

Pre-Ch'olan as the Standard Language of Classic Lowland Mayan Texts

Paper presented at the 2002-2003 SSILA Meeting,
Atlanta, Georgia, January, 2003

David F. Mora-Marín

davidmm@ku.edu

University of Kansas

1. Introduction

Most specialists agree that Classic Lowland Mayan (CLM) texts (ca. A.D. 200-900) used a standard written language, and that it was based on some form of Ch'olan.¹ However, its precise linguistic affiliation and historical stage are still the subject of debate. One proposal sees the standard written language as based on a form of Ch'olan that preceded the breakup of Proto-Ch'olan into its Eastern and Western branches. Another sees it as based on a form of Ch'olan that postdates that breakup, more specifically a Pre-Eastern Ch'olan language.

This paper focuses on this question. First I review the preceding proposals. And then I present new morphosyntactic evidence that leads to the following conclusions: (1) that the evidence presented in support of the Pre-Eastern Ch'olan model is unconvincing; and (2) that a Pre-Ch'olan model is a simpler model because it requires the acceptance of fewer discontinuities. Before delving into these tasks a very brief overview of the CLM script and Lowland Mayan civilization is necessary.

¹ See the following for examples: Fox and Justeson 1982, Justeson 1989, Justeson and Fox 1989, Justeson and Mathews 1990, Josserand 1995, Justeson and Campbell 1997, Stuart et al. 1999, Lacadena and Wichmann 1999, and Houston et al. 2000.

2. Background to Classic Lowland Mayan Civilization and Languages

Prehispanic Lowland Mayan civilization is defined in terms of three culture-historical periods, as seen in **Figure 1**. The Lowland Mayan script, in use from ca. 100 B.C. to ca. A.D. 1700, utilizes logograms and syllabograms to represent a typically agglutinating, head-marking, head-initial, ergative language with CVC root shapes and VOA basic word order (Mora-Marín 2002a). I assume Kaufman's (1976, 1990) model of the diversification of Mayan languages, shown in **Figure 2**. I assume too that the Mayan lowlands, shown in **Figure 3**, were likely inhabited by Ch'olan and Yukatekan speakers during the Classic period, and that together they were responsible for the development of CLM civilization (Justeson et al. 1985). Their close interaction following the diversification of Ch'olan-Tzeltalan led to intense linguistic diffusion that defines the *Lowland Mayan* linguistic area (Justeson et al. 1985:9-12). Exclusive Ch'olan phonological innovations evident in their shared ritual vocabulary, much of which is attested in CLM texts as seen in **Figure 4**, suggest that Ch'olan speakers were the donors; this points to Ch'olan speakers as the more powerful group responsible for much of CLM elite culture, including perhaps the conventionalized orthography, lexicon, grammar, and genres of ritual and political discourse present in CLM texts.

FIGURE 1
Culture Historical Periods

Preclassic (1200 B.C.-A.D. 200)
 Early 1500-1000 B.C.
 Middle 1000-400 B.C.
 Late 400 B.C.-A.D. 200

Classic (A.D. 200-900)
 Early A.D. 200-600
 Late A.D. 600-900

Postclassic (A.D. 900-1521)
 Early A.D. 900-1300
 Late A.D. 1300-1697

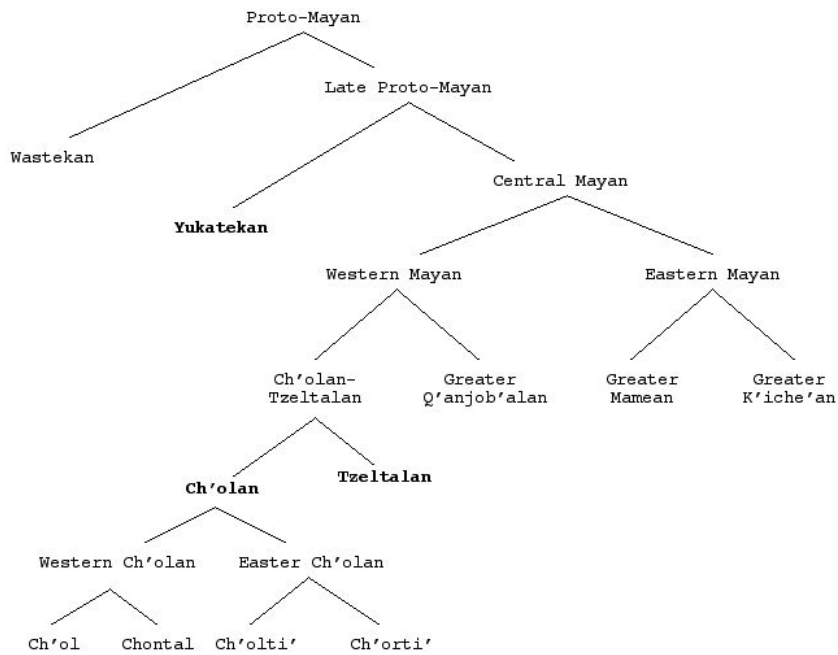


Figure 2. Kaufman's (1976, 1989) Mayan diversification model.

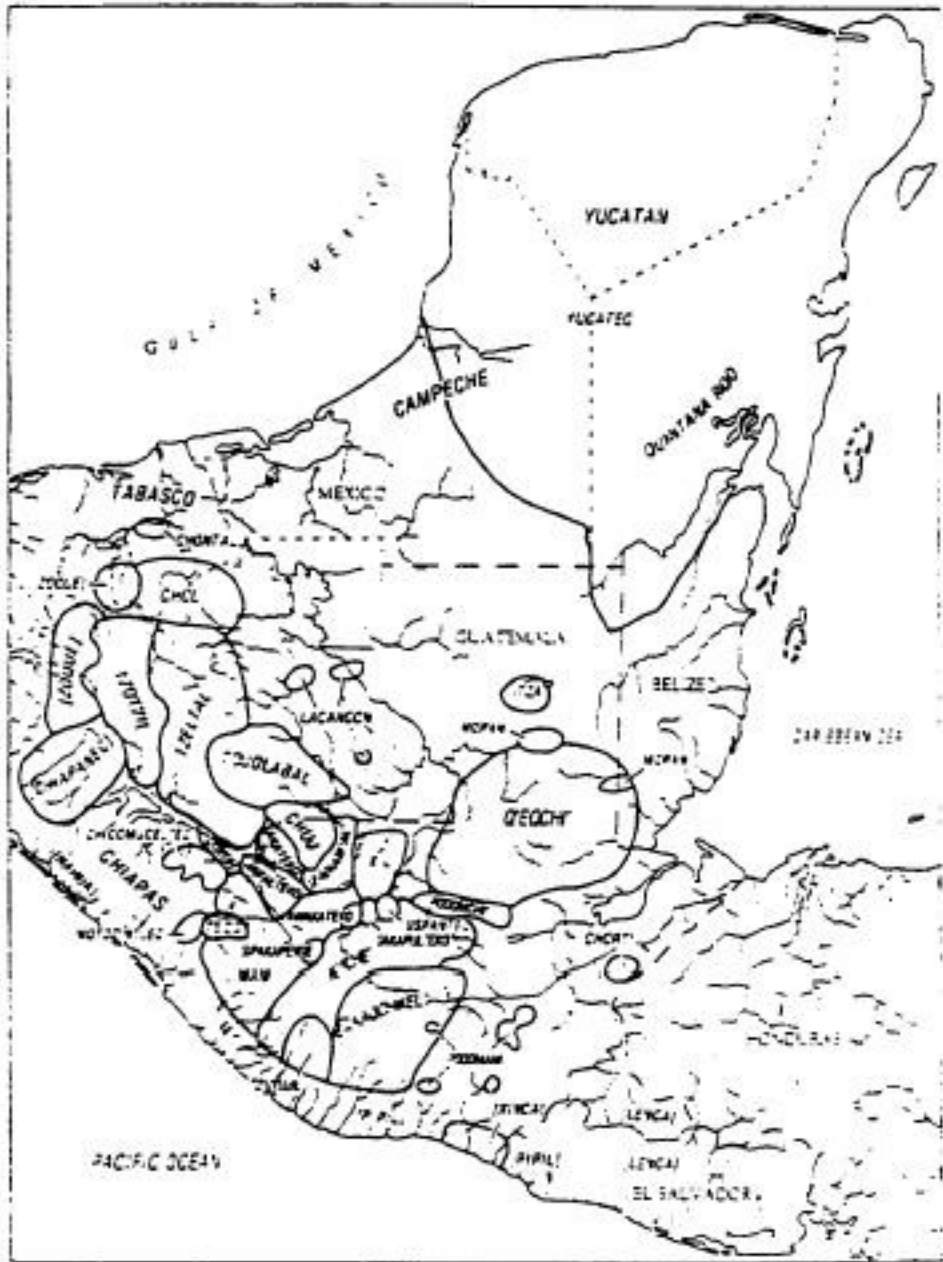


FIGURE 4

Ch'olan Ritual Vocabulary Borrowed by Yukatekan

LEXICAL ITEMS ALSO ATTESTED IN GLYPHS	CH'OLAN SOURCE
1) LAHUN-CHAN Ch'olan * <i>lahu(u)n cha(')n</i> 'Ten Sky (name of a god)'	Ch'olan * <i>k</i> > <i>ch</i> shift (Yukatekan retained the <i>k</i> of Proto-Mayan * <i>ka'n</i> 'sky', while Ch'olan developed * <i>cha'n</i> > * <i>chan</i>) (Justeson et al. 1985)
2) (tu-)TUN(-ni) for Ch'olan * <i>tu(u)n</i>	Ch'olan * <i>oo</i> > * <i>uu</i> shift (cf. Proto-Mayan * <i>tooj</i> , borrowed by Yukatekan as * <i>tũun</i> from Ch'olan * <i>tuun</i>) (Justeson et al. 1985)
3) CHAK(-k(i)) and cha-k(i) for * <i>chahk</i> 'thunder, lightning'	Ch'olan * <i>k</i> > <i>ch</i> shift (cf. Proto-Mayan * <i>kahog</i> 'thunder', borrowed by Yukatekan as * <i>chák</i> for the Rain God, retained as * <i>kawak</i> for the day name 'thunder'; Ch'olan developed * <i>chahuk</i> > * <i>chahk</i>)
4) ku-tz(u) for * <i>kũutz</i> 'turkey'	Ch'olan * <i>oo</i> > <i>uu</i> shift (cf. Proto-Mayan * <i>kootz</i> , which would have been retained in Yukatekan as <i>kõotz</i>)
5) b'u-lu-ch(u) for * <i>b'uluch</i> 'eleven'	Ch'olan * <i>k</i> > <i>ch</i> shift (cf. Yukatek has also <i>b'uluk</i> , and borrowed <i>b'uluch</i> from Ch'olan, attested in forms like < <i>buluchcan</i> > 'bálsamo o liquidámbar"')

3. Discussion of Previous Proposals

Given the scenario just presented, it is no simple matter to address the issue of the standard written language of CLM texts. There are two major positions on this issue.

3.1. The Ch'olan(-Tzeltalan) Proposal

The first is the Ch'olan or Ch'olan-Tzeltalan proposal, most clearly articulated in two unpublished manuscripts by John Justeson and James Fox (Fox and Justeson 1982; Justeson and Fox 1989) that were circulated during the 1980s (cf. citations in Houston 1988; Justeson 1989; Houston et al. 2000). It

suggests that Mayan writing was innovated by speakers of a Ch'olan or Ch'olan-Tzeltalan language prior to the breakup of Proto-Ch'olan into its Eastern and Western branches between ca. A.D. 400-700, an estimate based largely on glottochronological estimates by Kaufman (1976, 1990). These Ch'olan or Ch'olan-Tzeltalan innovators of the script conventionalized its structure, i.e. its spellings, orthographic practices, and grammatical structure, at an early time, possibly by the beginning of the Classic period (ca. A.D. 200).

As summarized in **Figure 5**, Fox and Justeson, and several other authors since, have used primarily two types of evidence: lexical and phonological innovations attested in the oldest and most conservative components of the script (i.e. calendrical cycle and period names) that can be ascribed exclusively to Ch'olan (e.g. the **oo > uu* and *ee > ii* shifts); and departures from standard spellings as evidence for lexical or phonological innovations indicative of local vernaculars (e.g. Yukatekan, Eastern Ch'olan, Western Ch'olan).

FIGURE 5

Types of Evidence for Standard Language and Local Vernaculars by Justeson and Fox (1989) and Others

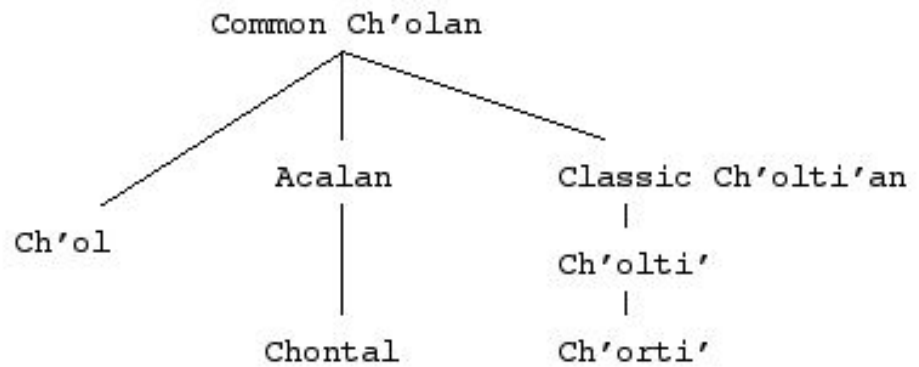
ACROPHONIC SIGN ORIGINS	SOURCE
1) T117 wi , depicts ROOT	Ch'olan/Yukatekan [*] wi' 'root', [*] ib' in other Mayan languages (Justeson and Fox 1989:7)
2) T62 yu , depicts BEAD	Ch'olan [*] uhy 'bead, necklace', from Proto-Mayan [*] u ^h (Mora-Marín 2001)
STANDARD SPELLINGS	SOURCE
3) UNIW(-ni-wa) for <uniw> 'fourteenth month'	Ch'olan [*] ee > [*] ii shift (cf. Q'anjob'al <onew>) (Justeson and Fox 1989)
4) (tu-)TUN(-ni) for [*] tu(u)n 'stone, year (ending)'	Ch'olan [*] oo > [*] uu shift (cf. Proto-Mayan [*] tooy) (Justeson et al. 1985)
NON-STANDARD SPELLINGS	SOURCE
5) -wa-ni for [*] w-am(-i) 'positional suffix'	Unique to Ch'olan (cf. MacLeod 1984; Justeson 1985; Justeson and Fox 1989)
6) i-dhi-l(a) ~ ICH(IL)(-la) for [*] ich(-il) 'in, inside'	Based on Yukatekan [*] ich 'eye/face/fruit' (Justeson and Fox 1989)
8) -(Ci-b'(i)) for [*] ib' 'instrumentalizer of positionals'	Ch'orti' innovation; Ch'olan otherwise has [*] -lib' instead (Wichmann 2002)
9) K'AN-K'IN for [*] k'am=k'in 'fourteenth month'	Yukatekan innovation (Justeson and Fox 1989; Lacadena and Wichmann 1999)
10) (u-)CHAN for (u-)cha'an 'for, from, so that, because of'	Ch'ol innovation (Justeson and Fox 1989)
11) HOUSE-chu for [*] otóoch 'house'	Yukatekan [*] t > ^{ch} shift (Justeson et al. 1985; Justeson and Fox 1989)
12) yo-HOUSE-che for [*] y-otóoch 'house'	Yukatekan [*] t > ^{ch} shift (Lacadena and Wichmann 1999)
13) PENIS-cha for [*] ach 'penis'	Yukatekan [*] t > ^{ch} shift (Grube in Chase et al. 1991; Mora-Marín 2001), cf. Ch'olan [*] at

3.2. The Classic Ch'olti'an (Pre-Eastern Ch'olan) Proposal

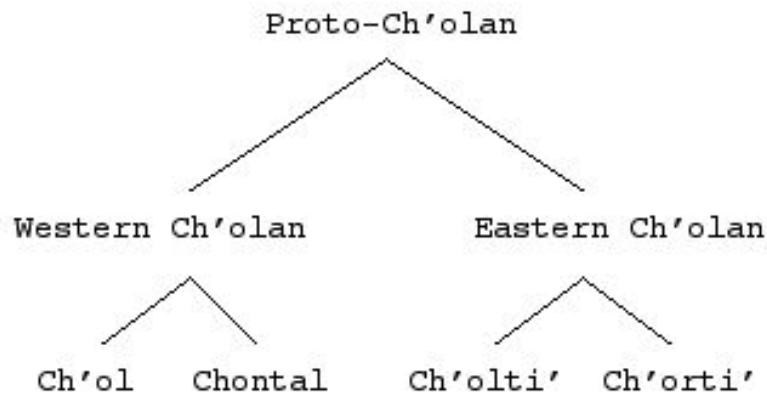
Houston, Robertson, and Stuart (2000) have proposed a language they call "Classic Ch'olti'an" to be the standard language of CLM texts. Given

Robertson's (1992, 1999) hypothesis that Ch'olti' gave rise to Ch'orti', Classic Ch'olti'an would correspond to a form of Ch'olti' that preceded the form attested in Morán's colonial manuscript (ca. A.D. 1695), making the language of CLM texts a Pre-Ch'olti' language (hence Pre-Eastern Ch'olan by Robertson's model) used during the Classic period, hence "Classic Ch'olti'an," as seen in **Figure 6a**. Kaufman and Norman (1984), in contrast, have proposed Ch'olti' and Ch'orti' to be sibling Eastern Ch'olan languages, as seen in **Figure 6b**.

FIGURE 6



a) Historical model of language of CLM texts according to Pre-Eastern Ch'olan (Classic Ch'olti'an) hypothesis by Robertson (1999).



b) Diversification model of Ch'olan by Kaufman and Norman (1984).

The evidence for Eastern Ch'olan or Classic Ch'olti'an as the standard written language of CLM texts is based on three linguistic markers, seen in **Figure 7** and discussed below. Stuart et al. (1999) and Houston et al. (2000) also suggest that CLM texts do not exhibit split ergativity, but instead that they exhibit "straight ergativity," or simply ergativity in Dixon's (1979, 1994) terms. If this is correct, it amounts to saying, in Robertson's model and terminology, that

Common Ch'olan lacked split ergativity, and that Ch'ol, Chontal, and Eastern Ch'olan developed split ergativity independently after their split from Common Ch'olan. CLM texts would represent the stage of Eastern Ch'olan prior to that innovation. While this is certainly possible, it assumes three discontinuities, namely, the independent loss of straight ergativity in Ch'ol, Chontal, and Proto-Eastern Ch'olan, as seen in **Figure 8a**. The more widely accepted model by Kaufman and Norman (1984), who reconstruct split ergativity to Proto-Ch'olan, suggests both Ch'olan branches inherited split ergativity, as seen in **Figure 8b**, and is therefore a simpler model.

FIGURE 7

The three linguistic markers of CLM texts proposed by Houston et al. (2000) to be Eastern Ch'blan innovations, with new comparative data for *-b'u* ~ *-b'a* not provided by those authors.

- a) *-V_{1y}* 'mediopassivizer > verb of motion > verb of change of state'
- b) *-h-...-aj* 'passivizer'
- c) *-b'u* 'transitivizer of positionals'

CH'OLTI'

<uch-bu-n> 'colgado (hanging)' (Moran 1695:20, 23)
<eat-bu> 'to place crosswise' (Moran 1695:2)
<much-bi> 'pile up' (Moran 1695:3)

CH'ORTI'

wa'-b'u 'to stand' (Pérez Martínez 1994:79)
pak-b'u 'to place face down' (Pérez Martínez 1994:79)
t'uch-b'a 'to make crouch' (Pérez Martínez 1994:79)
kot-b'a 'to make kneel' (Pérez Martínez 1994:79)
jek-b'a 'to make open' (Pérez Martínez 1994:79)

CH'OL

jex-b'a-n drag-CAUS-INC 'arrastrar (viga, persona, animal)'
(Aulie and Aulie 1978:64)

CHONTAL

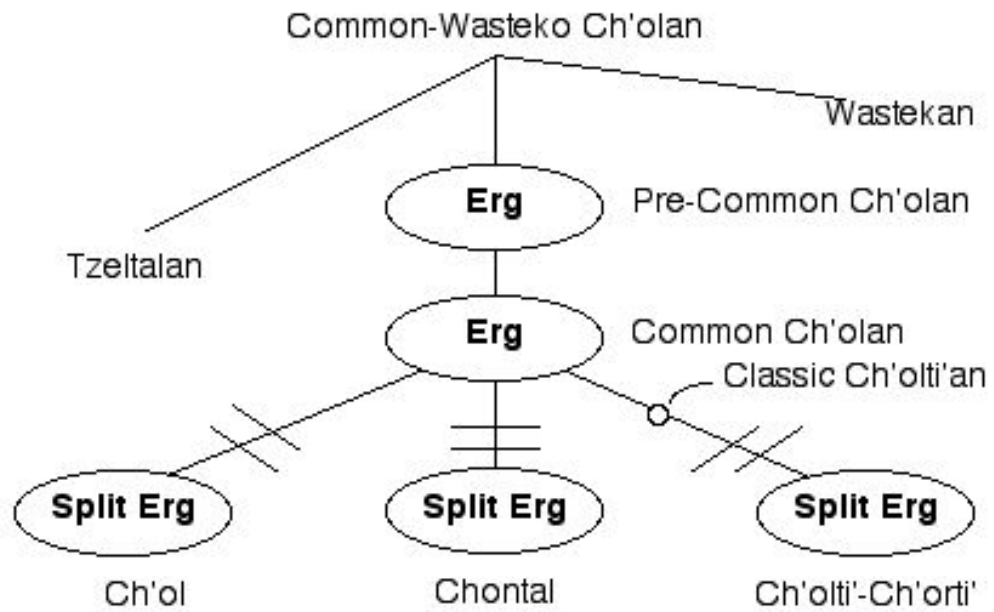
dh'uy-äb'ä 'llevado en hamaca (carried in hammock)'
(Keller and Luciano G. 1997:110-112)
Alternatively, *-äb'ä* could be instead *-äb'-ä(l)*, where *-äb'* could be a frozen reflex of an archaic passivizer and *-ä(l)* could be the stative/participial suffix still attested today in Chontal

TZELTAL

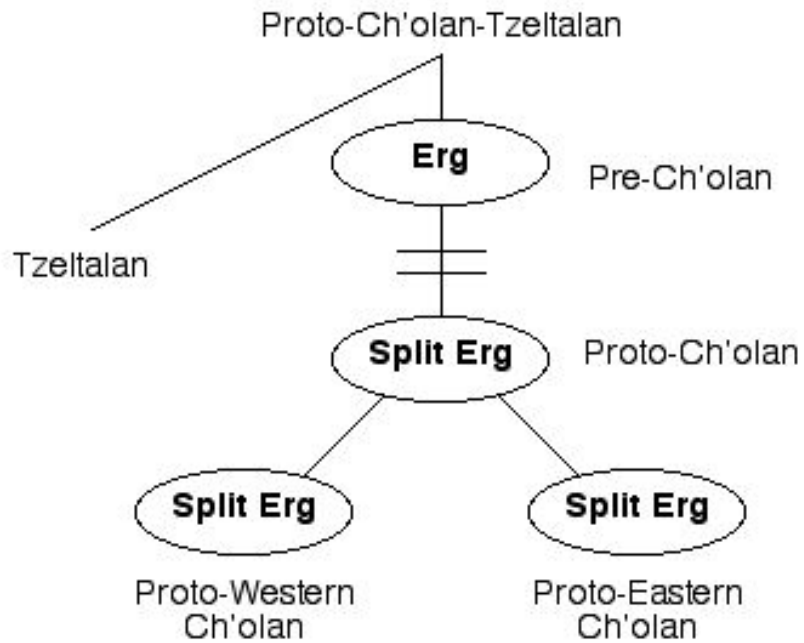
-p'in ~ *-pun* 'transitivizers of positionals' (*hòy* 'twirling' vs. *hòy-p'in* 'to twirl')
-p'ih ~ *-puh* 'intransitivizer of positionals' (*tz'eh* 'leaning' vs. *hòy-pun* 'to tip')
(Kaufman 1971:46, 51)
Tzeltalan **-p'i(n/h)* ~ **-p'u(n/h)* (Kaufman 1972, 1989)

Figure 8

Change from Ergative to Split Ergative Pronominal Verbal Agreement



a) Three Discontinuities in Robertson's (1999) Model



a) One Discontinuity in Kaufman and Norman's Model

4. Review of Preceding Proposals and New Evidence

The following is a rather schematic assessment of the data from linguistic markers in CLM texts. If you are interested in obtaining a longer, more detailed draft email me at *dauidmm@ku.edu*.

4.1. Eastern Ch'olan Markers

Of the three morphological markers used by Houston et al. (2000) as evidence for their Classic Ch'olti'an hypothesis (see **Figure 7**), none stands a thorough evaluation. As seen in **Figure 7c**, a suffix of the form *-b'u* is attested in Ch'olti' (<-bi> ~ <-bu>) and modern Ch'orti' (*-b'a* ~ *-b'u*). Now, as Søren Wichmann (personal communication, 2002) has kindly pointed out to me, Tzeltal may have a cognate of the form *-p'i/-p'u* ~ *-pi/-pu* (cf. Kaufman's 1971:46, 51; 1989:Part D), seen at the bottom of **Figure 7c**. Houston et al. (2000:332-333) also claim that the *-V₁y* marker of CLM texts is used as a mediopassivizer in Eastern Ch'olan and in CLM texts. However, Kaufman and Norman (1984) have shown that Proto-Eastern Ch'olan **-V₁y* was likely a status marker, whether of the completive or indicative status (**Figure 9**), and not a voice marker, given its paradigmatic relationship with the *-el* 'incompletive' and *-en* 'imperative' status markers in Ch'olti' and Ch'orti'. Houston et al. (2000) also claim that Proto-Eastern Ch'olan **-V₁y* was originally a mediopassivizer which later became extended to mark change-of-state and motion verbs, which are attested also in CLM texts. However, the examples listed in **Figure 9** for modern Ch'ol are in fact cases of change-of-state and motion verbs; thus, the use of **-V₁y* with such verbs was a Proto-Ch'olan trait.² Equally strong objections can be presented against the *-h-...-aj* 'passivizer' proposed by Houston et al. (2000), as seen in **Figure 10**, but I cannot elaborate on these here. Hence, *-b'u*, *-V₁y*, and *-h-...-aj* are likely not innovations of Eastern Ch'olan. The best example yet of an

² Wichmann has also suggested (1999) that **-V₁y* may be an unaccusative marker that can sometimes be interpreted with a mediopassive sense, an idea certainly worth exploring.

Eastern Ch'olan innovation has been proposed by Wichmann (2002:16-17) and involves Ch'orti' *-ib'* 'instrumentalizer of positionals', attested at Copan, at ca. A.D. 780.

FIGURE 9

Problems with Analysis of *-V_{1Y}* as 'mediopassivizer' and as an Eastern Ch'olan innovation

- a) Pre-Eastern Ch'olan **-V_{1Y}* 'mediopassivizer' > verb of motion > verb of change of state'. Kaufman and Norman (1984) show that *-V_{1Y}* is found in a paradigmatic relationship with other status suffixes in both Ch'olti' and Ch'orti', and not with voice suffixes. Hence, *-V_{1Y}* is a status marker, possibly 'completive' or 'indicative'. The Ch'ol data below suggest this was so for Proto-Ch'olan.
- | | |
|--|---|
| CH'OLTI' <i>-V_{1Y}</i> vs. <i>-el</i> | 1) completive/indicative: <van-ai> 'to sleep', <och-oi> 'to die' |
| | 2) incomplete: <van-el>, <och-el> |
| CH'ORTI' <i>-V_{1Y}</i> vs. <i>-en</i> | 1) completive/indicative: <i>num-uy</i> 'pass', <i>ekn-ay</i> 'go down' |
| | 2) incomplete: <i>num-en</i> 'pass!', <i>ekn-en</i> 'go down!' |
- b) *-V_{1Y}* (i.e. *-äy* ~ *-iy*) is used on change-of-state and motion verbs in Ch'ol as well, not just Eastern Ch'olan. Only data available for Ch'ol insufficient to conclude suffix is actually *-V_{1Y}*, but it is suggestive. Note Ch'orti' also has a similar set of allomorphs, one after a single C (i.e. *-V_{1Y}*) and another following a CC sequence (i.e. *-ay*). This is essentially what the limited Ch'ol data support too: *-äy* after *chän*, and *-iy* after *yq̄l*.
- | | |
|--|--|
| CH'OLTI' <i>-V_{1Y}</i> | 1) change-of-state: <van-ai> 'to sleep', <cham-ai> 'to die' |
| | 2) motion: <och-oi> 'enter', <loc-oi> 'go out' |
| | 3) root transitive: <pul-ui> 'burn' |
| CH'ORTI' <i>-V_{1Y}</i> ~ <i>-ay</i> | 1) change-of-state: <i>chän-ay</i> 'die', <i>kar-ay</i> 'get drunk' |
| | 2) motion: <i>lok'-oy</i> 'go out', <i>t'ab'-ay</i> 'go up',
<i>ekn-ay</i> 'go down' |
| | 3) root transitive: <i>pur-uy</i> 'burn' |
| CH'OL <i>-äy</i> ~ <i>-iy</i> | 1) change-of-state: <i>wäy-äy-on</i> (sleep-CMP-1sABS) 'I have already slept' (Schumann 1973:26) |
| | 2) motion: <i>yq̄l-iy-on</i> (fall-CMP-1sABS) 'I fell' (Schumann 1973:26) |
- c) *-V_{1Y}* was used on root transitives in CLM texts. However this does not necessarily mean *-V_{1Y}* was a 'mediopassivizer'. Both Ch'ol and Chontal have some root transitives that are bivalent, among them *pul* 'to burn' (Aulie and Aulie 1978:96; Knowles 1984), a change-of-state verb, which happens to be the most common root transitive in CLM texts to take *-V_{1Y}* (cf. **PUL-yi** and **pu-lu-yi**).

FIGURE 10

Problems with Analysis of $-h-...-aj$ as ‘passivizer’ and as an Eastern Ch’olan innovation

- 1) CLM texts do not represent preconsonantal *h* (Justeson 1989; Lacadena and Wichmann 2001), hence, there can be no explicit representation of a $CVhC-aj$ passive stem:

E.g. **CHOK-(k)a-j(a)** could be either *chok-aj* or *cho[h]k-aj*, with no orthographic means to distinguish them

Thus, existence of $-h-...-aj$ cannot be proven, but it can be disproven:

E.g. **CHOK-(k)a-j(a)** could be either *chok-aj* or *cho[h]k-aj*, but
CHOK as an intransitized transitive stem can only be *cho[h]k*.

This shows $-h-$ is not bound to $-aj$.

- 2) Other derived intransitives in CLM texts take $-aj$ alone, where $-aj$ can be traced to a Proto-Ch’olan-Tzeltalan *aj ‘intransitivizer’ (Kaufman and Norman 1984), descendant from a Proto-Mayan *aj ‘mediopassivizer’ (Kaufman 1989), as noted by Lacadena (1996):

E.g. **AKT-(t)a-j(a)** for *akt’t-aj-Ø-Ø* (dance-IVZR-CMP-3sABS) ‘s/he/it danced’
K’AL-ja-HUN for *k’al-aj-Ø-Ø=hu(‘)n* (wrap-IVZR-CMP-3sABS=headband) ‘s/he headband-wrapped’

Thus, there is no need to invoke anything other than this Proto-Ch’olan-Tzeltalan *aj ‘intransitivizer’. Modern Ch’ol in fact uses its reflexes of Proto-Ch’olan-Tzeltalan *aj ‘intransitivizer’ (i.e. $-ij \sim -uj$) to intransitize in the same way as attested in CLM texts

- 3) Houston et al. (2000) do not adequately account for the etymology of the $-aj$ suffix in their proposed $-h-...-aj$, nor do they take into account other proposals, but simply state the following (2000:330) (emphasis mine):

Kaufman and Norman (1984:109) propose that an $-aj$ intransitivizer was suffixed to the root transitive passive $CVhC$ to form the bipartite $-h-...-aj$ in Ch’olti’an. **We do not of course believe this, but it is a possible etymology** for the intransitive positional that we reconstruct from Common-Wasteko-Ch’olan.

- 4) Finally, supporting Kaufman and Norman’s proposal as cited by Houston et al. above is the fact that in Ch’orti’ the suffix $-a$, from Proto-Ch’olan-Tzeltalan *aj ‘intransitivizer’, is in fact attested not just on $-h-...-a$ passives, but also on intransitives derived from active nouns (e.g. ‘to dance’) and transitives (e.g. passives, antipassives), suggesting that in Eastern Ch’olan $-a(j)$ became simply a suffix of derived intransitives in general:

E.g. *akt-a* dance-IVZR ‘to dance’ *k’ech-p-a* guide-PASS-IVZR ‘to be led’
xan-a walk-IVZR ‘to walk’ *k’ech-m-a* guide-APASS-IVZR ‘to lead’

4.2. Western Ch’olan Markers

There are at least four markers unique to Western Ch’olan attested in CLM texts, as seen in **Figure 11**. Two of these (i.e. $(ERG-)cha’an$ and $hin(+i/+a)$) are attested shortly before A.D. 800, at Tikal and Itzan. The

remaining two markers, one is uniquely attested in Western Ch'olan and is widespread geographically throughout the Classic period: *t(i/ä)+VERB-(i/e)l* 'progressive' (Josserand et al. 1985).³ This CLM and Western Ch'olan constructions are identical, and at the same time absent from Eastern Ch'olan. The second marker is **-l-aj(-i)* 'completive status of positionals', which Kaufman and Norman (1984) show is the source of Ch'ol *-le*. Again, neither Ch'olti' nor Ch'orti' has a cognate of *-le*. In other words, there are two markers uniquely attested in CLM texts and Western Ch'olan, but not one marker uniquely attested in CLM texts and Eastern Ch'olan.

Figure 11

Selected Western Ch'olan Markers

- 1) *hin-Ø+i* 3sPRO-3sABS+DIST 'that one' (Ch'ol, Chontal)
- 2) *hin-Ø+a* 3sPRO-3sABS+PROX 'this one' (Pre-Chontal, *hin-Ø+da* in modern Chontal)
- 3) *(ERG-)cha'an* 'for/since/because/by' (Ch'ol)
- 4) **t(i/ä)+VERB-(i/e)l* 'progressive' (Ch'ol, Chontal)
(Tzotzil has *ta+IV-el*, but Western Ch'olan has *t(i/ä)+VERB-(i/e)l* for both transitives and intransitives; the generalization of the intransitive structure to transitives may be a Western Ch'olan innovation)

4.3. Markers Reconstructible to Proto-Ch'olan

³ There is a cognate structure in Tzeltalan, though it is somewhat different: it distinguishes transitives and intransitives, with transitives taking an ergative marker. Regardless of which is closer to a putative Proto-Ch'olan-Tzeltalan construction, the fact is that the construction is absent from Eastern Ch'olan.

The CLM markers seen in **Figure 12** are reconstructible to Proto-Ch'olan, and thus, their presence or absence from one of the branches cannot be used to claim a special relationship with that branch. One marker of interest here is the **-w-an* 'completive status of positionals' marker reconstructed to Proto-Ch'olan by Kaufman and Norman (1984). Its first clear attestation in CLM texts, found at Palenque, dates to A.D. 625. An earlier possible attestation at Tikal dates to A.D. 527. Prior to this form, those authors suggest, Pre-Ch'olan used **-l-aj(-i)*. CLM texts do in fact attest to the earlier use of **-l-aj(-i)* (cf. MacLeod 1984; Justeson 1985). Assuming for now that **-w-an* was not innovated in Western Ch'olan and then diffused to Eastern Ch'olan after the Proto-Ch'olan breakup, the switch to **-w-an*, must have begun by ca. A.D. 500, and thus could be evidence of the change from Pre-Ch'olan to Proto-Ch'olan. Other likely Proto-Ch'olan innovations, such as split ergativity, must have followed soonafter.

Figure 12

Selected Proto-Ch'olan Markers

- 1) $^*ni-$ '1sERG' < Proto-Mayan $^*nu-$
- 2) *en '1sABS' < Proto-Mayah *iin
- 3) $^*w-am$ 'completive status of positionals' or 'intransitivizer of positionals'
- 3) $^*i(y/h)$ 'completive status of intransitives' < Proto-Mayan $^*i-h \sim ^*i-k$
- 4) $^*qj \sim -ij$ 'intransitivizer' < Proto-Ch'olan-Tzeltalan
- 5) $^*V_{1y}$ 'intransitivizer' or 'completive / indicative status of intransitives' < Proto-Ch'olan-Tzeltalan $^*V_{1y}$ (Tzeltal, Ch'ol, Ch'olti', Ch'orti')
- 6) $^*(i)j+iy$ 'since / after' < Proto-Ch'olan-Tzeltalan $^*(e)j+ey$
- 7) $^*l-el$ 'abstractive' < Proto-Ch'olan-Tzeltalan (attested in Ch'ol, Chontal, Tzeltal)
- 8) $^*t(i/ä) + IV-il/el$ 'progressive construction of intransitives' < Proto-Ch'olan-Tzeltalan (attested in Ch'ol, Chontal, Tzotzil)

4.4. Markers Reconstructible to Pre-Ch'olan (but Found in Neither Branch of Ch'olan Today)

Most interestingly, there is a set of eleven markers attested in CLM texts that is reconstructible to Pre-Ch'olan but not to Proto-Ch'olan, as seen in **Figure 13**. None of these is attested exactly as in CLM texts in any of the modern Ch'olan languages; two (**Figures 13d,j**) do have reflexes in modern Ch'olan languages, but the forms attested in CLM texts cannot be reconstructed from the extant Ch'olan data alone. These eleven features, which include the absence of split ergativity, outnumber the unique markers from Western Mayan (i.e. $-le$ and $ti+VERB-el$), and even those proposed for Eastern Mayan by Houston et al. (2000) even if they proved to be correct.

FIGURE 13

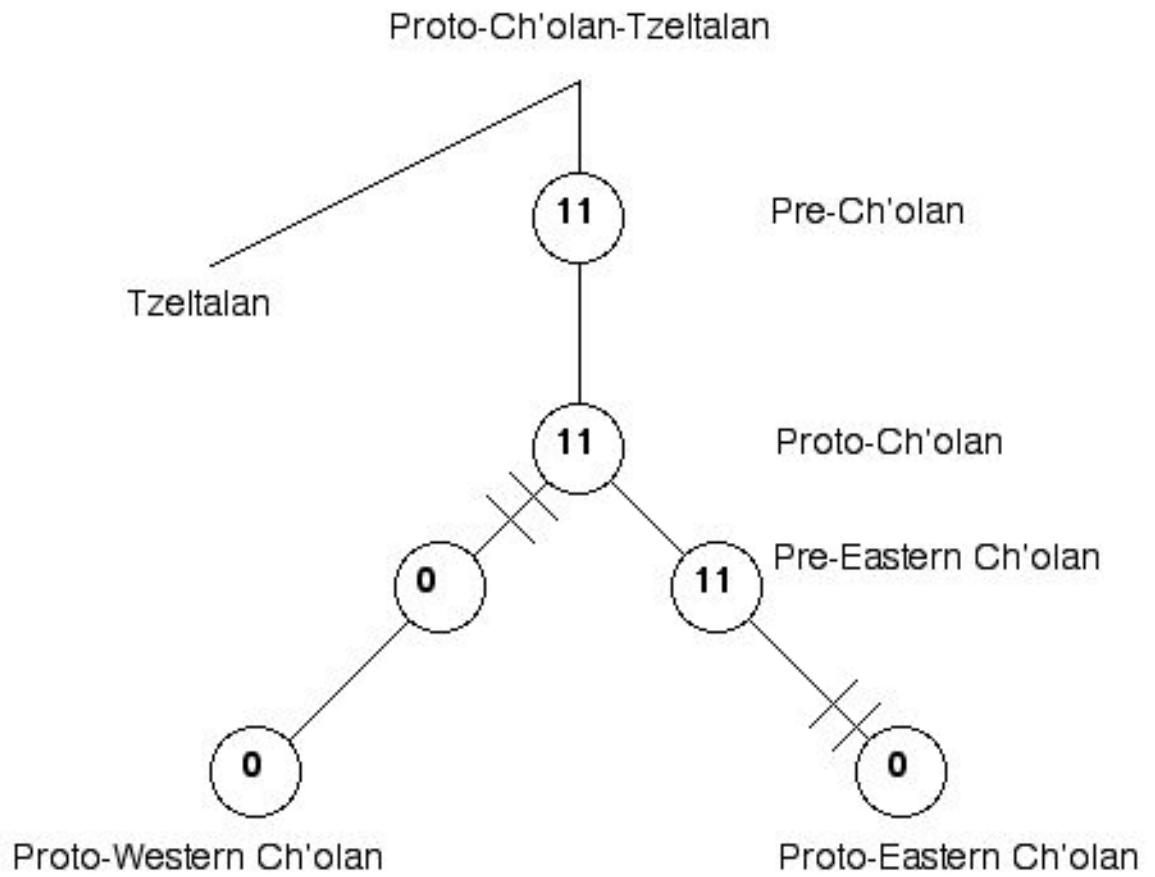
Some Pre-Ch'olan Markers Attested in CLM Texts Not Attested in Modern Ch'olan Languages

MARKER	ATTESTED
1) <i>-aj</i> ~ <i>-ij</i> 'uncertain possession'	CLM texts, Greater Q'anjob'alan, Eastern Mayan
2) <i>-as</i> ~ <i>-is</i> 'uncertain possession'	Greater Q'anjob'alan, Yukatekan, Eastern Mayan
3) <i>-laj(-i)</i> 'completive status of positionals'	CLM texts, poss. Ch'ol <i>-le</i>
4) <i>-V₁w</i> 'plain status of transitives'	CLM texts, Greater Q'anjob'alan, Eastern Mayan, Wastekan; preserved in both branches of Ch'olan as <i>-V₁</i> but <i>w</i> has not been preserved in Ch'olan
5) <i>-(e)j</i> 'perfective'	CLM texts, Tzeltalan, Eastern Mayan
6) <i>w-</i> '1sERG'	CLM texts, Proto-Mayan; preserved in Eastern Ch'olan reflex <i>inw-</i> ~ <i>nw-</i>
7) <i>t(i/a) + NP(addressed/recipient/benefactive)</i> 'antidative construction'	CLM texts; Greater Q'anjob'alan had <i>PREP + NP</i> also, while other Mayan languages have <i>PREP + ERG-RN ± NP</i> including Proto-Ch'olan <i>wih</i> <i>*t(i/a) + ERG-b'a ± NP</i>
8) <i>t(i/a) + NP(patient)</i> 'absolutive antipassive object demotion'	CLM texts; other Mayan languages have <i>PREP + ERG-RN ± NP</i>
9) (ASP+)IV-INC-ABS 'incompletive status of intransitive verbs' (i.e. no split ergativity)	CLM texts; Proto-Ch'olan had (ASP+)ERG-IV-INC-ABS (i.e. split ergativity)
10) <i>ha'-Ø(+i/+a)</i> PRO-3sABS+ENCL 's/he/it, her/him/it'	CLM texts, Proto-Mayan <i>*ha'-Ø</i> , Proto-Ch'olan <i>*ha'-Ø+in</i>
11) <i>-w(-i/-a)</i> 'objectless/incorporative antipassive'	CLM texts; Greater Q'anjob'alan

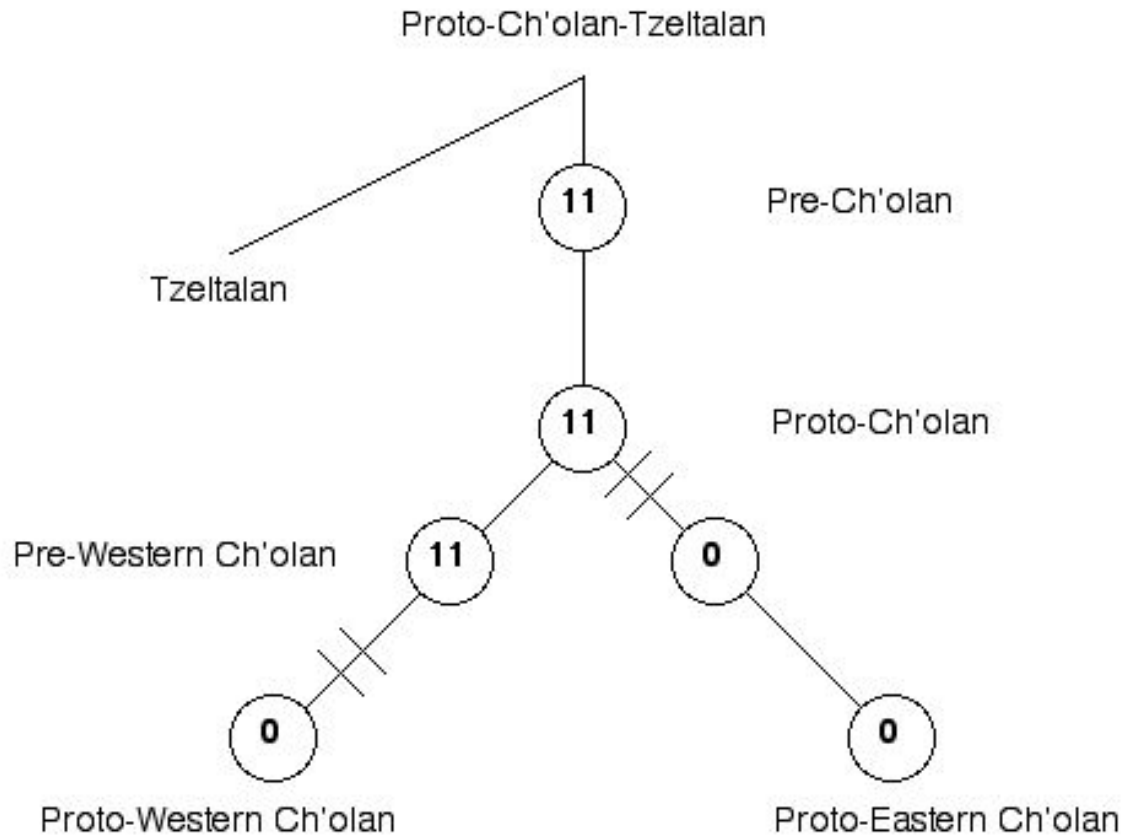
5. Discussion, Conclusions, and Future Research

The Pre-Eastern Ch'olan or Classic Ch'olti'an hypothesis would require the acceptance of two major discontinuities, namely, that the eleven markers reconstructed to Pre-Ch'olan based on evidence from outside Ch'olan and CLM texts were independently lost in each branch of Ch'olan, as seen in **Figure 14**. A Pre-Western Ch'olan model, should one be proposed, would find the same disadvantage, seen in **Figure 15**. But a Pre-Ch'olan model requires only that all of those markers that are present in CLM texts but are absent from both Ch'olan branches were lost prior to the diversification of Proto-Ch'olan and were not inherited by either branch. Thus, a Pre-Ch'olan model is the simplest model, as seen in **Figure 16**.

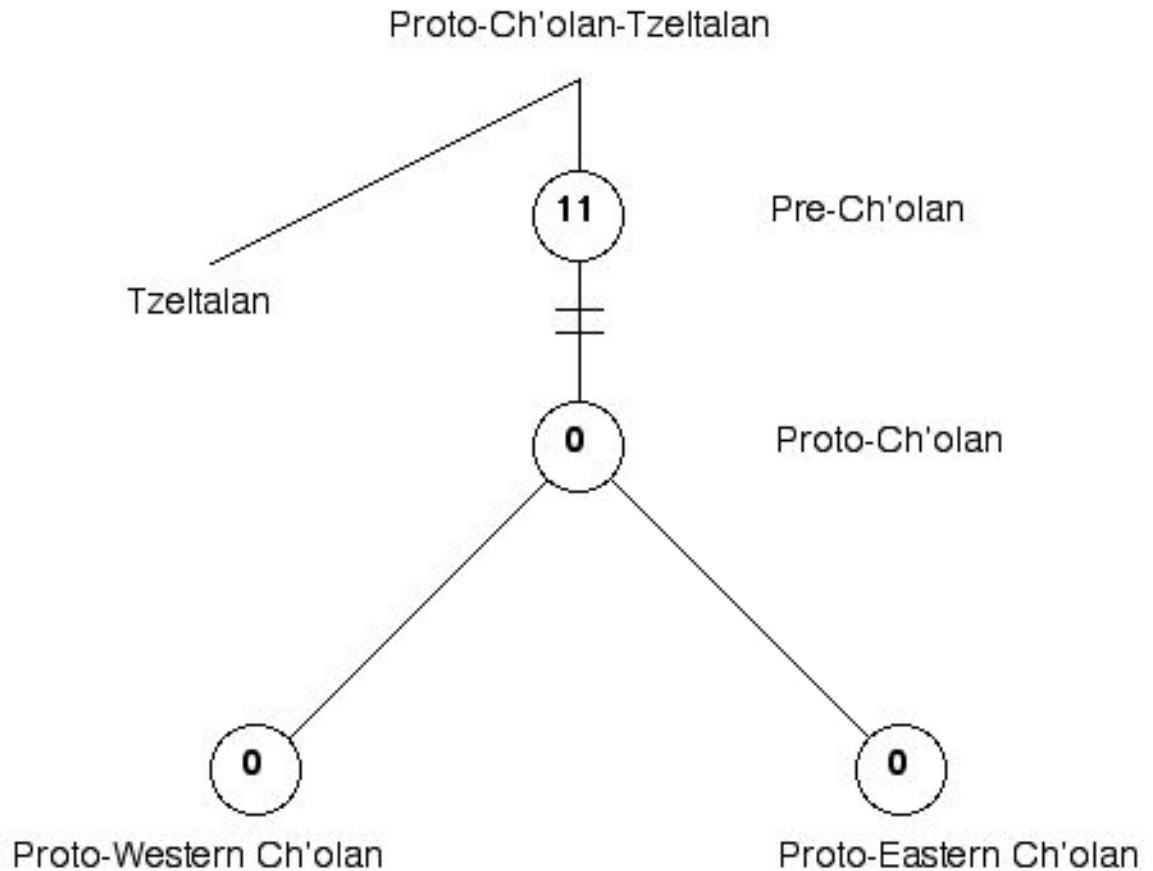
Pre-Eastern Ch'olan Model: Two Discontinuities



Pre-Western Ch'olan Model: Two Discontinuities



Pre-Ch'olan Model: One Discontinuity



Interestingly, the shift from Pre-Ch'olan **-l-aj(-i)* to Proto-Ch'olan **-w-an* could suggest that the breakup of Proto-Ch'olan had not taken place yet by ca. A.D. 500-600. Together with the appearance of unique and geographically restricted Western Ch'olan (e.g. *hin(+i/+a)*, *(ERG-)cha'an*) and Eastern Ch'olan (e.g. *-ib'*) innovations between ca. A.D. 700-800, the overall picture matches very closely the glottochronological estimates by Kaufman (1976, 1989) for the breakup of Proto-Ch'olan between ca. A.D. 400-700. Further study of the grammar and linguistic affiliation of CLM texts requires a comprehensive effort to reconstruct the grammar of Proto-Ch'olan and Proto-Ch'olan-Tzeltalan. Such an effort will build on the solid foundation laid down by Kaufman's (1972) reconstruction of Proto-Tzeltalan phonology and vocabulary, as well as Kaufman

and Norman's (1984) reconstruction of Proto-Ch'olan verb morphology and vocabulary. In particular, a renewed effort to refine the reconstruction of nominal and verbal morphosyntax, I believe, will be of great use to epigraphers.

Acknowledgments

I thank Cliff Pye for serving as my medium at the SSILA meeting, John Robertson for commenting on two earlier and longer drafts of this paper, and Barbara MacLeod for her encouragement and for providing me a copy of her paper on the perfective marker. Also, I cannot thank Søren Wichmann enough for his crucial observation about the presence of *-p'i* and *-pu* in Tzeltal. Soon after I found references to *-p'i ~ -pu* in Kaufman (1972, 1989), which make the case stronger.

References

- Aulie, W. H., and E. W. de Aulie. 1978. *Diccionario Ch'ol-Español, Español-Ch'ol*. Mexico City: Instituto Lingüístico de Verano.
- Bricker, V. R. 1986. *A Grammar of Mayan Hieroglyphs*. Middle American Research Institute Publication 56. New Orleans: Tulane University.
- Bricker, V., E. Po7ot Yah, and O. Dzul de Po7ot. 1998. *A Dictionary of The Maya Language As Spoken in Hocabá, Yucatán*. Salt Lake City: University of Utah Press.
- Campbell, L. 1984. The implications of Mayan historical linguistics for glyphic research. In *Phoneticism in Maya Hieroglyphic Writing*, edited by J. S. Justeson and L. Campbell, pp. 1-16. Institute for Mesoamerican Studies, Publication No. 9. Albany: State University of New York.
- Chase, A. F., N. Grube, and D. Z. Chase. 1991. Three Terminal Classic Monuments from Caracol, Belize. *Research Reports in Ancient Maya Writing* 36.
- Fox, A. 1999. On Simplicity in Linguistic Reconstruction. In *Historical Linguistics 1995*, edited by J. C. Smith and D. Bentley, pp. 99-110. Amsterdam: John Benjamins Publishing Company.
- Fox, J. A., and J. S. Justeson. 1982. Hieroglyphic Evidence for the Languages of the Classic Maya. Unpublished manuscript.
- García Matzar, P. 1998. *Jotaytzij Tz'utujil: Derivación de Palabras Tz'utujil*. Guatemala, Guatemala: Editorial CHOLSAMAJ.
- Hofling, C. A., and F. F. Tesucún. 1997. *Itzaj Maya-Spanish-English Dictionary*. Salt Lake City: University of Utah Press.
- Houston, S. D., J. Robertson, and D. S. Stuart. 2000. The Language of Classic Maya Inscriptions. *Current Anthropology* 41:321-356.
- Josserand, K. 1995. Participant Tracking in Maya Hieroglyphic Texts: Who Was That Masked Man? *Journal of Linguistic Anthropology* 5:65-89.

- Josserand, K., and N. A. Hopkins. 1996. The Ritual Vocabulary of Tila Chol. Report submitted to FAMSI <www.famsi.org/reports/josserand/josserand2.htm>.
- Josserand, K., L. Schele, and N. A. Hopkins. 1985. Auxiliary Verb + ti Constructions in the Classic Maya Inscriptions. In *Fourth Palenque Round Table, 1980*, Vol. VI, edited by E. P. Benson, pp. 87-102. San Francisco: Center for Pre-Columbian Art Research.
- Justeson, J. S. 1985. Hieroglyphic Evidence for Lowland Mayan Linguistic History. *International Journal of American Linguistics* 51:469-471.
- 1989. The Representational Conventions of Mayan Hieroglyphic Writing. In *Word and Image in Maya Culture. Explorations in Language, Writing, and Representation*, edited by W. F. Hanks and D. S. Rice, pp. 25-38. Salt Lake City: University of Utah Press.
- Justeson, J. S., and L. Campbell. 1997. The Linguistic Background of Maya Hieroglyphic Writing: Arguments against a "Highland Mayan" Role. In *The Language of Maya Hieroglyphs*, edited by M. J. Macri and A. Ford, pp. 41-67. San Francisco: Pre-Columbian Research Institute.
- Justeson, J. S., and J. A. Fox. 1989. Hieroglyphic evidence for the languages of the Lowland Maya. Unpublished MS in possession of author.
- Justeson, J. S., W. M. Norman, L. Campbell, and T. Kaufman. 1985. *The Foreign Impact on Lowland Mayan Language and Script*. Middle American Research Institute, Publication 53. New Orleans: Tulane University.
- Kaufman, T. S. 1967. Preliminary Mocho Vocabulary. Laboratory for Language-Behavior Research, Working Paper No. 5. Berkeley: University of California.
- 1971 Tzeltal Phonology and Morphology. Berkeley: University of California Press.
- 1972. El proto-tzeltal-tzotzil: fonología comparada y diccionario reconstruido. Centro de Estudios Mayas, Cuaderno 5. Mexico: UNAM.
- 1976. Archaeological and linguistic correlations in Mayaland and associated areas of Mesoamerica. *World Archaeology* 8:101-118.
- 1989. Mayan Comparative Studies, Parts A-D. Unpublished manuscript used with permission of author.
- 1990. Algunos rasgos estructurales de los idiomas Mayances. In *Lecturas sobre la lingüística maya*, edited by N. England and S. Elliott, pp. 59-114. Antigua, Guatemala: CIRMA.
- Kaufman, T., and W. Norman. 1984. An outline of proto-Cholan phonology, morphology, and vocabulary. In *Phoneticism in Maya Hieroglyphic Writing*, edited by J. S. Justeson and L. Campbell, pp. 77-166. Institute for Mesoamerican Studies Publication No. 9. Albany: State University of New York.
- Keller, K. C., and P. Luciano G. 1997. *Diccionario Chontal de Tabasco*. Tucson, Arizona: Instituto Lingüístico de Verano.
- Kerr, J. 1989. *The Maya Vase Book, A Corpus of Rollout Photographs of Maya Vases, Volumen 1*.
- Knowles, S. 1984. A descriptive grammar of Chontal Maya (San Carlos dialect). Ph.D. dissertation. Tulane University.
- Lacadena, A. 1996. Passive Voice in Classic Maya Texts. Unpublished manuscript in possession of author.

- Lacadena, A., and S. Wichmann. 1999. The Distribution of Lowland Maya Languages in the Classic Period. Paper presented at the III Mesa Redonda de Palenque, June, 27-July 4, 1999.
- . 2000. The Dynamics of Language in the Western Lowland Maya Region. Paper presented at the 2000 Chamool Conference. Calgary, November 9-11, 2000.
- MacLeod, B. 1984. Cholan and Yucatecan verb morphology and glyphic verbal affixes in the inscriptions. In *Phoneticism in Maya Hieroglyphic Writing*, edited by J. S. Justeson and L. Campbell, pp. 233-262. Institute for Mesoamerican Studies Publication No. 9. Albany: State University of New York.
- . 2002. A World in A Grain of Sand: Transitive Perfect Verbs in the Classic Maya Script. To appear in *The Language of Mayan Writing*, edited by Søren Wichmann. Austin: University of Texas Press.
- Mathews, P., and J. S. Justeson. 1984.
- Montejo, R., and N. N. Pedro. 1996. Gramática del Idioma Q'anjob'al. La Antigua, Guatemala: Proyecto Lingüístico Francisco Marroquín.
- Mora-Marín, D. F. 2002a. Discourse Structure and Coordinate Constructions in Classic Lowland Mayan Texts. Paper presented at the 40th Conference on American Indian Languages in San Francisco, January 4, 2002.
- . 2002b. Affixation Conventionalization: An Explanation of Regularly Disharmonic Spellings in Mayan Writing. Paper submitted to *Anthropological Linguistics*.
- . 2002c. Reconstruction of the Proto-Ch'olan Independent Pronouns. Unpublished manuscript on file at the Department of Linguistics, University of Kansas.
- . 2002d. Reconstruction of the Proto-Ch'olan Antidative Construction. Unpublished manuscript on file at the Department of Linguistics, University of Kansas.
- Moran, F. 1695. Arte en lengua Choltí, que quiere decir lengua de milperos. Photographic copy, Latin American Library, Tulane University, New Orleans. Facsimile edition by Gates (1935).
- Pérez Martínez, V. 1994. Gramática del Idioma Ch'orti'. La Antigua, Guatemala: Proyecto Lingüístico Francisco Marroquín.
- Robertson, J. S. 1992. The History of Tense/Aspect/Mood/Voice in the Mayan Verbal Complex. Austin: University of Texas at Austin.
- . 1999. A Ch'olti'an Explanation for Ch'orti'an Grammar: A Postlude to the Language of the Classic Maya. *Mayab* 11:5-11.
- Wichmann, S. 2002. Email message on possible cognates of *-b'u* and *-V₁y* outside Ch'olan cited with author's permission.

List of Figures

- Figure 1. Culture-historical periods for prehispanic Lowland Mayan civilization.
- Figure 2. Kaufman's (1976, 1990) model of the diversification of Mayan languages.
- Figure 3. Mayan lowlands with Lowland Mayan (Ch'olan, Yucatekan) languages highlighted.
- Figure 4. Evidence for Ch'olan origin of various Yucatekan words pertaining to ritual knowledge and the spellings of those same words in CLM texts.

Figure 5. Types of evidence presented by James Fox and John Justeson in support of a Ch'olan standard written language.

Figure 6. a) Historical model of language of CLM texts according to Pre-Eastern Ch'olan (Classic Ch'olti'an) hypothesis. b) Diversification model of Ch'olan by Kaufman and Norman (1984).

Figure 7. The three linguistic markers of CLM texts proposed by Houston et al. (2000) to be Eastern Ch'olan innovations, with new comparative data for *-b'u ~ -b'a* not provided by those authors.

Figure 8. a) Discontinuities assumed by Pre-Eastern Ch'olan model with regard to development of split ergativity independently in Eastern and Western Ch'olan. b) Discontinuity assumed by Proto-Ch'olan model with regard to development of split ergativity in Proto-Ch'olan and its retention in both Eastern and Western Ch'olan.

Figure 9. Evidence for *-V₁y* as a status marker reconstructible to Proto-Ch'olan.

Figure 10. Objections to identification of *-h...-aj* 'passivizer' morpheme and its etymological analysis.

Figure 11. Four markers unique to Western Ch'olan attested in CLM texts, two of which are standard usage and two of which are presumed innovations of a Western Ch'olan dialect or language.

Figure 12. CLM markers reconstructible to Proto-Ch'olan from evidence in Ch'olan and other Mayan subgroups.

Figure 13. Set of eleven markers attested in CLM texts that is reconstructible to Pre-Ch'olan but not to Proto-Ch'olan, based on evidence from CLM texts and other Mayan subgroups.

Figure 14. Discontinuities required by Pre-Eastern Ch'olan (Classic Ch'olti'an) hypothesis.

Figure 15. Discontinuities required by Pre-Western Ch'olan hypothesis.

Figure 16. Discontinuity assumed by Pre-Ch'olan hypothesis.