

## LINGUISTIC AND ETHNOGRAPHIC DATA PERTINENT TO THE “CAGE” GLYPH OF DRESDEN 36c

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Stretched across the bottom third of pages 33-39 of the Dresden Codex is a display of the subdivisions of a tzolkin, spelled out in greater detail than is found in the usual compact and schematic manner of representation. It is of the  $4 \times 65$  variety, rather than the  $5 \times 52$ . The 260-day period is divided into four equal divisions of 65 days each, and the 65-day periods are further partitioned into a number of unequal subdivisions. In this case there are five of these, of 9, 11, 20, 10, and 15 days length respectively, in this order, making twenty subdivisions in all as the sequence is repeated four times. Each of the four recurrences of any one of these is given a *separate* representation in the display of this tzolkin, rather than having all four recurrences designated—as is normally the case—by a single representation. Thus, the usual column of day signs is dispensed with here. The day signs are indicated separately for *each* of the 20 subdivisions (in addition to the distance and day numbers), thus obviating the customary need for mental or scratch-pad calculation of these.

Our interest in this paper focuses on the third recurrence of the nine-day subdivision, on Dresden 36c (see Fig. 1c). This is the eleventh of the twenty subdivisions, and will therefore be referred to in what follows as “subdivision n° 11”. In the illustration for this subdivision we find “God B”, presumably Chac, sitting in a cage or a pen (a fenced-in enclosure of some kind).

Above the illustration, and above the distance number, day number and day sign, is a four-glyph legend.<sup>1</sup> The first of the four glyphs of

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<sup>1</sup> We adopt the distinctions drawn by David H. Kelley in his “A History of the Decipherment of Maya Script” (1962a:2-3) between what he calls ‘glyph groups’ and ‘glyphs’, but we propose and use a different terminology for these. Kelley’s ‘glyph group’ is our ‘glyph’, and his ‘glyph’ is our ‘sign’ or, when part of a compound glyph, ‘constituent sign.’

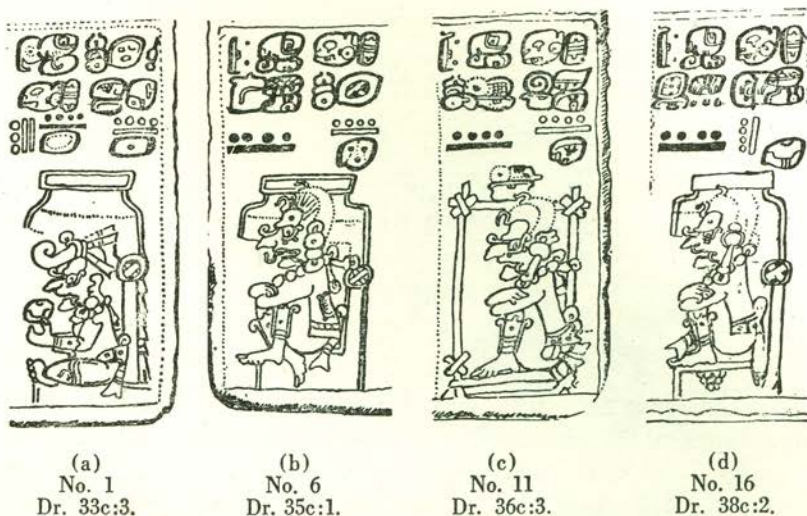


FIGURE 1: The four recurrences of the nine-day period in the twenty subdivisions of the tzolkin of Dr. 33-39c.

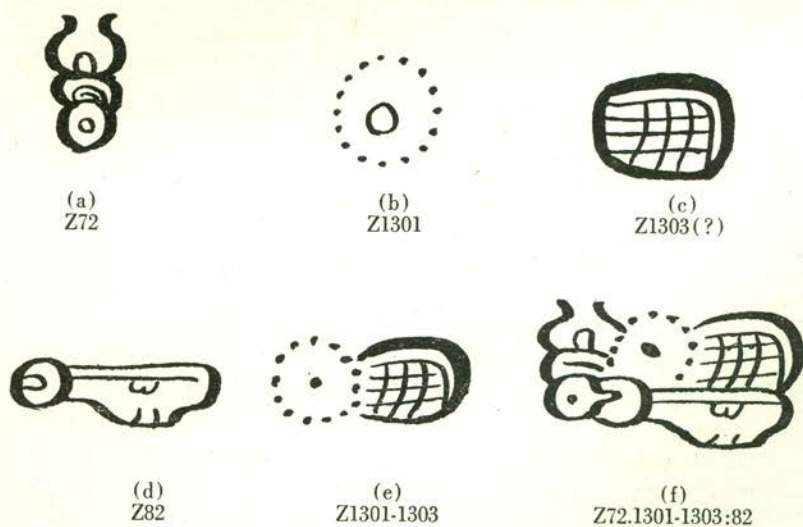


Figure 2.

this legend is one (Z1.167:76) that is common to nineteen of the twenty legends, viz., nos. 2-20, in the subdivisions of this tzolkin. It occurs as the first glyph in each of these. The one remaining legend—that of subdivision n° 1—begins with a glyph that is based on the same main sign but with a different prefix and a different ending (Z28.167:91, or Z28.167 / 1310).<sup>2</sup> Thus the first word of each of the twenty legends is one whose root may be presumed to be given by the main sign Z167. Since this is common to all twenty subdivisions, it can hardly designate what is distinctive of subdivision n° 11, representing the third recurrence of the 9-day period.

The second of the glyphs in legend n° 11 is Chac's name glyph (Z169.61), *Chac-al* (see Fought 1965). This glyph also is common to most of the legends (all but nos. 18 and 19), occurring in these as either their second or third glyph. It clearly designates God B, who is depicted in one stance or another in all twenty of the illustrations. (The absence of this glyph from nos. 18-19 may be presumed to be for lack of space in these two legends—the reference being understood in any case, given the illustrations below.)

If there is anything in legend n° 11 that designates something which is distinctive of the particular characterization of Chac in the illustration below it, this obviously has to be sought in the third or the fourth glyph of the sequence. That which is distinctive in this depiction of Chac is of course the cage or the wooden-rail enclosure in which he sits. This occurs nowhere else in the series of twenty subdivisions, not even in any of the other three recurrences of the 9-day period. We proceed then to the third glyph (Z72.1301-1303?: 82) of this legend.

The first constituent of this glyph (Z72, Fig. 2a), was assigned a phonetic value *ti* by Bishop Landa in his syllabic-phonetic spelling of the phrase *ma inkati*, 'yo no quiero' (Tozzer 1950:170). J. Eric Thompson suggested that this sign, when it is used as a glyph prefix, appears to represent the Mayan locative preposition *ti*, with meanings of 'in', 'on', or 'at' (Thompson 1944:22; cf. Kelley 1962a: 16, 1962b: 291). This preposition is *ti* in Yucatec. The semantically equivalent preposition in Tzeltal and Tzotzil is *ta*. The hieroglyphic sign Z72 is now regarded by some Mayanists as a phonetic sign with value *ti*, or *t(i)*, only one of whose uses is that for the locative preposition just mentioned, but having other uses as well, as in pure phonetic

<sup>2</sup> It seems probable that Z91 and Z1310 can be considered as the same sign. A division between 'affixes' and 'main signs' is at best one of function, and only in part one of inventory.



spelling (e.g., Landa's *ma inkati*, 'yo no quiero'; *mut(i)*, 'bird, omen, prognostication', etc.), and perhaps also in some cases as a phonetic complement accompanying a pictographic sign.<sup>3</sup> Since however in the glyph here under consideration it is in the prefix position, we may assume its locative-prepositional value as the most probably relevant one in this instance.

The second constituent of this glyph (Z1301, Fig. 2b), is regarded by some writers as also being a straightforward phonetic sign, and is taken to represent the syllabic-phonetic value *mo*. In fact however, although it is found to occur in quite a large number of different combinations with various other signs, there is only one of these compound glyphs that so far offers good evidence for this phonetic hypothesis. But it must be admitted that in this particular case the evidence is indeed good. It is the 'macaw' glyph (Z1301.86.86), Yucatec *moo*, identified as such by Cyrus Thomas (1888:355), which is written (Dresden 16c) with this sign together with two of Landa's "o" (Knorozov 1952:111, 114; Kelley 1962b:292, 307). Thus, whether one is to consider the case as proven depends a good deal on the standards one adopts as to what constitutes 'proof'. In any case, such evidence as there has been so far strongly supports this as a reasonable hypothesis.<sup>4</sup> Ultimate acceptance or rejection, of course, can only rest on its productivity. We adopt it as a working hypothesis in this paper; and, as will be seen, it is productive of a new reading that seems to be tenable.

The third constituent in the glyph under consideration (Z1303?, Fig. 2c), must be regarded as —up until now— in want of a supportable hypothesis. Knorozov lists it as of unknown phonetic value (1963: 296, n° 176). He suggests that it may be a representation of a textile, but he leaves it with a question mark indicating uncertainty. He refers

<sup>3</sup> This may be the function of Z72 with the vulture sign, supposing a reading \**tyom* or \**ty'om*. More must be known of comparative Mayan vocabulary, however, before the plausibility of this suggestion can be assessed. Z1301 also occurs with the vulture sign. Following Knorozov (1952:114) this may also be taken to be a phonetic complement (giving the syllable-final rather than the syllable-initial sound), perhaps in one of the Mayan languages where the initial of this word is the glottalized palatal affricate č', which would make Z72 phonetically inappropriate.

<sup>4</sup> As noted in footnote 3, Knorozov adduces also the occurrence of Z1301 with the vulture sign (where he takes it as a phonetic complement) as an additional item of evidence in support of the phonetic value *mo*. The argument of our present paper will contribute still further evidence, we believe, in support of this phonetic value for Z1301.

also to Gates' interpretation of it as representing a mat (Gates 1931: 25). Knorozov, like Zimmermann (1956) and Thompson (1962), does not distinguish between the cartouche with diagonal cross-hatching (Knorozov's n° 176, Zimmermann's 1303, Thompson 586) and that with horizontal and vertical cross-hatching, which we have here. We do not yet know whether these should be regarded as graphemically the same or different. Evreinov, Kosarev, and Ustinov (1961.II:141, III:67, 68, 71, 72, 74), apparently following Zimmermann (1956: 159), identifies the sign combination Z1301-1303 in this glyph as being Landa's "o" (Z86, EKU60). Elsewhere (II:257) they assign a phonetic value *pa* to this sign (Z1303, EKU207). But in most of its combinations they read *pak* regardless of what constituent follows it in a compound glyph; in one reading they assign no value to it (II. 200-201); and in another they read this and a following adjacent constituent in reverse order (II.190-191). So far as we can tell, these readings appear to be without adequate support.

Values for the fourth constituent sign of this glyph (Z82, Fig. 2d) have been proposed by J. Eric Thompson 1950:56-57). He has adduced evidence indicating that it may serve, in its primary value, as a sign for the morpheme which has the phonetic form *tee*<sup>5</sup> in most Mayan languages (*chee* in Yucatec) and which has the meaning of 'tree, pole, wood, thing made of wood', etc.; secondly, as a numerical classifier, *te*, used in counts of years, days of the months, leagues, cacao, calabashes, and eggs; and further, as the final element in the name-glyph of a deity, *Bolon Yocte*. It is apparently an iconic sign in origin; and while its similarity to a tree may not impress one by its obviousness, it does nonetheless exhibit the conventional diagnostic feature of the iconic symbolization of trees or wood growth in Mayan, Mixtec, and Mexican iconography.<sup>6</sup> We may therefore take it both as a morpheme-sign for the word signifying 'tree, wood, etc.', and as a phonetic sign for syllables of the form *te* or *tee*.

<sup>5</sup> We write *tee* for what is phonetically *te<sup>2</sup>e*, or *te<sup>2</sup>e*, or *te:<sup>2</sup>* in various Mayan languages, and similarly *chee* for *che<sup>2</sup>e*, etc. —just as in an earlier paragraph we wrote *moo* for *mo<sup>2</sup>o*, etc. This simplification of the orthography rests on the fact that doubled vowels are automatically glottalized in many of the Mayan languages, and so the glottalization can be regarded as a 'determined' feature rather than a 'distinctive' one. Whether this can be defended as a strictly phonemic hypothesis for any or several of the various Mayan languages remains to be seen. At least it appears to have morphophonemic validity.

<sup>6</sup> E.g., see the trees depicted in Madrid 42c and 102b or in Dresden 26-27c, 30-33c. It is also a common iconographic symbol for the morpheme for 'wood' in Mixtec place-name glyphs. (Cf. Smith 1966.)



Given the above, we find that we are in possession of established or reasonable hypothetic values for three of the four constituents of the glyph with which we are concerned, and that they yield a hypothetic partial form *ti* (or *ta*) *mo*...?..-*tee* for the glyph Z72.1301-1303:82 (Fig. 2f), which we may presume to take as designating some feature that is distinctive of the third recurrence of the 9-day period among the twenty subdivisions of the *tzolkin* under consideration. As already noted, this distinctive feature is *the cage or pen within which Chac is here seated*. We need, then, only to verify and appropriate linguistic form.

In the *Diccionario de la Lengua Tzeltal* by Vicente Pineda (1888: 79) one finds and entry:

*Mochilté*, Jaula.

It is this which has given us our reason for writing this paper. Here, it would seem, is a word of the kind we are looking for: one that fulfills the phonetic conditions set by the known constituents in the glyph, as well as the semantic conditions set by the associated pictorial representation. It suggests itself, then, as a possible reading for the glyph.

If we entertain this suggestion, we must reckon the consequences for the unknown constituent (Z1303, Fig. 2c). One hypothesis would result from a simple matching of this sign with the as-yet-unaccounted-for phonetic portion of the word cited in the Pineda dictionary. This would amount to assuming straight phonetic writing and assigning a hypothetic phonetic value *chil* to the constituent in question. This is likely to be an overly simplistic assumption, however, and the hypothesis to which it leads is unsupportable.

*Moch* is a common word for 'basket' ('canasta') in several Mayan languages, including Tzeltal and Tzotzil. Brent Berlin has mentioned to us that this root, in verbal forms, may have the meaning of weaving, or interweaving (as in the making of baskets, though not in the weaving of cloth). It appears to apply also to the laying of poles or rails as in making a rail-fence enclosure. To judge from the various entries in the Pineda dictionary, together with those in the dictionary compiled by Berlin, the basic meaning would seem to be that of *closing, or enclosing, by means of coiling of strands, or by weaving, or by fastening of parallel lengths of any rigid material one over another in such a way as to form an enclosure*. Thus it can be seen to underlie such diverse derived meanings as 'basket' (*canasto*, *canasta*, *cesto*, *cesta*), 'coil' (*enroscarse*, *encarrujar*), 'cage' (*jaula*), 'ribs' or 'rib cage' (*costillas*), 'fist' (*puño cerrado*, *cerrar la mano*), etc. Pineda's entries are the following:

*Moch*, Canasto.

*Moch*, Cesto, Cesta.

*Mochanel sba*, Enroscarse. [*sba*, sobre, encima de.]

*Mochle*, Encarrujar.

*Mochvil*, Encarrujado.

*Mochevaneg*, El que encarruja.

*Mochilté*, Jaula.

*Moch*, Costilla.

*Mochel cab*, Cerrar la mano. [*cab*, mano.]

*Mochvil cab*, Puño cerrado.

Berlin's are:

*moč*, canasta

*močil*, costillas

*š-moč*, costillas.

During a brief visit to Chiapas in the summer of 1964 one of us had the opportunity to query a few native speakers of Tzeltal (Tenejapa) and Tzotzil (Chamula) on this subject.<sup>7</sup> None of the persons queried would admit the existence of a word of the form *mochiltee* in either of the two languages. (This, of course, is not sufficient to negate the validity of the form cited by Pineda, which may have come from another dialect, and which in any case dates from a century earlier. A common formative suffix in the Mayan languages is *-il*, and at least the grammaticality of the form *mochil* is attested to in Berlin's dictionary.) Tzotzil informants, however, did admit of a form *mochtee*. This, they said, would be a 'basket made of wood' ('canasta hecha de palos'); but the cultural item to which this terms can most readily apply is no ordinary basket. Nor is it necessarily called *mochtee*; it can be, and sometimes is so designated; but usually the simpler (and, except for the context, more ambiguous) term *moch* is used. It is the "basket" of the alferez of San Juan (*x-móch*, or *x-mochté*, *alpéres San Iwané*,<sup>8</sup> "la 'canasta' del alferez de San Juan").

<sup>7</sup> Lounsbury's visit to the field was made possible by the National Science Foundation under a grant for a research project directed by Drs. Gerald Williams and Duane Metzger. Gratitude is expressed to the Foundation and to the directors of the project for providing the opportunity to gain some acquaintance with this branch of the Mayan linguistic family.

<sup>8</sup> Our orthography here uses *x* (as in early Mexican usage, and as in Portuguese and Galician) for the 'sh' sound. The letter *j* is for the 'rough h' of Tzotzil (*h* being reserved for the weaker voiced *h* of that language). Preconsonantal and syllable-final continuants (*s*, *x*, *j*, *l*, *m*, *n*) are syllabic in Tzotzil (like the syllabic *s* and the syllabic *n* of Japanese).



San Juan is the 'patron saint' of Chamula, and the principal deity in their present pantheon. The fiesta of San Juan (*taspas k'in San Jwané*) is an important series of events in the ceremonial calendar of this municipio, and the position of the 'alferez' of San Juan (*alperés San Jwané*) is an important 'cargo' in the politico-religious hierarchy. The incumbent of this office is assisted by his 'ayudantes' (*kareraetik*). One of the preliminaries to the celebration of the feast of San Juan involves the construction, in the yard outside the house of the alferez, of a scaffold supporting a small platform some 25 or 30 feet up in the air. The scaffold is made of four upright poles held together by cross-pieces at appropriate distances. The structure resembles a crude wind-mill frame. The platform on top is enclosed on three sides by bowed saplings. These are decorated with green foliage and flowers. A ladder leads from the ground to the platform. The whole thing is commonly called a *moch*, or *x-móch alperés*. As for specification of the particular kind of *moch* that this is, it is described as a *mochtée*. After the construction and decoration of this *mochtée*, on the first day of the feast --the day called 'flower-tying day' (*ta x-chuk nichim*) or the 'vesper' of the feast (*ta vixperéx*)-- the alferez and his ayudantes go to the church, get the banner of San Juan, and come on horseback to the house of the alferez. Here two ayudantes take the banner and climb up the ladder to the enclosed platform at the top of the *mochtée*, where they sit resting and drinking cane liquor. Meanwhile the alferez and the remainder of his entourage proceed to a large bench at the corner of a wall in the village plaza where they sing and dance. The remaining proceedings of the feast, after the ayudantes descend from the *moch* with their banner, do not concern the problem under consideration here and can be passed over. After this *mochtée* has served its purpose, it is of no further use and is left to disintegrate and tumble down --which it does, one might infer, in from four to six ears, there being about this number of old ones visible in various stages of delapidation in the yards of the homes of as many former incumbents of this office ('bearers of this cargo') in Chamula.

Returning now to the interpretation of the hieroglyph under consideration, it would appear that the form *mochtee* also may be a potential reading. The reference might be to some aboriginal ceremonial structure that is the cultural antecedent of the present *mochtée* of the alferez; or it might be to some other cage-like enclosure (like that of Dresden 36c; cf. Pineda's gloss 'jaula') that also went by the name of *mochtee*. Or these may be the same thing: there is nothing in the illustration of Dresden 36c that compels one to suppose that Chac's cage is on the ground. And such knowledge as we have of Maya grammar does not



suggest that a form such as Pineda's *mochiltee* should necessarily have a designation substantially different from that of the form *mochtee*.

If we now suppose a reading of *ti mochtee* (or *ta mochtee*, depending on the language of the codex) and if we remember that the most common meaning of the word *moch* is 'basket', then the hypothesis that most readily suggests itself for the third constituent of the glyph is that this figure—a frame with horizontal and vertical cross-hatching—may be simply a pictogram of a woven basket. In this case it would serve as morpheme-sign (an elementary logogram), and the function of the adjacent phonetic sign *mo* (Z1301) would be that of a phonetic complement. The reading of the whole, then, would be

TI [*mo*]-MOCH-TEE.<sup>9</sup>

The fact that the ceremonial structure (if this is what is designated) does not look like the basket of the pictogram would of course be quite irrelevant. It is the *morpheme*, and not the particular thing denoted in the given instance, that is represented by the sign. (Even the present-day Tzotzil of Chamula, when they speak in Spanish, refer to this ceremonial structure, as '*la canasta del alfez*', giving to the Spanish word the same semantic extension as the Tzotzil word!) Thus, a pictogram of an ordinary *moch* (an ordinary *canasta*) may serve to represent the morpheme, even when that morpheme is used in a special sense to denote a different kind of *moch*, viz., the ceremonial *moch* ('*la canasta del alfez*').

Now, we would not assume that every cartouche with cross-hatching, i.e., every occurrence of Z1303, is a pictogram of a basket. In the first place, we do not know whether the distinction between diagonal and horizontal-vertical cross-hatching is significant. Secondly, in Maya iconography—as exemplified in the pictorial illustrations in the codices—one finds numerous instances of the use of cross-hatching to represent cloth or other woven fabrics in various uses: e.g., in *mantles* (Dr. 9b, 25b, 27b, 25-28c; M. 95d, 97b, c, 98c), *skirts* (M. 11a, 52c, 69b, 72a, 89d, 90c, 93-95c, 102a, b, c, 105a, 108c), *sashes* (Dr. 33a; M. 50b, 51c), *carrying slings* (Dr. 27a; M. 93d, 94d), *head pieces* (M. 89d), *nets* (M. 93a), *bags* (M. 96a), *spear hafting* (Dr.

<sup>9</sup> We adopt here the convention, borrowed from Sumerology, of transcribing morphemic values of signs with capital letters, and phonetic values (as in pure phonetic spelling, where the potential semantic value of a sign is suppressed) in lower-case letters; and a further convention of placing explanatory values (signs when used as ambiguity-removers, viz., as phonetic complements or as semantic determinatives, but not to be given separate readings) in square brackets.

67a), *curtain*, *fringes*, or *hangings* of some sort (M. 97a), other *textile* or *woven objects* (M. 32b, 84b, 96c), and *cloth being woven at the loom* (M. 102b). Thus a pictographic sign such as Z1303, whose distinctive feature is cross-hatching, is inherently ambiguous in respect to its morphemic value in any given occurrence. For example, it might equally well designate some morpheme whose meaning has to do with cloth or with weaving. It is this ambiguity that occasions recourse to an accompanying phonetic complement, which is what we take to be the function of the sign Z1301 in this glyph. The combination Z1301-1303 (Fig. 2e) then, may be interpreted as saying: "something that is woven but that begins with the sound 'mo'," or: "a word beginning with the sound 'mo' that designates something that is woven." This would succeed in narrowing the choice of words down to *moch*, 'basket'.

There is also another possible interpretation of the sign Z82 (Fig. 2d) in this glyph. It is not necessary to assume that the morpheme *TEE* was intended actually to be read. The intended reading could have been simply *TI MOCH* (or *TA MOCH*, depending on the language), "in the *moch*", where the function of the sign Z82 would be that of a semantic determinative, making it clear what kind of *moch* the hieroglyphic sign was to designate. (Note that the Chamula Tzotzil normally use the ambiguous term *moch* for the ceremonial structure; the more explicit term *mochtée* is offered only by way of explanation.) Thus, the next stage in the reading of the glyph would be: "something called 'moch', but constructed of wood," or "the kind of *moch* that is made of poles." Under this interpretation the glyph Z72.1301-1303:82 (Fig. 2f) would be transcribed as

*TI* [mo]-*MOCH*·[*TEE*]

to be pronounced only as *tí moch* (or *ta moch*), the phonetic complement [mo] being only an explanatory supplement to the cross-hatch sign, and the semantic determinative [*TEE*] a further explanatory supplement to the combination of the preceding two, and neither the phonetic [mo] nor the semantic [*TEE*] to be read independently.<sup>10</sup>

<sup>10</sup> These are two classic kinds of problems, and two recurrent kinds of solutions, in the known hieroglyphic systems of writing. The one derives from the ambiguity of a graphic sign: the fact that it may be employed in writing to indicate any of several different words that denote similar things or that are semantically connected in some way. The solution is achieved by the juxtaposition of another sign, either initially or finally, which is employed only to suggest a phonetic value, suppressing whatever semantic value it may have in other contexts, or may once have had. This is the 'phonetic complement.' The other problem derives from the semantic ambiguity of a linguistic form: the fact that a word may be polysemous, or that a single phonetic form of a language may



The four constituents of the third glyph of legend nº 11 have now been considered in some detail, and a reading has been proposed for the entire glyph. As noted earlier, it is this glyph, occurring only in legend nº 11, that must designate what is unique in the situation of Chac depicted in the illustration below it. The unique feature of Chac's situation here is the wood-frame enclosure, the *mochtée* or *moch*, within which he sits. The proposed reading of the glyph under discussion answers to that situation and finds support either in the 1888 Pineda vocabulary item ('jaula'), or in present-day ethnography and lexicography (the '*moch*' of the *alferez*), or in both. The fourth and final glyph of legend nº 11 must now be considered.

The fourth glyph of this legend (Z1311-1306a/1363) contains the two 'main signs' (Z1306a/1363) that are the distinctive part of the 'house' or 'temple' glyph, read *otoch* by Cyrus Thomas (1888:351), and apparently defensible in that reading. Kelley (1962a:28) notes acceptance, at least of this semantic value, by Seler, Villacorta, Knorozov, and himself. Here it occurs with a prefix different from the usual one (i.e., Z1311 instead of Z6).

Whereas the third glyph of legend nº 11 (discussed at length above) is unique to this legend and to the situation of Chac in subdivision nº 11, this fourth glyph is not. Its distinctive part (Z1306a/1363), doubtless to be read *otoch* ('house, temple'), is found in the legends

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represent a number of homonymous words, or that a crude graphic approximation of a phonetic form may indicate any of a number of near-homonyms. A solution to this may be found in the juxtaposition of another sign, not to be read as a morpheme, but employed for its semantic value only, to narrow down the possible range of designation or to further specify the semantic character of the thing intended. This is the so-called 'determinative.' These two devices —the phonetic complement and the semantic determinative are natural solutions to the problems inherent in pictographically derived writing systems. They were employed by the Sumerians, the Egyptians, and the ancient Chinese in the development of their writing systems, and it is not unreasonable to suppose that the Maya encountered similar problems and hit on similar solutions. Knorozov, in his earliest published paper on Maya writing (1952), distinguished between the three kinds of values which a single sign may have: 'ideographic' (morpheme-signs, or logograms, to be read with both the semantic value and the phonetic value of the morpheme specified), 'phonetic' (to be read for phonetic value only, suppressing any potential semantic value), and 'key signs' (determinatives, to be read only as semantic guides for the interpretation of adjacent signs, but contributing no independent morphemic or phonetic value of their own). Moreover, he pointed out that in other known systems of hieroglyphic writing one and the same sign might —in different contexts— serve one time as a morpheme-sign, another time as a phonetic sign, and still another time as a determinative.

associated with three of the four recurrences of the nine-day period in the subdivisions of this *tzolkin*. These nine-day periods are in subdivisions 1, 6, 11, and 16. Nos. 1, 6, and 16 depict the god's *otoch* in the illustrations, where Chac sits in his temple. Nos. 6, 11, and 16 name the *otoch* in their hieroglyphic legends. Thus, nos. 6 and 16 both name and depict the *otoch*; n° 1 depicts it without naming it; and n° 11 names it without depicting it. The inferences which can be drawn are (a) that the name is probably to be understood in n° 1 even though not written, perhaps for lack of space, and (b) that the *moch* is Chac's *otoch* in n° 11. This strongly suggests that the *moch* depicted in n° 11 is a ceremonial enclosure of some kind.

There are two different words for 'house' in the Mayan languages. For some languages only the form *otoch* (or one cognate to this) is reported. Thus Chortí:

*otot*, house.

*uyotot*, his house.

*uyotot e ch'uur*, the house of the King. [*ch'uur*, Rey, como un dios.]

In other only *na* is recorded. Thus Tzotzil:

*na*, house.

*a-na*, his house.

*ch'ul na*, church, god-house, holy house.<sup>11</sup>

Yucatec at the end of the sixteenth century had both words: *otoch* apparently in the sense of a 'dwelling', and *na* apparently in the sense of a 'building'. The Motul Dictionary includes the following entries (amongst others) for *otoch*:

*otoch*, casa, denotando cuya.

*tij yan Juan ti yotoch*, allí está Juan en su casa.

*Taba a uotoch?* De dónde eres? Dónde tienes tu casa o tu morada?

*Yotoch ku*, iglesia, templo.

and the following for *na*:

*na*, casa, no denotando cuya.

<sup>11</sup> Chortí forms are from the field notes of John Fought, though presented here in the orthographic conventions of this paper (cf. footnote 5). Tzotzil forms are from Lounsbury's field notes.



*yok na*, el techo o tejado o terrado, encima de la casa.  
*kax na*, hacer casa. (This item is from the Spanish-Maya  
 Motul.)

The Pío Pérez dictionary also bears out this distinction:

*otoch*, casa señalada de quien.  
*na*, casa, lo material del edificio.

Note that if the primary sense of *otoch* was 'dwelling place' as specified in the Motul, then it makes good sense to say, as we did above, that in subdivision n° 11 of this tzolkin "the *moch* is Chac's *otoch*". For this particular nine-day period, the *moch* (as opposed to the temple of the other nine-day periods) in his "dwelling place". This would seem to be the intent of the hieroglyphic legend of n° 11, which so far as it now can be read, would run: ...*Chac-al ti-moch* ...*otoch*.

The reading proposed here, like all such, is admittedly hypothetical and tentative. Although the available evidence seems strongly supportive of our hypothesis, it must be acknowledged that there are also some inherent weaknesses in the argument. The case might be stronger if all of the relevant data could have been taken from the linguistic and ethnographic documentation of a single community—ideally one which might be supposed to be directly descendant from that which produced the Dresden Codex—rather than having to take one item from Tzeltal, an alternative one from Chamula Tzotzil, and something else still from Yucatec. This weakness, however, can hardly be overcome until there are detailed comparative studies, both linguistic and ethnographic, based on full descriptive data from all of the existing Mayan communities. In the present instance, it would be helpful to know the cognates of the word *moch*, and their respective ranges of meaning, in all of the other Mayan languages.<sup>12</sup> And we should want

<sup>12</sup> The probable Yucatec cognate of Tzeltal and Tzotzil *moch* would seem to be *moc*, which exemplifies one of the known sound correspondences between these languages. The meaning of Yucatec *moc* is 'to tie' or 'knot' (Motul: *añudar*, *atar añudando*, *el ñudo*). The expected cognate of Tzotzil *moch-tee* in Yucatec should be *moc-chee*. We have not been able to confirm this form in the anticipated meaning, however, in any available source. We might expect it to be capable of designating something made by tying pieces of wood together. If this is correct, this would also fit the representation of the cage in Dresden 36c (fig. 1c) where the tying of the rails at the four corners is clearly indicated. In this connection the Motul entry *che*, 'zepo, prisión', is of interest. If it is the same morpheme as *chee* it may be indicative of a line of semantic extension from 'palo' etc. If it is

to know whether a ceremonial structure comparable to the Chamula "moch of the alferéz" is to be found in any other Mayan community. Beyond these considerations, the case would be immeasurably strengthened if the remaining occurrences of the combination of 1301 and 1303 in other glyphs in the Dresden Codex (in compounds with still other constituent signs) should eventually also be found readable either as morphemic *MOCH* or as phonetic *moch*. In fact, the case virtually rests on this eventuality. If they can be so read, the hypothesis advanced here is productive of still more readings, and is therefore more probably correct. If they cannot, then it is an unproductive hypothesis, and is more likely than an erroneous one. The occurrences in question are on Dresden 58b, where we find the compound glyph Z1301/1303-707: 61, and Dresden 52b, 61, and 69, with a total of five apparent occurrences of the compound Z1301-1303/1306a.60 (three of them on Dr. 69).

Finally it should be emphasized that, even if we have the correct

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not the same morpheme, then it suggests an alternative morphemic value that should be registered in the list of possible hypotheses for values of Z82.

Another possible cognate of the Tzeltal-Tzotzil form might be the Yucatec form *moch*, meaning 'crippled' or 'lame', apparently in the sense of being 'doubled over.' (MOTUL: *moch*, *ah moch*: el manco, tollido o lisiado de pierna, o brazo, o mano, o dedo; *mochba*: encogerse y arrugarse y agazaparse. PÍO PÉREZ: *moch*: tullido, impedido, encogido de los pies, manos, de algún miembro, gafo, manco; *mochba*: encogerse, hacerse un ovillo, tullirse, etc.) If both *moc* and *moch* are cognates to Tzeltal-Tzotzil *moch*, then it might mean that the group of entries quoted above from the Pineda dictionary do not all belong in one semantic group or exhibit the same morpheme, but that homonyms are involved which were distinct in Proto-Mayan but which have fallen together through phonetic convergence in Tzeltal-Tzotzil. On the other hand, Yucatec *moc* and *moch* could well be 'doublets', i.e., ultimately related, but occurring in two different phonetic forms, with different but related senses, because of borrowing of the second form from another Mayan language or from another dialect within the Yucatec area. The sense of 'tying' or 'knotting' (*moc*) and that of 'folding' or 'doubling over' (*moch*) are not too far apart to be relatable. The Pío Pérez entry *mocché*, jibado o jiba ('hump, humpbacked, crooked'), apparently based on the root *moc*, would seem in fact to bridge these two sense groups.

The Chortí cognate to Tzeltal-Tzotzil *moch* and Yucatec *moc* (and/or *moch*?) is also *moch*. Interestingly this also seems to connect the basic senses abstracted from the Tzeltal listings in Pineda as well as the basic sense that seems to underlie the meanings of *moch* in Yucatec. Chortí forms recorded by Fought include the following: *umochi*, 'he coils it', literally 'his coiling of it' (as of rope, etc.); *mochp'ir*, 'coiled'; *immochi niook* 'I cross my legs', 'my crossing of my legs' (as in placing one ankle over the opposite knee); *immochi nip'a* 'my crouching', literally 'my folding, or doubling, of my body.'



reading of the glyph under consideration, we are still a long ways from *understanding* it. For a full understanding, it will be necessary to reconstruct more than the words that are written in the hieroglyphs. For example, in the present case, the rationale for this particular set of divisions and subdivisions of the tzolkin would have to be known, and in particular, the significance of the nine-day periods in this context. And the identity of "god B", and his role (or that of his impersonators) in ceremonial activities and in relation to calendrical periods, would have to be better known than they are at present. Obtaining a correct reading of a hieroglyph, then, is only a first step toward an understanding of its meaning in the text in which it occurs. But it is of course a necessary and crucial step.

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