THE STRUCTURE OF THE DEDICATORY FORMULA IN CLASSIC

LOWLAND MAYAN TEXTS: A PRELIMINARY TYPOLOGY

David F. Mora-Marín

0. Introduction. This paper is a study of the structure of the Primary Standard Sequence (PSS), a dedicatory hieroglyphic formula inscribed on portable and monumental Classic Lowland Mayan (CLM) texts. I use a database of transliterations of PSS texts painted or carved on ceramic vases to coindex individual signs and sign collocations in order to account for their morphological and syntactic variability.[1] Briefly, I present evidence for:

(1) four nonverbal monoclausal structure types;

(2) two verbal monoclausal structure types;

(3) three multiclausal structure types;

(4) the multiple functions as subjects, modifiers, and predicates of certain glyphic expressions that may represent verbal noun roots (e.g., **tz'i-b'i**, **na-ja**, **hi-chi**); and

(5) the proposed attestation of three possible participial suffixes, spelled syllabically C**a-l**V, C**a-n**V, and C**a-y**V.

In § 1 I explain the methods, assumptions, and specific objectives of this paper. I also provide a summary of prior research on the structure of the PSS. In § 2 I describe and analyze the structure of PSS texts of ceramic vases (i.e., 'drinking cups'). I propose a preliminary typology of PSS structures based on this sample. Then, in § 3, I compare the contexts of the 'drinking cup' glyph described in § 2 with those of the **tz'i-b'i**, **na-ja**, and **hi-chi** glyphs. Finally, in § 4 I discuss my results and hypotheses.

1. Preliminaries.

1.1. Epigraphic Objectives. I this paper I aim to achieve the following

---

[1] I have extracted the results of a more extensive monograph, which is still under preparation, on structure of the PSS. In it I describe the morphosyntactic contexts of certain glyphic compounds that are addressed only briefly, or not at all in this paper.

epigraphic objectives:

(1) to use a database of transcriptions and transliterations of 240 PSS texts for coindexing signs, sign compounds, and the syntactic contexts of such compounds;

(2) to apply a strictly non-linguistic structural analysis to the body of data in order to discover as many potential constituent structure types (i.e., sequences of signs and sign compounds that can function in isolation from others) as possible;

(3) to attempt to account for the structural analysis in terms of a linguistic and epigraphic framework; and

(4) to provide new sign readings and interpretations for glyphic expressions whenever necessary and possible.

Several sets of assumptions must be exercised in order to achieve these objectives, as I explain next.

2.2. Theoretical Assumptions. I use three types of assumptions in this paper. First are those pertaining the nature of the Classic Mayan hieroglyphic script. Second are those pertaining the grammatical structure of Mayan languages. And third are those pertaining the grammatical structure of the script. While I am present these only in a cursory manner at this point, I do remark on particulars in more detail later on.

2.2.1. CLM Orthographic Conventions. The CLM script is a hieroglyphic script with logographic and syllabic principles of lexical and phonological representation (Kelley 1976; Knorozov 1952). Logographs had lexical and phonological values, generally CV(G)C roots (e.g., T744 **K'UK'** for descendants of proto-Mayan *q'u7q' 'quetzal (feather)') and CV(G)CVC or CVCV(G)C roots or stems (e.g., T751 **B'ALAM** for proto-

Ch'olan *b'ahläm or proto-Yukatekan *b'áalam 'jaguar'). Syllabographs or syllabic signs had phonetic values only, whether CV (e.g., T1 **7u**, T25 **ka**, T501 **b'a**) or CVC (e.g., T4 **nah**, T86 **nal**, T528 **tun**, T925 **hul**, T573 **tal**). The second type of syllabic sign usually originated in the rebus usage of CVC logographs. Semantic determinatives are used but do not come into play in this paper.

The spelling rules of the script are recently being debated in more detail than had been since the initial breakthroughs by Knorozov (1952), and later work by Kelley (1976), Lounsbury (1984, 1989), Bricker (1986, 1989), Fox and Justeson (1984), and Justeson (1989). At issue today are the rules for syllabic spellings of words, the question of the distinction between certain pairs of phonemes (e.g., *a* vs. *ä*, *h* vs. *j*, *V* vs. *V:*) in general or in specific contexts (e.g., word-initially, word-medially, word-finally), the question of the spellings of inflected verbs, and other issues involving combinations of logographs and syllabic signs in the spellings of inflected or derived roots and stems (e.g., Houston, Stuart, Robertson 1998). I discuss these issues below in reference to the grammar of the script.

Graphic conventions sometimes delimited linguistic units, in what may be called the script's punctuation system. As discussed by Justeson (1978, 1986, 1989) in reference primarily to the monumental inscriptions, glyph blocks, which constituted the basic unit of organization of texts, often coincided with stems, phrases, or clauses. Only rarely did any of those linguistic structural categories cut across glyph block boundaries (e.g., Chichen Itza). In the texts of portable objects, however, including the texts treated in this paper, glyph blocks often coincided with individual signs, whether logographs (e.g., GOD.N, functioning as a predicate in the PSS) or syllabographs (e.g., the FISH.HEAD grapheme for syllabic **7u**, the BAT.HEAD grapheme for syllabic **ts'i**, etc.),

but also with stems (e.g., **yu-**T77-**b'i**) or phrases (e.g., **ti+yu-ta-la**), as was frequently

the case in the monumental inscriptions.**2** Lastly, regarding texts on pottery vessels, one

last distinction, defined by Coe (1973), can be made. Texts appear in two forms on

vessels: inscribed along the rim of the container as a *primary text*, or below the rim in the

form of a caption or *secondary text*. The texts studied here are mostly found as primary

texts, but a few are found as secondary texts. (These difference in arrangement does not

pose a problem of any sort in identifying and interpreting hieroglyphic passages.)

2.2.2. Lowland Mayan Grammar

Mayan clauses are predicate-initial, with the predicate being either a verb phrase,

an adjectival phrase, or a noun phrase. It is possible to say that, in general, Mayan

languages exhibit VOA or VAO order in transitive clauses (S = transitive subject, O =

transitive object), and VS order in intransitive clauses (S = intransitive subject), according

to Norman and Campbell (1978).**3** Focused phrases are pre-verbal (i.e., precede the

predicate), and topicalized phrases are clause-initial (i.e. precede by the focused phrase if

there is one), as described by Norman (1977) and Aissen (1992).

Mayan languages exhibit an ergative-absolutive alignment in the marking of

syntactic cases. This marking of ergative and absolutive cases is realized by means of

pronominal markers on the verb, with one set of markers, the ergative set (ERG), cross-

referencing transitive subjects on transitive verbs, and the other set of markers, the

---

2 Interestingly, a few examples of passages on monumental inscriptions where each gly
block is reserved to a single sign, whether logographic or syllabographic, seem to corr
in content to phrases commonly appearing in the PSS, as on Piedras Negras Lintel 3:S2-\
where each of the signs in the phrase **7u-k'a-b'a**, spelling *7u-k'ab'a7* 'his/her/its name
takes up its own glyph block.

3 In the former case, the position of the A with respect to the O depends on their
respective ontological statuses, with VAO being the order when A and O are of equal sta
and VOA when A is of higher status than O (Norman and Campbell, 1978: 145).

absolutive set (ABS), cross-referencing intransitive subjects on intransitive verbs and transitive objects on transitive verbs.[4] It is necessary to sketch the voice system of Mayan languages, the structures of verbs, and also the processes known as ergative split and ergative shift that some Mayan languages exhibit.

In general, Mayan clauses exhibit one or two core arguments in a direct relation to the verb (i.e., they do not require periphrastic constructions to be overtly expressed, as explained below in reference to obliques). Transitive clauses have two nominal arguments in a direct relation with the verb. One of them, with the syntactic function of transitive subject (A), is marked for ergative case (prototypically an agent or controller argument), and the other, in the syntactic function of transitive object (O), is marked for absolutive case (prototypically a patient or noncontroller argument), according to Dixon (1994). Intransitive clauses have one nominal argument in a direct relation with the verb; it is in the syntactic function of intransitive subject (S), and is marked for absolutive case (treated similarly to noncontrollers, but differently from controllers, which are marked with A). Nonverbal clauses typically have one argument marked for absolutive case (i.e., treated as S/O).

Some clauses can have oblique arguments, or arguments that are not in a direct relation with the verb. Such arguments often require periphrastic constructions in order to be overtly expressed. Examples of oblique arguments include: demoted agents, demoted patients, instruments, datives, and benefactives. In Mayan, periphrastic constructions can be of the following general form: P(reposition) + ERG(ative) M(arker) + R(elational) N(oun) + COMPL(ement). The preposition may correspond to the generic

---

4 There are some syntactic processes, some of them influenced by discourse pragmatic conditions, that interact with the ergative-absolutive alignment in Mayan languages, bu not think it is necessary for this paper to delve into such issues.

relational particles (Cholan *tä* and Yucatecan *ti*), and the ergative pronominal marker is coreferential with the complement (i.e., with the noun phrase in the oblique role).[5]

Mayan languages in general exhibit a voice system that distinguishes active voice from the following voices: passive, mediopassive, antipassive, agentive, and indirective. Whenever a transitive verb undergoes a change in argument structure and is shifted to one of these other voices, an inflectional or derivational affix, usually an infix or suffix, is needed. In the case of the passive, the argument in A function is demoted to an oblique relation with the verb (i.e., it is no longer coreferenced on the verb), while the argument in O function is promoted to an S function and becomes the only argument that is coreferenced with the verb. The mediopassive is sometimes marked differently than the passive; it promotes, like the passive, the argument in O function, which becomes the only argument coreferenced on the verb. But unlike the passive (except in languages with an agentless passive), there is usually no implication of an agent. The antipassive, called by some the absolutive antipassive, is usually marked differently from the passive and mediopassive. It is the opposite of the previous two: in the antipassive it is the argument in O function that is commonly demoted to an oblique relation with the verb, while the intransitivized verb only coreferences the argument in A function, now derived S function, by means of an absolutive pronominal marker. The agentive, called by some agentive antipassive, is usually similar in terms of its marking to the absolutive antipassive. Like the former, the agentive construction generally entails an intransitivized verb that

---

[5] Among languages there is sometimes variation on exactly which of the possible compo[n]
are used for expressing specific oblique arguments. Some languages, like the Cholan a[n]
Yucatecan languages, may employ several strategies, sometimes each strategy specific t[o]
type of oblique role, although other times there may be variation even for the same rol[e]
The various strategies are as follows: (i) *ti* + COMPL, (ii) *ti* + ERG-RN (+ COMPL), (ii[i])
ERG-RN (+ COMPL), or (iv) RN + COMPL. The Classic script may have examples of strateg[i]
and (ii) (perhaps for demoted patients, demoted agents, and benefactives), at least, a[n]
possibly of (iii) as well (for causers), but it is not necessary, in this paper, to de[l]
into further details about these.

coreferences its former A by means of an absolute pronominal marker, leaving its former O uncoreferenced. However, in the agentive construction, the O argument is usually expressed without the need for a periphrastic construction. Also, the argument that was in A function, but now in S function, is fronted through a Wh-movement rule (Larsen 1987), and placed in pre-verbal position, usually for focus presupposition.[6]

Regarding verbs, the following remarks are intended to be as general as possible, and are based on Kaufman (1990) and Kaufman and Norman (1984). The structure of verb words in Cholan and Yucatecan in general is as follows: (ASPECT-)ERG(A)-TRANSITIVE-STATUS-ABSOLUTIVE(O) for transitives (A = transitive subject, O = transitive object), and (ASPECT-)INTRANSITIVE-STATUS-ABSOLUTIVE(S) for intransitives (S = intransitive subject). Both language subgroups exhibit split ergativity, whereby incompletive intransitives have the following pattern: (ASPECT-)ERG(S)-INTRANSITIVE-STATUS. As Kaufman (1990:86) and Kaufman and Norman (1984:90) suggest, split ergativity likely developed in Yucatecan and Cholan as a result of close linguistic contact. Verbs can have overt or covert aspect (as indicated by the parentheses).

There is a four-way status distinction on verbs: completive, incompletive, dependent, and imperative. Aspect markers are present in the completive and incompletive forms in transitive verbs, and in the incompletive forms in intransitive verbs. Completive intransitives usually exhibit the pattern: INTRANSITIVE-STATUS-ABS. The voice suffixes come before the status suffixes if not infixed (e.g., *-h-* mediopassivizer

---

[6] Some Mayan languages also have an indirective or instrumental construction, usually m differently from the other voices, which promotes an oblique argument, such as an indi object or an instrument, rendering them as core arguments. At the same time, the prom argument is often fronted by means of a Wh-movement rule, not unlike the case of the a construction. Both the agentive and instrumental voices usually have discourse-dictate functions, whereby the topic in a discourse is focused for greater pragmatic salience.

in pre-Yucatecan, and passivizer in Cholan), and some voices or derivational processes may co-occur.[7] Participial forms of verbs are nonfinite, and are therefore not inflected for aspect or status. If prefixed with an ergative marker, a participial form becomes nominalized. Positional verbs have their own set of inflectional and derivational affixes, but I do not address these type of verbs in this paper.[8]

As I show below, most of the patterns present in the data can be explained with the following assumptions:

(1) transitive verbs are inflected for ergative agreement with their subjects (A) and for absolutive agreement with their objects (O), in either completive or incompletive status;

(2) intransitive verbs are inflected for absolutive agreement with their subejcts (S) in the completive status; and

(3) predicates occupy the first position in a clause, subjects and objects will follow.

Should split ergative marking be present in the script, one would find intransitive verbs inflected for ergative agreement with their subjects and in the incompletive status.

2.2.3. Classic Mayan Hieroglyphic Grammar

For the purposes of this paper only a few words about Classic Mayan grammar

---

[7] **Causativization,** for example, can occur at the same time as other processes, such as the promotion of instruments or datives, that alter the relations of the verb to its arguments.

[8] Formally, positionals inflect as intransitives, exhibiting the split ergative pattern characteristic of other intransitives. They take different completive and incompletive markers than either transitives or intransitives), and a different causativizer derivational suffix.

are necessary. In general terms, of course, linguists and epigraphers have shown that the grammar of the script corresponds to Mayan grammar. Clauses are predicate-initial, ergative and absolutive cases are marked by means of pronominal markers on the verbs, as various authors have shown, and glyphs representing root transitives, root intransitives, and positionals have been identified. Nonverbal clauses do occur, especially in the form of proprietary statements inscribed on portable objects, but also elsewhere in the texts. Nonverbal clauses also conform to the predicate-initial constituent word order.[9] From this point on, almost everything is a little bit murkier.

The most systematic studies of Classic Mayan grammar are those by Bricker (1986, 1992), Houston, Robertson, and Stuart (1999), Josserand (1991), Josserand, Schele, and Hopkins (1985), Lacadena (1998), Lacadena and Wichmann (1999), MacLeod (1984, 1987), Macri (1991), Mora-Marín (1998), Schele (1982), Stuart, Houston, and Robertson (1999), and Wald (1994). The main issues debated by these authors have been: the existence or absence of split ergativity, nominal and verbal morphology, the linguistic affiliations of the scribes, and the orthographical details of the representation of affixes. Two issues that have only been dealt with by a few of these authors are: the relation of constituent word order and arrangement to verbal inflection, and the relation of discourse structure to verbal inflection. A few words about the contrasting proposals are necessary.

Bricker (1986) has proposed that the script reflects split ergativity, a

---

[9] Stuart, Houston, and Robertson (1999: II-19) have proposed the identification of a caption, spoken by one of the portrayed figures on Piedras Negras Lintel 3, that can be transliterated as **7a-wi-na-ke-n(a),** and which those authors analyze as *7a-winak-en* 2sERG-person-1sABS 'I am your servants.'

characteristic of the Cholan and Yucatecan languages described above.[10] Houston,

Robertson, and Stuart (1999) and Houston (1997), on the other hand, believe the script

does not reflect split ergativity, but instead, a prestige language representative of a stage

prior to split ergativity (Cholan just after separation from Tzeltalan). Their model,

however, is self-contradictory: they believe that the script had features of a preserved,

archaic language, yet they argue that it already reflected the diversification of Cholan into

Eastern and Western Cholan, and that it represents Eastern Cholan. The likelihood that

such a model could at the same time fit into a non-split ergativity model is not great, since

it would required that split ergativity developed separately in Eastern and Western

Cholan after their split from proto-Cholan.

A wide number of verbal suffixes is attested in the script, but only for a few

examples have orthographic and linguistic considerations offered a widely agreed upon

decipherment. MacLeod (1984), Justeson (1985), and Bricker (1986) have discussed the

traits of positional verbal inflection, and have shown that the completive status suffixes

represented in the script, ***-l-aj*** and ***-w-an***, do in fact correspond to the completive status

suffixes of the Yucatecan and Cholan languages. However, with most suffixes the picture

is still unclear. For instance, the most common suffix of the script, represented

syllabically as C**a-ja** (e.g., **7i-la-j(a)**, for ***7il-aj-Ø(-Ø)***, 's/he/it was/got seen') or

logosyllabically as VERB-**ja** or VERB-**la-j(a)** (**7IL-ja** or **7IL(-l)a-j(a)** for ***7il-aj-Ø(-Ø)***,

's/he/it was/got seen'), in both cases with T181 **ja** or T88 **ji** (if T126 follows, as in

suffixes spelled C**a-ji-y(a)**), is widely assumed to be a suffix associated with intransitive

verbal inflection. Whether it derives intransitives from root transitives through a

---

10 Split ergativity most likely originated in the Pocom languages, spread to Yucatecan
then developed in Yucatecan and Cholan as a result of close linguistic interaction in v
known as the Lowland Mayan language area (Justeson et al., 1985; Kaufman, 1990; Kaufman
Norman, 1984).

passivizing function, or derives intransitive verbs from certain nouns, or serves as a completive intransitive marker, etc., is still a matter of debate.

There is still substantial disagreement about the language groups represented in the script. Some authors, especially Houston, Stuart, and Robertson (1998) and Houston, Roberstson, and Stuart (1999), among a few others, argue that only Cholan, and possibly only Eastern Cholan, is represented in the Classic script. Other authors, most significantly Bricker (1986) and Justeson and Fox (1989), argue that both Cholan and Yucatecan were represented. The fact that there are numerous examples of uniquely Cholan or uniquely Yucatecan spellings at various sites, and sometimes even within the same site, while pointing to the likelihood of intense social interaction and linguistic borrowings, does little to settle the issue. I believe only a more comprehensive and thorough study of the grammar (i.e., morphology and syntax) of the inscriptions at various sites will yield anything close to a conclusive answer. The comparison will have to be very fine-tuned, for as linguists know, the linguistic interaction in the Lowland Mayan language area has led to vocabulary and grammatical borrowings that may blurr some of the distinct features.

Due to the uncertainties that still plague the field, I prefer not to impose a specific grammatical (e.g., split ergativity vs. no split ergativity) or linguistic (i.e., Yucatecan vs. Cholan) model on the PSS data I analyze in this paper. Instead, I rely on the generalized Mayan and Lowland Mayan framework presented in the previous section. I bring up issues of grammatical decipherment discussed by other epigraphers as it becomes necessary to do so for the purposes of description and analysis. Before proceeding, a summary of prior scholarship on the grammar of the PSS is necessary.

Eric Thompson (1962) argued that the texts on portable objects were in most cases purely ornamental, with no meaning. This view changed drastically with the breakthroughs by Coe (1973) and Mathews (1979). First, Coe (1973) studied a small subset of inscribed vases and determined that their texts had a repetitive and formulaic structure, unlikely to be purely ornamental and nonsensical. Mathews (1979) deciphered an ownership statement on an obsidian earing, determining its structure as 'his earing + X,' which refers to both the inscribed object and its owner (X) as 'the earing of X,' agreeing with Mayan grammar (i.e., possessor NP follows possessed NP). Justeson (1983) tested and confirmed Mathew's hypothesis by studying a set of jade earings from the Cenote of Chichen Itza (Proskouriakoff 1973) with the same types of clauses. Then, Houston and Taube (1987) and Houston, Taube, and Stuart (1989) noticed that ownership statements similar to those deciphered by Mathews and Justeson were in fact the basis of the Primary Standard Sequence of pottery vessels described Coe (1973, 1978). Stuart (1988, 1990) confirmed that the texts on pottery vessels indeed referred to the vessels themselves, when he noticed that the text on a pot from Rio Azul contained the glyph for **ka-ka-w(a)** 'cocoa' and the residue found inside the pot in fact turned out to be cocoa. These authors argued that the possessed NP was probably preceded by glyphs making up the predicate of the PSS, but concentrated on the information contained within the possessed NP (mainly, the typology of the terms for the objects). It was Grube (1986, 1989, 1991), MacLeod (1990), MacLeod and Stross (1990), and Stuart (1989) who first discussed the grammar of the PSS as a whole, including the predicates of the PSS and the phrases following the possessed NP, including not only the possessor NP, but also the often intervening complement prepositional phrase, which refers to contents of the vessel. These authors have also proposed typologies of PSS structures. I deal with these later in the paper.

2.3. Methodology

      In this paper I focus my attention on the '(his/her) drinking.cup' glyph of the PSS, due to its unambiguous character as a noun stem of the form (3sE-)drink-INSTR(UMENTAL), and because it is by far the most common nominal expression attested in dedicatory texts. In this way, I am avoiding potential ambiguities arising from the fact that, for example, expressions such as **ts'i-b'(i)** represent lexical items that can function syntactically in more than one way (i.e., the root ***ts'ihb'*** is a verbal noun, which means that it may function as a noun or an intransitive verb without requiring any derivational suffix, but to function transitively it does need a derivational suffix). Also, I avoid using other expressions that can appear in the place of '(his/her) drinking cup,' such as the **(7u-)la-k(a)** 'his dish' expression, because they are not nearly as frequent.

      The frequency of occurrence of the '(his/her) drinking.cup' expression may also guarantee greater morphosyntactic variability in its contexts than one may find for other less frequent expressions, such as **la-k(a)**. I will describe and analyze the morphosyntactic patterns of clauses containing the 'driking cup' glyph in an incremental manner, starting from the less complex and proceeding with more and more complex patterns. In this fashion, I attempt to determine possible constituent phrase structures, as well as the ways in which separate constituents may be juxtaposed to or combined with other constituents.

      In order to facilitate this task, I have compiled a database of hieroglyphic transliterations of PSS texts, mostly taken from Kerr (1989-1997) and Robicsek and Hales (1981). The database can be used for the following purposes:

(1) to list all occurrences of specific searchable units,

such as individual segments, signs, collocations, phrases,

and clauses; and

(2) to examine all affixational and syntactic contexts within

the sample database for every searchable unit of interest.

In other words, it is possible to search for all occurrences of the sign **ts'i**, for all occurrences of the sequence **ts'i-b'** (which would call up cases of both **ts'i-b'i** and **ts'i-b'a**), or more narrowly, for all occurrences of **ts'i-b'i** or **ts'i-b'a**, if one is trying to determine whether there are any contextual differences between the two spellings. Identifiable signs were transliterated with the values, unidentifiable signs were transliterated with double question marks (i.e., **??**), signs whose values are still debated are shown with Thompson numbers (e.g., T77), signs whose consonantal value is certain (to some reasonable extent) but whose vocalic value is not is represented with a capital **V** standing for the undetermined vowel, alternative values for a single sign were separated with slashes (e.g., **ku/TUN/HAB'/KAWAK** for T528), logographic signs are shown in capital letters, syllabographic signs in minuscles, and signs within a glyph block or belonging to the same phrase or word are separated by dashes (e.g., **ti-yu-ta-la**). Separate glyph blocks or collocations were separated by a space (e.g., **7a-IS-ya** GOD.N-**yi yu-**T77-**b'i**). The following are two examples of the types of transliterations that make up the database:

(**1**)   K 1355

7a-IS-**ya ts'i-b'i na-ja hi-ch yu-**T77-**b'i**

(**2**)   K 3366

7a-IS-**ya ts'i-b'i na-ja hi-chV hi-chi yu**-T77-**b'i**

ta-yu-ta-la ka-wa

For the most part, only complete texts with readily identifiable glyphs have been included, with few exceptions. Each entry can potentially have the following information:

(1) Entry Number (if vase is not cataloged),

(2) Kerr Number (K-Number),

(3) Cross-listings (in other catalogs besides Kerr's, such

as BOD for the corpus in Robicsek and Hales (1981), or

MScribe for the corpus in Coe (1973)),

(4) Transliteration, and

(5) Type of Artifact (Kerr's abbreviations are used; e.g.,

PY = polychrome, CX = codex-style).

The following is a sample entry (entries are sorted by the Kerr Number, in this case K 578), where the double bars, ||, indicate that the preceding glyphic collocations are graphically isolated from what follows as though comprising a separate clause or a separate theme:

(**3**)   K 578   MS 1392

7a-IS-**ya** GOD.N-**yi 7u-ts'i-b'a-li-wa** ||

7u-ts'i-b'a yu-T77-**b'i ta-tsi-hi-li-wa**

PY

A much more detailed description of how to use the database to cross-index

expressions would be useful, but is not permissible in this paper.[11] I do explain

important details in the section that follows pertaining four of the glyphic compounds

discussed in this paper: **(y)u-**T77/128[501]**-b'(i)/b'((a)-l(a))**, **(7u-)ts'i-b'(i)/b'((a)-l(i))(+wa)**, **(7u-)na-ha(-l(a)/y(a))**, and **(yi-)(h)i-chi(-l(i))**.

3.   Case Study: The '(his/her) drinking.cup' Glyph

The following remarks are based on the evidence from a total of 167 examples of

the '(his/her) drinking.cup' glyph, 163 of them spelled with T77 and the remaining 4

using T128. In the subsections that follow I present the affixational and morphosyntactic

patterns and contexts of this expression, and argue for various constituent structure types

which can be built around the 'cup' glyph.

3.1. Affixational Patterns

Table 1 shows the spelling and affixational pattern of the 'drinking.cup' glyph

based on T77, and **Table 2** shows the patterns for the same expression based on T128.[12]

One way to capture these patterns in a single statement is as follows: **(y)u-**

---

[11] In the very near future I am planning to set up the database on-line on a web site. will allow other epigraphers to exploit the data set in many different ways, and it wil allow me to make revisions and put additions to the database submited by browsers and u

[12] "Affixational" can be used with a purely visual, orthographical, or linguistic denotation, which do not necessarily coincide at all. In the first sense, egraphers us term "affix" to refer to a sign, usually a visually smallish and flattened sign, that i either preposed or postposed to another, usually bigger and squarish sign (logograph) o group of signs (compound) that may constitute a lexical unit (morpheme, word). In the sense, a smaller sign either preposed or postposed to another bigger sign may have a pu phonetic, but linguistically optional use: as a phonetic complement, which may disambiç the reading of a logograph but does not add any lexical or grammatical content to it. third sense, an affix may have a partly phonetic and partly grammatical function (i.e. provide the spelling of a grammatical affix either in whole, as what is usually referre as a "pseudologograph" or a "morphosyllable," or in part, with the assistance of at lea another phonetic sign). In this last meaning, the size of the affix can be identical t of the main sign or sign compound (i.e. the morpheme or word the affix attaches to). especially common in the texts of portable objects.

T77/128([501])-**b'(i)/b'(a)(-l(a))**. This shows that the first glyph may be **yu** or **7u**, followed by either T77 or T128[501], followed by either **b'i** or **b'a**, or both **b'i-b'a**, or **b'i-la**. Regardless of the values of T77 and T128([501]), I assume that the noun stem is based on the root for 'to.drink,' *7uch'* in Cholan and *7uk'* in Yucatecan. This possibility is supported by two observations previously made by other epigraphers:

> (1) the T61/62 **yu** sign seems to spell both a prevocalic 3sERG
>
> and the vowel of the root (Houston, Stuart, and Taube 1989;
>
> MacLeod 1990; Stuart 1989); and
>
> (2) spellings where T61/62 **yu** is absent (e.g., K 703, K 1183,
>
> K 1186, K 2323, K 4379, and K 6997), and the presence in its
>
> stead of T1 **7u**, as noted by Grube (1991),

both show that the beginning two segments of the root were indeed /**7u**/.

Although I do not want to elaborate any arguments about the values of T77 and T128 in this paper, I can say a few words about their affixational and spelling patterns and of their implications.[13]

The glyphic expression in question is most frequently composed as follows: T61.77/128:585/501. T77 is more frequent than T128 in this context (T77 is in 163/167 occurrences in my database), and T585 is more frequent than T501 (T501 is in only 5/167 occurrences in my database). As already explained, T61/62 may be absent, and T1 **7u** may be found in its place, suggesting the spelling of an unpossessed drink-INSTRUMENTAL stem beginning with /**7u**/, yielding *7uC-Vb'*. As Stephen Houston

---

13 In Mora-Marin (n.d.a) I discuss in the detail the evidence for the value of T77, wh
conclude to be **k'i**. For the present purposes, however, the precise phonetic value of
T128 is irrelevant.

and Barbara MacLeod first suggested according to Stuart (1989), the **b'i/b'a** sign that

follows T77 or T128 spells, either by itself if pseudologographic in function (i.e., as a

"morphosyllable"), or in conjunction with the vocalic value of the preceding sign if such

sign is a syllabograph (T77/128), a **-Vb'** instrumental suffix whose vowel tends to reflect

the vowel of the preceding root

(**-Vrb'**) in both Yucatecan and Cholan languages in general, although in modern Chol it is

just **-ib'**. The stem **7uch'-ib'-äl** 'taza (cup)' is attested in modern Chol (Aulie and Aulie,

1978: 125), and under vowel harmony rules one would expect either **-ib'** or **-ub'** with a

root whose vowel is **u**. Since the suffix may be spelled as either **(y)u**-T77/128-**b'i** or

(y)u-T77/128-**b'a**, and since **-ab'/äb'** is not the expected allomorph under vowel harmony

rules, it is possible to argue: (i) that **b'a** only provided the consonant of the suffix, not the

vowel; (ii) that **b'i** provided at least the consonant of the suffix, **b'**; and (iii) perhaps the

vowel too if functioning as a logograph. Examples like the ones on K 6997 and K 2206,

where one finds **7u**-T77-**b'a** and **yu**-T77-**b'a**, make it highly likely that T501 **b'a** did not

spell the instrumental suffix by itself (i.e. as a "morphosyllable"). Instead, it is safer to

propose that the suffix was spelled by *both* T77.128 and T585/501, where T77.128

provided the vowel of the suffix and either T585/501 provided the consonant: (C)**V**-

b'(i/a). In the case of T128, the spellings **7u**-T128-**b'a** and **yu**-T128-**b'a** on K 1728, K

5453, and K 791 indeed suggest that T128 provided the vowel for the **-Vb'** suffix. Since

T501 **b'a** could not provide the expected **i** or **u** vowel (given vowel harmony rules), the

appropriate vowel must be provided by the preceding sign.[14] This would strongly favor

a vowel **i** or **u** for T77 and T128, given the vowel harmony rules.[15] Thus, for the

purposes of this paper, one can safely propose that T77 and T128 had the syllabic value

---

[14] Examples like the ones on K 635 and K 1226 might indicate a logographic or
"morphosyllabic" use of T585 **b'i** as **-ib'/IB'** 'instrumentalizer.'
[15] In Mora-Marin (n.d.a) I present examples where T77 functions as a phonetic compleme
T544 **K'IN** on K 507 and K 5179, which suggest that T77 is **k'i**.

Ci (which would allow them to provide the vowel for the default *-Vb'* instrumental suffix, *-ib'*) or Cu (if *-Vrb'*), and that its consonant was either *k'* or *ch'*. In the **Addendum** I offer a few words about the value of T128 for the interested reader; these should not be regarded as a fully developed argument, but instead, as a review of some of the epigraphic constraints for T128 that have to be considered.

Lastly, the few clear examples where there appears to be a *-Vl* suffix after the instrumental suffix should receive more attention. Smailus (1989: 111), for example, shows how in Colonial Yucatec the *-il* suffix on nouns marks 'inalterable possession,' with its presence or absence rendering the following two phrases contrastive:

(4)   **u-huun**   **ahau**

3sE-book   king

the king's book (implying: the book that the king owns)

(5)   **u-huun-il**   **ahau**

3sE-book-SUF   king

the king's book (implyng: the book that the king wrote)

Bricker, Po7ot, and Dzul de Po7ot (1998: 51) also give similar examples for Modern Yucatec: *7u-ts'íib' h-wàan* 'John's writings' vs. *7u-ts'íib'-il h-wàan* 'John's biography.' Thus, the examples spelled out as **yu**-T77-**b'i-la** (K 1371, K 2152, K 4995) could imply that the owner of the cup may have been its crafter as well (i.e., equivalent to 'the vase that X crafted'). Testing such a hypothesis should not be difficult, given the right data, but I prefer to leave that task for another paper.

3.2. Morphosyntactic Patterns

The description that follows emphasizes structure types, or possible

constituents, that are attested in isolation, i.e., that may potentially constitute an entire

clause by themselves (e.g., 'Y' or 'Z'). In two cases, however, this is only an

approximation. I also move on to examples where increasingly larger constituents are

present as a basic type (e.g., 'X + Y'), where juxtaposition of similar constituents is

discernible (e.g., 'X_1 + Y, X_2 + Z'), and where combinations of constituents is also

possible to describe (e.g., 'X + Y + Z' or 'X + Z + Y'). The structure types whose

status as possible constituents is not possible to demonstrate based on the criterion of

isolation are indicated within parentheses as potentially attestable types. Some of these

"potentially attestable types" are in fact attested for collocations other than the

'drinking.cup,' as mentioned below.

(3.2.1. Type 1: {**7u**-T128-**b'a**}PRED)

This type may be attested on K 1339 (**figure 1**), published in Robicsek and Hales

(1981: 170, Vessel 140). The expression **7u**-T128-**b'a** occurs in seeming isolation, as a

clause: (drink-INSTR)-3sABS for ***7uch'/7uk'-Vb'-Ø*** 'it is a cup.' It is not uncommon for

inscribed artifacts to bear a label that names the artifact without referring to it as a

possessed object. Such isolated labels may constitute the simplest form of the PSS.

However, this particular example may not be an isolated glyph after all, since to its far

right, on the other side of an intervening pictorial figure, is the phrase **ti-ch'a-ja**. As

shown by Grube (1989), **ti-ch'a-ja** appears on some Chocola vases as a reference to the

contents of the vases, ***ti+ch'aj*** 'for incense drops,' or 'for ground corn.'

Vase K 5466 (**figure 2**) is the closest example to this possible structure type. It

shows: **7u-ha-yi** + **yu**-T77-**b'i** (a <+> separates glyph blocks). The reasons why I

believe this example is not significantly different from a case where **yu**-T77-**b'i** might be

found in isolation are the following. First, as Grube (1990) has described, **ha-yi** serves as

the most common or the most frequently recurring name for the Chocola-style vases,

which are almost always carved, although other types of vases that are not carved may

have it. Also, even though **jay* is an adjective ('thin') in proto-Cholan (Kaufman and

Norman, 1984: 121) and in modern Yucatec at least (Bricker, Po7ot Yah, and Dzul de

Po7ot, 1998: 99), the description by Bricker, Po7ot Yah, and Dzul de Po7ot (1998: 366-

367) of a type of nominalization of adjectives based on a *-Ø* derivational suffix makes it

possible to interpret **7u-ha-yi** as 'his/her thin one,' underlyingly *7u-jay-Ø* 3sERG-thin-

NOMINALIZER. The following are examples of nouns derived from adjectives in

Yucatec through suffixation of *-il* (when adjective is unpossessed) or *-Ø* (when adjective

is possessed):

(**6**)   **7al**

        heavy

(**7**)   **7àal-il**

        heavy-NOMINALIZER

        weight

(**8**)   **uy-al-Ø**

3sERG-heavy-NOMINALIZER

the heavy one

And last, as Grube also points out, and this is I think strong evidence by itself, a pot from Uaxactun (referred to as **yu-**T77-**b'i**) is described (by means of the phrase **7u-K'AB'A** 'is the name of') as a **NAL** + **ha-yi** (**figure 3**). Here, **NAL** serves to spell, possibly, *na(7)j-al* 'full, filled.up' or *nah-al* 'earned' (see below, section 4.2), perhaps as a modifier to **ha-yi**. Thus, the clause **NAL** + **ha-yi** + **7u**-DIVINE-**K'AB'A** + **yu-**T77-**b'i** constitutes a nonverbal clause, interpretable as '*na(ja)l-jay* is the divine name of his/her cup,' with **NAL** + **ha-yi** functioning as the predicate of the clause, and the noun **K'AB'A** 'name' functioning as the head of the subject noun phrase of the clause. In any case, because **NAL** + **ha-yi** *is* the *name* of the cup, one has to conclude that it functions as a noun phrase.

It is possible that the text on K 5466 constitutes a couplet, each noun describing the vase in a different way: 'it is his thin one, it is his cup.' Because the structure of the whole text is basically a reduplication of the basic constituent 3sERG-noun, I regard as highly likely that texts consisting of just 3sERG-noun are indeed waiting to be described.

3.2.3. Type 3: {[[**yu-**T77-**b'i**]POSS + [POSSESSOR]]}PRED

Vase K 4332 (**figure 4**) is an example of this structure type. Stuart (1989: 150) regarded this type of structure as the most basic type. This is the prototypical proprietary statement. Even though a type 2 structure would indicate ownership of the artifact in question, type 3 names the owner. Thus, type 3 is a constituent that is made

up of two separate, smaller constituents, one of which consists of an idealized type 2 structure. It can be read as 'it is the drinking.cup of So-and-So,' or as {[POSSESSED] + [POSSESSOR]}$_{\text{PREDICATE}}$.

3.2.4. Type 4: {[**NP**]$_{\text{PRED}}$ + [[**7u**-DIVINE-**K'AB'A**] + [[**yu**-T77-**b'i**]$_{\text{POSS}}$ (+ [POSSESSOR])]]$_{\text{SUBJ}}$}

This type of structure has been described by various epigraphers before. It not only occurs on inscribed objects, but it is a common structure type used to relate two historical or supernatural personages with one another in the monumental texts. It is attested on the Uaxactun vase described above (**figure 3**), and on another Early Classic vase (**figure 5**) described by Grube and Schele (1990: 136). Both examples have the **yu**-T77-**b'i** glyph. Grammatically, they are nonverbal clauses with the structure [NP]$_{\text{PREDICATE}}$ + [[NP]$_{\text{POSS}}$ + [POSSESSOR]]$_{\text{SUBJECT}}$, where the possessed noun phrase constitutes the head of the subject phrase. Relationships between humans (e.g. **y(a-)AHAW**) and between gods and humans are often expressed in this manner in the monumental inscriptions, with the relationship described as the possessed noun of the subject phrase. The two texts in question can be transliterated as follows:

(**9**)   **5-NAL-MOL** + **WITS** + **7u**-DIVINE-**K'AB'A**   + **yu**-T77[**b'i**]
        + **7u-9-TS'AK-7AHAW** + DIVINE-**G4-WINIK**

(**10**)   **NAL** + **ha-yi** + **7u**-DIVINE-**K'AB'A(-b'a)**   + **yu**-T77-**b'i**

3.2.5. Type 5: {[[TYPE 2]$_{\text{POSS}}$ + [(+ **ti**) [(+ MODIFIER) [CONTENTS]]]]]$_{\text{PRED}}$}

This type has been described by various epigraphers, foremost of all Stuart (1988, 1989), Grube (1986), and MacLeod (1990). This is an important context for epigraphic decipherment, since it provides a controlled environment for setting up hypotheses about the function and meaning of affixes and glyphic collocations. MacLeod was perhaps the first epigrapher to notice that the contents of the vase may be mentioned without a preceding modifier or without a preceding modifier and preposition. An example of a type 5 structure is present on K 1182 (Robicsek and Hales, 1983: 20, Vessel 15), as well as on K 1344 and K 1371 (Robicsek and Hales, 1983: 98-99, Vessels 125 and 128).

3.2.6. Type 6: {[[TYPE 5]POSS + [POSSESSOR]]PRED}

This type has also been well documented before by other epigraphers. An example is K 4991 (**CHAK-ch'o-ko** + **ke-**MONKEY is the owner's name phrase).

3.2.7. Type 7: {[[IS] + [GOD.N]]PRED + [TYPE 1/2(/3/5)/6]SUBJ}

This type is attested as a type 1/2/6 structure following at least one of several possible verbs and the Initial Sign (IS). In general, whenever one of these verbs appears in the PSS of pottery vases, the IS is always present. However, the Initial Sign can be present in clauses lacking verbs, and I believe usually introduces the predicate of a verbal or nonverbal clause when such predicate constitutes new information. It is the type Stuart (1989) regarded as the third basic type of PSS structure. I have not found examples where tyeps 3 and 5 follow the IS + GOD.N/STEP/other sequence, but I have

placed them within parentheses because I regard them as possible constituents in and of themselves and for that reason they could be used as the subjects of the preceding verb, just like the types 1/2/6 are used.

Vase K 5605 is an example of an IS + GOD.N + Type 2 structure. Vase K 2085 (**figure 6**) is an example of an IS + GOD.N + Type 6 structure. Vases K 1560, K 1698, K 4464, K 4619, and K 4996 (**figure 7a-e**) also attest to this pattern. Lastly, vase K 6997 (**figure 8**) may be an example of an IS + GOD.N + Type 1, but I prefer to discuss it below as a component of an even larger structure type (Type 8).

3.2.8. Type 8: {[[IS] + [GOD.N]]PRED-1 + **[TYPE 1]**SUBJ}CLAUSE-1 + **{[TYPE 3]**PRED-2}CLAUSE-2

This type is composed of a subtype of type 7 and a following type 3. A clear attestation is K 6997 (**figure 8**), where the following appears:

(**11**)   **7a**-IS + GOD.N + **7u**-T77-**b'a** + **yu**-T77-**b'i** + **ch'o-ko** +

   b'a-ka-b'a

Clearly, this is a juxtaposition of two types: 7 + 3. Interestingly, the first type ends in an unpossessed 'drinking cup' glyph with **b'a** rather than **b'i** as subfix. (The latter fact suggests that the *i*-vowel or *u*-vowel of the expected instrumental suffix *-ib'* or *-ub'* is probably provided by the vowel of the presumed syllabograph T77.) The second type begins with the possessed 'his/her drinking cup' glyph. Assuming GOD.N is an intransitively inflected verb (there are several options: a verbal noun root, a root transitive

inflected as a passive or mediopassive, or an intransitive root), **7u**-T77-**b'a** would have to

be its subject (underlying O NP if the verb is underlyingly transitive). Following **7u**-T77-

b'a is a whole other constituent, which could be its own clause as 'it is the drinking cup

of *ch'ok b'akab'*.' The following is a plausible analysis[16]:

(**12**)   {[**7a**-IS + GOD.N]PRED-1 + [**7u**-T77-**b'(a)**]SUBJ-1}CLAUSE-1 +

{[**yu**-T77-**b'(i)** + **ch'o-k(o)** +

b'a-ka-b'(a)]PRED-2}CLAUSE-2

3.2.9. Type 9: {[[IS] + [GOD.N]]PRED-1 + [TYPE 1]SUBJ}CLAUSE-1 + {[**na-ha(-la)**]PRED-2
+ [TYPE 3]SUBJ}CLAUSE-2

This type is an elaboration of a type 7 structure in which an additional element is

inserted between the types 7 and 3 structures. Because type 7 ends in an unambiguous

nouun stem from which a verb could not be derived,[17] and because in this particular

subtype that noun is unpossessed, what follows the unpossessed noun, namely, **na-ha-**

la, is not likely to be part of the type 7 structure (in keeping with the VS word order,

where **7u**-T77-**b'i** is the S). Instead, it probably is the first component of a following

structure. Because predicates are clause-initial, the **na-ha-la** glyph would likely function

as the predicate of the subject expressed by the type 3 structure that follows. In a sense,

this type could also be described as a Type 7 + Type 7 structure, the only difference

being that the second type 7 lacks the Initial Sign. It could also be described as Type 7 +

[Verb + Type 3]T7, where T7 stands for "Type 7." The absence of the Initial Sign is not

---

16 Another possible interpretation is of the **yu-**T77-**b'i ch'o-ko b'a-ka-b'a** constituent
as a phrase appositive to the **7u-**T77-**b'a** phrase.

17 To my knowledge, at least, a verb cannot be derived from an instrumental noun stem.

problematic: it usually occurs just once within a PSS text (with few exceptions).

Vase K 4379 illustrates this type. It can be transliterated as follows (**figure 9**):

(**13**)   **7a-IS-ya** + GOD.N-**yi** + **7u**-T77-**b'i** + **na-ha-la** +

      yu-T77-**b'i** + **ta-yu-ta** + **NAL** + **TE7-le** + **ka-wa** +

      CHAK-ch'o-ko + HAND-MONKEY + **MUYAL(-ya-la)** + **?-?-?-?**

Based on my analysis of its composition, it could be schematically shown as
follows:

(**14**) {[(**7a**-IS-**ya** + GOD.N-**yi**)PRED-1 +

      (**7u**-T77-**b'i**)SUBJ-1]TYPE7/CLAUSE-1 +

      [(**na-ja-la**)PRED-2 +

      (**yu-k'i-b'i** + **ta-yu-ta** + **...** **?-?-**

      ?-?)TYPE6/SUBJ-2]TYPE7/CLAUSE2}TYPE9

I would imagine that the following possible variations could be expressed: Type 7
+ Predicate + Type 1/2/3/5/6. However, none of these is attested in my database of 240
examples; that is, none in which (**y)u**-T77/128-**b'(i/a)** serves as the noun that forms the
basis of the formula.

3.2.10. Type 10: {[[IS] + [**ts'i-b'i**] + [**na-ha**] + [**hi-chi**]]PRED}

As I recall, MacLeod (1990) was first to describe this type as a basic structure
type. There are only a few examples in my database where its "constituencyhood" is

confirmed by its occurrence in isolation or seeming isolation from any other glyphs.

These are K 5437, K 1355, and K 2285 (**figures 10a-c**). The clearest case of an

occurrence in isolation can be made for K 5453. K 1355 is interesting because it ends in

the sign T61 **yu**. There are three possible explanations for the presence of the **yu** sign at

the end of this example. First, it may have been used as a "filler," as Coe and Kerr (1998:

143) have suggested. Second, it may have been in anticipation of the sign that would have

followed (i.e. **yu**-T77-**b'i**) had there been more space left in between the **hi-chi** glyph and

the Initial Sign. And third, it could have been due to both of the above.[18] As I explain in

the following two structure types, the proposed structural and semantic cohesion of this

sequence (type 10) can be supported on other grounds, since they can make up clause-

like constituent structures in the context of longer texts.

3.2.11. Type 11: {[TYPE 10]PRED + [TYPE (1/2/3/5/)6]SUBJ}

Vases K 771, K 1227, K 1647, K 1899, K 2152, K 2226,

K 2773, K 3229, K 3433, K 4644, and K 5360 are examples where the last glyph of the

type 10 structure is spelled **hi-chi** (**figures 11a-j**). Vases K 2068, K 2583, K 2783, and

K 3684 are examples where the last glyph of the type 10 structure is spelled **hi-chV**,

where the sign following **hi** is not securely read (**figures 12a-d**). The presumed **chV** sign

is indistinguishable from the Rain God glyph, read **CHAHUK** or **CHAK**, and is thought

by some epigraphers to have a **chV** value in the context discussed here, since it appears in

---

[18] There are other instances in the database (e.g. K 1211, K 1227) where the last
collocation of a PSS dedicatory text was apparently left unfinished due to lack of spac
suggesting that the scribe chose to fill it in with the beginning of what would have be
next full glyphic collocation, rather than leave an empty space. For instance, on K 1:
following appears: **7a-IS-ya + ts'i-b'i + na-ha + hi-chi + yu**-T77-**b'i + ta-yu-ta + ka-
wa + 7a.** The last sign, **7a,** may very well have been intended as the so-called 'male
proclitic' that probably began the glyphic expression for the name of the owner of the
since the glyph for 'cacao' was commonly followed immediately by the name of the owner
vase.

free substitution word-finally with T671 **chi** in the **hi-chi** glyphic compound.[19] Even though structurally types 1/2/3/5/6 should all be able to function equally in this type 11 structure, since they could all be thought of as a noun phrase whose head is the **(y)u-**T77/128-**b'(i/a)** glyph, only type 6 is attested in my database.

3.2.12. Type 12: {{[TYPE 10]PRED-1}CLAUSE-1 + {[hi-chi]PRED-2 + [TYPE (1/2/3/)5(/6)]SUBJ}CLAUSE-2}

This type is attested on K 3366 and K 1348 (**figures 13a,b**), the last one corresponding to BOD 135 (Robicsek and Hales, 1983: 164). Since type 10 is a structural unit, and so is type 5, the intervening **hi-chi** glyph is clearly an elaboration of a type 11 structure. Because the last glyphic expression of type 10 is **hi-chV**, most likely spelling the same as **hi-chi** in other type 10 examples, it is not too likely that the sequence **hi-chV** + **hi-chi** is supposed to be part of a single constituent. (One could suppose that one is dealing with reduplication, but another explanation makes more sense). Instead, given the fact that Type 5 is a noun phrase that in other structure types could function as the subject of a predicate (e.g. types 7, 8, 9, which take the noun phrase headed by **(y)u-**T77/128-**b'(i/a)**), it is possible that **hi-chi**, which comes immediately before type 5, could be such a predicate. Based on the following transliteration of K 3366 (**figure 13a**),

(**15**)   **7a-**IS**-ya** + **ts'i-b'i** + **na-ha** + **hi-chV** + **hi-chi** +

   yu-T77**-b'i** + **ti-yu-ta-la** + **ka-wa**

[19] I think it is worth pointing out that on the Tablet of the Temple of Inscriptions a Palenque, the same RAIN.GOD head with the presumed **chV** value appears in substition with T671 **chi** sign word-initially, it seems, suggesting a value **chi.** This is in the context verbal expression that appears after the T679 AND.THEN conjunction. This verb is spell as T671:103 **chi-ki** at D2 and as RAIN.GOD**-ki** at C8 on the same tablet, also after T679.

one can posit the following as a plausible analysis of the structure of K 3366:

(**16**)   {[IS + **ts'i-b'i** + **na-ha** + **hi-chV**]TYPE10/PRED-1/CLAUSE-1 +

[(**hi-chi**)PRED-2 + (**yu-T77-b'i** + **ti-yu-ta-la** + **ka-**

wa)TYPE5/SUBJ-2]TYPE7/CLAUSE-2}TYPE12

If **hi-chi** is a predicate in this case, then **hi-chi** + Type 5 would correspond to a type 7 structure, except for the absence of the Initial Sign at the beginning of a type 7 structure which, as already explained above, is usually needed only when the type 7 structure occurs at the very beginning of a text.

3.3. Summary of Structure Types

The following is a summary of the constituent structure types described above:

(1)   cup;

(2)   **y**-cup;

(3)   **y**-cup + possessor;

(4)   predicate.NP (+ **7u**-DIVINE-NAME) + TYPE 3;

(5)   TYPE 2 (+ **ti**) + [(+ modifier) contents.NP];

(6)   TYPE 5 + possessor;

(7)   Initial.Sign(IS) + GOD.N/other + TYPE 1/2(/3/5)6;

(8)   IS + GOD.N/other + cup + TYPE 3;

(9)   IS + GOD.N + cup + **na-ha(-la)** + TYPE (1/2/3/5/)6;

(10)   IS + **ts'i-b'i** + **na-ha** + **hi-chi**;

(11)   TYPE 10 + TYPE (1/2/3/5/)6; and

(12) TYPE 10 + **hi-chi** + TYPE 5.

As already noted above, this list is not comprehensive, since it only takes into

account complete texts from a database with a total of 240 PSS texts. There are probably

thousands of PSS texts, and this paper focuses only on those inscribed on drinking

vessels (*(y-)uk'/uch'-ib'*). However, within the parameters that were set, and with the

limited set of variables that were considered, this list may very well be comprehensive. It

also shows, within parentheses (e.g. TYPE (1/2/3/5/)6) what I predict are also possible

structures waiting to be identified, if not for texts with the

(y-)uk'/uch'-ib' expression, then certainly for texts inscribed on other artifact types.

The above list does not say anything about my interpretations regarding clause

structure, though, in terms of Mayan grammar. For that reason, in the breakdown that

follows I specify the structural categories which I have already proposed in the previous

sections: clauses, phrases, predicates, subjects, and optional elements[20]:

(1)   {[cup]<u>PRED</u>};

(2)   {[**y-**cup]<u>PRED</u>};

(3)   {[**y-**cup + POSS]<u>PRED</u>};

(4)   {[NP]<u>PRED</u> + [(**7u-**DIVINE-NAME) + TYPE 3]<u>SUBJ</u>};

(5)   {[TYPE 2 + [(+ **ti**) [(+ MOD) [CONT]NP]NP]PP]<u>PRED</u>};

(6)   {[TYPE 5 + POSS]<u>PRED</u>};

(7)   {[IS + GOD.N]<u>PRED</u> + [TYPE 1/2(/3/5)6]<u>SUBJ</u>};

---

20   {} = clause, [] = phrase, PRED = predicate, SUBJ = overt subject, POSS = possessor,
modifier, CONT = contents, GOD.N = the GOD.N verb or another verb in its place, PP =
prepositional phrase, NP = noun phrase, and optional elements are shown between parentl

(8)   {[IS + GOD.N]PRED-1 + [cup]SUBJ-1}CLAUSE-1 +

        {[TYPE 3]PRED-2}CLAUSE-2;

(9)   {[IS + GOD.N]PRED-1 + [cup]SUBJ-1}CLAUSE-1 +

        {[**na-ha(-la)**]PRED-2 + [TYPE (1/2/3/5/)6]SUBJ}CLAUSE-2;

(10) {[IS + **ts'i-b'i** + **na-ha** + **hi-chi**]PRED};

(11)   {[TYPE 10]PRED + [TYPE (1/2/3/5/)6]SUBJ}; and

(12) {[TYPE 10]PRED-1}CLAUSE-1 +

        {[**hi-chi**]PRED-2 + [TYPE (1/2/3/)5(/6)]SUBJ}CLAUSE-2.

Again, the category 'predicate' is defined in my dataset in terms of agreement for (third person) absolutive (**-Ø**, unmarked).[21] Thus, a type 1 clause is interpreted here as cup-3sABS, or *7uk'/7uch'-ib'-Ø* drink-INSTRUMENTAL-3sABS, for example. I believe some of the verbs are more restricted than others as far as their possible range of contexts. For instance, there does not seem to be any restrictions at all for the kind of objects or physical structures that can be "GOD.N*ed*," so to speak, whereas the **hi-chi** glyph, which in the above presentation I argued can appear in a predicative function, seems to be much more restricted (i.e. only the container on which the text is painted can undergo the action represented by the possible verb represented by **hi-chi**).

The ultimate goal of this paper, though, is not to offer a sketch of possible constituent structures that can be built around the phrase '(her/his) drinking.cup,' but also to determine whether these structures have wider applicability. The following sections aim at testing the latter possibility. However, I will use the same PSS environment I have

---

21 I am expecting, as any other epigrapher might, to find at some point proprietary statements marked for persons other than the third person. Also, whether Stuart, Houst and Robertson (1999: II-19) are right about the **7a-wi-na-ke-n(a)** example or not, there should be cases in the corpus, especially in the ceramic corpus, of nonverbal predicate marked for absolutive agreement for persons other than the third person singular.

used to describe the structures built around the 'drinking cup' glyph, only this time I will examine other glyphs that can appear in the same slot as the 'drinking cup' glyph.

4.   Testing the Preliminary Model

The sections that follow consist of my examination of other expressions that can exhibit some or all of the structural patterns of which **(y)u-**T77-**b'i** can be the center.

4.1. The **(7u-)ts'i-b'(i)/b'(a)-l(i)/n(a)** Glyph

Table 3 shows the "affixational" patterns of the **ts'i-b'(i/a)** glyph in the PSS database.[22] In my sample of 240 texts this glyph occurs in 116 instances (sometimes more than once in the same text). Except for the instance of T130 **wa** that immediately follows **7u-ts'i-b'a-li** on the Maya Scribe Vase No. 21, the affixational pattern can be summarized as follows: **(7u-)ts'i-b'(i)/b'a-l(i)/n(a)**.[23] Previous epigraphers had noted these.

MacLeod (1990) has proposed that the **ts'i-b'i** glyph can take the antipassive suffix **-n-aj**, spelled **na-ha(-la)**. I do not believe that **na-ha** ever appears as a suffix in the PSS texts of my database, however. For example, on K 1398 (**figure 14**), **7u-ts'i-b'a-li** is immediately followed by **7u-na-ha-ya**. By definition, suffixes should not take prefixes, yet **na-ha** here takes **7u-**. There are at least two other occurrences where **na-ha**

---

[22] Again, these include spelling variations as well as the presence of signs that may represent preposed or postposed affixes, clitics, and particles.

[23] I believe T130 **wa** was intended here as the locative 'here' **wä7** in Cholan and **way** in Yucatecan. It might refer as such, as suggested to me by John Justeson, to the the lo‹ where the GOD.N action was done on the thing written **(7u-ts'i-b'a-l(i))**, that is, on tl part of the vase where the text was inscribed.

takes T1 **7u** or another **7u** sign as a prefix: K 5453 and K 532 (**figures 15a,b**). I describe these in more detail in the section that follows this one. Furthermore, occurrences of **na-ha** *without* the prefix can be explained in a different way, as I have already in the previous sections: as predicative or attributive expressions.

Going back to the **ts'i-b'i** glyph, there are also cases where it is immediately preceded by **ti** or **ta**, specifically on K 6751 and K 2573 (**figures 16a,b**), respectively. These are not studied here. For now, suffice it to say that there is at least one instance, known to me that is, where **yu**-T77-**b'i** appears also preceded by **ti**, in a vase from Tikal (Culbert, 1993: Figure 125), suggesting that it can in fact be a nominal pattern. I will not describe in this summary all the morphosyntactic patterns for **ts'i-b'(i/a)**. For example, also, I will not describe here cases where **ts'i-b'(i/a)** appears in proprietary statements of the type 'it is the writing of So-and-So,' because these kinds of statements inscribed on several kinds of media have been described before by other authors. I will simply describe those contexts that I think have not received attention and which are germane to the present study.

First. The **ts'i-b'i** expression can fit into structure type 7 in the same way as **(y)u**-T77/128-**b'(i/a)**. There are at least two examples in my database where this pattern is found in isolation: K 4018 and MScribe 21 (**figures 16c,d**). On the former one finds the following:

(**17**) **7a**-IS-**ya** + **hu**-STEP[**yi**]-**yi** + **7u**-**ts'i-b'a-li**

It is possible to argue, then, that this expression is structurally identical to the ones on K 5605 and K 509, mentioned above in section 3.2.7., which show the following texts,

respectively:

(**18**) **7a**-IS-**ya** + GOD.N + **yu**-T77-**b'i**

(**19**) **7a**-IS-**ya** + SKY-**ha** + **yu**-T77-**b'i**

These two could be compared with K 5605 and K 509 (**figures 16e,f**), where **yu**-T77-**b'i** takes the position following the verb. These are of course cases of VS clauses, where the S is possessed. Below I discuss in more detail the morphological make up of the **7u-ts'i-b'a-li** glyph.

Second. There are also examples of type 9 with unpossessed **ts'i-b'i**. These are K 1941, K 2695, K 3699, and K 4945 (**figures 17a-d**), which show in general: IS + GOD.N + **ts'i-b'i** + **na-ha(-la)** + Type 2/3/5/6. This pattern is found also with **7u-**T77/128-**b'(i/a)**, as on K 4379 (**figure 9**).

Now, at first, a **ts'i-b'i** glyph without any orthographically apparent affixation could be ambiguous: it could be the noun 'writing,' or it could be an intransitive use of the verbal noun *ts'ihb'* as 'it was/got written,' in which internal modification has occurred. However, there are two lines of evidence which point to the likelihood that **ts'i-b'i** here could be a nominal constituent functioning as the subject of a preceding predicate. For one, structurally, these contexts for **ts'i-b'i** are very similar to the ones for the 'drinking cup' glyph in texts such as that on K 4379, which I described in detail above (c.f. (13) and (14)). If one compares the text on K 2695 with the one on K 4379 one can see the obvious similarities:

(20)   **7a**-IS + GOD.N-**yi** + **ts'i-b'i** + **na-ha** + **yu**-T77-**b'i** +

ta-NAL + **TE7-?le** + **ka-wa** + OWNER'S.TITLE...[24]

(21)   **7a**-IS-**ya** + GOD.N-**yi** + **7u**-T77-**b'i** + **na-ha-la** +

yu-T77-**b'i** + **ta-yu-ta** + NAL + TE7-**le** + **ka-wa** +

OWNER'S.NAME

In the case of K 2595, I am arguing, the unpossessed **ts'i-b'i** glyph can be compared with

the unpossessed **7u**-T77-**b'i** glyph on K 4379: both follow a verb, both precede the

na-ha(-la) glyph, which in turn precedes a possessed noun **yu**-T77-**b'i** in both cases.

Because **ts'i-b'i** represents a verbal noun, and because it appears in the same position

where a confirmed and unpossessed noun can stand, I think it is possible to argue that it

is can function as a nominal subject in contexts like that of K 2695. Just like the text on

K 4379, consequently, the text on K 2695 can be said to be a biclausal composition,

where the first clause ends with **ts'i-b'i**, and the second begins with **na-ha**:

(22)   {[**7a**-IS + GOD.N-**yi**]PRED-1 + [**ts'i-b'i**]SUBJ-1}CLAUSE-1 +

{[**na-ha**]PRED-2 + [**yu**-T77-**b'i** + **ta-NAL** + **TE7-?le** +

ka-wa + OWNER'S.TITLE]SUBJ-2}CLAUSE-2

Also, there are examples of **ts'i-b'i** in type 9 structures where it is possessed, showing:

7u-ts'i-b'i. These are: K 1485, K 2730, K 2777, K 2295, K 5229, K 4669, and K 5722

---

24 Following the title **ch'o-k(o)** here, a new proprietary statement appears: **7u-ha-yi**
OWNER'S.NAME. This statement is in turn followed by **che-7e-na,** which ends the text.
last glyph can be interpreted as either 'he did' or 'he said,' referring either to the
performance of the ritual crafting and inscribing of the vase, or to the ritual reading
the vase, or possibly both. I believe this **che-7e-na** glyph was supposed to be, wheneve
allowed by space, the closing glyph of the formula.

(**figures 18a-g**). These show in general: IS + GOD.N/STEP + **7u-ts'i-b'i** + **na-ha-la** +

Type 2/3/5/6. Following my interpretation of this structure as a biclausal structure, in

which **na-ha-la** constitutes the predicate of the second clause, the following analysis can

be made of these examples (using K 2295 to illustrate):

(**23**)   {[**7a**-IS-**ya** + GOD.N-**yi**]PRED-1 +

          [**7u-ts'i-b'i**]SUBJ-1}CLAUSE-1 +

          {[**na-ha-la**]PRED-2 + [**yu**-T77-**b'i** + **ti-NAL-TE7-le** +

          ka-ka-wa + OWNER'S.NAME]SUBJ-2}CLAUSE-2

          Third. Type 8 is present as a possible pattern of **ts'i-b'i**, but only as **7u-ts'i-b'a-**

li in the type 7 subcomponent of the type 8 structure and as **7u-ts'i-b'a** in the type 3

subcomponent. (I described type 8 as a juxtaposition of a type 7 and a type 3 in that

order.) For instance, K 578 (**figure 19**) shows the following:

(**24**)   **7a**-IS-**ya** + GOD.N-**yi** + **7u-ts'i-b'a-li** +

          7u-ts'i-b'a + **yu**-T77-**b'i** + **ta-tsi-hi-li-wa**

This is similar to the example on K 6997 (**figure 8**), whose text shows a sequence of **7u-**

T77-**b'(a)** + **yu**-T77-**b'(i)**, 'drinking cup, his drinking cup,' which I take to constitute a

clausal boundary ('... drinking cup ‖ it is the drinking cup of...'). As I argued in section

3.2.8, the text on

K 6997 can be analyzed structurally as shown in (12). I believe K 578 is structurally

identical, except that on K 578 there are two possessed nouns in the second clause,

'his/her/its writing' and 'his/her/its cup,' rather than just one (**yu**-T77-**b'(i)**) as on K

6997:

(24)   {[**7a**-IS-**ya** + GOD.N-**yi**]PRED-1 +

[**7u-ts'i-b'a-li**]SUBJ-1}CLAUSE-1 +

{[[**7u-ts'i-b'a**]NP-A +

[**yu**-T77-**b'i** + **ta-tsi-hi-li-wa**]NP-B]NP-A,B}CLAUSE-2

The glyph **7u-ts'i-b'a** is not likely to be a transitive inflection of *ts'ihb'*

'writing/to.write,' since that would require, I would expect, a *-t* 'transitivizing' suffix on

the verbal noun root.

        Fourth. It is in this type of structure that

7u-na-ha(-ya) follows **7u-ts'i-b'a-li** twice, once on

K 1398 and again on K 532. On both instances **yu**-T77-**b'i** follows immediately after **7u-**

na-ha(-ya). On K 1398 one finds (**figure 14**):

(25)   **7a**-IS-**ya** + GOD.N-**yi** + **7u-ts'i-b'a-li** +

        7u-na-ha-ya + **yu**-T77-**b'i** + **ti-yu-ta-la** + **ka-wa** +

OWNER'S.NAME

Thus, there are three glyphs prefixed with the third person singular ergative marker, *7u-*

/y-. One is based on **ts'i-b'a**, another on **na-ha**, and another on **7u**-T77-**b'i**. The three

follow the GOD.N verb. On K 532 one finds something very similar (**figure 15b**):

(26)   **7a**-IS-**ya** + GOD.N-**yi** + **7u-ts'i-b'i** + **7u-na-ha** +

yu-T77-b'i + **ti-yu-ta** + **ka-*ka-*wa** + OWNER'S.NAME

Here again there are three glyphs following the GOD.N verb that are prefixed with the third person ergative marker. These examples, I believe, can be compared with examples like K 927, K 1560, K 1698, K 4020, K 4464, K 4619, and K 4996 (**figures 6-8**), which have type 7 structures (see 3.2.7). For instance, K 927 (Coe, 1982: 109-113, No. 60), shows the following (**figure 20**):

(**27**)   **7a-IS-ya** + **hu-GOD.N-yi** + **yu-T77-b'i** + **ti-yu-ta-la** +

        ka-*ka-wa + OWNER'S.NAME

I think that the only difference between the type 7 structure in examples like these and the structures in texts like those on K 1398 and K 532 is that, in the case of the latter texts, the type 1/2(/3/5)/6 constituent corresponding to the subject of the clause is made up of more than one possessed noun phrase. In other words, in cases like K 1398 and K 532, the constituent corresponding to the subject of the {[[IS] + [GOD.N]]PRED + [TYPE 1/2(/3/5)/6]SUBJ} structure (type 7) is made up of three conjoined possessed nominal phrases. There is an independent test for this claim. As already mentioned above (see 3.2.2), the **7u-ha-yi** phrase that can occur by itself or in conjunction with **yu-T77-b'i** in the proprietary statements of some pottery vases is most likely a nominal expression derived from the adjective **jay* 'thin.' This is confirmed by the fact that the Uaxactun vase discussed uses the phrase **NAL** + **ha-yi** as the name (and hence a nominal phrase) of the vase (**yu-T77-b'i**) itself, as pointed out by Grube. The nominalization of the adjective, if one were to use the Modern Yucatec data as a model, takes place through prefixation with an ergative prefix (*7u-*) and with suffixation of a null allomorph of the *-il*

nominalizer. If one then assumes **7u-ha-yi** is a nominalization of an adjective with the meaning 'his/her/its thin one,' the text on K 4997 would be virtually identical in structure to the type 7 texts on K 927 (se (27)) and K 1398 (see (25)), for example, with the only difference being the number of possessed nominal phrases following the GOD.N verb or its equivalent (transcribed here as GOD.N.sub. to mean 'GOD.N substitute'). The following is a transliteration of K 4997, showing a variant of the GOD.N verb, and a spelling **7u-ha-ya** instead of **7u-ha-yi** (**figure 21**):

(**28**)   **7a**-IS-**ya** + GOD.N.sub. + **7u-ha-ya** + **yu**-T77-**b'i** +

OWNER'S.NAME

Fifth. Since in these patterns the **ts'i-b'i** glyph functionally resembles the **(y)u**-T77-**b'i** glyph (i.e. it appears in type 2, type 7, type 8, and type 9 structures in the same slot where **(y)u**-T77-**b'i** would be), I think a case can be made that it is can function as a noun, sometimes possessed, other times unpossessed. The cases where it is followed by **7u-na-ha-l(a)/y(a)** strongly suggest that **na-ha** is not spelling an antipassive suffix, given that **na-ha** takes an ergative prefix. The cases where **ts'i-b'i** (as **(7u-)ts'i-b'i**) is followed by **na-ha(-la)**, can all be explained as structure types 9 and 10, in which case **na-ha(-la)** appears to be the predicate of a following noun phrase (type 1/2/3/5/6) in the case of a type 9 structure (c.f. K 4379, **figure 9**), or part of a predicate consisting of three separate but conjoined verbs with a coreferential subject in the case of a type 10 structure (c.f. K 5437, **figure 10a**).

The example on K 4379, where **na-ha-la** follows the unpossessed **7u**-T77-**b'i** glyph and precedes the possessed

yu-T77-**b'i**, is very important. If it was, to the scribes, identical in structure to examples

like K 1941, K 2695,

K 3699, and K 4945 (**figures 17a-d**), where unprefixed **ts'i-b'i** is followed immediately

by **na-ha(-la)** and by the possessed **yu-**T77-**b'i**, then one could prove, *conclusively*, that

the **na-ha(-la)** glyph could not be an antipassive suffix, a verbal suffix, or for that matter,

a suffix of any kind. The reason is simple: an instrumental noun cannot be derived into a

verb, much less into an antipassive verb. In other words, one cannot attach an

antipassivizing suffix on an instrumental noun.[25]

Still, a case like that of K 4379, where it is clear that **7u-**T77-**b'i** and **yu-**T77-**b'i**

are part of two different clauses and that **na-ha-la** cannot be a suffix to **7u-**T77-**b'i**, does

not *prove* that **(7u-)ts'i-b'i** + **na-ha(-la)** are likewise members of different clauses on K

1398 or K 532, for example. More evidence is indeed needed to prove, conclusively, that

the structure of K 4379 is identical to the structures of K 1398 and K 532. Nonetheless,

given the nature of *ts'ihb'* 'write, writing,' as a verbal noun in Cholan and Yucatecan, it

can certainly be argued that it can function as a noun or as a verb without requiring

especial derivational morphology.

On the other hand, **na-ha**, whatever it represents, seems to require one thing, at

least, or two things, in order to function as a nominal expression: either prefixation with

7u (K 532), or prefixation with **7u** and simultaneous suffixation with either **ya** (K 1398)

or **la** (K 5453). Otherwise, when it appears as **na-ha** or as **na-ha-la** (i.e. without an

ergative prefix), the glyph appears to function as a predicate or part of a predicate.

---

[25] Modern Chol, as shown in Warkentin and Scott (1980: 21) for example, derives instru
nouns out of transitive verbs through the suffixation of **-on-ib'**, where **-on** is probably
frozen antipassive suffix (Kaufman, 1990). For example, **jul-on-ib'** 'shotgun' is derive
from **jul** 'to shoot' (Aulie and Aulie, 1978: 57). However, the antipassive suffix follo
transitive root immediately and precedes the instrumental suffix.

Below, I deal with these peculiarities of the **na-ha** glyph again.

Sixth. I believe **ts'i-b'i** functions as a verb when the following conditions occur simultaneously in the PSS texts discussed in this paper: (i) when it is not preceded by a verb, (ii) when it appears as **ts'i-b'i**, and (iii) when it is marked for completive absolutive intransitive agreement (**-Ø-Ø**), as in the type 10 structure. In such structure, **na-ha** and **hi-chi** could also be predicates. It is strongly suggested that they can be predicates when they are present on type 9 structures as the intervening element between two clauses, and therefore, most likely as the predicate (possibly verbs) of the second clause. However, proving that they are predicates in a type 10 structure is more, at this point, a simple suggestion.

4.2. The **(7u-)na-ha(-l(a)/y(a))** Glyph

Table 4 shows the affixation patterns of this glyph, which can be summarized as **(7u-)na-ha(-l(a)/y(a))**. As already discussed, the **na-ha** glyph most likely does not constitute a suffix in any of the examples discussed here.[26] It can function as a predicate in type 9 and possibly type 10 structures. It also takes an **7u** sign as a prefix on at least three occasions. In two of these occasions, on K 1398 and K 532, it appears as one of three possessed nouns, according to my interpretation.

On K 1398 (**figure 14**) it appears as **7u-na-ha-ya** right after **7u-ts'i-b'a-li** and right before **yu-T77-b'i**, in a context where I have argued above can be interpreted as three consecutive possessed nouns which follow a verbal predicate consisting of **7a-IS-ya** +

---

26 I am not against the idea of the attestation of a **-n-aj** suffix in the script. In a preliminary study of the use of T130 **wa**, T117 **wi**, T23 **na**, T116 **ni**, and T134[595] **no** as suffixes on root transitives, I have suggested the attestation of **-(V)n** antipassivizing suffixes (Mora-Marin, 1998). Lacadena (1998) also proposes their attestation. I simpl not think that the PSS contexts support such an identification at all.

GOD.N-**yi**. As a whole, this PSS text constitutes a type 7 structure whose type 6

subcomponent is made up of two conjoined type 2 components (**7u-ts'i-b'a-li** + **7u-na-**

ha-ya) followed by a type 5 component (**yu**-T77-**b'i** + OWNER'S.NAME).[27]

Also, on K 5453 (**figure 15a**), the glyph in question, which immediately follows

the Initial Sign, is spelled as

7u-na-ha-la. It is followed by **yi-chi** + **7u-ts'i-b'a-li** + **yu**-T128[**b'a**] + **ta-yu-ta** + **ka-**

wa + OWNER'S.NAME. I believe this to be a variation on a type 5 structure in which

the type 2 component (i.e. the possessed noun) has multiple conjoined subcomponents:

(i) **7u-na-ha-la**, the possessed (and as I argue below, nominalized) form of **na-ha**, (ii) **yi-**

chi, the possessed (and as I argue below, nominalized) form of **hi-chi**, (iii) **7u-ts'i-b'a-li**,

the possessed (and also as I argue below, nominalized) form of **ts'i-b'i**, and (iv) **yu-**

T128[**b'a**], the possessed and instrumentalized (i.e. nominalized) form of the verb

'to.drink.' The most significant difference between the text on K 5453 and the

prototypical case of a type 5 structure is that K 5453 opens with the IS. If the IS is the

existential particle of the Cholan languages, *7ay*, as first proposed by MacLeod (1990),

with cognates in other Mayan subgroups, though probably not cognate with the

Yucatecan counterpart, *yaan*, then one could posit that it should be possible for nouns to

follow this expression without an intervening verb, as is usually the case in the PSS

formula texts.[28]

Below I discuss the **na-ha** glyph further, and propose two possible readings for

---

[27] The name of the vessel's owner, which ends a type 5 structure, reads as follows: **T**
ti-l)i-w(a) + SKY-**cha-k(i)** + (**7a-**)**7AJAW**(**-wa**) + **SAK-CHUWEN** + **7-TSUK**. Several other
vases have this name as their owner too, including K 927 and possibly K 2085.

[28] Cases of nominal expressions immediately following the IS are common on monuments,
Calendar Round date follows the IS, for instance. Also, there is a case on K 1211 (Co¢
1982: 103-105, No. 58) where **yu-UHY-li** 'his/her/its bead/necklace' follows the IS.

it. For now, I think the above remarks are enough to conclude that **na-ha** constitutes a content word, rather than a suffix. Its spelling and affixational variation are explained below, where I also propose that it is likely to be a verb or adjective root.

4.3. The **(yi-)hi-chi(-l(i)/l(a))** Glyph

Table 5 shows the spelling and affixation patterns of this glyph, which can be summarized as follows:

(yi/)hi-chi(-li/la). MacLeod (1990) has shown that the **hi-chi** and **yi-chi** spellings indicate a distinction between the unpossessed and possessed forms: *hich* vs. *y-ich*, if one assumes for the moment a root shape *hVC*, which becomes *y-VC* upon possession for third person. She has also pointed out before that there are cases where the **yi** and **hi** signs appear to be graphically conflated, for which she proposes an explanation that the scribes were representing the underlying phonemic representation of the possessed forms. This is unlikely; if they had tried to represent the underlying phonemic representation, they might have shown **7u-hi-chi** instead.[29] The **yi:hi-chi** conflated spellings, and the two spellings showing **yi-hi-chi**, arranged as **yi.hi:chi**, suggest to me something else: a sounding-out, syllable-by-syllable, spelling process.

This is perhaps evinced in the spellings of the *t-u-b'ah* expression, sometimes shown as **tu-b'ah** and sometimes as **tu-7u-b'ah**. The second case suggests a "sounding-out" spelling strategy, with the scribe reading out loud or mentally sounding out each sign as he spelled (e.g. "first comes **tu**, then **7u**, then **b'ah**"). In the case of the **tu-7u-b'ah**

---

[29] I am not against the possibility that the Mayan scribes may have developed a lingu: science that might have allowed them to recognize allophonic variants of a single form, the evidence does not support it. Examples like the **yi-hi-chi** expression can be expla: as the result of spelling and composition strategies typical of other syllabic writing systems.

examples, the graphic arrangement is identical to that of the **yi-hi-chi** examples:

tu.7u:b'ah. This graphic arrangement is likely to lead to the use of orthographically

unnecessary signs. The spellings **yi-chi** and **tu-b'ah** show that it is enough to use just

two signs to spell *y-ich* and *t-u-b'ah*, respectively. Yet, using two signs instead of three

may have left a visual gap that the scribe could fill in in one of two ways: make the

GOPHER head taller, showing **tu.b'ah**, or put an extra sign to leave the GOPHER head

as it was, showing **tu.7u:b'ah**. Thus, I think that either the sounding-out hypothesis or

the visual-gap hypothesis could explain the **yi-hi-chi** spellings.

MacLeod has also suggested that **hi-chi** represents the word for 'page' or 'writing

surface.' I believe, nevertheless, that the linguistic evidence she provides is inconclusive

at best. On the one hand, the word she argues might be a reflex of the words represented

by the **hi-chi** glyph, namely Colonial Yucatec *hech* (Modern Yucatec *hech*) and Modern

Tzeltal *jehch*, are noun classifiers for counting 'side(s),' not pages. In the following

Tzeltal entry, the word for 'page' is the phrase *s-pat hun*, not *jehch* (Slocum and Gerdel,

1965: 147):

(**29**)   **juju-jehch**   **s-pat**   **hun**

each-side   3sERG-back   book

(lit. *each side of the back/surface of the book*)

each page

The term *jehch* is translated by Slocum and Gerdel as 'side' not 'page.' It thus

makes no sense to translate it as 'page' or 'writing surface' in the PSS, if one assumes **hi-chi** in fact spells a word cognate with *jehch* from Tzeltal. I think, furthermore, that it is

unlikely that the word represented by **hi-chi** could be cognate with Tzeltal *jehch* or

Yucatec *hech*. According to Kaufman and Norman (1984: 87), proto-Cholan-Tzeltalan

***e** and ***ee** merged as Cholan **e*. There are a minority of cases, however, where ***ee**

changed to **i* in Cholan. Thus, for the **hi-chi** glyph to be cognate with the word for

'side,' reconstructed for proto-Tzeltalan as **jehch* by Kaufman (1972: 123), and for pre-

and proto-Yucatecan one would expect proto-Cholan-Tzeltalan to show **jeehch*. Such a

root shape, however, is unlikely, since roots with a pre-final *h*, in proto-Mayan,

Yucatecan, proto-Cholan-Tzeltalan, Cholan, and Tzeltalan, were of the shape *CVhC*, not

CVVhC (Kaufman and Norman, 1984: 88).[30] The only way for such a change to be

feasible, then, is if one could prove that proto-Cholan-Tzeltalan ***e** also changed to

Cholan **i* in some cases. To my knowledge, though, there is no such evidence. The word

represented by **hi-chi** must be something other than a cognate of Tzeltalan *jehch* or

Yucatecan *hech*. I prefer to delay my own proposal, however, until I discuss the suffixes

that **ts'i-b'i**, **na-ha**, and **hi-chi** can take in the necessary detail, in section 4.4 below.

      I believe **hi-chi** functions both as a subject and as a predicate, not unlike the **na-**

ha and the **ts'i-b'i** glyphs. It is found in at least two cases in structure type 12, as

already described: at the end of the type 10 subcomponent and right before the type 6

subcomponent. Such context suggests a predicative function (i.e. as the predicate of the

type 5 structure, which functions as the subject) for **hi-chi**. An example of this structure

type discussed above is K 3366.[31] In it, the first clause ends with **hi-chV**, where I think

the RAIN.GOD head transliterated here as **chV** may very well have the value **chi** (see

footnote 20). The second clause begins with **hi-chi**, which I assume here to be

---

30 Preconsonantal *h* in pre-Yucatecan changed to vowel length in proto-Yucatecan (with tone in Yucatec), *CVhC > CV:C* (Justeson et al., 1985).

31 The text on K 3366, as analyzed here, shows the following:{[**7a-IS-ya** + **ts'i-b'i** + **na-ha** + **hi-chV**]TYPE10/PRED-1/CLAUSE-1 + [(**hi-chi**)PRED-2 + (**yu-**T77**-b'i** + **ti-yu-ta-la** + **ka-wa**)TYPE5/SUBJ-2]TYPE7/CLAUSE-2}TYPE12.

representing the same word as **hi-chV**. Again, although one could argue for a case of

reduplication, or for the possibility of the same glyph having two different functions here

(e.g. **hi-chV** as a verb and **hi-chi** as its subject, assuming VS word order), a more

straightforward explanation can be offered through a comparison with texts like K 6997

(**figure 8**) and K 4379 (**figure 9**), where the following appears (summarized from (**11**)

and (**13**), respectively):

(**30**)   IS + GOD.N + **7u-**T77-**b'a** + **yu-**T77-**b'i** +

OWNER'S.NAME

(**31**)   IS + GOD.N + **7u-**T77-**b'i** + **na-ha-la** + **yu-**T77-**b'i** +

ta-yu-ta + NAL + **TE7-le** + **ka-wa** +

OWNER'S.NAME

K 6997 is an example of how the meeting point between two glyphs that

represent the same word can be used to mark a clausal boundary, just like it seems to

happen on K 3366, where **hi-chV** + **hi-chi** appear together. K 4379 is very similar to K

6997, except that intervening between **7u-**T77-**b'i** and **yu-**T77-**b'i** is the glyph **na-ha-la**,

which cannot be an antipassive suffix here because instrumental nouns are not known to

take them (see relevant discussion above). In this case, it is likely that **na-ha-la** now

marks either the ending of the clause beginning with the Initial Sign, or the beginning of the

clause based on **yu-**T77-**b'i**. Because **7u-**T77-**b'i**, the glyph immediately preceding the

na-ha-la glyph, is an unpossessed noun, I do not think that **na-ha-la** is likely to follow

it and have any relation to it or its clause. Again, because **7u-**T77-**b'i** is an instrumental

noun, one can say with confidence that **na-ha-la** cannot be an antipassive suffix, because

instrumental nouns cannot be derived into verbs. Instead, I think **na-ha-la** is more likely

to be the clause-initial phrase of the second clause, and as such, probably its predicate.

I think, therefore, that **hi-chi** in the text of K 3366 is functioning in a similar

fashion to **na-ha-la** in K 4379. As such, it is an elaboration of the Type 11 structure

discussed in section 3.2.11, with the following generalized structure: {[IS + **ts'i-b'i** + **na-**

ha + **hi-chi**]TYPE-10/PRED + [**yu**-T77-**b'i** + PREP.PHRASE + OWNER'S.NAME]TYPE-

6/SUBJ}**.** The difference is the additional **hi-chi**, which I think marks the interclausal

boundary between the type 10 structure and the type 6 structure that follows, resulting

in a type 12 structure.

I think that on texts like the one on K 1892 **hi-chi** (**figure 22a**) might also

function as a verb. There, it follows the GOD.N**[yi]** verb and precedes the **7u-la-k(a)**

'his plate' glyph. Unlike **7u-la-k(a)**, **hi-chi** is unpossessed, resembling the affixational

pattern of GOD.N with the exception of GOD.N's **yi** suffix. I think that there are two

options here for **hi-chi**: it may be a noun, conjoined to **7u-la-k(a)**, with the two

functioning together as the subject noun phrase of GOD.N**[yi]**; or it may be a verb,

conjoined to GOD.N**[yi]**, with the two functioning together as the predicate verb phrase

of the type 6 structure beginning with **7u-la-k(a)**. These two possibilities can be shown

schematically as follows:

(**32**)   {[**7a**-IS-**ya** + GOD.N**[yi]**] + [**hi-chi** + **7u-la-ka** +

        ti-to-ha-la + OWNER'S.NAME]}

(**33**)   {[**7a**-IS-**ya** + GOD.N**[yi]** + **hi-chi**] +

        [**7u-la-ka** + **ti-to-ha-la** + OWNER'S.NAME]}

I think the second interpretation is more likely. Indeed, I would expect that if **hi-chi** were functioning here as part of a noun phrase it would also be possessed, as **yi-chi**, since **7u-la-k(a)** is. Also, if it were a modifier to the noun **la-k(a)**, and therefore still part of the noun phrase, it should follow, not precede, the third person ergative prefix, *7u-*. Although it is possible that was in fact part of the noun phrase with **7u-la-k(a)**, the verbal interpretation makes more sense, as I explain next.

If **hi-chi** can function as both a verb and a noun (e.g. if a verbal noun), one could not, in theory, distinguish either function simply by its spelling or affixation pattern alone. Since the script does not seem to represent preconsonantal *h*, an infixed, (medio-)passivizing *-h-* morpheme would not show in the spelling **hi-chi**. Consequently, the spelling **hi-chi** could be representing a root inflected for the (medio-)passive voice (*–h-*), the completive status (*–Ø*), and the third person absolutive suffix (*–Ø*). If the **hi-chi** glyph represents a verbal noun, such as **ts'i-b'i** for example, it would not need any derivational morphology to be used as an intransitive verb. Such an interpretation is more consistent with the pattern of affixation shown by the GOD.N verb: GOD.N**[yi]**. Based on such pattern, it is possible to assume that the verb is inflected as a completive intransitive. Assuming that the GOD.N verb is underlyingly a transitive, since it probably refers to an action performed by a human being on an object (usually inanimate), then one could argue that the GOD.N verb is inflected as a (medio-)passivized verb in the completive status. That GOD.N would have an apparent verbal suffix, spelled with **yi**, and **hi-chi** does not (or else one would expect, perhaps, **hi-chi-y(a)**), is not an obstacle to my interpretation. In the PSS, some verbs commonly take different affixes even when following one another, in contexts where they seem to be conjoined and therefore making

up a larger verb phrase.[32] The GOD.N verb itself appears with and without suffixes,
showing the following spelling and affixation patterns: GOD.N, GOD.N**[yi]**, GOD.N**[yi]**-
yi, GOD.N-**yi**.[33] Thus, the text could refer to the "GOD.N-*ing*" and the "**hi-chi**-*ing*" of
the **7u-la-k(a)** of the person named.

The **hi-chi** glyph also occurs possessed as on K 2704, K 623, K 4562, and K
4958, where it is also the subject of GOD.N, and is followed by a type 3 structure headed
by **yu**-T77-**b'i** in each case (**figures 22b-c**). The following are the transliterations of K
623 and K 4858:

(**34**)   **7a**-IS + GOD.N + **yi-chi-li** + **yu**-T77-**b'i** +

OWNER'S.NAME

(**35**)   **7a**-IS-**ya** + **hu**-STEP + **yi-chV** + **yu**-T77-**b'i** +

ta-yu-ta-la + OWNER'S.NAME

These two texts can be analyzed, generally, as a type 7 structure, with one verb and two
subject nouns:

(**36**)   {[IS + VERB]PRED + [**yi-chi(-li)** + **yu**-T77-**b'i** +

... + OWNER'S.NAME]SUBJ}TYPE-7

Like **ts'i-b'i** and **na-ha**, then, **hi-chi** fits into the same nominal pattern as **(y)u**-
T77/128-**b'(i/a)**. It also functions as a predicate, as in type 11 structures. Like **ts'i-b'i**
and **na-ha**, it can take a -*Vl* suffix when prefixed by *7u-/y-*, as on K 623 (**figure 22b**),

---

32 On K 1941, for example, the following two verbs appear in sequence: FLAT.HAND–**ha** +
GOD.N–**yi**. On K 4143, the same two verbs appear in sequence again, only this time the (
verb has no suffix: FLAT.HAND–**ha** + GOD.N.
33 The GOD.N**[yi]**–**yi** pattern suggests to me that the lexical item represented by the G(
glyph has **y** as its final consonant.

where **yi-chi-li** is found, but such suffix is not obligatory, as shown by examples of **yi-chi** without the **li** sign, as on K 554 and K 1743, among others.[34] And lastly, like the **na-ha** glyph, **hi-chi** can appear in a type 9 structure as the predicate of the type 3 component. One example, K 1253 (**figure 23**), shows the following: **7a**-IS-**ya** + GOD.N + **na-ha** + **hi-chi-la**. This example is unique in my database, but one could interpret it as either a type 10 structure in which GOD.N has taken the place of the **ts'i-b'i** glyph, or a type 7 structure where **na-ha** and/or **hi-chi-la** have taken the place of the **7u**-T77-**b'i** (c.f. the type 7 component of K 4379) or **yu**-T77-**b'i** (c.f. K 927) glyph. I think a discussion, next, of the possible functions of the **-Vl** suffixes will clarify these questions.

4.4. Discussion

In this section I attempt to reconcile all the loose ends left over from the description and analysis presented above. In particular, I will try to explain the rationale for the various functions that the **ts'i-b'i**, **na-ha**, and **hi-chi** glyphs may exhibit in the PSS texts included in this study. To do this, I will pay very close attention to their affixational patterns, a task I only conducted minimally above. As I will show, the affixational patterns of these expressions go a long way to explaining their morphosyntactic variability.

4.4.1. The **ts'i-b'i**, **na-ha**, and **hi-chi** Glyphs

It is not surprising at all that **ts'i-b'i** can function as a noun, and various epigraphers have noted this before. What I am proposing here is that it functions as a noun, in fact, as the subject of a preceding verb, in contexts where other epigraphers have

---

34 I have no examples of **ts'i-b'V** with a **-Vl** suffix but no ergative prefix at the same time. In the modern Yucatecan languages, such as Itzaj, ***ts'iib'-a7an*** and ***ts'iib'-b'i.*** 'written' can occur without an ergative prefix.

suggested in the past either a verbal function or a complex kind of nominalization involving antipassivization and nominalization with *-n-aj-al*. I have presented enough evidence to show that whenever **ts'i-b'i** is immediately followed by **na-ha** the two glyphs are most likely part of different constituent structures, as in type 9 structures. I have also shown that in the two cases where **ts'i-b'i** is followed by **7u-na-ha(-ya)**, the two expressions are prefixed by **7u** and follow a verb, such as the GOD.N or STEP. Both of these structure types, then, suggest that

na-ha is not a suffix in these contexts, and that it can function either as a predicative phrase (like a verb), an attributive phrase (like an adjective), or a subject phrase (like a noun). Because there are examples where **na-ha** appears in predicative function as either **na-ha** or **na-ha-la**, as on K 1941 and K 4669 (**figures 17a** and **18f**), respectively, it is evident that it does not require an orthographically explicit *-Vl* suffix to function as a predicate, but that such orthographic explicitness, at least, is optional. (In fact, **na-ha** is the more common pattern of affixation for **na-ha** in this context).[35] When **na-ha(-la)** is in predicative function in a type 10 structure, another glyph in verbal function follows; but when **na-ha(-la)** is in a predicative function in a type 7 structure (taking the place of the GOD.N verb, or coming either right before or after it) or a type 9 structure (intervening between a type 7 and a type (1/2/3/5/)6 structure), the possessed name of the container where the text is inscribed follows it immediately.

When **na-ha(-la/ya)** is possessed, however, it is followed in one occasion by **yi-chi**, and in two occasions by **yu-T77-b'i**. This suggests that in predicative function it refers to something that can be done to or with the containers. There are two roots that

---

35 It is possible, still, to interpret the reading of **na-ha** as *nah-a(1)* or *na(7)j-a(1)* where the final *1* could have been deleted as it often is in spoken expressions at the e words or preconsonantally.

could, potentially, be spelled as **na-ha**.[36]

The first is the root for 'full,' reconstructed for proto-Cholan as ***naj*** (Kaufman and Norman, 1984: 127, No. 361c), and reconstructible for pre-Yucatecan as ***na7j***, and for proto-Yucatecan as ***ná7aj***. Modern Yucatec has ***ná7aj*** 'full' (Bricker, Po7ot Yah, Dzul de Po7ot, 1998:). Itzaj has ***na7aj*** 'full' (Hofling, 1997: 468). Mopan also has ***na7aj*** as 'full.' This root descends, according to Kaufman and Norman (1984: 127, No. 361c), from proto-Mayan ***nohj*** 'llenarse

(to get full).' An intervocalic glottal stop would have been a good candidate for underrepresentation, but preconsonantal glottal stops and glottal fricatives were simply not represented at all (Justeson, 1989; Mora-Marin, 1997). Thus, both ***naj*** and ***na7(a)j*** would have been representable as simply **na-ha**.

The second possibility is the noun root for 'obligation,' attested in the Yucatecan languages as ***nah***. In Modern Yucatec the noun ***náah-al*** is derived from ***nah*** 'obligation' (Bricker, Po7ot Yah, and Dzul de Po7ot, 1998: 193) with the following meanings: 'winnings, earnings (noun),' 'win (antipassive)'; ***náah-al-t*** 'win, earn (transtive).' In Itzaj it is attested as ***naal*** 'profit, earning' (Hofling, 1997: 468). Hofling gives the following example for the use of ***naal***: ***u-naal in-ta=k'in*** 'the profit of my money (investment).' This form, ***naal***, is probably a reduced form of ***nah*** + ***-al***, given the phonological rule of intervocalic ***h***-deletion in Mopan and Itzaj, of the form *[h] —> Ø /*

V_1 __ V_1 (Fischer, 1973: 111).

Although it would make a lot of sense that a container could be 'filled up' with food (e.g. cacao grains), it could also make sense that a skillfully crafted vase, bowl, or plate could be 'earned' or 'won' in return for services or merits. For this reason, and because in my

---

36 If for the moment one assumes that T181 **ha** could be used both for *ja* and **ha** sequenc

opinion **na-ha(-la)** might spell either form, I prefer not to make a specific identification at this point, but to simply suggest these two alternatives.

Now, the **hi-chi** glyph, which I argue also functions as a predicate (with **yu**-T77-**b'i** or **7u-la-ka** as subject) or as a subject of a verb (e.g. GOD.N), typically appears without the **-Vl** suffix, but in a few instances takes either **li** or **la**. The suffix is present mostly when possessed, but **la** is used once when unpossessed. I will propose a new alternative for the interpretation of this sign that is more consistent, I believe, with the evidence from the descendant languages.

Modern Yucatec has a verbal noun root **hi7ich** 'brushing/to.brush,' which takes the **-t** suffix to become transitive but does not require any derivational morphology to be used intransitively (Bricker, Po7ot Yah, Dzul de Po7ot, 1998: 105). This root might be a viable interpretation in the PSS context, especially if considered in association with the **ts'i-b'i** glyph, which refers to writing. Indeed, **hi-chi** and **ts'i-b'i** could both refer to the preparation of the surface of the pot: one refers to its brushing with paint, the other refers to its inscribing. I thus propose that **hi-chi** is not 'page, surface,' but instead, 'brushing/to.brush,' and that it forms a complementary pair with **ts'i-b'i** in referring to the type of surface treatment of the pot. If the root had a cognate in Cholan, I would expect it to have a form such as **hiich** or **hich** in pre-Cholan (proto-Mayan ***CV7C** > proto-Cholan-Tzeltalan ***CV:C** > pre-Cholan ***CV(:)C**) or **hich** in proto-Cholan (possible pre-Cholan ***CV(:)C** > proto-Cholan ***CVC**).

4.4.4. The -(C)V-l(V) Suffixes

I think a function as participial suffixes may very well explain all of the contexts of the **-Vl** suffixes that **ts'i-b'V**, **na-ha**, and **hi-chi** can take in the PSS texts. Before

discussing these glyphs, however, a few words about the **-Vl** suffixes in the Lowland

Mayan languages are necessary.

The **-Vl** suffixes have several functions. Some are derivational: nominalizers and

adjectivizers. Some are inflectional: inalienable possession, relational possession, and

participials. For the latter, Itzaj, Modern Yucatec, and Modern Chol can be used to

illustrate.

Itzaj has an inalienable possession suffix **-el** (cognates in other Yucatecan, as well

as in Cholan, languages), as shown in Hofling (1991:16):

(**37**)   **chawak-Ø**   **u-tso7otz-el**   **u-pol**

        long-3sABS   3sERG-hair-POSS   3sERG-head

        long is the hair of her head

It also has an **-il** suffix that expresses part-of and place-of relationships between

two nouns, as in the following example also from Hofling (1991:17):

(**38**)   *mia*   *u-yum-il*   *k'aax*

        DUBITATIVE   3sERG-lord-POSS   forest

        I think it's the lord of the forest

The **-il** suffix has other meanings and functions, such as place of origin,

beneficiary/goal, abstractive, and group membership. An example of the abstractive

function follows (Hofling 1991:17):

(**39**)   *7u-7al-il a7-chiikleh-eh...*

        3sERG-heavy-POSS DET-chicle-TOP

the weight of the chicle,

Also, Itzaj has a **-Vl** suffix whose vowel echoes the preceding vowel and which usually attaches to relational nouns, as in the following examples (Hofling, 1991: 17):

(**40**)   **hun-tuul winik   y-et-el**

one-ANIM   man   3sERG-with-POSS

hun-tuul b'alum...

one-ANIM   jaguar

a man and a jaguar

There is also a **-Vl** suffix that marks the 'incompletive status' of intransitive verbs, and which is often harmonic with the preceding vowel. For example (Hofling 1991:26-27): ***tan-u-tal-el*** DURATIVE-3sERG-come-INTRAN '(she was) coming,' ***k-u-lub'-ul*** INC-3sERG-fall-INTRAN 'it falls,'

k-uy-ok-ol INC-3sERG-enter-INTRAN 'it enters,' and ***k-u-nak'-äl*** INC-3sERG-rise-INTRAN '(it) rises.' Note that following ***tal*** 'come' the suffix has the form **-el**.

And lastly, Itzaj has an **-al** participial suffix that "indicates change of state without implication of outside agency," and therefore has "a medio passive or agentless passive sense," and which forms intransitive stems from both intransitive and transitive roots (Hofling, 1991: 36; 1997: 19). This suffix is always **-al**, regardless of the vocalic value of the preceding syllable/root. Hofling (1991: 37) gives the following examples:

(**41**)   **ya   lub'-al-Ø   ti   lu7um**

already fall-PARTC-3sABS   PREP earth

(she) is already fallen on the ground

(42)　　**ma7**　　　　　**hat-al-Ø**

　　　　NEG　　　　　break-PARTC-3sABS

　　　　It's not broken

　　　　Yucatec has a cognate set of suffix which reveals some interesting differences. Bricker, Po7ot Yah, and Dzul de Po7ot (1998: 373) describe a **-Vl** suffix as one of two participial suffixes in Modern Yucatec. For instance: **b'àan-al** 'felled, torn down' from **b'an** 'fell, tear down,' **ts'òon-ol** 'shot, hunted' from **ts'on** 'shoot, hunt,' and **kìim-il** 'dead' from **kíim** 'die.' Smailus (1989: 137) describes a **-Vl** participle for Colonial Yucatec: **pudz-ul** 'fugitive' from **pudz** 'flee,' and **tzil-il** 'scratched thing' from **tzil** 'scratch.' These last examples are instructive, because they show how a participle can function as a noun.

　　　　Modern Chol has two nominal suffixes, **-il** and **-äl**, that certain nouns take when unpossessed: **7i-chich** 'his/her older sister' vs. **chich-äl** 'the older sister,' **7i-pixol** 'his/her hat' vs. **pixol-äl** 'the hat' (Warkentin and Scott, 1984: 15). Modern Chol also has an inalienable possession suffix **-el**. It also has 'impersonal possession' suffixes, of the forms
-il, **-el**, **-al**, **-lel**, which require that the possessor be third person and never a person (Warkentin and Scott, 1984: 18):

(43)　　**7iy-ixm-al**　　　　　　**cholel**

　　　　3sERG-corn-POSS　　　　　milpa

　　　　the milpa's corn

(44)　　**7iy-äts'm-il**　　　　　**tyumut**

3sERG-salt-POSS eggs

the salt of the eggs

(45) **7i-tye7-el** otyot

3sERG-tree-POSS house

the house's wood

(46) **7iy-otyot-lel** ixim

3sERG-house-POSS corn

the house of the corn

There is also a 'personal possession' suffix of the form *-lel*: ***7i-jun*** 'his/her paper, his/her book' vs. **7i-jun-i-lel Mateo** 'Mateo's birth certificate' (Warkentin and Scott, 1984: 18). Warkentin and Scott (1984: 19) also describe suffixes of the forms *-il*, *-el*, *-lel*, and *-ol* which derive nouns referring to the place where something is abundant: ***b'u7l-el*** 'place of beans' vs. ***b'u7ul*** 'bean(s).' There is another *-Vl* suffix, a harmonic one, which derives stative verbs: ***cäch-äl*** '(it is) tied,' ***jam-äl*** '(it is) open,' ***mil-il*** '(it is) squeezed,' ***mos-ol*** '(it is) covered,' and ***muc-ul*** '(it is) hidden' (Warkentin and Scott, 1984: 84). This suffix functions very similarly to the Yucatecan *-al/-Vl* participial suffix. Indeed, Aulie and Aulie (1978: 188) have examples of verbs that take either *-b'il* or *-Vl* as a participle: ***ye7-b'il*** and ***ye7-el***, both meaning 'held (in the hand)' (hold-PASSIVE.PARTICIPLE, hold-PARTICIPLE). Feldman (1986) describes, in addition to the perfect passive participial suffix *-b'il* in Tumbala Chol, a *-Vl* 'adjectivizer' that yields similar results to that of a participial suffix:***lak-al*** 'placed' (grasped-PARTICIPLE?, where the verb is a positional root), and ***joy-ol*** 'encircled' (encircle-PARTICIPLE?, where the verb is a transitive root). The following sentences illustrate their predicative functions of this

presumed participial forms (Aulie and Aulie, 1978: 33, 68):

() **buj-ul-Ø** **jini** **wits**

stack-PARTICIPLE-3sABS   DEMNS   hill

this little hill is stacked

() **joy-ol-Ø** **ti** **wits**

encircle-PARTICIPLE-3sABS   PREP hill

jini   Yajalón

DEMNS   Yajalón

Yajalón is surrounded by hills

Chorti and Chontal also have *-Vl* 'participial' suffixes. Chorti, for instance, has

the suffixes *-ar*, *-or*, *-ur* as participles. Pérez Martínez (1994: 30, 77) gives the following

examples among several others: *kach-ar* 'tied (up)' (tie-PARTICIPLE), *kot-or* 'knelt

(down)' (kneal-PARTICIPLE), and *luk-ur* 'hung' (hang-PARTICIPLE). Smailus (1975:

198) describes a root-harmonic *-Vl* 'perfect participle' suffix for Acalan Chontal. This

suffix can occur with intransitive, positional, and transitive verbs alike (leaving

orthography intact but showing morpheme boundaries): *och-ol* 'entrado' (enter-

PARTICIPLE), *kot-ol* 'venido' (arrive-PARTICIPLE), *chum-ul* 'sentado' (sit-

PARTICIPLE), *dzib-il* 'escrito' (write-PARTICIPLE), and *mol-ol* 'congregado' (gather-

PARTICIPLE). Modern Chontal may have reflexes of these Common Cholan suffixes,

but with the *l* deleted. Keller and Luciano (1998: 477) describe a process of adjective

formation through the repetition of the root's vowel: *cux-u* 'alive,' *wol-o* 'round,' *c'oj-o*

'sick,' and *low-o* 'hollow.' The fact that other affixes that are *l*-final in other Cholan

languages, as well as in Yucatecan languages, end in vowels in Modern Chontal but

otherwise behave the same phonologically (e.g. vowel harmony) and derivationally, suggests that they are in fact cognates. For example, the inalienable possession suffixes in Modern Chontal are *-e*, *-i*, *-a*, and *-le* (Keller and Luciano, 1998: 426-427). For example: *u-jun* 'his paper, his book' vs. *u-jun-i cab* 'the document of a property,' and *u-pa7 ch'ich'* 'his blood (for eating)' vs. *u-ch'ich'-e* 'his blood (that flows through his body).'

Kaufman (1989: 19, Part C) reconstructs for proto-Mayan a suffix *-o-al* ~ *-al* ~ *-e-al* 'incompletive participle' and 'gerund.' He proposes that it changed in Yucatecan to an 'incompletive status marker' of root intransitives. The 'incompletive status marker' of root intransitives in Yucatecan, however, is a suffix of the form *-Vl*, whose vowel harmonizes with that of the preceding syllable. The completive participial suffix of Yucatec is a *-Vl* suffix too, which is also harmonic. Is it the same suffix with expanded functions? I think Itzaj offers a clue. Itzaj has a *-Vl* suffix which echoes the vowel of the preceding syllable and is used on incompletive intransitives as a status marker, just like in Yucatec. However, in Itzaj the completive participle is not *-Vl*, but *-al*.

Kaufman (1989: 23, Part C) also reconstructs *-e-al* ~ *-al* as the 'incompletive participle/gerund' of intransitives only for Western Mayan; in the case of transitives he is simply uncertain (shows question marks) what the corresponding suffix was. For Cholan, Kaufman (1989: 35, Part C) proposes that the "incompletive participle with Ergative subject marking" became the "new incompletive status" marker for intransitives, due to Yucatecan influence. I think it is possible to argue that the reflexes of the proto-Mayan 'incompletive participles' have been retained as 'adjectivizers' in Chontal, and possibly still as 'participles' in Chol, albeit perhaps largely restricted to only a few verbs in the latter. As for the nature of the vowel of the suffix, while Chorti and Yucatec show vowel harmony in their *-Vl* participles, the Itzaj *-al* suffix is used throughout without the

implementation of vowel harmony. Is the Itzaj strategy a retention or an innovation? An answer to this question is beyond the scope of this paper, and I will therefore maintain an open mind on this regard for now.**37**

Going back to the **-Vl** suffixes in the glyphs, if the **ts'i-b'V** glyph could take a participial suffix, then, when possessed, as in **7u-ts'i-b'a-li**, one could interpret the result as representing *7u-ts'ihb'-al* 'his/her/its written thing,' while **7u-ts'i-b'i** might simply represent *7u-ts'ihb'* 'his/her/its writing.' The cases of **7u-ts'i-b'a** spellings are more difficult to interpret: since final or preconsonantal *l* may get deleted, it could be representing *7u-ts'ihb'-a(l)*. But it might also represent *7u-ts'ihb'*. I do not think the *a* of *b'a* in the *7u-ts'i-b'a* spelling could be a transitive suffix, making the expression a transitive inflection of *ts'ihb'*. First of all, the **7u-ts'i-b'a** cases appear in contexts identical to those of **7u-ts'i-b'a-l(i)** and **7u-ts'i-b'(i)**, suggesting they all function as possessed nouns. And secondly, in Yucatecan a transitive inflection of *ts'iib'* would require a **-t** suffix, which is absent from these glyphic expressions, and in Cholan the root would require a suffix too, such as **-an/-un** for incompletive and **-i** for completive in Chol (Aulie and Aulie, 1978: 122) or **-än** for incompletive and **-i** for completive in Chontal (Keller and Luciano, 1998: 262).

With the **na-ha(-la)** glyph, then, **7u-na-ha-la** could represent *7u-na7j/nah-al* 'his/her/its filled.up/earned thing,' while **7u-na-ha** might simply represent *7u-na7j/nah* 'his/her/its full one' or 'his/her/its earning.' In the latter interpretation, I am supposing that the nominalization of adjectives via the allomorph **-Ø** could be intended, as discussed above for the case of the nominalization of the adjective *jay* 'thin,' as *7u-jay* 'his/her/its

---

37   However, it is possible that the harmonic strategy of Chorti and Yucatec could be a innovation that was then borrowed by the other, or an innovation resulting from analogy other morphonemic processes in the language which involve vowel harmony.

thin one.' Still, the interpretation *nah* 'earning' may be more parsimonious. Also, **na-ha-la** could be predicative

na7j-al-Ø '(it is) full/filled' or *nah-al-Ø* '(it is) earned.' The same would work, perhpas, with **hi-chi**: **hi-chi-l(a)** could be interpreted as '(it is) brushed,' if analyzed as brush-PARTICIPIAL(-3sABS), while **yi-chi-l(i)** could be interpreted as 'his/her/its brushed thing,' if analyzed as 3sE-brush-PARTICIPIAL. There is no way of determining, at this poing, given the fact that there are only two examples, whether the *-il* suffix in the **yi-chi-li** glyph is simply a possessive suffix as oppossed to a participial suffix.

Supporting evidence for the reading of the **7u-ts'i-b'a-li** glyph as a participial inflection can be found at Dos Pilas and Aguacateca. On Dos Pilas Stela 16 and Aguacateca Stela 2 there are two cases, spelled **7u-ts'i-b'a-li**, of the **ts'i-b'V** glyph. In both cases they follow a root transitive verb inflected as a completive intransitive, **CH'AK(-ka)**, representing *ch'ak* 'to.chop/cut.' The lack of a verbal suffix suggests that the verb is inflected as a passive or mediopassive with an infixed morpheme (*-h-*). Antipassives require a suffix in the completive status (e.g. *-n-aj*), and so it is unlikely that the verb is marked as an antipassive. In both instances, too, the glyphs precede the following sequence: **pa-ti** + **K'AWIL**. As an argument of a likely passive or mediopassive verb, one can say that the following phrase, **7u-ts'i-b'a-li** + **pa-t(i)** + **K'AWIL**, could very well be the intransitive subject of the verb. This entire phrase is a constituent functioning as the S NP. Otherwise, if **K'AWIL** were in a separate grammatical function (e.g. as agent), it would require a periphrastic construction to mark it as an oblique relation in a passive or mediopassive sentence. Hence the phrase must be analyzed either as

(48)   {**7u**$_i$-[**ts'i-b'a-li**] + [**pa-t(i)** + **K'AWIL**]$_i$}NP,

where the constituent **[ts'i-b'a-li]** is possessed by a presumed constituent **pa-t(i)** + **K'AWIL**, or as

(49)   {**7u**$_i$-[**ts'i-b'a-li** + **pa-t(i)**] + [**K'AWIL**]$_i$}NP,

where a constituent **[ts'i-b'a-li** + **pa-t(i)]** is possessed by **[K'AWIL]** (the *i* indicates coreferenciality). If, as various epigraphers have previously assumed, (i) **K'AWIL** is the name of a Seibal lord, and (ii) **pa-ti** spells the root *pat* 'back,' then the best interpretation is that the possessed NP is **[ts'i-b'a-li** + **pa-t(i)]**. Since the root **pa-t(i)** is preceded by **ts'i-b'a-li**, presumably based on the verbal noun *ts'ihb'* 'writing,' and since that expression suggests an analysis of ROOT-**Vl**, where a **-Vl** suffix is attached to the root *ts'ihb'* 'writing,' it is possible to suggest that the **ts'i-b'a-li** expression has an attributive function (modifying **pa-t(i)**), for the following reasons: (i) adjectival modifiers precede nouns in Mayan, and (ii) the **-Vl** suffix spelled with **(b')a-l(i)** may very well correspond to the participial suffix **-Vl** or **-al** of Cholan and Yucatecan languages. Taking this into account, then, a possible reading of **ts'i-b'a-li** + **pa-t(i)** could be 'inscribed back.' The reading of {**7u**$_i$-[**ts'i-b'a-l(i)** + **pa-t(i)**] + [**K'AWIL**]$_i$} would in turn be: 'the inscribed back of God K.' And the reading of ([**CH'AK(-ka)**]VERB + {**7u**$_i$-[**ts'i-b'a-l(i)** + **pa-t(i)**] + [**K'AWIL**]$_i$}SUBJ)CLAUSE would be: 'the inscribed back of God K was chopped.' Because an interpretation of **ts'i-b'a-l(i)** + **pa-t(i)** as compound noun made up of two nouns (a verbal noun and a root noun) is not congruous with the presence of a suffix on the first component of the phrase, this context for the **7u-ts'i-b'a-li** expression supports the interpretation of spelling of a participial suffix of the form **-al**, since the placement of the expression is suggestive of a verb participle with an attributive function.

There are broader implications to be explored here. One can attempt to explain

the **-Vl** suffixes that the glyphs that commonly appear in the Type 5 structures in the modifier position (i.e. usually after the preposition **ti**) may exhibit. For instance, one can study the spelling and affixational variation of the **yu-ta-la** glyph, which commonly has the **la** sign as a subfix (at least one case with **li**). Its spelling and affixation patterns can be summarized as follows: **(y)u-ta(-la/li)**. This means that there are cases where the following spellings are attested: **yu-ta-la** (K 927, K 955, K 1398, K 1647, K 1837, K 2323, K 2704, K 3229, K 3230, and others), **yu-ta-li** (K 2292), **yu-ta** (K 532, K 625, K 731, K 1004, K 1437, K 1899, K 2152), and **7u-ta-li** (K 2573). There are also cases where T573 **TS'AK/TAL** is used in substitution for the **ta-la** syllabic sequence, rendering **yu-TAL** or perhaps better transliterated as **yu-tal** (K 741, K 1440), since in such cases T573 is used exclusively for its phonetic value, not its logographic one (i.e. capitalization shows logographic values). The example where one finds it spelled as **7u-ta-li** (K 2573) points to the fact that the root we are dealing with is of the shape *7u(C)t*. The last consonant is provided by **ta**. If there is a consonant before the last consonant of the root, there is a chance that it may not have been represented, especially if it was a weak consonant, such as *h*.

MacLeod (1990) has suggested that the root represented was proto-Cholan **(h)ut* 'eye/face/fruit' (the *h* drops upon possession). I think that this is somewhat unlikely for one reason: the unpossessed spelling **7u-ta-li** suggests the root began with a glottal stop, *7*, not with a glottal fricative, *h*. I also think that there is an alternative interpretation of **(y)u-ta(-la/li)**: it may represent instead the root transitive verb *7ut* 'finish' or its (medio-)passivized form **7uht* 'be.finished/happen.' If so, then the *-äl/-al* suffix that I assume is represented in the forms **yu-ta-l(a)** and **7u-ta-l(i)** could very well be the participial suffix proposed here. Thus, the **yu-ta-l(a)** glyph could be analyzed as *y-ut-al* 3sERG-

finish-PARTICIPLE 'his/her/its finished (thing).' The **7u-ta-l(i)** glyph could be analyzed as *7ut-al-Ø* finish-PARTICIPLE-3sABS 'he/she/it is finished.'

What about the **yu-ta** forms? One interpretation could be that it was read as **yu-t(a)**, either *y-ut* 'his/her/its fruit(seeds)' or perhaps *y-u(h)t* 3sERG-finish/be.finished-?STATUS. I think another interpretation could be that **yu-ta** was read as *y-ut-a(l)*, given that word-final and/or preconsonantal *l* could be deleted in pronounciation. In my database, out of at least 56 examples of the **yu-ta(-la)** glyph, 19 take an explicit *-Vl* suffix (e.g. **yu-ta-l(a)** and **yu-tal**), and the rest are spelled **yu-ta**.[38] If I am correct, then phrases such as **ti+yu-ta(-l(a))** + **ka-ka-w(a)** could be interpreted as 'for his/her/its finished chocolate.' Indeed, a participial suffix can render the glyph it attaches to, in theory, as a predicative or attributive phrase. In the case of the **(y)u-ta-l(a)** glyph, its position after a preposition (**ti**) and before the nominal head functioning as object of the preposition (**ka-ka-w(a)**) suggests an attributive function, as a modifier, as various authors have proposed before. The presence of the participial suffix would allow a verb root, such as *7u(h)t* to function as a modifier.

I do not think that all the glyphs with *-Vl* suffixes following the **ti** preposition in these contexts can be analyzed this way. It is most likely not the case of the **TE7(-7)e-l(e)** expression, for instance, where *-el* is most likely an inalienable or derivational suffix and not a participial suffix. But I think that in the particular case of the **yu-ta-l(a)** glyph there is external evidence that supports its interpretation as *y-u(h)t-al* 'his/her/its finished (thing).'

There are cases where the **7u-ti(-ya)** 'it was/got finished,' which is very well

---

[38] There are no cases of **yu-ta-li,** for example, or of **yu-ta-lV** where the **V** of the **lV** not **a.**

attested in the monumental inscriptions before dates and geographic locations (Stuart, 1991; Stuart and Houston, 1994), appears in PSS texts on portable as a well as monumental inscriptions. On such occasions, the subject of the **7u-ti(-ya)** verb is the glyph naming the object on which the text is inscribed. A series of examples are attested at Xcalumkin, on as on Column 2, Panel 5, and Jamb 1 (Graham and von Euw, 1987: 163, 174, 183). The verb, **7u-ti(-ya)**, is usually followed there either by **yu-xu-lu(-li)**, thought to represent *y-ux-ul* 3sERG-whetstone-?POSSESSIVE/PARTICIPLE, and regarded as meaning 'his/her carving,' or by **7u-wo-ho-l(i)**, representing *7u-woj-ol* 3sERG-glyph-POSSESSIVE 'his/her/its glyphs,' or by **7u-BAT.HEAD-li**, where I believe the BAT.HEAD glyph with the spot on the cheek might be logographic **TS'IB'** 'writing,' rendering perhaps 3sERG-writing-POSSESSIVE 'his/her/its writing,' or logographic **YUL** 'polishing,' rendering perhaps 3sERG-polishing-POSSESSIVE 'his/her/its polishing.' On a few pottery objects the **7u-ti(-ya)** verb also appears. On K , and K , for example, it appears before **7u-ha-wa-TE7** 'his/her/its tripod plate' and before **7u-wo-ho-l(i)** 'his/her/its glyphs,' respectively. In such contexts, the best interpretation is 'his/her tripod plate was/got finished,' and 'his/her/its glyphs were/got finished.'

Other affixational evidence, this time peculiar to the **ts'i-b'i** glyph, also supports a participial interpretation, as I discuss next.

4.4.3. A **-(C)a-n(a)** Suffix

As already mentioned earlier, **ts'i-b'V** may take the following affixation pattern: **7u-ts'i-b'a-na**. Likewise, I also mentioned that **na-ha** may take the following affixation pattern: **7u-na-ha-ya**. The **7u-ts'i-b'a-na** pattern occurs twice in my database: on K 1256 and K 1728 (**figures 24a,b**). The former text is a type 8 structure showing:

(50)   7a-IS + **K'AL-ha** + **hi/yi-chV** + **7u-ts'i-b'a-na** +   **yu**-

T77-b'i + **ta-NAL** + **te-le** + **ka-wa** + OWNER'S.NAME

As a type 8 structure, then, **7u-ts'i-b'a-na** + **yu**-T77-**b'i** + **ta-NAL** + **te-le** + **ka-wa** + OWNER'S.NAME, where everything after **yu-**T77-**b'i** constitutes part of the same phrase that is headed by **yu-**T77-**b'i** (type 6 structure), constitute the possessed nouns serving as subjects to the verb (**K'AL-ha**) or verbs (**K'AL-ha** + **hi/yi-chV**, if the second is **hi-chV**) that come before. (If the glyph preceding **7u-ts'i-b'a-na** is **yi-chV** a case could be made, then, for it too being a possessed noun, 'his brushing'). If both glyphs are the subjects, and since both are possessed, it could also be said that the possessor could apply to both (i.e. the 'inscribed thing' and the 'drinking cup' have the same owner, the person named at the end of the text) or to just one (i.e. to the 'drinking cup'). In the former case, an interpretation could be 'the inscribed thing, the drinking cup of So-and-So.' In the latter case, however, the possessor of the 'inscribed thing' would be the 'drinking cup' itself. The term 'inscribed thing,' then, could refer specifically to the glyphs themselves in this case, although in other cases it could refer to the drinking cup itself. On K 1728 **7u-ts'i-b'a-na** is also shown (**figure 24b**), and the text appears to be a type 7 structure where three possessed nouns are the subjects of the GOD.N verb. The **7u-na-ha-ya** expression appears on K 1398 (**figure 14**), following **7u-ts'i-b'a-li**, and preceding **yu**-T77-**b'i** + **ti-yu-ta-la** + **ka-wa**, all three glyphs (**7u-ts'i-b'a-li** + **7u-na-ha-ya** + **yu**-T77-**b'i**) possessed by the same person, one could argue, whose name follows immediately after **ka-wa**. All three prefixed glyphs are the subjects of the GOD.N verb, or put another way, they are all part of the same noun phrase which functions as subject of the GOD.N verb.

Now, in addition to the **-Vl** participial suffix attested in the Colonial and Modern Lowland Mayan languages, there is evidence for two participial suffixes of the forms ***-a7n*** and
-ay. The best evidence is found in Yucatecan. Bricker (1986: 26) has compiled the data necessary to reconstruct this participial suffix as ***-a7an*** for Common Yucatecan. However, when one takes into account that Modern Yucatec has ***-á7an*** (high tone on the first vowel), and that according to Justeson et al. (1985: 15) the pre-Yucatecan to proto-Yucatecan sound changes included a change of ***V7C*** > ´*V7C*, where the first vowel acquired a high tone (´), one can reconstruct the pre-Yucatecan suffix as ***-a7n***. A few examples are needed to illustrate its use.

Hofling (1991, 1997) has described the suffix ***-a7an*** as a 'perfect/passive' participle that transitive or intransitive verbs can take, as shown in the following examples (Hofling, 1991: 36, 62, 87):

(51) **I**   **hach**   **käl-a7an-en**

CONJ   very   drunk-PARTC-1sA

And I was very drunk

(52) **ma7**   **chik-a7an**

NEG   see-PARTC

it isn't visible

(53) **chil-a7an-Ø**   **ti**   **lu7um**

lie-PARTC-3sA   PREP   earth

laid on the ground

Bricker, Po7ot Yah, and Dzul de Po7ot (1998: 373) describe *-á7an* and its allomorph *-an* (after glides) as a participial suffix. For example *7ok-á7an* 'entered' (enter-PARTICIPIAL), *ts'ak-á7an* 'cured' (cure-PARTICIPIAL), and *b'ay-an* 'straight, aligned' (straighten-PARTICIPIAL). Smailus (1989: 130) also describes (maintaing the Colonial Yucatec orthography) the allomorphs *-aan/-en* as a participial suffix in examples like *lubaan* 'fallen' from *lubul* 'fall,' and *dzibaan* 'written' from *dzib* 'write.'

The evidence for Cholan is slim. Modern Chontal, according to Keller and Luciano (1998: 477), has two "adjectivizing" suffixes of the forms *-en* and *-an*. They thus resemble the participial suffix with two allomorphs for Modern and Colonial Yucatec, respectively. The examples from Chontal provided by Keller and Luciano follow: *chäm-en* 'dead' and *jom-en* 'muddy,' and *tak'-an* 'ripe.' Modern Chol may have these suffixes as well; Aulie and Aulie (1978: 52, 68) show *chäm-en* 'dead' and *jub'-en* 'low' (from *jub'-el* 'to lower') as derived adjectives. The similarity between this set of allomorphs, *-en* and *-an*, with that from Colonial Yucatec, *-en* and *-aan* (*-á7an*), is at first stunning. In fact, keeping in mind the pre-Yucatecan reconstruction provided above, **-a7n*, and also that according to Kaufman and Norman (1984: 88), preconsonantal glottal stops led to vowel-lengthening in proto-Cholan-Tzeltalan, which in turn led to vowel-shortening in proto-Cholan times, one could propose either an **-a:n* pre-Cholan form (possible), or an **-an* proto-Cholan form if the suffix is of proto-Mayan ancestry (it would have to be if one were to claim that Yucatecan and Cholan both had cognates). The other alternative is, of course, that it was an innovation, whether Cholan or Yucatecan, which was then borrowed by the other. However, Kaufman (1989: 6, Part C)

reconstructs *-a7n* or

-a:n as a proto-Mayan 'stative' which was changed to a 'perfect participle' of

transitives and intransitives in Yucatecan. Kaufman also notes that

> There is some doubt whether the second allomorph of   *stative
> should have been reconstructed as **-a7n** or
> **-a:n**. Yu[catecan] points to the first, [Greater   Kanjobalan] to
> the second. The other language groups   having this morph bear ambiguous
> witness.

If the Cholan 'inceptive' were really a reflex with the *-a7n* or *-a:n* allomorph of

the proto-Mayan 'stative,' as Kaufman notes, one could still not tell whether it came

from *-a7n* or *-a:n*, because either one would have led to *-an* in proto-Cholan and

proto-Tzeltalan. In fact, Kaufman (1989: 30, Part C) thinks that the *-a7n* allomorph of

stative was lost from Western Mayan (proto-Greater.Kanjobalan-Cholan-Tzeltalan) to

proto-Cholan-Tzeltalan. The potential retention of the forms in Modern Chontal as

'adjectivizers' would suggest otherwise.[39]

Ch'orti' has an inceptive/inchoative *-an* that is semantically comparable to a

participle: *sak=sak-an* 'it became white' vs. *sak=sak* 'white,' *k'ox-r-an* 'it became thin'

vs. *k'ox* 'thin' (Pérez Martínez, 1994: 76). Modern Chol also has this suffix, as the

following examples from Aulie and Aulie (1978: 42) show: *k'am* 'sick (adjective)' vs.

k'am-7an 'to become/get sick (intransitive verb),' and *jal* 'a long time (adverb)' vs. *jal-*

---

39 Another explanation might be that they were borrowed by Chontal from Yucatecan, but
prefer to postulate they are retentions, since they can be traced back to an earlier pe
in the history of the subgroup to which Chontal belongs, even if other Cholan languages
lack it.

7an 'to take a long time (intransitive verb), to be delayed.' Whether or not Modern Chontal has also an inceptive suffix at the same time it has the **-an/-en** 'adjectivizers' might provide one with the necessary information to decide whether one of them is likely to be a reflex of the proto-Mayan participial suffix.

4.4.4. A **-(C)a-y(a)** Suffix

Only Smailus (1989:) describes for Colonial Yucatec an **-ay** 'participle' suffix, as in the following examples: *zat-ay* 'thing that gets/is lost' from *zat* 'to.lose' and **lot-ay** 'stirred up thing' from **lot** 'squeeze in between the hands.'

In this way, then, the **7u-ts'i-b'a-n(a)** and **7u-ts'i-b'a-l(i)** expressions might represent *7u-ts'ihb'-a7(a)n* and *7u-ts'ihb'-al* 'his/her/its written thing,' and **7u-na-ha-y(a)** and **7u-na-ha-l(a)** might represent *7u-na7(a)j/nah-ay* and *7u-na7(a)j/nah-al* 'his/her/its filled.up/earned thing.' These are cases where *-VC* suffixes are represented through a syllabic strategy. Interestingly, one of them contradicts the synharmony hypothesis proposed in Stuart, Houston, and Robertson (1999). These authors propose that syllabic signs used as postposed phonetic complements to logographs, and as the second component in the syllabic spellings of roots can serve as orthographical indicators of a complex vowel nucleus in the root (e.g. *V:*, *V7*, *V7V*) if the vowel of the syllabic sign in question is different in value from that of the preceding syllable. In the case of the proposed spelling of the participial suffix *-a7(a)n*, a complex vowel is present in the suffix, yet the second sign that completes its spelling, T23 **na**, is harmonius with the vowel of the suffix.

4.4.5. More Examples of Multiple-Verb Predicates

A brief test of the larger morphosyntactic proposals can be attempted here. I have proposed that structure types and constitute multiclausal texts. One can compare them with the following texts: K 1485, K 1873, K 1941, and K 2803. The text on K 1485 can be transliterated and analyzed as folows:

(54)   **7a**-IS + BAT.HEAD-**ha** + GOD.N-**yi** + **7u-ts'i-b'i** +

        na-ha + **yu**-T77-**b'i** + **ta-yu-ta** + **ka-wa** +

OWNER'S.NAME

(55)   {{[**7a**-IS + [BAT.HEAD-**ha** + GOD.N-**yi**]VERB.PHRASE]PRED-1 +

        [**7u-ts'i-b'i**]SUBJ-1}TYPE-7/CLAUSE-1 +

        {[**na-ha**]PRED-1 + [**yu**-T77-**b'i** +

        ta-yu-ta + **ka-wa** + OWNER'S.NAME]SUBJ-1}TYPE-7/CLAUSE-2}TYPE-9

It has a type 6 structure beginning with **yu**-T77-**b'i** and ending with the name of the vessel's owner, and before this type 6 structure is the glyph **na-ha**, which I have analyzed as an adjectival or participial stem functioning as a predicate of the type 6 structure. Before the **na-ha** glyph is what I have analyzed so far as a type 7 structure consisting of the IS, a slot for a predicate verb phrase, which is in this case occupied by two verbs (BAT.HEAD-**ha** + GOD.N-**yi**), and a slot for a subject noun phrase, occupied here by **7u-ts'i-b'i** 'his writing'. As a whole the text constitutes a type 9 structure. The BAT.HEAD glyph might be read as **XUL** 'to.end/finish' and the GOD.N verb might be read as **HUY**, as MacLeod (1990) has proposed, and probably refers to some dedicatory rite. The two verbs together might be roughly translated as 'it was finished and

dedicated,' since both are clearly inflected as intransitives (probably passives or mediopassives) and marked for agreement with the third person singular absolutive, **-Ø**.

The text on K 1941 is very instructive, for it is very similar, structurally, to that on K 1485; it is also a type 9 structure. However, it differs from the latter in a very important detail. It can be transliterated and analyzed as follows:

(56)   **7a-IS-ya** + FLAT.HAND-**ha** + GOD.N-**yi** + **ts'i-b'i** + **na-ha**

     yu-T77-**b'i** + **ti-yu-ta** + **ka-wa** + OWNER'S.NAME

(57)   {{[**7a-IS-ya** + [FLAT.HAND-**ha** + GOD.N-**yi**]VERB.PHRASE]PRED-1 +

     [**ts'i-b'i**]SUBJ-1}TYPE-7/CLAUSE-1 +

     {[**na-ha**]PRED-1 + [**yu**-T77-**b'i** +

     ti-yu-ta + **ka-wa** + OWNER'S.NAME]SUBJ-1}TYPE-7/CLAUSE-2}TYPE-9

As (57) shows, I regard the text on this vessel to be identical in structure to the one on K 1485. The only differences worth noting, for my purposes, are the following: (i) K 1485 has **7u-ts'i-b'i** instead of **ts'i-b'i**, (ii) K 1485 has BAT.HEAD-**ha** instead of FLAT.HAND-**ha**, (iii) K 1485 has **7a**-IS instead of **7a-IS-ya**, and (iv) K 1485 has **ta-yu-ta** rather than **ti-yu-ta**. I doubt that (iii) and (iv) are significant for the purpose of morphosyntactic analysis. Difference (ii) is difference only in that the verb preceding the GOD.N-**yi** verb is different in the two texts; in one it is probably **XUL** 'to.end/finish,' and in the other it is probably **K'AL** 'to wrap.' The most interesting difference, however, is (i): on K 1485 **ts'i-b'i** is possessed, while on K 1941 it is unpossessed. Although an unpossessed **ts'i-b'i** glyph could in theory also represent a verbal inflection of the verbal

noun *ts'ihb'* 'writing/to.write,' perhaps as a passive or mediopassive, the fact that it is found in the same structural pattern as the unpossessed 'drinking.cup' glyph in structure type 9 (3.2.9) above (e.g. K 4379, **figure 9**) suggests to me that we are supposed to understand it here as a subject noun phrase whose predicate consists of **(7a-)7AY(-ya)** + **K'AL-ha** + **HUY-yi** 'it was wrapped and dedicated.' The whole text can be translated, I think, as: 'the writing was wrapped and dedicated; the drinking cup of [owner] was full/earned.'

I will only discuss one last multi-clausal example. This one involves what I think is a verbal use of **hi-chi** in another type 9 structure. On K 2803 the following text is found:

(59)   **7a-**IS + FLAT.HAND-**ha** + **7u-ts'i-b'a-li** +

        hi-chV + **yu-**T77-**b'i** + **ta-NAL-TE7** + **ka-wa** +

        OWNER'S.NAME

I have analyzed this text as a type 7 structure whose subejct noun phrase is **7u-ts'i-b'a-l(i)** 'his/her/its written thing,' followed by a clause beginning with **hi-chV** as a predicate and whose subject noun phrase constitutes a type 6 structure with **yu-**T77-**b'i** as its head. As a whole, the text constitutes a type 9 structure. The following analysis represents these observations:

(57)   {{[**7a-**IS + [FLAT.HAND-**ha**]VERB.PHRASE]PRED-1 +

        [**7u-ts'i-b'a-li**]SUBJ-1}TYPE-7/CLAUSE-1 +

        {[**hi-chV**]PRED-1 + [**yu-**T77-**b'i** + **ta-NA(HA)L-TE7** +

ka-wa + OWNER'S.NAME]SUBJ-1}TYPE-7/CLAUSE-2}TYPE-9

In this text, **7u-ts'i-b'a-l(i)** 'his/her/its written thing' takes the place of **ts'i-b'i** and **7u-ts'i-b'i** in the two previous examples. Thus, the first clause can be translated as 'his/her written thing was wrapped,' assuming again the FLAT.HAND verb is **K'AL** 'to.wrap.' The second clause, assuming for now that **hi-chV** represents the verbal noun attested in Yucatec, *hí7ich* 'brushing/to.brush,' can be translated as 'the drinking cup of [owner] was brushed,' if the spelling **hi-chV** is meant to represent here a passivized or mediopassivized form of the verbal noun in question. It seems advisable to propose at this point a new structure type just for the purpose of producing as detailed a description as possible. This type consists of the following: either **na-ha** or **hi-chi** or theoretically **ts'i-b'i** (still unattested in this context as far as I know), followed by a type (1/2/3/5/)6 structure. This is in fact the second subcomponent of the type 9 structure, and if my analysis of it as a clause consisting of a predicate + subject NP is correct, then it would be no different, structurally, from a type 7 structure, with one exception: the type 7 structure begins with the Initial Sign, while the structure proposed at this point does not. However, for purely descriptive purposes I have decided it would be useful to say "a type 9 structure is composed of a type 7 structure and a type 13 structure" rather than "a type 9 structure is composed of a type 7 structure and a type 7 structure without the Initial Sign at the beginning."

5.   Conclusions and Future Research

I have described twelve basic structure types that can be used in the PSS dedcatory texts, but there are probably still many others that need describing. However,

those treated here allow for interesting possibilities regarding the style of these dedicatory texts, as well as for a new interpretation of two of their most common expressions. Although no Cholan sources that I have looked at has a clear cognate with Yucatecan *-a7n* or *-ay*, they may have been present at an earlier Cholan stage, which is not reconstructible from the modern languages alone. Several authors have speculated on the possibility that there might be a historical relationship between Cholan's inchoative suffixes and the *-a7n* participle, for example, and this merits further linguistic research.

The following are my conclusions about the structure of the PSS dedicatory formula:

(1) PSS texts can have multiple clauses, each clause with a different dedicatory verb and a different subject, and each clause is capable of having multiple verbs and multiple nominals functioning as subjects.

(2) PSS texts can have predicates of different types, including root transitive verbs and verbal nouns in predicative function. I suspect that some of the predicates could be adjectives (e.g. *na7aj* 'full') as well, but this is still not possible to narrow down.

(3) Several types of verbal suffixes are found on verbs in PSS texts. These include *-aj*, *-Vy*, and *-Ø*, as well as the proposed participial suffixes *-Vl*, *-a7n*, and *-ay*. Glyphs with these participial suffixes can have

three main functions. One of them is a predicative

functions, in which case the glyph takes the suffix and

appears clause-initially (e.g. **... yu-**T77-**b'i** +

na-h<u>a</u>-l(a) + **yu-**T77-**b'i**). The second function is an

attributive one, in which case the glyph takes the

suffix and modifies a following nominal (e.g.

ti-yu-t<u>a</u>-l(a) + **NAH<u>AL</u>** + **ka-ka-wa**). The third is a

nominalizing one, in which case the glyph takes the

suffix and an ergative marker (e.g. **7u-ts'i-b'a-l(i)**).

(4) When prefixed with ergative markers, a participle

form with the participial suffixes proposed here can be   nominalized.

When nominalized, the translation requires   adjustments. Thus, ***7u-ts'ihb'*** 'his writing'

vs.

7u-ts'ihb'-a(7)n 'his written thing.' In the former   case, 'writing'

unambiguously refers to the glyphs   painted on the vessel, for example,

while in the latter   case, 'written thing' could refer to the vessel itself

(as the thing written on) or to the glyphs themselves   (as the things

written).[40]

(5) A purely structural, coindexing approach can reveal   much about

syntactic functions, which in turn can lead   to the decipherment of the spellings

of morphemes used

in the coding of such functions.

---

[40] Perhaps a better English translation of a ***ts'ihb'-a7an*** expression that refers to th
surface or object on which something was written might be 'inscribed thing.'

Lastly, the preliminary typology proposed here can be generalized, as a hypothesis, to PSS texts present on any kind of artifact, or more generally, to PSS texts whose central nominal phrase (e.g. the phrase naming the object on which the text is inscribed, or the text itself, for example) can be any noun, not just **(y)u**-T77-**b'i**. This generalized hypothetical typology would look as follows[41]:

(1)   {[NOUN]PRED};

(2)   {[**7u/y(V)**-NOUN]PRED};

(3)   {[**7u/y(V)**-NOUN + POSS]PRED};

(4)   {[NP]PRED + [(**7u**-DIVINE-NAME) + TYPE 3]SUBJ};

(5)   {[TYPE 2 + [(+ **ti**) [(+ MOD) [CONT]NP]NP]PP]PRED};

(6)   {[TYPE 5 + POSS]PRED};

(7)   {[IS + VERB]PRED + [TYPE 1/2(/3/5)6]SUBJ};

(8)   {[IS + VERB]PRED-1 + [NOUN]SUBJ-1}CLAUSE-1 +

        {[TYPE 3]PRED-2}CLAUSE-2;

(9)   {[IS + VERB]PRED-1 + [NOUN]SUBJ-1}CLAUSE-1 +

        {[VERB/ADJECTIVE/NOUN]PRED-2 +

        [TYPE (1/2/3/5/)6]SUBJ}CLAUSE-2;

(10) {[IS + VERB$_1$ + ... + VERB$_{1+n}$]PRED};

(11)   {[TYPE 10]PRED + [TYPE (1/2/3/5/)6]SUBJ}; and

(12) {[TYPE 10]PRED-1}CLAUSE-1 +

        {[VERB/ADJECTIVE/NOUN]PRED-2 +

        [TYPE (1/2/3/)5(/6)]SUBJ}CLAUSE-2.

---

[41] Again, the nomenclature used is the following: {} = clause, [] = phrase, PRED = predicate, SUBJ = overt subject, POSS = possessor, MOD = modifier, CONT = contents, GOI the GOD.N verb or another verb in its place, PP = prepositional phrase, NP = noun phras optional elements are shown between parentheses.

(13)   {[VERB/ADJECTIVE/NOUN]]_{PRED-1} +

        [TYPE (1/2/3/)5(/6)]_{SUBJ-2}}

The last type, type 13, is not attested in my database of 240 examples by itself, but only after a preceding clause. As I said already, it is in fact a type 7 structure without an Initial Sign, and I have defined it as a separate type simply to make that distinction (i.e. IS vs. no IS).

Future research should test this typology more extensively on other PSS texts from ceramic containers as well as on PSS texts on monuments and other inscribed media. I feel confident that some of the types that I regard as distinct here will be collapsed into the same type as new decipherments confirm the values of some of these glyphs as verbal nouns. I also think it likely that other types will be added, and certainly that these typology can be refined with more linguistic details.

In a future study I also intend to describe in detail the morphosyntactic contexts of assumed verbal glyphs (e.g. **K'AL-h(a)**, SKY**-la-h(a)**, **che-7e-n(a)**), as well as of other glyphs which are assumed to be nouns but which I did not discuss in this paper in enough detail or at all (e.g. **ka-ka-w(a)**, **7u-la-k(a)**, **7u-yu-l(u)**, **yu-xu-lu(-li)**, etc.).

Acknowledgements

what I have learned in his seminars, through the examination of case studies of writing systems from other parts of the world, such as Linear B and the Indus Valley script. But of course, any methodological or analytical flaws present in this paper are more than likely my own doing.

Addendum: The Value of T128

Given the constraints on the 'drinking.cup' expression, I would posit the following possible values for T128: **ch'i**, **ch'u**, **k'i**, and **k'u**. This is assuming that it has a syllabic value, an assumption I regard as likely since there are instances where **(y)u-T128-b'a** functions as a possessed instrumental noun in which T501 has to have the phonetic value **b'a** if the instrumental suffix is to be spelled. I do not think that T77 and T128 substitute for each other in every environment.

The examples from the 'drinking.cup' expression suggest either that they have

(i) different consonantal values (i.e. with T77 **k'i** and T128 **ch'i**),
(ii) different vocalic values (i.e. with T77 **k'i** and T128 **ch'u**, in which case they would suggest a dialectal or linguistic difference whereby the suffix was *-ib'* in one dialect/language and *-ub'* in the other), or
(iii) different consonantal and vocalic values altogether (i.e. T77 **k'i** and T128 **ch'u**, again, indicating linguistic variation in the spelling of the 'drinking.cup' expression).

Furthermore, I know of no cases where T77 and T128 were both used in the

'drinking.cup' expression in the same text (i.e. in texts where the 'drinking.cup'

expression appears more than once). Such distribution suggests a dialectal difference

(based, possibly, on a different vocalic value for the suffix) or an interlinguistic difference

(based, most likely, on a different value for the last consonant of the root 'to drink'). I

also know of no cases where T128 was used interchangeably or in similar environments to

T604 **k'u**. If this observation proves valid, then a value **k'u** for T128 would be unlikely.

Thus, it is possible to eliminate, tentatively, **k'i** and **k'u**. I would argue that the value of

T128, therefore, is most likely **ch'V**, whether **ch'i** or **ch'u**.

Perhaps the seeming "overcompensation" attested on vases K 635 and K 1226,

where the 'drinking.cup' glyph was spelled out as **(y)u-**T128**-b'a-b'i**, may ultimately be

an indication that the syllabic value of T128 was **ch'u**, and that the scribe, after

effectively spelling **(y)u-ch'u-b'(a)** for *(y-)uch'-ub'*, added the **b'i** at the end to make it

clearer to readers whose dialect or language would have called for an

-ib' rather than an *-ub'* suffix. But this idea is pure speculation at this point.

References

Aissen, Judith L.

1992   Topic and Focus in Mayan. *Language* 68:43-80.

Auley, H. Wilbur, and Evelyn W. de Auley

1978   *Diccionario Ch'ol-Español, Español-Ch'ol.* Serie de

vocabularios y diccionarios indígenas Mariano Silva y

Aceves, Número 21. México, D.F.: Instituto Lingüístico

de Verano.

Bricker, Victoria R.

1986   A Grammar of Mayan Hieroglyphs. *Middle American*

Research Institute, Publication 56. New Orleans: Tulane

University Press.

Bricker, Victoria R., Eleuterio Po7ot Yah, and Ofelia Dzul de Po7ot

1998   *A Dictionary of The Maya Language As Spoken in*

Hocabá, Yucatán. Salt Lake City: The University of Utah

Press.

Carmack, Robert M.

1981   *The Quiché Mayas of Utatlán: The Evolution of a Highland Guatemala Kingdom*.

Norman: University of Oklahoma Press.

Chase, Chase, and Grube, 1991

Coe, Michael D.

1973   *The Maya Scribe and His World*. New York: The

Grolier Group.

Coe, Michael, and Justin Kerr

1998   *The Art of the Maya Scribe*. New York: Harry N.

Abrams, Inc., Publishers.

Culbert, 1993

Dixon, Robert M. W.

1994   *Ergativity*. Cambridge Studies in Linguistics, 69.

Cambridge: Cambridge University Press.

Feldman (1986)

Grube, Nikolai (1986, 1990, 1991)

1986

1991

1991   An Investigation of the Primary Standard Sequence

on Classic Maya Ceramics. In *Sixth Palenque Round*

Table, 1986, edited by Merle Greene Robertson. Norman:

University of Oklahoma Press.

Grube and Schele (1990: 136)

Fox, James A., and John S. Justeson

1980   Mayan Hieroglyphs as Linguistic Evidence. In

Third Palenque Round Table, 1978, Part 2, edited by

Merle Greene Robertson. Austin: University of Texas

Press.

1984a   Polyvalence in Mayan hieroglyphic writing. In

Phoneticism in Mayan Hieroglyphic Writing, edited by

John S. Justeson and Lyle Campbell. Institute for

Mesoamerican Studies Publication No. 9. Albany: State

University of New York.

1984b   Appendix C: Conventions for the transliteration of

Mayan hieroglyphs. In *Phoneticism in Maya Hieroglyphic*

Writing, edited by John S. Justeson and Lyle Campbell.

Institute for Mesoamerican Studies Publication No. 9.

Albany: State University of New York.

Hofling, Charles Andrew

1984   On Proto-Yucatecan Word Order. *Journal of Mayan*   *Linguistics*

4(2):35-64.

1991 *Itzá Maya Texts*. Salt Lake City: University of Utah

Press.

1997 *Itzaj Maya-Spanish-English Dictionary*. Salt Lake

City: University of Utah Press.

1998 Irrealis and Perfect in Itzaj Maya.

Anthropological Linguistics 40:214-227.

Hopkins and Josserand (1986)

Hopkins, Nicholas, and Kathryn Josserand

1999 Issues of Glyphic Decipherment. Talk presented at

the *University of Pennsylvania Museum of Archaeology and*

Anthropology 17th Annual Maya Weekend.

Houston, Stephen

1997 The Shifting Now: Aspect, Deixis, and Narrative in

Classic Maya Texts. *American Anthropologist* 99(2):291-

305.

Houston, Stephen D., David Stuart, and Karl A. Taube

1989 Folk Classification of Classic Maya Pottery.

American Anthropologist 91:720-6.

Houston, Stephen D., and Karl A. Taube

1987 "Name-Tagging" in Classic Mayan Script. *Mexicon*

38-41.

Josserand, Kathryn J.

1991 The Narrative Structure of Hieroglyphic Text at

Palenque. In *Sixth Palenque Round Table, 1986*, edited

by Merle Greene Robertson. Norman: University of

Oklahoma Press.

1995   Participant Tracking in Maya Hieroglyphic Texts:

Who Was That Masked Man? *Journal of Linguistic*

Anthropology 5(1):65-89.

Justeson 1978, 1985, 1986, 1989

Justeson, John S.

1984   Appendix B: Interpretations of Mayan Hieroglyphs.

In *Phoneticism in Maya Hieroglyphic Writing*, edited by

John S. Justeson and Lyle Campbell. Institute for

Mesoamerican Studies Publication No. 9. Albany: State

University of New York.

1985   Hieroglyphic Evidence for Lowland Mayan Linguistic

History. *International Journal of American Linguists*:

469-471.

1989   The Representational Conventions of Mayan

Hieroglyphic Writing. In *Word and Image in Maya*

Culture. Explorations in Language, Writing, and

Representation, edited by William F. Hanks and Don S.

Rice. Salt Lake City: University of Utah Press. pp.

25-38.

Justeson, John S., and James A. Fox

1989   *Hieroglyphic Evidence for the Languages of the*

Lowland Maya. Unpublished manuscript in possession of

author.

Justeson, John S., William M. Norman, Lyle Campbell, and Terrence Kaufmans

1985 The Foreign Impact on Lowland Mayan Language and
Script. *Middle American Research Institute, Publication
53*. New Orleans: Tulane University.

Kaufman, Terrence S.

1976 Archaeological and linguistic correlations in
Mayaland and associated areas of Mesoamerica. *World
Archaeology* 8(1):101-118.

1989 *Mayan Comparative Studies, Parts A-D*. Unpublished
manuscript in possession of author.

1990 Algunos rasgos estructurales de los idiomas
Mayances con referencia especial al K'iche'. In
Lecturas sobre la lingüística maya, compiled by Nora C.
England and Stephen R. Elliott. La Antigua, Guatemala:
Centro de Investigaciones Regionales de Mesoamérica
(CIRMA). pp. 59-114.

Kaufman, Terrence and William Norman

1984 An outline of proto-Cholan phonology, morphology,
and vocabulary. In *Phoneticism in Maya Hieroglyphic
Writing*, edited by John S. Justeson and Lyle Campbell.
Institute for Mesoamerican Studies Publication No. 9.
Albany: State University of New York.

Keller and Luciano, 1997: 53

Kerr, Justin

1989-1997 *The Maya Vase Book, A Corpus of Rollout
Photographs of Maya Vases*, 5 Vols.

(Knorozov, 1952)

Lacadena, Alfonso

1998   Anti-passive Constructions in the Glyphic Texts.

Abstract for the *Language and Dialect Variation in the*

Maya Hieroglyphic Script Symposium of the 63rd SAA

Meeting.

Larsen, Thomas

1987   The Syntactic Status of Ergativity in Quiché.

Lingua 71:33-59.

1990   Notas sobre ergatividad en la gramática Maya. In

Lecturas sobre la lingüística maya, compiled by Nora C.

England and Stephen R. Elliott. La Antigua, Guatemala:

Centro de Investigaciones Regionales de Mesoamérica

(CIRMA). pp. 319-334.

Laughlin (1975: 107)

Lounsbury (1980)

MacLeod, Barbara

1984   Cholan and Yucatec verb morphology and glyphic

verbal affixes in the inscriptions. In *Phoneticism in*

Maya Hieroglyphic Writing, edited by John S. Justeson

and Lyle Campbell. Institute for Mesoamerican Studies

Publication No. 9. Albany: State University of New

York.

1990   Deciphering the Primary Standard Sequence.

Unpublished Ph.D. dissertation, The University of Texas,

Austin.

1991   T128: A Reprise. *North Austin Hieroglyphic*

        Hunches: An Impromptu Series of Notes on Maya Epigraphy.

1995   T128: The Next Generation. *North Austin*

        Hieroglyphic Hunches: An Impromptu Series of Notes on

        Maya Epigraphy.

MacLeod, Barbara, and Brian Stross

1990   The Wing Quincunx. *Journal of Mayan Linguistics* 7:14-27.

MacLeod and Wald (1999)

Mathews and Justeson (1984)

Mora-Marin, David F.

1997a *The T846 SKULL glyph*. Unpublished manuscript

        circulated among a few epigraphers.

1997b *The Phonetic Value of T77 As **k'i***. Unpublished

        manuscript circulated among a few epigraphers.

1998   *Antipassive Constructions and Pivot-Chaining in*

        the Classic Mayan Script. Unpublished Master's Thesis

        undergoing revision for final submission.

n.d.   *The Structure of the Dedicatory Formula in Classic*

        Mayan Texts. Manuscript in preparation. State

        University of New York at Albany.

Norman (1977)

Norman, William, and Lyle Campbell

1978   Toward a Proto-Mayan Syntax: A Comparative

        Perspective on Grammar. In *Papers in Mayan Linguistics*

(University of Missouri Miscellaneous Publications in
Anthropology No. 6, Studies in Mayan Linguistics No. 2),
edited by Nora C. England. Columbia,   Missouri:
University of Missouri. pp. 136-156.

Pérez Martínez, Vitalino

1994   *Gramática del Idioma Ch'orti'*. Proyecto
Lingüístico Francisco Marroquín.

Reents-Budet 1994

1994   *Painting the Maya Universe: Royal Ceramics of the
Classic Period*. Durham: Duke University Press.

Riese, 1984)

Robicsek and Hales (1983

Schele, Linda

1982   *Maya Glyphs: The Verbs*. Austin: University of
Texas Press.

Schele and Miller, 1986: Plate 86

Slocum and Gerdel, 1965: 123

Smailus, Ortwin

1975   *El Maya-Chontal de Acalán. Análisis lingüístico de
un documento de los años 1610-1612*. UNAM: Centro de
Estudios Mayas, Cuaderno 9.

1989   *Gramática del Maya Yucateco Colonial*. Wayasbah
Publication No. 9. Hamburg: Wayasbah.

Stuart, David.

1987   Ten Phonetic Syllables. *Research Reports on*

Ancient Maya Writing 14. Washington, D.C.: Center for

   Maya Research.

1989   Hieroglyphs on Maya Vessels. In *The Maya Vase*

   Book: A Corpus of Rollout Photographs of Maya Vases,

   Vol. 1, by Justin Kerr.

Stuart, David, Stephen Houston, and John Robertson

1999   Recovering the Past: Classic Mayan Language and

   Classic Maya Gods. *The XXIIIrd Linda Schele Forum on*

   Maya Hieroglyphic Writing.

Stuart, George E.

1988   A Guide to the Style and Content of the Series

   Research Reports on Ancient Maya Writing. *Research*

   Reports on Ancient Maya Writing 15.

Thompson, Eric

1962   *A Catalogue of Maya Hieroglyphics*. Norman:

   University of Oklahoma Press.

Wald, Robert Francis

1994   *Transitive Verb Inflection in Classic Maya*

   Hieroglyphic Texts. M.A. Thesis, University of Texas at

   Austin.