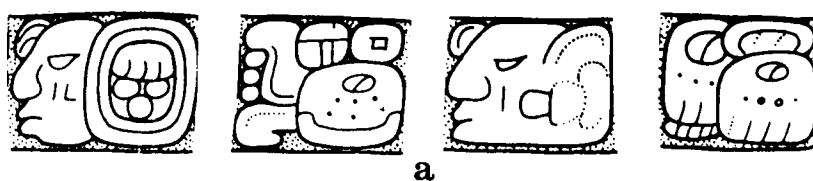


a: CPN Altar R, C1-D2 (After Maudslay 1889-1902, 1: Plate 94 [glyphs 5-8])

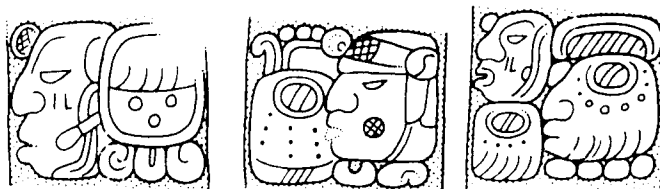
b: CPN Temple 21a bench, I, J (Drawing by the author)

FIGURE 29. PHONETIC AND LOGOGRAPHIC VERSIONS OF *WITS*

FIGURE 30. PLACE NAMES INCORPORATING WITS



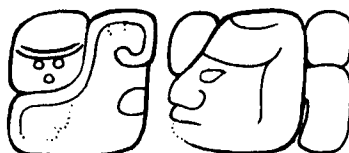
a



b



c



d



e

- a: YAX Lintel 17, H-K (CMHI 3:43)
- b: YAX Lintel 43, D2-D4 (CMHI 3:95)
- c: YAX Hieroglyphic Stair 3, Step V, D7b (CMHI 3:171)
- d: PNG Lintel 7, bottom center, final two positions (After photograph by Jeffrey H. Miller; also see Morley 1937-1938, 5[1]: Plate 126a)
- e: PNG Lintel 7, lower right, final position (After Morley 1937-1938, 5[1]: Plate 126a)
- f: CODEX MENDOZA 53 (After Echeagaray [Ed.] 1979)



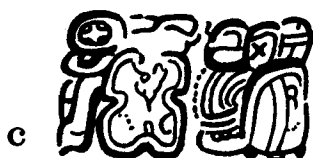
f



a



b



c

- a: COL incised cylinder tripod vessel, A4,B4 (After drawing by Lin Crocker-Deletaille in Berjonneau, Deletaille, and Sonnery [1985:218-219])
- b: NAR Stela 22, H15 (CMHI 2:56)
- c: COL detail of Late Classic painted vessel (After photograph by Justin Kerr [No. 1698])

FIGURE 31. WITS IN THE UCANAL EMBLEM GLYPH

- a: AGT Stela 1, D10a (Graham 1967:[7])
 b: AGT Stela 2, G6b (Graham 1967:[10])
 c: AGT Stela 7, F2 (Graham 1967:[24])
 d: Site map by Ian Graham (1967:[2])



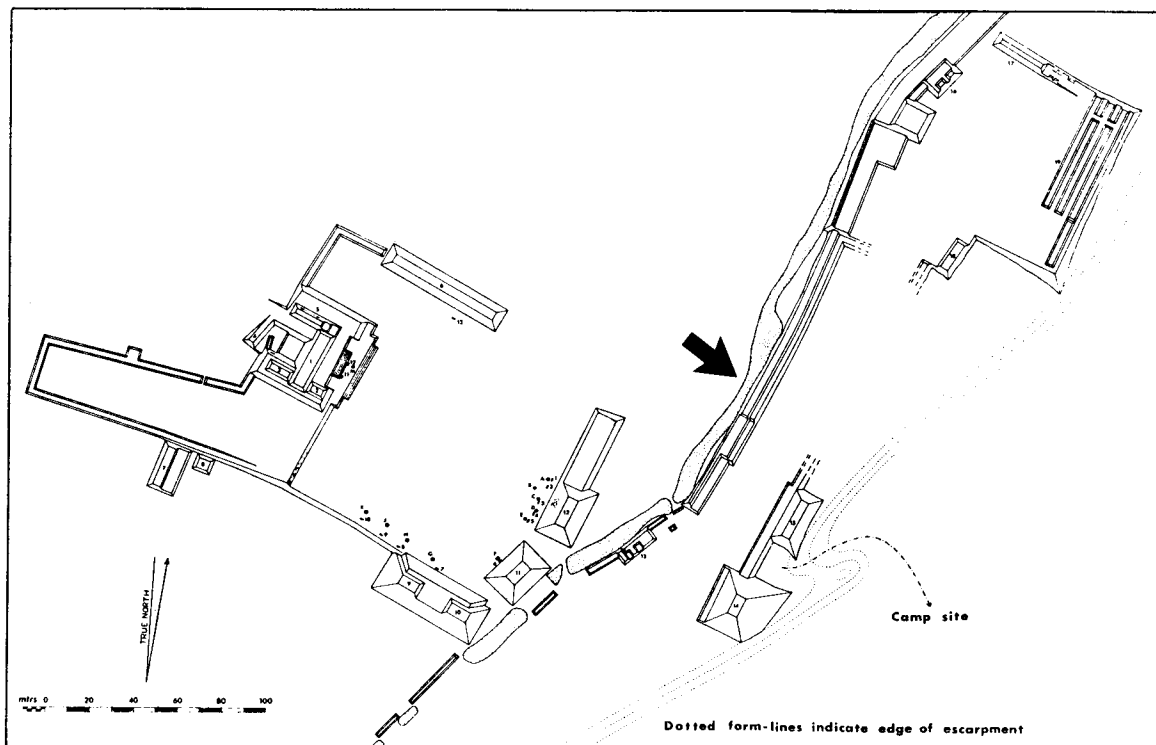
a



b



c

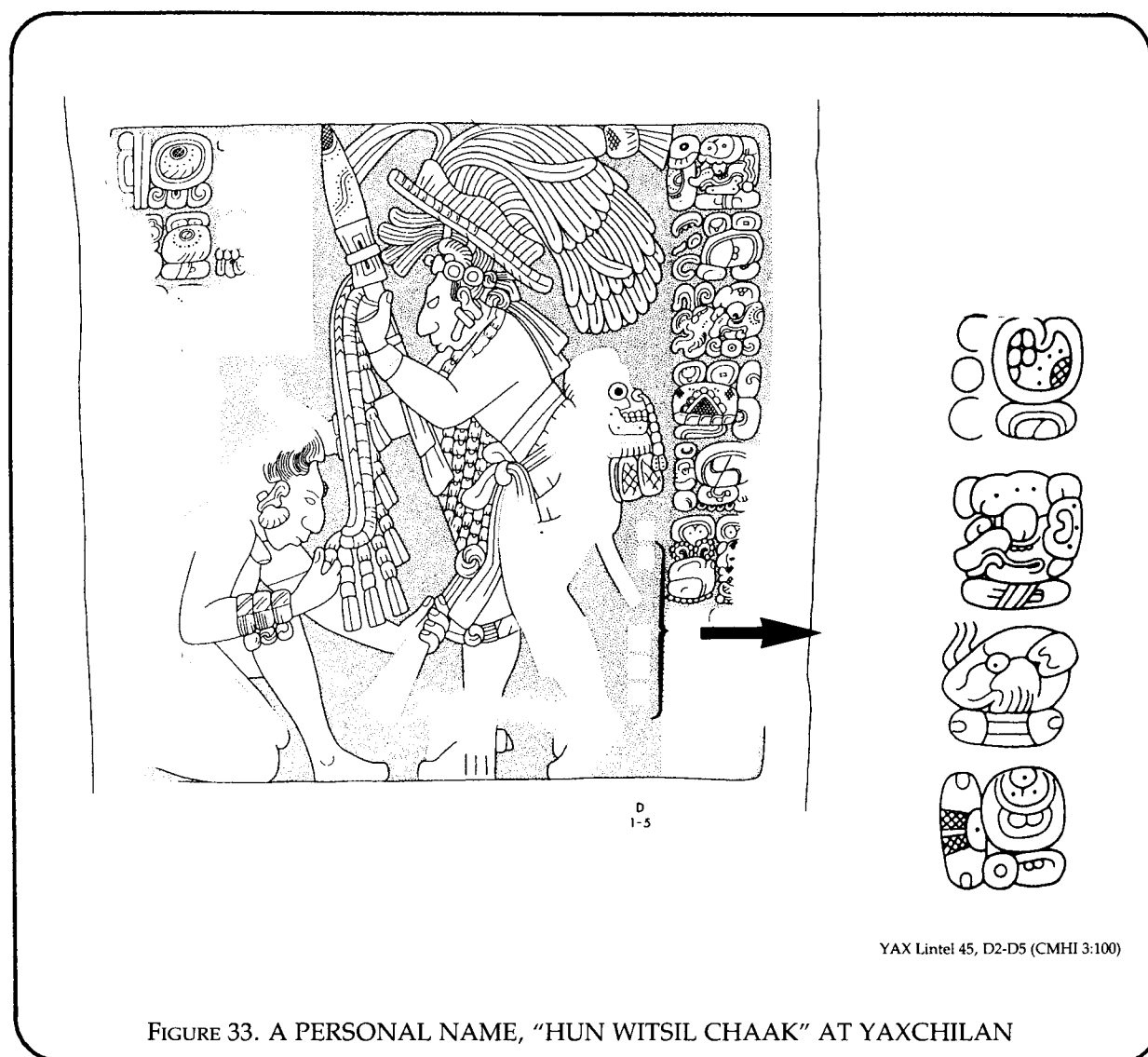


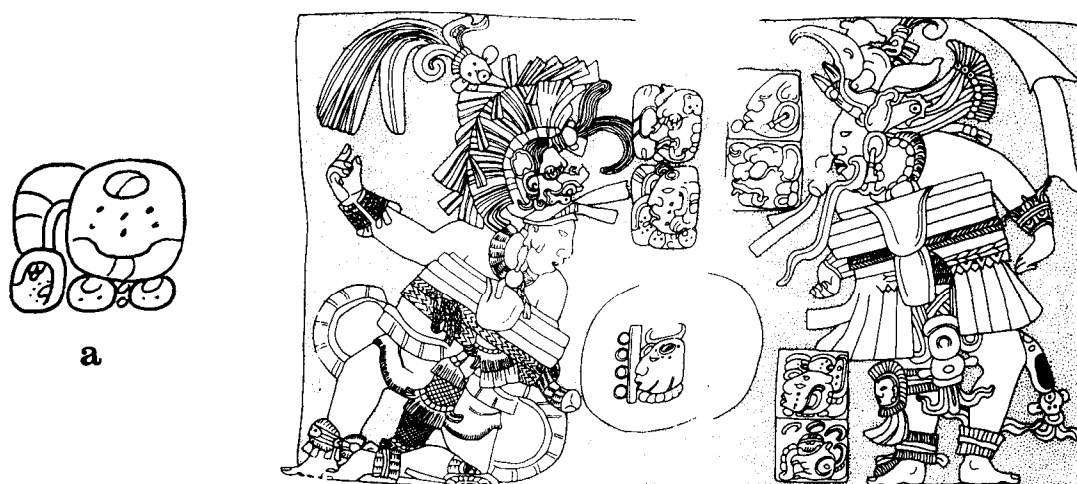
d

FIGURE 32. THE "SPLIT MOUNTAIN" AT AGUATECA

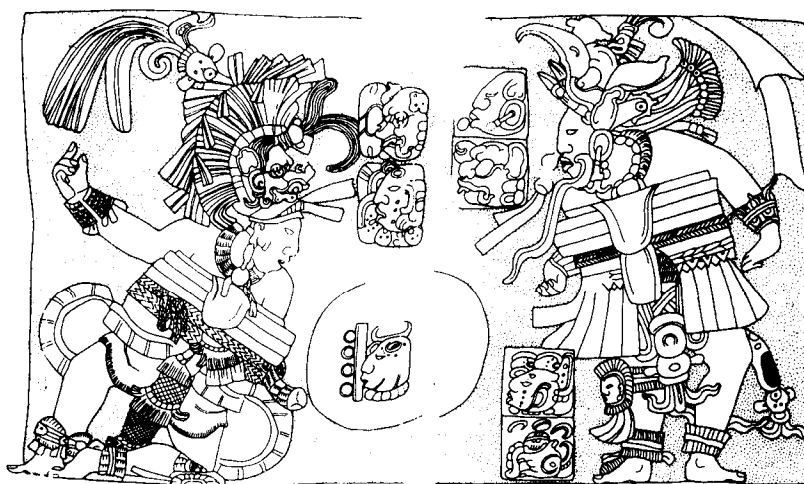
meters deep, and roughly 10 meters wide throughout its length. Aguateca thus lies upon a "split mountain," a situation which may be reflected in the use of the split-mountain glyph at the site. The simple conclusion to draw from this is that "*k'inich-cleft wits*" was very probably the actual place name of Aguateca. Perhaps, given the phonetic complement *wi* on the Aguateca Stela 7 example of this name (Fig. 32c), the precise rendering was *K'inich Wits*, with the cleft forming a visual clue to the distinctive character of the mountain. A detailed presentation of such specific place names in the Maya inscriptions is now in preparation by Stephen Houston and me.

There is one other glyphic context where the reading *wits* for the T529 logograph produces interesting results. A small incised inscription on Yaxchilan Lintel 45 exhibits a personal name (Fig. 33) containing this sign. With the *wits* value, the reading of this name in the first two blocks is **HUN-WITS-il CHAAK-(ki)**, or "Hun Uitzil Chaac"—a name well known from the chronicles of Yucatan as that of the founder of the Xiu dynasty at Uxmal. Clearly this is not the same individual at Yaxchilan, but the parallel does indicate that this historical name was in use at Yaxchilan in the eighth century. Furthermore, the name *Hun Witsil Chaak* appears to be that of the sculptor, or one of the sculptors, of Lintel 45 (Stuart 1986a).





a



b



c

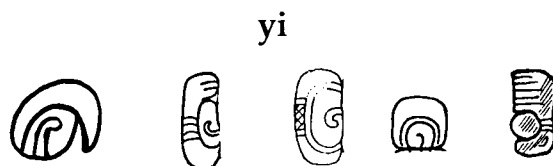


d

- a: Generic composite from various examples (Drawing by the author)
- b: COL panel with ball game scene (Drawing by Linda Schele in Schele & Miller [1986:257])
- c: SBL Stela 7 (Rubbing by Merle Greene in Greene, Rands, & John Graham [1972:227])
- d: DRESDEN 41a (After Förstemann 1892)

FIGURE 34. THE GLYPH FOR "PLAYING BALL" IN VARIOUS TEXTS

To return to the main discussion of the *tsi* syllable, the spotted-Kan sign is a part of a glyph (Fig. 34a) that is consistently associated with scenes and iconography of the Mesoamerican ball game (Fig. 34b-d). In this context, the spotted-Kan, or *tsi* syllable, always has the *pi* sign, discussed above, as a prefix. At times this combination may take a *-la* or *-li* suffix, resulting in **pi-ts(i)**, or *pits*. In the Pérez dictionary of Yucatec (1866-77), *pits* is glossed as *jugar a la pelota*, “to play ball.” The phonetic spelling in the glyph, therefore, fits perfectly the general context of its use. I think this is not only good support for the *tsi* reading of the spotted-Kan, but also helps to reinforce the *pi* reading proposed earlier.



THOMPSON LISTS VARIOUS RELATED SIGNS under the number 17 in his catalog (1962:40,445), and Justeson (1984:317) subdivides those into three major variants—a, b, and c. While a number of epigraphists would distinguish between T17a and T17b—in the Justeson labeling—I am convinced that they are, respectively, early and late forms of the same character. Moreover, I see little basis for the idea that T17a and T17b should be considered variants of the *yax* logograph. Instead, I very tentatively suggest on the basis of the evidence below that both signs (hereafter designated T17) are to be read *yi*.

The sign T126 has been identified by Stuart (1985) and, independently, by Bricker (1986:106) as *ya*, which often functions to indicate the prevocalic possessive pronoun *y-* before noun and verb roots commencing with the vowel *a* (for example, phonetic **ya-l(a)** for *yal*, “child of female.” In just this manner, T17 may represent the vowel *i*, rather than *a*, preceded by the prevocalic possessive pronoun *y-*. (Another sign to be discussed below may be of the same type, representing the syllable *yo*.)

The evidence that originally led me to this possible reading is admittedly rather scanty. Two factors were the most suggestive. First, T17 is often grouped with signs which are of the *i* vowel family. Given the fact that syllabic sign groupings are apparently not too reliant upon vowel correspondences, this is, at best, only suggestive. Second, T17 is often the initial sign in groupings identifiable as verbs or possessive relationship glyphs — two contexts that would (at times in the case of verbs) call for an initial possessive pronoun (Fig. 35). This led to the notion that, perhaps the sign T17 represents a syllable of the form *y-V*. That vowel, as noted above, may be *i*, yielding the working possibility that T17 is *yi*. Having arrived at this tentative reading, I later found that it proved productive in certain cases.

T17 is customarily a prefix to, or (in doubtless the same capacity) conflated with, a main sign that represents an eye (Fig. 36). In most of the later examples of this “eye” sign there are two lines that radiate outward to the left, perhaps representing the act of seeing. An early version of this same sign (Fig. 36c) shows the eye very clearly. Syllables which often follow this eye sign include *la*, *a*, or *ha*, and also the sign T88—probably *hi* (a reading to be discussed later in this paper). It is interesting that T17 happens to be a prefix to this glyph, since the word for “to see” in Yucatec and Cholan is derived from the root *il* or *il-a*—the final *-a* being a Cholan innovation (Kaufman & Norman 1984:121). T17, as a prefix to the “seeing” logograph, may be the phonetic indicator for the first vowel of the root and, when possessed, the prevocalic pronoun *y-*. Together, then, the compound may be transcribed **yi-IL-la-a** or *y-ila*, “his seeing,” or something in that general sense.

- a: YAX Stela 18, A1 (Drawing by Peter Mathews; see also Maler 1903: Plate 77, 1)
 b: PNG Lintel 3, J1 (After Morley 1937-1938, 5: Plate 146)
 c: PAL Temple XVIII, south jamb of sanctuary, D12 (Drawing by Hipólito Sánchez Vera in Ruz 1958 [Fig. 16])
 d: CPN Altar D', 5a (Drawing by the author [see also Maudslay 1889-1902, text vol.:16])
 e: CRC Stela 6, C22 (Drawing by the author from photographs of the original [see also Beetz & Satterthwaite 1981: Fig. 7b])

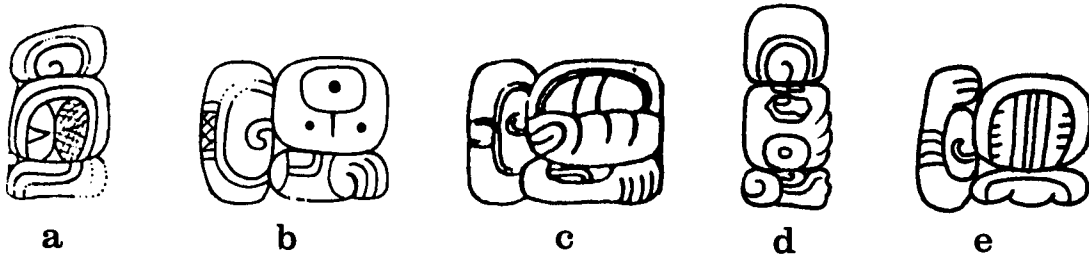


FIGURE 35. SIGN T17 AS THE SYLLABLE YI

- a: UAX Stela 13, A4 (CMHI 5:163)
 b: COL panel, B1 (Drawing by the author after Mayer 1980: Plate 27 [Mayer catalog #6])
 c: PRU Stela B (After field drawing, courtesy of Ian Graham)
 d: PAL Temple of the Inscriptions, middle panel, H2 (After drawing by Linda Schele [see also Maudslay 1889-1902, 4: Plates 58 & 61])

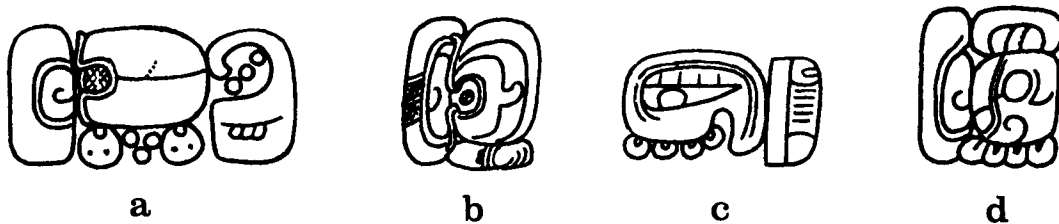


FIGURE 36. THE "EYE" GLYPH AND THE SYLLABLE YI

- a: CRC Stela 6, C22 (Drawing by the author from photographs of the original [see also Beetz & Satterthwaite 1981: Fig. 7b])
 b: PAL death head, A3 (After Maudslay 1889-1902, 4: Plate 90)
 c: NTN Group IVh, B2 [see Note 1, below] (Drawing by the author from photographs of the original)

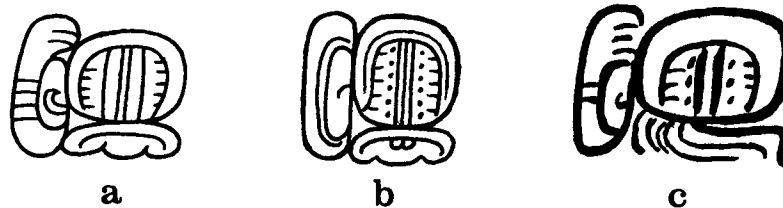
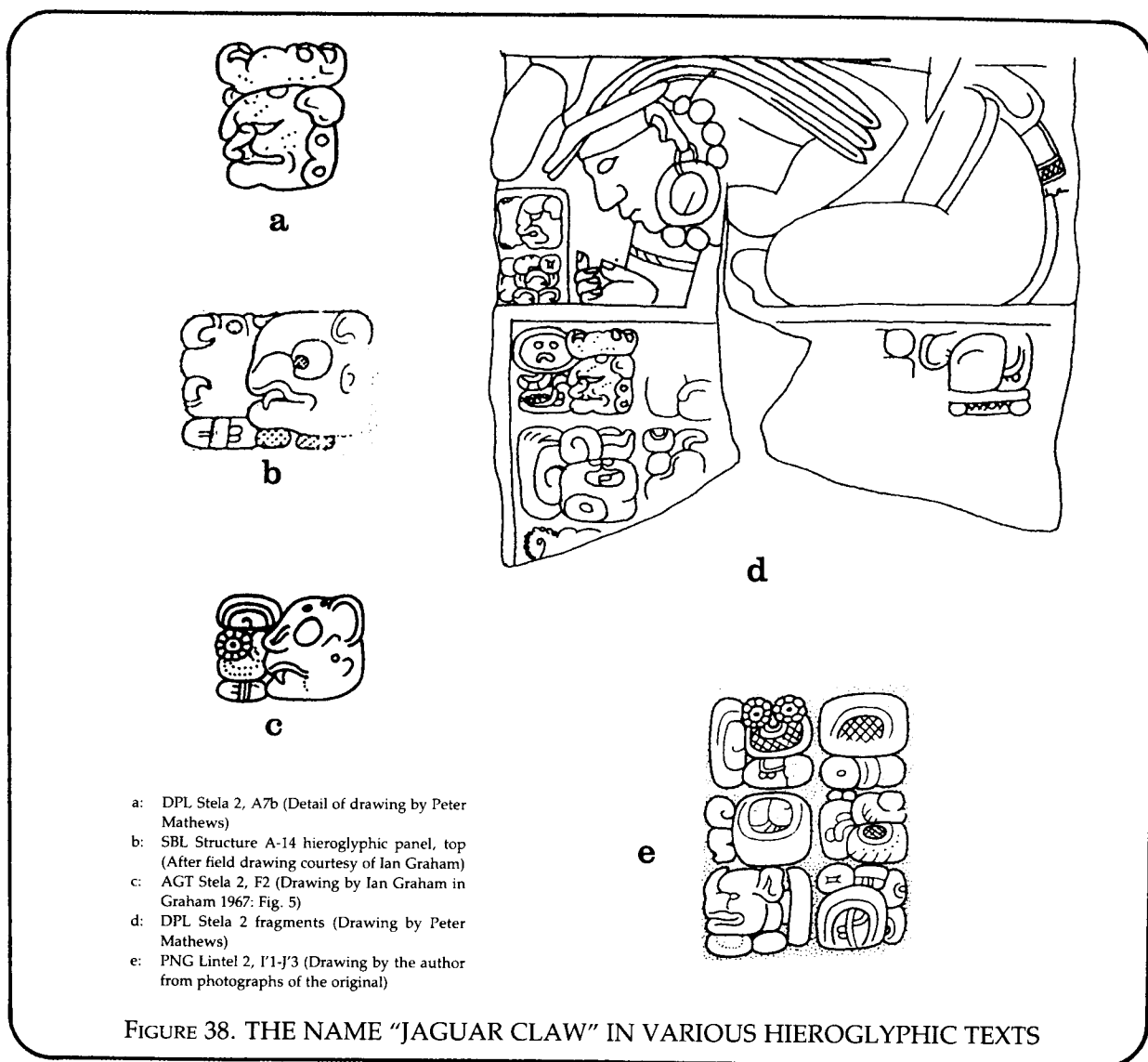


FIGURE 37. POSSIBLE GLYPHS FOR "THE YOUNGER BROTHER OF. . .

Support for this reading may come from a hieroglyph inscribed on Piedras Negras Lintel 3 (Fig. 35b). While it is not clear that this is a variant of the “eye” glyph (it seems, in any case, a verb) it may be transliterated **yi-la-h(i)**. Stephen Houston has pointed out to me a glyph at Najtunich cave that would appear to be rendered as **i-la-h(a)**. As it happens, the eye verb is very common at Najtunich (see Figure 9a [at B1a]), and this may simply be a phonetic rendering of that which elsewhere is written logographically.

Another glyph which takes T17 as a prefix (Fig. 35e) also includes *ts’i* and *ni* (T116), or *na* (T24) (Fig. 37). The possible result, therefore, is **yi-ts’i-n(i/a)**, or *y-its’in*, “the (younger) brother of. . .” Unfortunately, the three examples of this glyph that I know of do not permit confirmation of this reading since the surrounding glyphs, possibly names, are not familiar to me.

The results so far show the *yi* reading as a possibility, albeit a weak one. There is one additional context, however, that reinforces its validity: In the inscriptions of Dos Pilas, Aguateca, and Seibal, there is reference to an individual whose name has been given as *Mo’l balam* (Houston & Mathews 1985:17), and who is sometimes also known by the name “Jaguar Paw Jaguar”. He was native to the Seibal polity, perhaps even its head, but was later captured by the ruler of Dos Pilas, probably with dire consequences. At Seibal he is named on the hieroglyphic panels



of Structure A-14. At Dos Pilas he is the hunched captive portrayed on Stela 16, and at Aguateca, on Stela 2. His name glyphs on these two Petexbatun monuments are very different: That on Dos Pilas Stela 16 (Fig. 38a) shows the conventional paw sign before the head of the jaguar. This is the same form that the name takes at Seibal (Fig. 38b), although there the paw sign itself takes a *ki* (see Fox and Justeson 1984:29). I assume this is some phonetic complement. On the Aguateca monument (Fig. 38c), however, the name is rendered with the jaguar head preceded by what is apparently a grouping of three phonetic signs. These replace the paw seen in the other examples, and the equivalence, it seems, is heightened by the fact that *ki* is the final sign of the three. The two signs preceding the *ki* are the *yi* in question and the sign discussed by Love (1987) as having the syllabic value *ch'a*. Given these possibilities, the result is **yi-ch'a-k(i)**, or *y-ich'ak*. *Ich'ak* is a word in both Yucatec and Chol for "claw," a reading that fits the context quite well. In all, I think there is now sufficient evidence to posit the name for this Seibal individual as *Yich'ak Balam*, "Jaguar Claw." The same **yi-ch'a-k(i)** grouping may also occur as part of a warrior's name on Piedras Negras Lintel 2 (Fig. 38e).

In my view, the Seibal-Petexbatun area cases make the *yi* reading for T17 a strong probability. Certainty in the matter must await more work.

xa



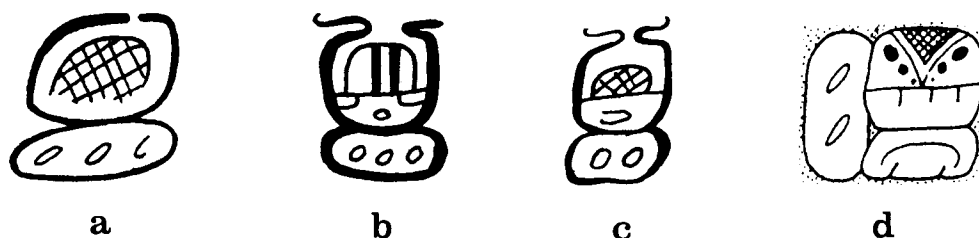
THIS SIGN IS RATHER RARE in the script. It is customarily an affix, and it is characterized by two or three small circles in a row. In this way it is much like a variant of the *Chicchan* day sign. The existence of the *xa* syllable has been known to a number of epigraphists since its initial proposal (Stuart 1981), and it has even been included in a recent syllabic chart (Coe, Snow, & Benson 1986:119; see also Stuart 1986c). However, since no formal presentation of the evidence has been published, it seems appropriate to include it in this discussion of "new" syllabic readings.

The first piece of evidence in support of the *xa* reading came during a reconnaissance of the painted texts in Najtunich cave, Guatemala, early in 1981. In one text at Najtunich, this sign is joined with *pa* in the writing of the month *Pax* (Fig. 39a). On the basis of the calendric content of this text, the identification of the month glyph as *Pax* is beyond doubt. Because the *pa* syllable comes before the sign in question, it is natural to assume that this second character is another syllabic sign with the consonant *x*-, or, specifically, a sign of the form *xV*.

In the Dresden Codex, the same sign is found with "standard" *Pax* glyphs, as a suffix (Fig. 39b,c). Presumably it is working here as a phonetic complement in final position (**PAX-x(V)**).

Since that initial suggestion, more applications of this *xV* reading have been found. From at least one context there is now evidence that the corresponding vowel for the *xV* sign is *a*. Michael Closs (personal communication, 1984) has concluded that this sign is present in a rare glyph for "north" (Fig. 39d), where it indicates the initial *xa* in *xaman*, "north." In another, less secure, development, I suggest that this sign may be coupled with T126 *ya* in a phonetic spelling **ya-x(a)** for *yax* "green, blue" in the personal name of an individual (Fig. 40a), perhaps a sub-chief associated with the polity of Piedras Negras. That the supposed **ya-x(a)** combination in question may signify a color is suggested by a similar name glyph from the texts of nearby El Cayo (Fig. 40b), where *chak*, "red," is in a structurally parallel position.

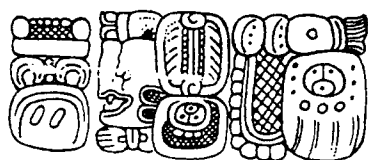
FIGURE 39. XA AS SYLLABLE AND AS PHONETIC COMPLEMENT



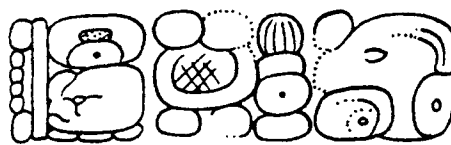
- a: NTN Group 1b, G4 [see Note 1, below]
(Drawing by the author from photographs of the original)
- b: DRESDEN 61c, bottom (After Förstemann 1892)

- c: DRESDEN 47, upper left (After Förstemann 1892)
- d: PAL Tablet of the Temple of the Cross, C13 (After drawing by Linda Schele)

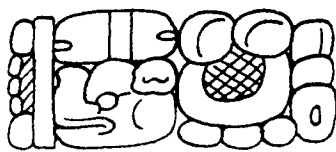
One last place where this sign occurs is in the possible spelling of the verb *k'ux*, "to bite/hurt." I know of only two occurrences of this glyph, both illustrated in Figure 41. The first instance (41a) is part of Hieroglyphic Stairway 1 at Naranjo in a passage describing a war directed at that site. Following the "star over Naranjo" expression and a second undeciphered glyph, there is another verb, *k'u-xa-h(a)*, and the subject of this verb (a captive?) is presumably found in the first part of the next block. The same verb may also be present on Fragment 1 from Tonina (Fig. 41b). Here the first glyph is *k'u-xa-h(i)* (for evidence of the *hi* reading see below), followed by what I assume to be a name. The context here seems to be similar to the Naranjo example, for the human figure shown on this fragment is surely a captive. Such small panels at Tonina were almost always used for kneeling prisoner images, and this is suggested here by the upward gaze of the figure and perhaps by the long bone through his ear. Proto-Cholan **k'ux* is glossed as "eat/bite/pain" (Kaufman and Norman 1984:124); for modern Chol, Aulie and Aulie (1978) give the example *c'ux i jol*, "le duele la cabeza." I think it possible that the same meaning of *k'ux* can be applied to the war reference on the Naranjo stair and the probable captive at Tonina. If so, we may have two written records of captive torture or, as Bricker suggests (personal communication, 1987), cannibalism. Because only two examples are known, however, this partic-



a



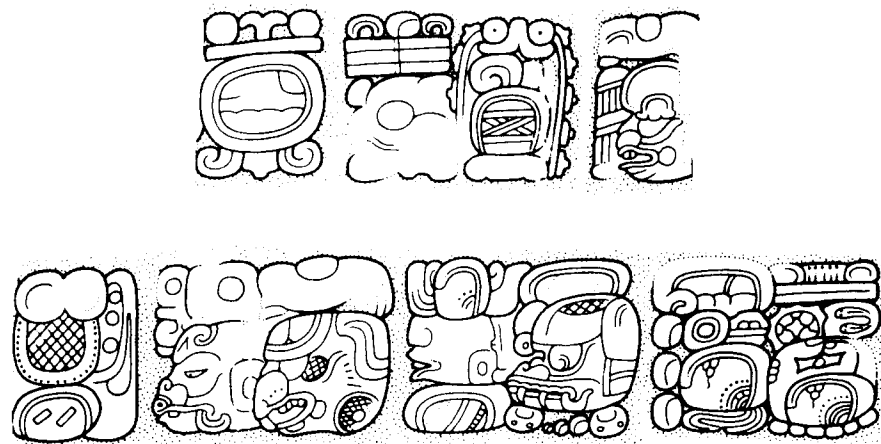
b



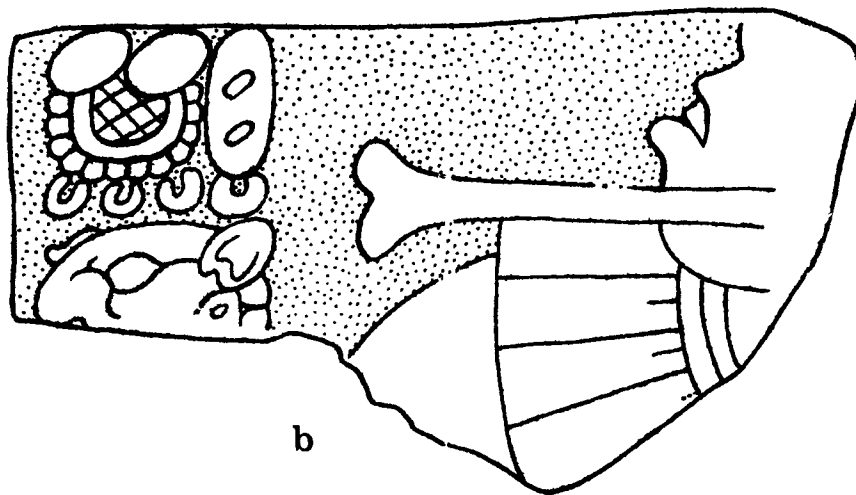
c

- a: COL carved panel in the Cleveland Museum of Art, D4-D5 (Drawing by the author from photograph by Justin Kerr in Schele & Miller 1986:85)
- b: CAY Lintel 1, B15-B16 (After drawing by Ian Graham, and photograph by Teobert Maler [1903: Plate 35])
- c: CAY Lintel 1, M12-N12 (After drawing by Ian Graham, and photograph by Teobert Maler [1903: Plate 35])

FIGURE 40. XA IN THE FORMATION OF YAX



a



b

- a: NAR HS. 1, Step VI, M1b-L3b (CMHI 2:109)
 b: TNA Fragment 1 (Drawing by the author after field drawing by Ian Graham)

FIGURE 41. XA IN TEXTS DEALING WITH CAPTIVES

ular reading should be viewed with caution.

So far, then, the *xa* reading for this sign seems to have good backing. Now I wish to extend the evidence for this reading by pointing out another syllabic sign that replaces *xa* in certain contexts.

xi



THIS SIGN REPRESENTS A HUMAN(?) SKULL characterized by a semicircle of dots behind its eye. The relationship between this skull sign and the *xa* syllable is suggested by three painted texts in Najtunich cave (Fig. 42). The first two illustrated (42a,b) immediately follow a date, while the third (42c) stands at the beginning of a short text with no date recorded. These all point to a verbal function of some sort. The first glyph is **pa-ka-x(a)**, or *pakax*. In Yucatec—and there is evidence that this was the language spoken in the area of Najtunich at the time the cave was painted—*pakax* denotes a person or animal with its head down (*cabeza abajo* according to Barrera Vásquez [1980:621]). I am not sure how this may relate, if at all, to the Najtunich text. In any case, the combination **pa-ka-?** in the two other Najtunich inscriptions and in similar textual positions elsewhere gave rise to my suspicion that the skull sign may be a *x-V* syllable, perhaps even an allograph of *xa*.

In another case, the skull-with-dots sign seems to be used with *ma* to spell *max*, “spider monkey.” This animal is shown on numerous occasions on Maya vases, particularly those called the “codex style” (Fig. 43a). The hieroglyphic captions accompanying these underworld spider monkeys—presumably recording their name—contain the syllable *ma*, followed by the skull-with-dots element (Fig. 43b-d). Taking the skull to represent some syllable with the consonant *x-*, the grouping would spell **ma-x(V)**. And, as noted above, *max* (or *maax*) is the word in many Mayan languages for spider monkey.

The *max*, “monkey,” compound is part of some historical names in the inscriptions. In those examples, *max* is combined with a color sign, as in the name *Ah Chak Max*, “Red Mon-

a: NTN Group Ib, B2 [see Note 1, below]
(Drawing by the author from photographs of the original)

b: NTN Group IIg, A1 [see Note 1, below]
(Drawing by the author from photographs of the original)

c: NTN Group IVb, A3-A4a [see Note 1, below]
(Drawing by the author from photographs of the original)



FIGURE 42. GLYPHS AT NAJTUNICH WITH THE XI SKULL

FIGURE 43. THE WORD FOR "MONKEY" (MAX) SPELLED WITH XI

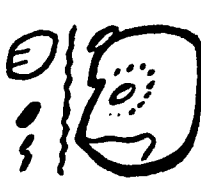


a



b

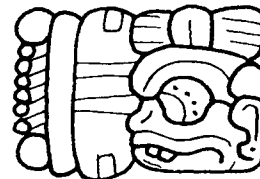
- a: COL detail of Late Classic painted vessel
(From photograph courtesy of Justin Kerr
[No. 1181])
- b: COL glyphs from a, above
- c: COL detail of Late Classic painted vessel
(From photograph courtesy of Justin Kerr
[No. 1811])
- d: COL detail of Late Classic painted vessel
(From photograph courtesy of Justin Kerr
[No. 1211]; also see Robicsek & Hales 1981:34)
- e: COL panel in Kimbell Art Museum, B3 (After
drawing by Linda Schele in Schele & Miller
1986 [Fig. III.5])



c



d



e

- a: DPL Stela 16, D7 (After Graham 1967: Fig. 7)
- b: IXZ Stela 4, B1 (Drawing by the author; see
also CMHII 2:181)
- c: COL detail of Late Classic painted vessel
(Drawing by the author from photograph

- courtesy of Justin Kerr [No. 1813]; also see
Robicsek & Hales 1981:19)
- d: MQL Stela 7, B1 (Graham 1967: Fig. 57)
- e: PAL Tablet of the Temple of the Cross, B10
(Thompson 1950: Fig. 36/19)



a



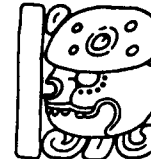
b



c



d



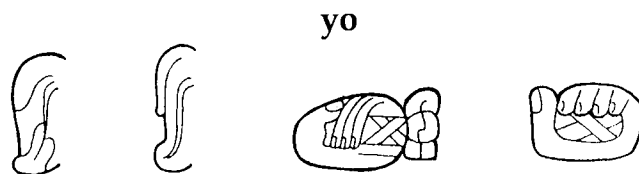
e

FIGURE 44. THE SKULL-WITH-DOTS AS POSSIBLE PHONETIC COMPLEMENT

key,” on a looted panel in the Kimbell Art Museum, Fort Worth (Fig. 43e). Similarly, an individual mentioned in the inscriptions of San Lucas, Guatemala, seems to have been named *Ah K'an Max*, “Yellow Monkey” (see Houston 1983: Fig. 5b,c).

Another revealing usage of the skull-with-dots sign is in some forms of the glyph for the month *Pax* (Fig. 44). In many instances, the skull merely has the characteristic split on top (Fig. 44a,b). I take the split depiction itself to be a “logograph” in function, having the reading *Pax*, with the skull as a phonetic complement. It is quite possible that the skull has been conflated “over” the usual *tun* or frog element that appears in the conventional form of *Pax* glyphs. The skull, interestingly, is also combined with the *pa* syllable on occasion (Fig. 44c,d) to spell **pa-x(V)**, much like the **pa-x(a)** at Najtunich already noted. This and the situations already described in relation to this skull-with-dots sign would all seem to provide a basis for considering it to be a simple allograph, or “head variant,” of the *xa* sign mentioned above. There is, however, one usage that may differentiate the vowel.

Long ago, Thompson (1950:170-171) noted that Glyph Y of the Supplementary Series is invariably prefixed by the number five or seven (Fig. 44e), and equated the glyph with the numerical classifier *bix*, which is used *only* with those two numbers. That interpretation has generally been accepted by epigraphists since then. The glyph in question is always composed of T585a *bi*, the skull sign in question, and T126 *ya*. As a suffix, T126 seems to stand as a final *-i* after syllabic signs that have *i* as their vowel (e.g., *K'AN-a-si-y(a)*, for *K'anasi*). In this case I take the presence of T126 as an indication that *i* is to be the vowel for the *xV* skull sign, resulting in **bi-xi-y(a)**, or *bixi*. *Uuk bixi* is given in the Motul Dictionary as “a week ago.” The expression is, in essence, a Distance Number in the inscriptions, as shown by the example on the Tablet of the 96 Glyphs from Palenque (at position L1).



SIGN T115 has been read *tu* or *tuy-* (with some possible variation in the vowel) by Lounsbury (1972), based on research in the codices. This interpretation has been widely accepted by epigraphists (see Justeson 1984:324; Closs 1987:9-10). It is my belief, however, that the syllabic value *yo* is the correct reading for sign T115. Before presenting the evidence for the *yo* reading, a brief history of the *tu/tuy* reading is in order.

The situation in which the *tu/tuy* interpretation has been brought to bear most frequently is in connection with the “house” glyph first recognized in the Maya codices by Kelley (1976:133). There, the house glyph is customarily placed in picture captions to indicate the location of the protagonist of the scene. In such instances, sign T115 is always a prefix (Fig. 45a,b). According to Lounsbury (1972:119n.), the other two signs in the glyph may be interpreted, respectively, as 1) a pictographic sign, *otoch*, showing the thatch and beams of a Maya-type house; and 2) the syllabic sign *chu* or *cho*. The last element has been taken as a phonetic complement—evidence, following Knorozov (1967:91), that the word this glyph represents is *otoch*, “one’s house/temple” (Cholan *otot*). *Otoch* is one of a category of nouns in Mayan that is “inherently possessed,” as noted by Lounsbury (1984). This factor must therefore be taken into account with any consideration of the T115 sign that prefixes the *otoch* glyph in the Dresden codex. Because the “house” glyph denotes the location of the actor in a scene (Fig. 45b), Lounsbury considers that T115 before *otoch* should represent a locative preposition, preferably *ti* (“in, at, on, to,”

FIGURE 45. THE "HOUSE" GLYPH AND ACTOR LOCATION IN THE DRESDEN CODEX

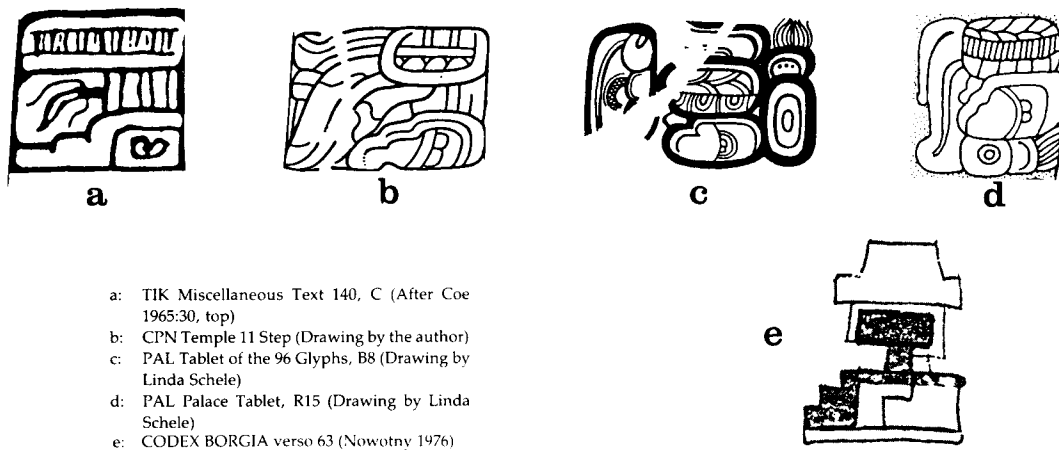
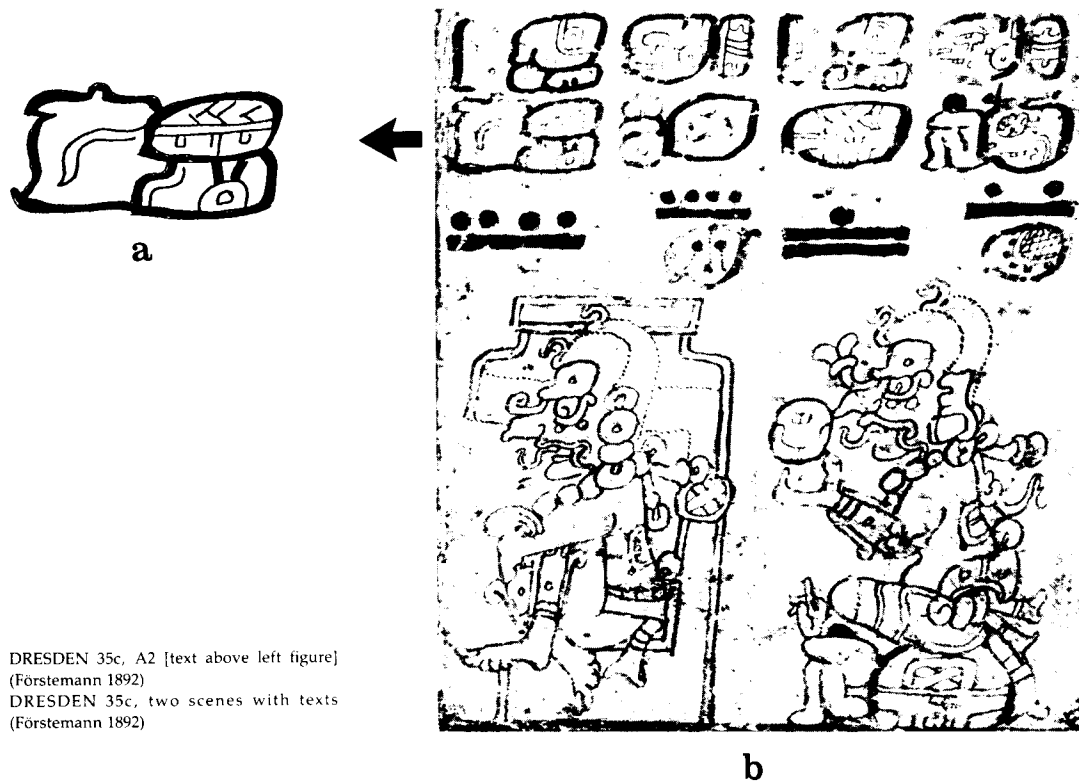
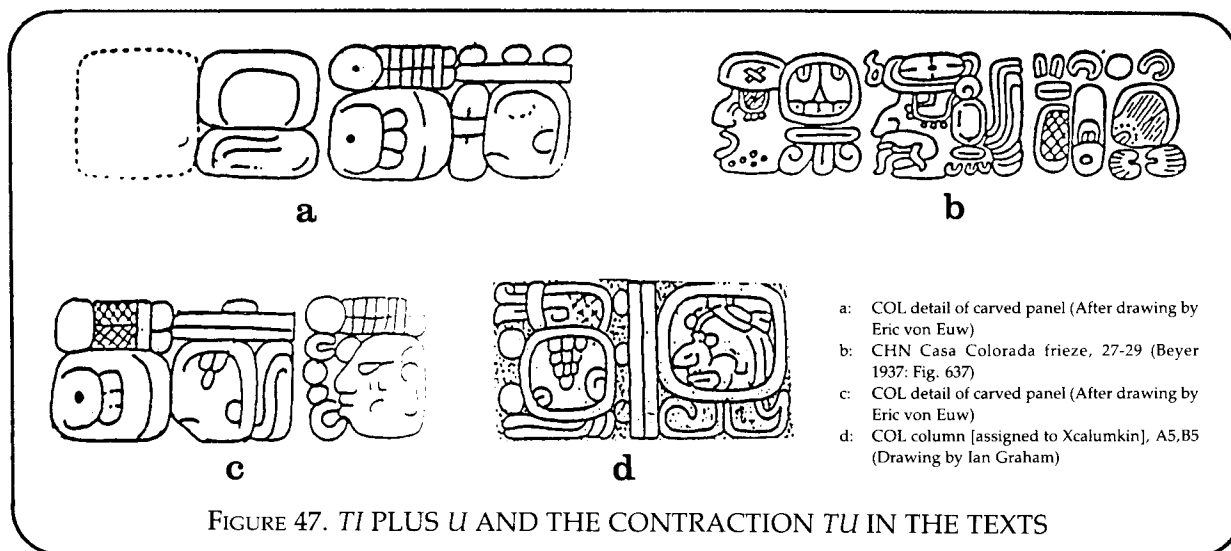


FIGURE 46. THE MAYA "HOUSE" GLYPH THROUGH TIME, AND A MEXICAN EXAMPLE

etc.). The inherently possessed character of the term *otoch* would thus result in *t-uy-otoch* ("in his house"), with *tuy-* as a contraction of the locative preposition *ti*, and the third person possessive pronoun *u*. Thus, it was proposed that T115 supplies the *tu* or *tuy-* before the *otoch*.

At this point, it seems appropriate to consider the origin of the *otot/otoch*, "house, temple" logograph. One of the earliest examples of *otot* occurs in a text—designated MT40 in the Tikal corpus—on the lid of an Early Classic vessel from Tikal (Fig. 46a). The vessel was found as part of a cached offering in Structure 5D-46 in the Central Acropolis. The *otot* glyph, I feel, could well be a reference to the building with which it was associated, perhaps indicating that the whole text describes, indirectly, the cache-related function of the vessel. In any case, the form of this early *otot* glyph is interesting. The precursors to all the elements seen in the Dresden examples are evident here, including the "thatch" atop a stepped element that surely must be the antecedent to the supposed *-ch(u)* sign described above. Even an early variant of T115 (looking much like a leaf) is included in the glyph, beneath the "overhang." This form is similar to "house" glyphs of Central Mexico, particularly to that used for the day *Calli* (Fig. 46e). The importance of this example lies in its potential for clarifying the graphic origin of the "house" glyph. The thatch element has long been recognized in the codices (Thomas 1888:351), but from the Tikal vessel example, it would appear that it is only a part of a once larger "house" or "temple" logograph. The stepped sign below it seems very clearly to represent a platform on which the thatched structure rests. It, in fact, looks rather like the temples depicted in various scenes of the Dresden Codex. If we examine the form of *otot* from such early examples onward through its Classic Period occurrences (Fig. 46b,c) and, ultimately, to the Postclassic codices, we are able to see that the stepped platform is represented in all of them. In the latest case, it is formed by the *chu*-like sign in what seem at first glance to be two distinct signs. I say "*chu*-like" because I am not thoroughly convinced that this sign was meant to be taken as a phonetic complement to the *otoch* reading. At least its graphic origin as an inherent part of the logograph seems clear. What we may be seeing here is a bit of graphic play by the scribes, where they may have taken advantage of the visual similarity between the "platform" and the *chu* sign. In this sense the phonetic complement function may be real. I believe, however, that the *otot* or *otoch* logograph apparently did not begin as a conscious two-sign compound.

Returning to the discussion of T115, the common prefix of the *otot* logograph, I should mention my doubt that a locative is necessary. In the Dresden Codex, locatives are often lacking before other "location" glyphs as, for example, in the God B frames in pages 29c through 41c, and there is no reason why the *otoch* case should be different. As an example, I cite the text and



scene that immediately follow the *otoch* text-scene on Dresden page 35c (Fig. 45b, right set). There, the location is *kaan*, “sky,” and God B is clearly shown seated upon a sky glyph. In the text caption above, *kaan* occupies precisely the same position as does the *otoch* glyph in the preceding frame—and no preposition accompanies it. The point I wish to make is simply that the *tu* or *tuy-* reading for T115 is mainly founded on the belief that the *otoch* glyph requires a preposition—and, seemingly, it does not.

Of central importance in this matter is the existence of another sign (T89/90/91/92) that undoubtedly possesses the value *tu*. This reading, first put forward by Kelley (1976:181, 191), is generally agreed upon (see Justeson 1984:322). I know of one inscription (Fig. 47a,c) in which the *tu* element, as a prefix to numbers in the “Yucatec” style of date notation, is replaced by the combination *ti-u*, showing that this sign can represent the contraction noted above. What is significant, in my opinion, is the absence of evidence that this *tu* sign and T115 are allographs. Given the visual similarity between the two signs, examples of substitution would certainly be expected in some cases if *tu* or *tuy-* were also values of T115.

Turning to the examples of *otot* in the inscriptions, there are further indications that a *tu/tuy-* reading may not work for sign T115. Often the *otot* logograph, with its T115 prefix, takes a recognized form of the locative preposition *ti* or *ta* as an initial sign, before T115. Here the initial “in, at, to” is beyond question. It is apparent, then, that if T115 is read as *tu* or *tuy-*, such a construction becomes *ta-t-uy-otot*—a combination of morphemes that, by virtue of the presence of *two* prepositions in a single hieroglyph, is redundant, and seems awkward.

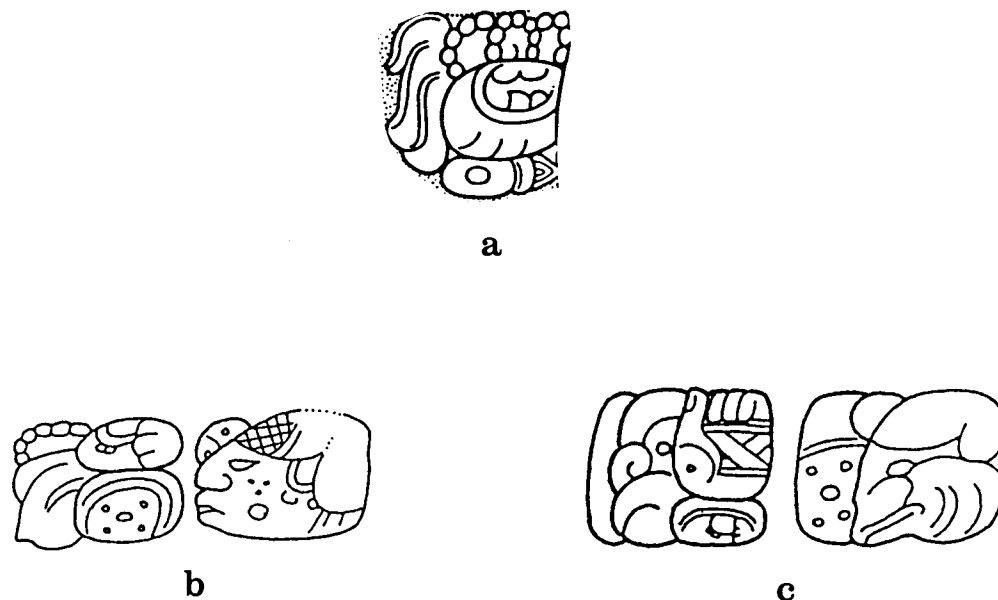
From this, I suspect that T115 does not represent a preposition-with-pronoun, but must have another function—and reading—when it is attached to the *otot* or *otoch* logograph. Although the preposition component of the *ti-u* or *ta-u* contraction seems untenable at this point, we still must take into account the fact that *otot/otoch* is an inherently possessed noun in Mayan. The third person possessive *u*—at this point we know of no other possessive pronouns in the writing system—is phonetically transformed into *uy-* or *y-* when placed before a vowel-initial stem. Thus, the word for “house” or “temple” takes the form *uy-otot* or simply *y-otot* when it is possessed. We should therefore expect this pronoun to be reflected in the writing system.

Third-person possessive pronouns preceding vowel-initial stems are rendered in a special way in the Maya script. Separate signs seem to exist for the required *y-* form, and they vary according to the vowel that follows. I believe, therefore, that there are separate signs for *ya*, *yi*, *yu*, etc. Each of these may be understood to contain the prevocalic pronoun, but the vowel is the true distinguishing marker. T126, for instance, is probably *ya*, and as a prefix it can be combined with other syllabic signs to spell vowel-initial stems with the third person possessive pronoun. The combination T126.178 can be transcribed **ya-l(a)**, or *yal*, which is morphemically separated as *y-al*, “her [the mother’s] child.” T126 can also be a purely phonetic character, as in the apparent spelling **ya-x(a)** discussed above. (In any case, T126 is known to be a phonetic complement to the *yax* logograph [see Bricker 1986:73]) Similarly, the sign which stands for *yi* contains the vowel-initial pronoun with *i*. As was shown above, it is used in the spelling **yi-ch’a-k(i) BALAM** (*Y-ich’ak Balam*), the name of a captive from Seibal mentioned at Dos Pilas and Aguatega. As yet the only signs of this category that have been identified are *ya* (T126), *yi* (see above), and, perhaps, *yu* (T61/62).

Might T115 represent *yo*? This would make considerable sense in the “house” glyph where T115 is customarily prefixed to the *otot* logograph. The combination **yo-OTOT** or **yo-OTOCH** would account for the inherent possessiveness of the word (*y-otot*), while also allowing for the use of prepositions beforehand—something we have seen in hieroglyphic examples cited above. The proposed *yo* reading for T126 thus appears to be a working hypothesis well worth testing.

One point of evidence which supports the *yo* value occurs in an unusual variant of the “house” glyph in the text on the front of Yaxchilan Lintel 26, at I2 (Fig. 48a). There, the logo-

FIGURE 48. SIGNS T115 AND T673 AT YAXCHILAN AND PIEDRAS NEGRAS



- a: YAX Lintel 26, I2 (CMHI 3:58)
 b: PNG Lintel 2, M2,N2 (Drawing by the author; and see Schele & Miller 1986:149)
 c: PNG Lintel 4, P2,P3 (After photograph by Teobert Maler [1901: Plate 32])

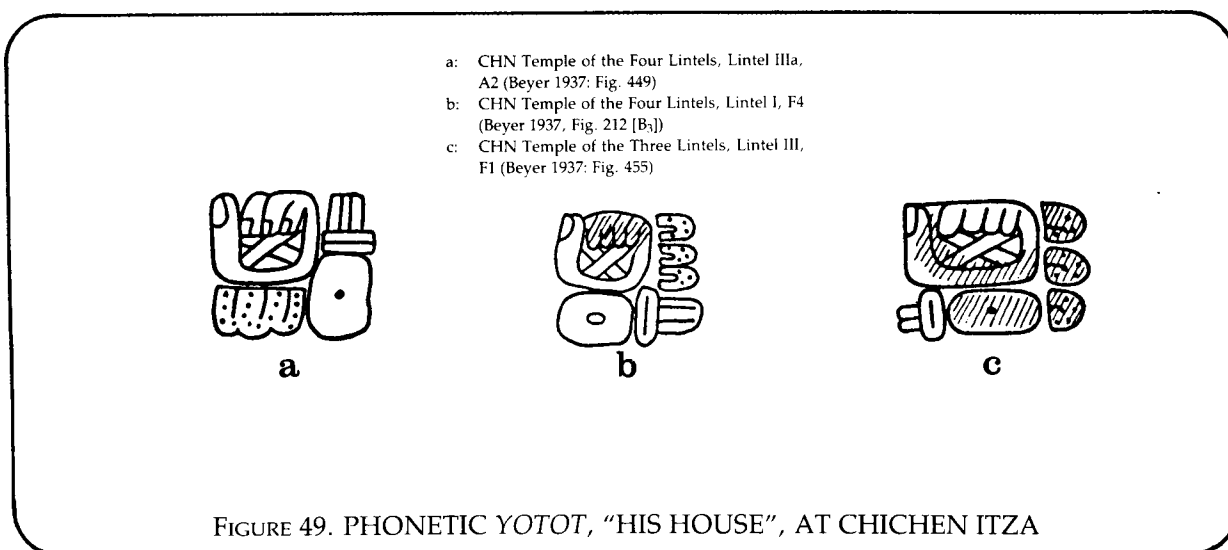
graph for *otot* has been abbreviated to its “thatch” component without the “platform” element below. It is suffixed by *-t(i)*, indicating the final consonant in *otot*. Above the thatch element is the syllable *to*, and placed before all of these is the suggested *yo* sign. Together, these components spell **yo-to-OTOT-(ti)**, or *y-otot*, “his house.” Since T115 immediately precedes *to*, we might infer that it (T115) contains the required initial *o* vowel of *otot* (with the necessary pronoun). A *yo* reading thus fits this arrangement quite well.

It may be possible to identify an allograph of T115 (whatever its phonetic reading may be). In the Piedras Negras Emblem Glyph, as identified by Berlin (1958), there are three separate signs that make up the variable element (Fig. 48b). T115 is almost always the first of these, followed by a form of T102 and then by T585a. An exception to this is found on Piedras Negras Lintel 4, where T673 – the “fist” sign with internal crossed bands—is used, and T115 is absent (Fig. 48c). Given the order of these signs, it appears that T673 somehow replaces T115. If this is true, and the two signs *are* allographs (with T673 then having the proposed *yo* reading as well), some interesting readings emerge:

Throughout the inscriptions of Chichén Itzá is a hieroglyph composed of the signs T673 and the syllables *to* and *ti*, in that order (Fig. 49). The only exception to this of which I am aware

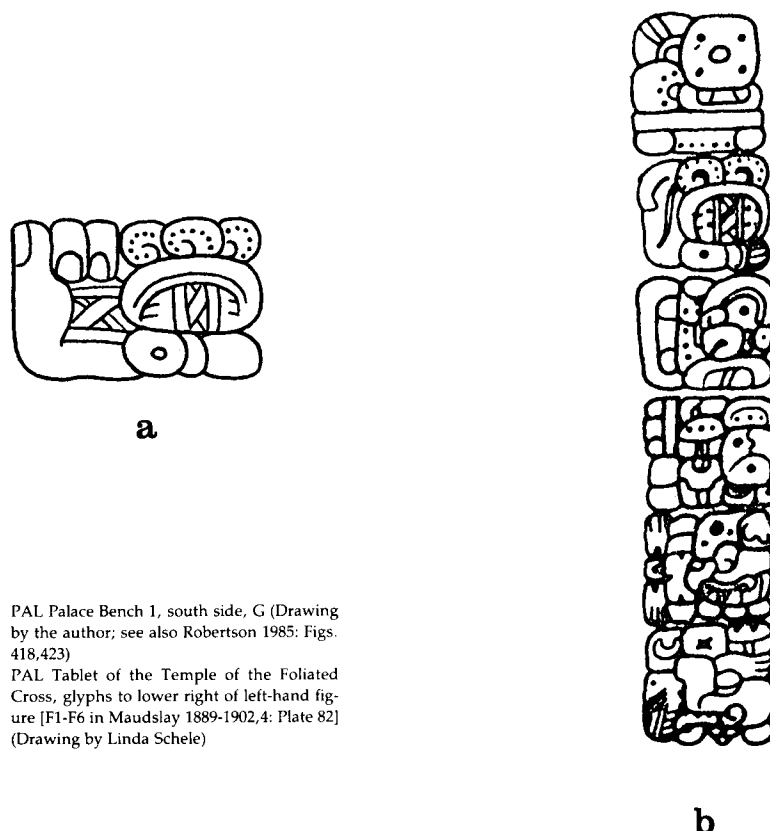
is on Lintel 3 of the Temple of the Three Lintels, at F1, where the *to* and *ti* are reversed. The true reading order, however, seems clear as T673-**to-ti**. If the proposed *yo* reading can be applied to T673, we have **yo-to-t(i)**, or our familiar word *yotot*, “his house.” This reading conforms perfectly to what we already know of many of the Chichén Itzá inscriptions. Kelley (1982) has read in these same texts a phonetic compound *u pakab*, “the lintel of. . . .” In more detail, this phrase is *u pakab tun*, “the stone lintel of. . . .,” which can precede *yotot*. Since the precedent for architectural references has already been established, it seems reasonable to have a “house” glyph in these inscriptions. It is noteworthy in this regard that the *yotot* glyph appears only on lintels, an architectural context. Also of interest is the occurrence of personal names always following *yotot*, presumably denoting the “owner” of the building or the room with which the lintel text is associated.

The same purely phonetic *yotot* glyph appears also in inscriptions of the Classic Period. In one text on a carved throne at Palenque (Fig. 50a), T673 is a prefix to two other signs – an expanded variant of *to* (T44 — the conventional *to* — with T563b; these are understood to constitute a single *to* unit, and it is otherwise known as the patron of the month *Ceh*), and *ti*. The situation here is much like that at Chichén Itzá, and I assume that the Palenque combination spells



yotot in reference to the building in which this throne (of the ruler Pacal) is placed.

In a secondary text on the Tablet of the Temple of the Foliated Cross at Palenque is another glyph which appears to be related to those discussed so far (Fig. 50b,2). It is like the *yotot* of the throne just discussed, except for the replacement of the T673 *yo* by the T115 *yo*. (This alone provides evidence that the two signs may be allographs, whatever their phonetic value[s].) *Yotot* seems to make good sense in this inscription as well, for it occurs between a glyph seemingly read *pib na* (**pi-b(i)-na-a**) and the name of the ruler “Chan Bahlum.” This may simply express the fact that “*pib na* is the temple of ‘Chan Bahlum’.” What is *pib na*? In gathering information for a study of architectural references in Maya inscriptions, I have noticed that *pib na* is a term used throughout the inscriptions of the Group of the Cross at Palenque as a reference to either the temple structures themselves or to the inner “sanctuaries” of those temples which house the tablets. Schele (personal communication, 1987) has recently reached a similar conclusion. *Na* is the other term for “house” used in the inscriptions, and it is commonly the suffix to glyphs that name buildings. *Pib* has many different possible meanings that could apply here, but one of the more interesting glosses that Stephen Houston and I have considered is the Yucatec *pib* meaning *baño a base de agua caliente y vapor de agua para recién paridas u otros enfermos*, “a hot water



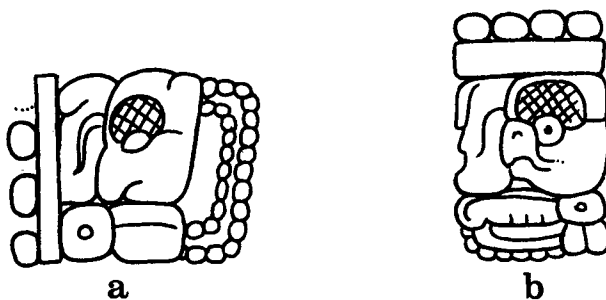
- a: PAL Palace Bench 1, south side, G (Drawing by the author; see also Robertson 1985: Figs. 418, 423)
- b: PAL Tablet of the Temple of the Foliated Cross, glyphs to lower right of left-hand figure [F1-F6 in Maudslay 1889-1902, 4: Plate 82] (Drawing by Linda Schele)

FIGURE 50. EXAMPLES OF YOTOT AT PALENQUE—ONE A “SWEAT-BATH” REFERENCE?

and steam bath for women who have recently given birth and others who are ill” (Barrera Vásquez 1980:651). Might the sanctuaries of the Cross Group have been chambers for ritual steam baths? The plans of the inner sanctuaries of the Palenque Cross Group are, in general, architecturally similar to those of the famed sweat baths of Structures N-1 and P-7 at Piedras Negras (Cresson 1938:88-89). Whatever the function of the Palenque sanctuaries, the *yotot* reading seems most reasonable in that architectural setting.

There is another context besides *yotot* or *yotoch* where a *yo* reading for T115 is supported. This is as a prefix to *ok*, the dog-head sign that also stands for the tenth day (“Oc” in the traditional rendering of Yucatec; and “Ts’i’” in most other languages) of the twenty named days of the Sacred Round. In general, it is my view that it is often methodologically dangerous to assign a reading to a given sign based *solely* on the relationship of that sign to one of the day signs. For example, I am not convinced that the usual sign for the day “Ahau” (T533) can be validly read *ahaw* in other contexts. In the case of the sign for “Oc,” however, this appears to work. Thompson (1950:47,79) clearly demonstrated that *ok* is at least one of the proper values for the dog-head sign. He showed this in the name glyph of *Bolon Yocte*, a deity mentioned in the Classic Period inscriptions, the codices, and in the colonial documents. His name glyph has the bar-

FIGURE 51. "BOLON YOCTE' " WITH T115



a: COL detail of plate (Drawing by the author from photograph in archives of the Foundation for Latin American Anthropological Research, courtesy of Nicholas M. Hellmuth)

b: CPN Hieroglyphic Stairway (After field drawing by Barbara Fash)

and-dot rendition of the number nine (*bolon*), followed by the *ok* dog head and the T89 *te'* element that often works as a numerical classifier in other contexts (Thompson 1950: Fig. 12 [16-18]). Sometimes the "water group" (or "blood group") is attached to this set.

It seems beyond much doubt, then, that the dog-head sign is read *ok* in **BOLON-OK-TE'**, for *Bolon Yocte'*. There are two examples of this god's name in the Classic Period inscriptions in which the *ok* element is prefixed (after the numerical coefficient) by T115 (Fig. 51). If the *yo* reading proposed here is correct, then the result is **BOLON-yo-OK-TE'**, or, again, *Bolon Yocte*. While *yo* works quite well here, a reading of *tu* or *tuy-* does not.

Yo in the form of T115 is prefixed to an *ok* sign in one other context (Fig. 52a), presumably as a simple complement to *ok* or *y-ok* (Grube and Stuart 1987). In a series of related scenes in the Dresden Codex (pp. 31b-34b), God B is portrayed in action at each of the four cardinal directions. The texts that accompany these scenes are identical except for the references to the particular directions and associated colors. The first two texts also show the combinations **OK-(ko)** and **OK-(ki)**. The glyph shown in Figure 52a is the third example, written as **yo-OK-(ki)**. The difference in the readings *ok* and *y-ok* is not great enough to cause serious problems with the interpretation. In contrast, I think that, as in the case of the *Bolon Yocte* name glyph, a reading of

- a: DRESDEN 33b, right, B1,A2 (Förstemann 1892)
b: CPN Temple 11, west door (Drawing by the author)

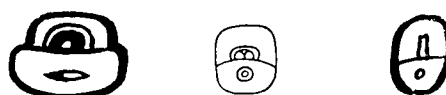


FIGURE 52. TWO SPELLINGS OF YOK

tuyok is much too distinct from the simple *ok* to be applicable.

The proposed *yo* sign is found as part of an 819-day-count passage at Copan combined with *ko* (Fig. 52b) in a context that is identical to that of the Dresden examples (see Berlin and Kelley 1961). The apparent equivalence of **yo-OK-(ki)** and **yo-k(o)** (for *y-ok*, “his foot”) would seem to add support to the validity of the *yo* reading as well (Note 5).

lo



EVIDENCE FOR THE READING *lo* for T580 is not quite as involved as that I have just presented for *yo*. Rather, there are at this writing only two instances of its use that can be illustrated as support. The possibility of the value *lo* for T580 naturally arises from an inspection of the month glyph for *Mol* (Fig. 53a-c). This glyph seems to be a conflation of two signs: T580, and T582, the syllable *mo*, represented by the dots that circle the inner sign. (Thompson [1962:207] catalogs the two signs combined—the month glyph itself—as 581.) The presence of the *mo* immediately suggests that the glyph is a syllabic spelling of the name of this month, which is *Mol* in many of the sources (see Thompson 1950:106). If this assumption is correct, then we are left with the simple conclusion that T580 represents another syllable beginning with *l*-. Furthermore, the vowel might be assumed to be *o* for two reasons: first, it is combined with *mo* in *Mol*; and, second—and more important—signs have already been securely identified for all of the “*l*-V set” of syllables except for *lo*.

The only other case where the *lo* reading is applicable is as a phonetic complement to the glyph for “south,” probably read (at least in some Yucatec-speaking areas) as *nohol*. The example illustrated in Figure 53d is from a painted inscription in Najtunich cave, Guatemala.

At this point, the proposal that sign T580 is read as *lo* is but a working hypothesis, and should be tested as further opportunities arise.

- | | |
|---|--|
| a: RAZ Tomb 1, east end IS date (Drawing by the author from photograph by George Mobley, courtesy of the National Geographic Society) | 1889-1902, 4: Plate 88 |
| b: PAL Tablet of the Temple of the Sun, F4 (Drawing by Linda Schele; and see Maudslay | c: TIK Temple IV, Lintel 2, B1 (Drawing by the author from photograph in Coe, Shook, & Satterthwaite 1961 [Fig. 22]) |
| | d: NTN Group IVh, A10 [see Note 1, below] (Drawing by the author) |

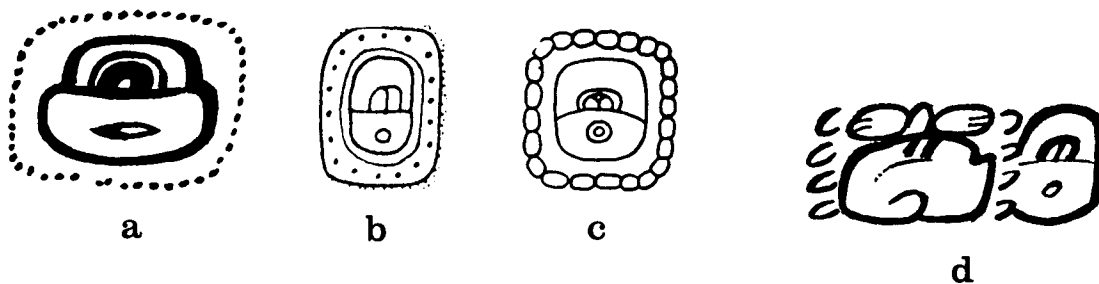


FIGURE 53. THE SYLLABLE LO(?) IN MOL AND NOHOL

hi

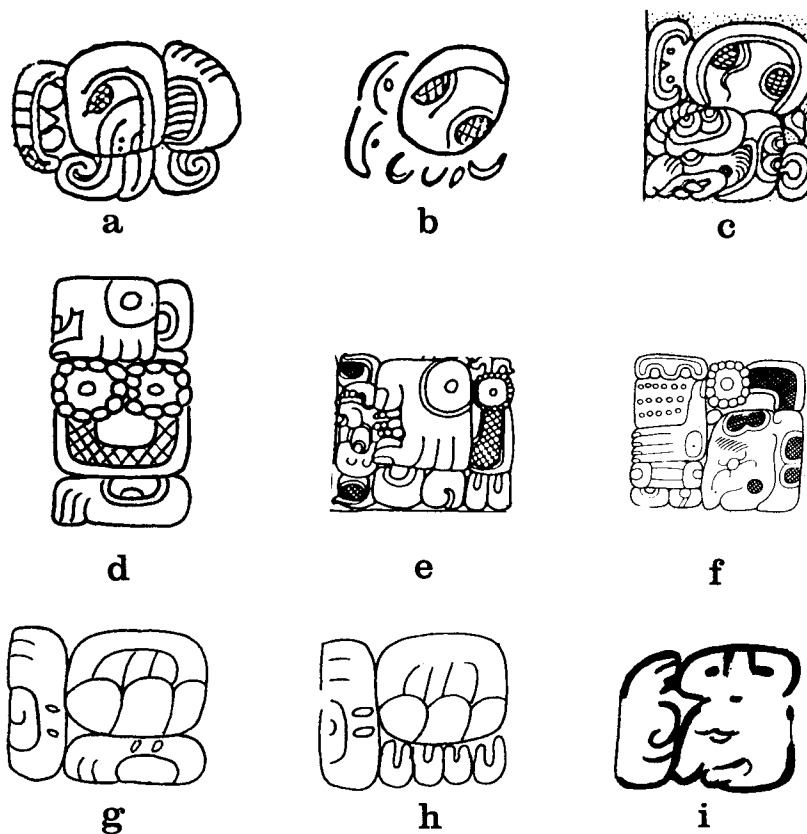


ALSO TENTATIVE is the case for reading sign T88—and a group of related signs—as the phonetic syllable *hi*. Before taking up the matter, however, the pertinent “sign set” should be noted: T88 is one of three signs—the others are T136 and T758b—that are freely interchangeable in a number of situations, and therefore these can safely be termed allographs of one another. Figure 54 shows a few contexts, all self-explanatory, where this equivalence is demonstrated.

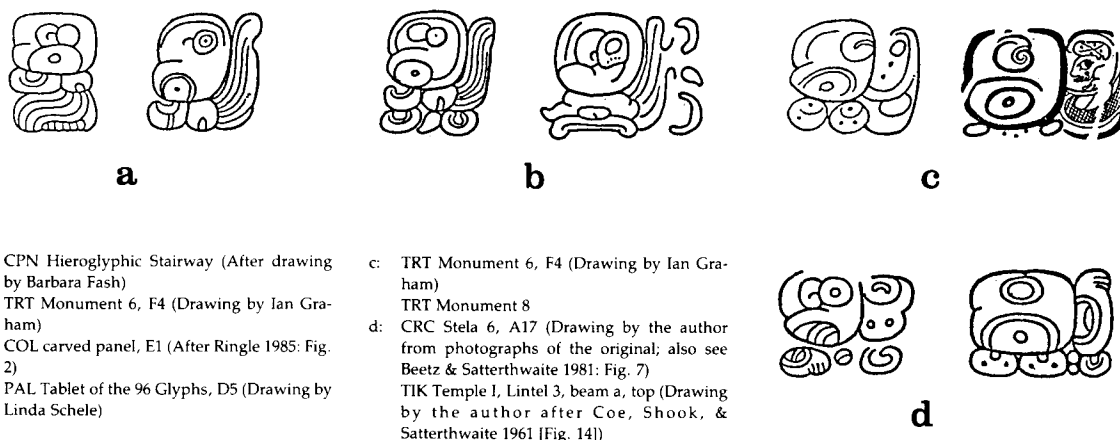
The *hi* reading for T88 and its equivalents is based upon its occasional use in the “seating” glyph. The seating glyph is usually rendered with a logograph, *chum* (“to sit”), infixed by a variant of the syllable *mu*, a phonetic complement, to produce **CHUM-(mu)** (Ringle 1985). As a verb in Maya inscriptions *chum* can take one of two positional suffixes, *-wan* or *-lah* (MacLeod 1984), formed respectively out of the syllabic combinations **-wa-n(i)** and **la-h(a)** (Fig. 55a,b). (The *ha* reading follows Knorozov 1958:285.) The simplest forms of this verb that one finds in the inscriptions are therefore rendered as *chum-wan* or *chum-lah*. However, when either of these forms is used in, for instance, a Distance Number structure where it stands for the earlier of two events, the perfective suffix *-i* seems to be required as an addition to them. For example, if **CHUM-wa-n(i)** is the “anterior” of two events linked by a Distance Number, it will take the additional sign T126, *ya* (Fig. 55c). When T126 is a suffix, as described above, it may stand as an indicator of a final *-i* after a syllable that has *i* for its vowel. Again, this phonetic principle is best seen in the spelling **K’AN-a-si-y(a)** for *K’anasi*—the ancient spelling of the month *Kayab*. Here the final *-i* seems not to be a separate morpheme. When T126 *ya* is added to *chum-wan*, therefore, the result is **CHUM-wa-ni-y(a)**, or *chum-wan-i*, “he sat.” I suspect that T126 does not have a morphemic use in the Maya script. It merely can “spell” a morpheme such as the perfective suffix *-i* or the prevocalic possessive pronoun *y-* when combined with *a*-initial stems (as in *yal*, noted above).

This can also be shown if we analyze the way *chumlah* is spelled when the morphemic suffix *-i* is added to it (Figure 55d). With *chum-wan*, as just noted, T126 *ya* was able to be used to express the *-i* suffix because the *ni* syllable immediately preceded it. In this way, T126 merely indicates that the *i* vowel of the preceding syllable is to be pronounced. With *chum-lah*, always rendered **CHUM-la-h(a)**, the simple addition of T126 after *ha* will not work. What would be necessary, if my perception of the scheme is correct, is the replacement of *ha* by the syllable *hi*. The result would then be **CHUM-la-hi-y(a)**, or *chum-lah-i*, “he sat.” This, I think, is precisely the transliteration of the glyph illustrated in Figure 55d. Due to the lack of any other affix pattern with *chum*, this particular sign combination, in which T88 is placed between *la* and *ya*, must stand for *chum-lah-i*, the “anterior” form of *chum-lah*. Similarly, the common verbal glyph *ts’a-pa-h(a)* (*ts’apah*, “was pierced [put into] in the ground”), recently deciphered by Nikolai Grube (personal communication, 1986), becomes *ts’a-pa-hi-y(a)* when the second perfective suffix (*-i*) is desired (Fig. 56). The precise function of the *-i* suffix on these verbs is likely related to the common perfective suffix *-i* on intransitive verbs in both Cholan and Yucatec (Note 6).

Clearly a *hi* reading for T88 and its allographs seems plausible, given the characteristics of affixation on *chum* that I have outlined. There are some independent points of evidence that may back it up. The *ch’a* value for T93 recently proposed by Love (1987) has already been strengthened in a number of outside contexts, including the reading of the name *Yich’ak Balam*, or “Jaguar Claw,” mentioned earlier in this paper. Love notes that T93 is a very common affix to the “hand-scattering” glyph, illustrated in Figure 54 (d-f), and I agree with his assessment that

FIGURE 54. SIGN T88—THE SYLLABLE *HI*—AND RELATED SIGNS

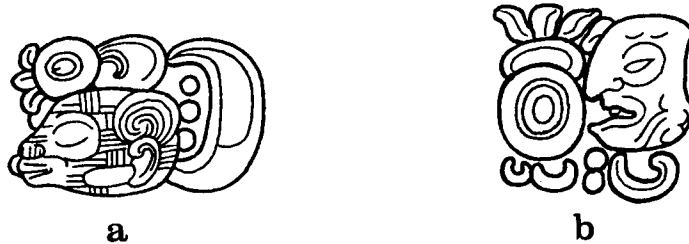
- a: RSB Hieroglyphic Stairway (After field drawing by Ian Graham)
 b: PNG Burial 5, engraved shell, C2 (Drawing by the author from photographs of the Original; and see W. R. Coe 1959: Fig. 53c)
 c: CPN Stela 6 (Drawing by Barbara Fash)
 d: QRG Stela E, west side, D7b (After Maudslay 1889-1902, 2: Plate 31 [as Glyph 30])
 e: PMT panel, bottom, right (Drawing by Linda Schele; also see Schele & Miller 1986:142)
 f: IXZ Stela 4, B2 (CMHI 2:181)
 g: QRG Structure 1 bench (Drawing by the author)
 h: QRG Structure 1 bench (Drawing by the author)
 i: NTN Group IVb, B1 [see Note 1, below] (Drawing by the author)



- a: CPN Hieroglyphic Stairway (After drawing by Barbara Fash)
 TRT Monument 6, F4 (Drawing by Ian Graham)
 b: COL carved panel, E1 (After Ringle 1985: Fig. 2)
 PAL Tablet of the 96 Glyphs, D5 (Drawing by Linda Schele)
 c: TRT Monument 6, F4 (Drawing by Ian Graham)
 TRT Monument 8
 d: CRC Stela 6, A17 (Drawing by the author from photographs of the original; also see Beetz & Satterthwaite 1981: Fig. 7)
 TIK Temple 1, Lintel 3, beam a, top (Drawing by the author after Coe, Shook, & Satterthwaite 1961 [Fig. 14])

FIGURE 55. THE LOGOGRAPH FOR *CHUM*, "TO SIT", AND ITS AFFIXES

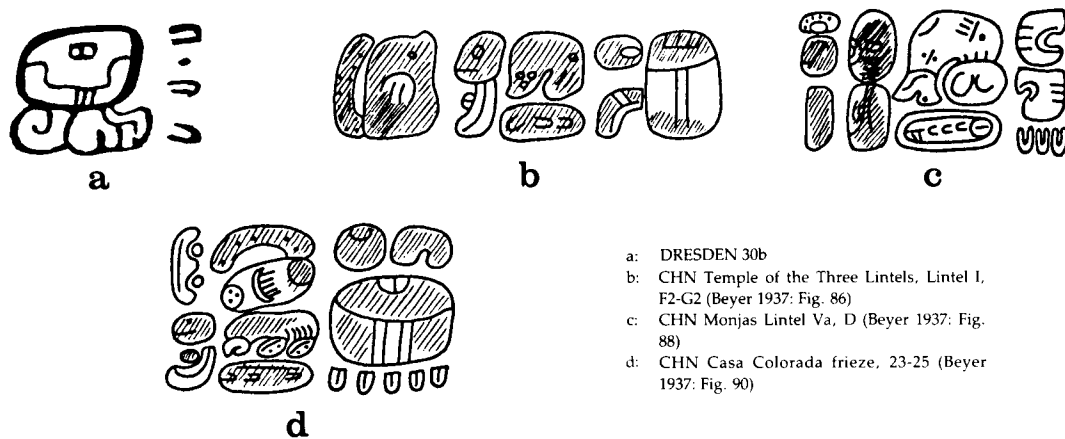
FIGURE 56. TS'APAH AND TS'APAH' IN TWO TEXTS



- a: TIK Stela 12, D2 (Drawing by William R. Coe [Jones & Satterthwaite 1982: Fig. 17])
 b: CPN Stela A, C3 (After Maudslay 1889-1902, 1: Plate 30, glyph [17])

T93 somehow represents the object of the verb—that is, the substance being scattered. As I have mentioned, T93 is usually accompanied by one of the three *hi* signs that concern us here. The suggested *hi* sign is not always present, but it is certainly consistent enough to warrant an explanation in light of Love's new reading. If T93 functions here as a phonetic syllable *ch'a*, then we could read this "substance" as *ch'a-h(i)*, or *ch'ah*, "a drop of any liquid." This is precisely the reading Love entertains for T93 in the scattering glyph. While this strengthens Love's case, the possible *ch'a-h(i)* reading also would show that T93 is primarily a phonetic syllable in this context. When T88 and its allographs are not present, then it could well be that, as Love suggests, T93 is a logograph for *ch'ah*. It is also possible that the final aspirant *-h* can sometimes be ignored in syllabic spellings.

A similar use of *hi* may be found when it is a suffix to those glyphs which have been identified as *wah*, "bread/tamales/food" (Fig. 57a). Justeson (1984:338), Taube (1986), Love (1986), and Bricker (1986b) have all proposed that some compounds in the Dresden Codex and elsewhere employing T504 are read *wah*. In a number of examples, T504, perhaps a *wah* logograph, is joined by T130 *wa* and one of the *hi* signs here under discussion (Fig. 57b,c). I suspect that the *hi* is a phonetic complement, along with T130, for the *wah* reading [(*wa*)-*WAH*-(*hi*)]. In one case



- a: DRESDEN 30b
 b: CHN Temple of the Three Lintels, Lintel I, F2-G2 (Beyer 1937: Fig. 86)
 c: CHN Monjas Lintel Va, D (Beyer 1937: Fig. 88)
 d: CHN Casa Colorada frieze, 23-25 (Beyer 1937: Fig. 90)

FIGURE 57. *HI* IN VARIOUS SPELLINGS, AND AS PHONETIC COMPLEMENT

at Chichén Itzá, structurally parallel to others illustrated, the T504 sign is dropped in what may be a purely phonetic spelling, **wa-h(i)** (Fig. 57d).

Finally, I point out one of a few instances where one of the *hi* signs mentioned seems to work like T181 *ha* (Knorozov 1958:285) as a suffix to certain verbal glyphs. I have already discussed this to some extent using the affix patterns on the verb *chum*, "to sit," in order to show that particular verbal suffixes are not necessarily represented by specific morphemic signs. Rather, they are "spelled out" by syllabic combination (the same principle is at work in Kelley's (1962, 1968b) reading **k'a-k'u-pa-ka-l(a)** for the separate morphemes in *k'ak' u pakal*). In this way, a *hi* sign may function precisely like the "verbal suffix" T181, *ha*, since phonetically they share a common consonant. Thus the spellings **k'u-xa-h(i)** and **k'u-xa-h(a)**, discussed above (and see Figure 41), may be identical in function as renderings of the word *k'uxah*, "was bitten/hurt(?)."

Some elaboration on these spelling conventions and their implications is perhaps necessary. As mentioned, morphemic units in the Mayan languages, such as verbal suffixes, are not necessarily represented in the script by individual morphemic signs, but rather by the phonetic combinations that "spell" them. This principle is an important one to realize at this stage of hieroglyphic decipherment. If true, then we must realize that there may be no such thing as a "verbal suffix" sign in the Maya script. T181 has traditionally held such a role as *-ah* a "past tense" verbal suffix (Seler 1902-1923,1:698; Kelley 1976:196-197; MacLeod 1984; Bricker 1986a:125), but now I am reluctant to accept this as the precise function of the sign. Following Knorozov (1967:90), T181 seems best read as *ha*, as in **a-ha-w(a)** for *ahaw*, "lord" (see Yaxchilan Lintel 3, J1 [CMHI 3:17]), and it has been shown that a syllabic role would work just as well when T181 is attached to "verbal" glyphs. Those verbal suffixes already identified in the writing system, such as the positionals *-wan* and *-lah* (and elaborations thereof), are not rendered by single graphemes, but rather by syllabic combinations. I would think that the same could probably be said for most, if not all, verbal suffixes still to be discovered in the ancient writing system. Any analysis of verbal suffixes in the script must therefore avoid concerning itself with the distribution of single suffix signs. This method dangerously assumes that such signs correspond to morphemic units. Precedence shows that signs suffixed to verbs are probably syllabic, and so their function in relation to surrounding signs must be taken into account. The answers to such difficult linguistic issues in Maya hieroglyphic research, I believe, must rest in future syllabic decipherments, for it is through pure phonetic spellings with CV syllables that the subtleties of the ancient grammar and phonology now hidden in the script will be revealed.

The ten syllabic readings proposed and/or elaborated upon in this paper are by no means irrefutable, and for that reason they should be subjected to further tests by the readers. It is hoped that these suggestions will provide the basis for productive decipherments. Because so many readings and aspects of the writing system have been touched upon here, more detailed treatments of some points will appear in the future.

SUBMITTED JULY 1987



A MAYA HIEROGLYPHIC SYLLABARY

This chart is based upon the work of many Maya scholars, and specifically upon similar compilations by Mathews (1984), Houston, and others. It reflects my own preferences regarding

specific readings—including those discussed in the present work. Most forms shown are generalized samples that do not reflect their diverse graphic variations in the script.

	b	ch	ch'	h	k	k'	l	m	n	p	p'	s	t	t'	ts	ts'	w	x	y	vowels
a																				
e																				
i																				
o																				
u																				

1. This important cave site east of Poptun, Guatemala, and near the Belize border, came to the notice of outsiders in 1980. The name *Naj Tunich*, “cave” (literally “stone house”) in Mopan Maya, was given the site that year by Pierre Ventur of Yale University. The rendering *Najtunich*, employed in this paper, is that used by the Corpus of Maya Hieroglyphic Inscriptions Project of the Peabody Museum of Archaeology and Ethnology, Harvard University, in its index of sites (CMHI 3:185). My visit to Najtunich took place between December 28, 1980, and January 3, 1981, and is recorded in a lengthy illustrated report written the next month (Stuart 1981). The original of this is on file at the offices of the Instituto de Antropología e Historia de Guatemala in Guatemala City, and photocopies were distributed to colleagues. The system of numbering the various cave images and texts used in that report—and in the present paper (see Figures 9, 39, 42, 53, and 54)—reflects a provisional scheme that will doubtless be revised with a future definitive publication of the material. Works to date dealing with Najtunich and its contents include, in chronological order, those of G. Stuart (in *National Geographic* 160[2]:220-235 [August 1981]); of Andrea Stone (in *Mexicon* 4[5-6]:93-99 [November 1982]; in Houston [1983:88-103]; and in *Mexicon* 7[2]:23-29 [March 1985]); and of James E. Brady and Andrea Stone (in *Archaeology* 39[6]:18-25 [November/December]).

2. In Stuart 1986b, I proposed that the “*lu*-bat” glyph (T62.756) may be used in place of the pertinent *ts’ib* compound to note that a piece is “carved” and not “painted.” The distribution of “*lu*-bat” phrases, probably saying something like “carved by [name],” thus appear to constitute another class of artists’ signatures—one applicable to such artifacts as stone vessels and monumental sculptures.

3. According to Bequelin and Baudez (1979-1982:2:743), Tonina Monument 89—which is designated as a “jaguar or crouching dog”—was found in the front [south] room of Structure F4-6, among the fallen slabs of the median wall. Its location and relation to surrounding features suggest that the piece was originally set on top of Burial 1 in that structure, then

shifted by subsequent collapse. The Maya associations between death and dogs, treated by Thompson (1970: 300-301) immediately invites the speculation that Tonina Monument 89 may have represented a guardian for the underworld passage of the person in the Structure F4-6 burial.

4. Karl Taube and Bruce Love (personal communication, 1987) read the glyph in the [observer’s right] eye of the Cauac Monster head on the Tablet of the Temple of the Foliated Cross as **wits nal**, “corn mountain,” and see the emerging foliage as that of the corn plant. I agree with both points.

5. Bruce Love (personal communication, 1987) suggests that *y-ok* is best translated as “his foot” in such contexts, rather than as “he enters,” as Nikolai Grube and I had previously considered (Grube & Stuart 1987:5). This revision seems sensible, for in Figure 52a, *y-ok* appears to be the subject of the verb which precedes it. Thus, God K’s foot, generalized as God K himself in most instances, appears to be the literal topic of 819-day-count passages.

6. As an alternative to the *ya* reading for T126, and one capable of spelling the completive *-i* as described, William Norman (in Justeson 1984:325) and Kathryn Josserand (personal communication, 1985) see T126 in final position as *-ix*, the enclitic suffix to verbs in some Cholan languages, and reconstructed for proto-Cholan by Kaufman and Norman (1984:139). Reading T126 as *-ix* seems valid when the sign is attached to the end of verbal compounds, as in **CHUM-wa-ni-ix** for *chum-wan-ix*, “then he sat,” as opposed to *chum-wan-i*, “he sat,” as proposed here (see Fox and Justeson [1984:60-61] for a discussion of the background of this issue). Nonetheless, I believe that the evidence for reading T126 as *ya*, outside this post-verbal context, is little short of overwhelming. Indeed, Bricker (1986:65-67) notes that *ya*, “then” as another enclitic suffix in Cholan languages. Similarly, the common verb *ts’apah* [**ts’a-pa-h(a)**], “was pierced in the ground”—recently deciphered by Nikolai Grube (1987) as referring to the event of setting a stela in place—becomes **ts’a-pa-hi-y(a)** when the *-i* suffix is desired.

Acknowledgements

Discussions and correspondence with numerous colleagues over the past few years have contributed greatly to the ideas expressed in this paper. In particular, I wish to thank Stephen Houston, Victoria Bricker, Karl Taube, and Bruce Love for their helpful comments. In addition, George and Gene Stuart provided constant help in the production of this paper for the Research Reports on Ancient Maya Writing series.

♣ SOURCES OF THE SECTION TITLE EXAMPLES

The drawings of signs which appear at the beginning of each section are from the following hieroglyphic texts (order of listing is left to right):

ts’i (p. 1): COL Kerr 1211; XLM Hieroglyphic Group, middle bldg.; COL Kerr 1398. **pi** (p. 11): YAX Lintel 47, B8; CPN Stela I; PAL 96 Glyphs, J2; CHN Halakal Lintel, G5a; CPN HS. **wi** (p. 13):

TIK Stela 31, F5; RAZ Tomb 19 vessel; PAL 96 Glyphs, L8; XLM Hieroglyphic Group, middle bldg., e. column, A5b; DRESDEN 26a. **tsi** (p. 16): UAX Burial A22 vessel [Smith 1955: Fig. 7a]; PAL Palace, Bench 1; PAL 96 Glyphs, H3a; TNA Mon. 141, A2; DRESDEN 14c. **yi** (p. 15): UAX Burial A31 vessel [Smith 1955: Fig. 1a,b]; CRC Stela 6, C22; PNG Lintel 3, J1; CPN Altar D’, 5a; CHN Halakal Lintel, A7. **xa** (p. 28): NTN Group IV, 1b,

G4; COL panel [CAY] in Cleveland Mus. Art. D4. **xi** (p. 31): DPL Stela 16, D7; PAL Temple of the Cross, B10; COL Kerr 1811; DRESDEN 6a. **yo** (p. 33): YAX Lintel 49, C7; PAL Palace Tablet, R15; YAX Lintel 37, B6; CHN Four Lintels, II, D3. **lo** (p. 41): RAZ Tomb 1, IS; TIK Temple IV, Lintel 2, B1; DRESDEN 8b. **hi** (p. 42): TIK Stela 31, A19; QRG E, E7b; PAL 96 Glyphs, A3; QRG Str. 1 bench; DRESDEN 30b.

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George Stuart