EARLY VERB INFLECTION IN YUCATEC MAYA*

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1. Introduction

The aim of this contribution is to show a preliminary analysis of the early development of inflectional acquisition in Yucatec Maya and to identify the pre-morphological and proto-morphological stages (Dressler and Karpf 1995) as well as the transition phase.

Yucatec Maya, one of the indigenous languages of Mexico, is still spoken by a half million of inhabitants in the Yucatan Peninsula. Generally, this language is classified as an agglutinating language (Bricker 1990). In the present paper, it will be defined as a more inflecting than agglutinating one.

There is little research on the acquisition of Yucatec Maya: the only existing study is about phonological acquisition by Straight (1976). Concerning morphology, the longitudinal studies of the aquisition of (Maya) Quiché by Pye (1983, 1990), Pye and Rekat (1990) are taken into account in this paper.

2. The Yucatec Maya verb system

In Yucatec Maya we differentiate the following major word classes: nouns, adjectives, modals, and verbs. Only the verbs will occupy us here.

The verb stems are composed of roots and affixes. The basic root forms of verbs are CVC, CV́VC, CV̀VC, and CVʔCV.

Verbs can be assigned to six basic inflectional classes: root transitives (TR), derived transitives, root intransitives (ITR), derived intransitives, positionals and

reflexives. The distinction between TR and ITR stems, both root and derived, is marked by inflectional suffixes.

Yucatec Maya is considered an ergative-absolutive language (Lehmann 1990). There are two sets of person markers: the ergative is used for subject agreement on TR verbs; the absolutive is used for object agreement on TR verbs and subject agreement on ITR verbs.

	Ergative prefixes		Absolutive suffixes	
	Sg	Pl	Sg	Pl
1st	*iN (w)-*	*k-...(-o'on)*	*-en*	*-ó'on*
2nd	*a (w)-*	*a (w)-...-e'ex*	*-ech*	*-e'ex*
3rd	*u (y)-*	*u (y)-...-o'ob'*	*-Ø*	*-o'ob*

The prefixal *w-* and *y-* occur with glottal stop initial stems.

Each verb class has three aspectual stems: imperfective, perfective, and subjunctive or optative.

Active TR verbs form an imperfective stem with an *-ik* suffix, a perfective stem with an *-ah* suffix, and a subjunctive stem with *-Ø* or *-eh* suffixes:

k	u	yil	-ik	-en	'he sees me'
Hab	3.Sg Erg	'see'	Tr Impf	1.Sg Abs	

t	u	yil	-ah	-en	'he saw me'
Comp	3.Sg Erg	'see'	Tr Prfv	1.Sg Abs	

ká'ah	u	yil	-Ø	-en	'he might see me'
Pot	3.Sg Erg	'see'	Tr Subj	1.Sg Abs	

The imperative shows the suffix *-eh*, the participle, the suffix *-a'an*.

Most TR verbs can be used reflexively.

Root ITRs form an imperfective stem with *-Ø* or *-Vl* suffixes (V echoes the root vowel), a perfective stem with *-Ø* or *-ih* suffixes, and a subjunctive stem with *-Vk* (V echoes the root vowel).

k	hóok'	-ol		'we leave'
1.Pl Erg	'leave'	ITR Impf		

h	luub	-Ø	-en	'I fell'
Comp	'fall'	ITR Prfv	1.Sg Abs	

ká'ah	hóok	-ok	-o'on	'we might leave'
Pot	'leave'	ITR Subj	3.Sg Abs	

The imperative shows the suffix *-en*, the participle, the suffix *-(a)ha'an*.

A verb is considered root ITR if a causative or transitive stem can be derived from it by suffixing *-s* or *-t* to the root: *okol* 'to enter', *ok-s-* 'to put in', *hanal* 'to eat', *han-t-* 'to eat it'.

There are two major conjugation classes of ITR verbs which will be distinguished according to suffixes which appear in certain tense/aspect/mood (TAM) categories: those that take a suffix (*-Vl(h,ʔ)*) in imperfective TAM categories and those that do not. The ITR conjugation class with endings of (*-Vl*) contains a few irregular verbs such as *bin* 'go'. The unmarked conjugation class is the productive one.

Yucatec Maya does not have tenses as such. The only distinction could be made between past and nonpast. The perfect has much the same interpretation in Yucatec as in English. The future is described in terms of irreality. The action requires dates or temporal adverbs to locate them in the past, present, or future.

Thus, there is no aspect in Yucatec Maya that can be interpreted uniquely as a "present tense". Some of the aspect words or particles that govern the imperfective stem of both TR and ITR verbs are: *k* (habitual), *t(áan)* (progressive), *ts'(ó'ok)* (terminative), *yaan* (compulsive), *k'abéet* (obligative), *he'(el)...e'* (assurative future), *k-A-h* (definite future), etcetera. They precede the subject pronoun in verb phrases.

There are three aspects which govern the subjunctive stem of TR and ITR verbs: *biin* (indefinite future), *'úuch* (remote past) and *sáan* (anterior past).

Two kinds of derivation of TR stems are of interest in this work:

1) A causative TR stem can be derived from a root ITR by suffixing *-s*;
2) A TR stem can be derived from noun stems with the suffix *-t*.

3. The data

This paper analyses the early development of verb inflection in the spontaneous speech of a Maya Yucatecan child, a late beginner. The data set consists of a corpus of 2259 utterances.

The child is a first-born girl who is exclusively exposed to Mayan in her home. In this presentation our data refers to a period of 6 months recordings of Sandi, from 1;9.27 to 2;2.16.

The data includes 60 recordings of between 30 and 45 minutes, 23 of them are analyzed here. We classified our data in six according to the corresponding months.

Table 1. Synoptic table of acquisition of verb inflection.

	Age	Imp		Impf		Prfv		Subj		roots			
		TR	ITR	TR	ITR	TR	ITR	TR	ITR	TR	ITR	TY	TK
1	1;9	25	5	–	1	–	7	2	–	20	1	19	61
2	1;10	48	12 {*10 -eh}	–	4	–	9	2	–	6	5	25	86
	1;11	180	14 {*13 -eh}	–	20	–	8	28	*5 -eh	23	10	62	288
	2;0	43	13 (Hort)	–	3	–	6	6	–	11	2	31	84
3	2;1	104	23 {*6 -eh 11 Hort}	3	3	1 *3 -ih	–	3	8 *1 -eh	11	5	49	165
	2;2	104	18 {*6 -eh 7 Hort}	24	7	7	6	18	3	10	13	51	210

Frequency distribution of verb inflections by age: Imp=imperative, Impf=imperfective, Prfv=perfective, Subj=subjunctive, Hort=Hortative; TY/TK=type/token (all numbers, except for those below TY, refer to tokens). 1st column: 1=pre-morphological stage; 2=transition phase; 3=proto-morphological stage.

3.1. Pre-morphological stage

The first verbs recorded were mostly TR (80%), appearing as imperative forms, i.e., with the ending -eh, and others only as roots. The data of Pye (1985) concerning the acquisition of verbs in children at the age of about 2;0 support our results, testifying to the higher frequency of TR verbs compared to ITR verbs.

At this age the only ITR verbs were *taal* 'to come' and *bin* 'to go', the first of which occurred in the irregular imperative singular form (*koten*), but with the ending -eh, instead of -en, whereas the second ITR verb *biin* occurred in the perfective form *bin-ih* 'he (she, it) has gone (1/7).

One of the most frequent token forms in our whole data is the imperative *meek'ech*, considered a blend of *meek'eh* + *Meech* (Dim of the child's mother) 'hug me, Mech!'.

It seems that these forms were not yet analyzed morphologically by the child and therefore we can consider them as "rote-learned" (MacWhinney 1978).

3.2. Transition phase

In the second observed month (1;10) the child continued with the frequent use of the imperative singular form of the TR verbs (14/51). Besides, we have found an increase in utterances of ITR verbs (10/41) in comparison with the age of 1;9. At the age of 1;10.24 we have found for the first time the use of the 3. Sg perfective form of different ITR verbs (5/9), but still without any systematic use, which could indicate that those are still memorized forms.

The remaining ITR verbs appeared in the imperative singular as over-generalized with the suffix -eh (2/6). The child used only once the 2. singular imperative for the ITR verb *'ook* → *'ook-en*, *miix oken* 'come in, cat, come in!'.

There are still some verbs incorrectly used only as roots (TR verbs: 2/6, ITR verbs: 5/9).

The data shows the first derivation with the suffix -t: *baax-Vl* → *bax-t-* 'to play'. Nevertheless, in some cases the form (*baxe-teh* 'play it!')(1/13) could represent a blend of *baax* + *yeete(l)* which means 'play with'.

One example of the negative form of the existential verb *yaan* 'to be' was found: *na'm* ← *mina'an*, 'nothing'.

Having reached the age of 1;10 the child still did not use any personal pronouns or aspect markers.

We have found the first alternative to the use of the blend *mek'ech*, this time as *mek'eh (+ Mech)*. A second blend appeared, formed from *he'eh + teech (Mech)* → *he'ech* 'open it, you (Mech)!'. Another extragrammatical operation we have found is a truncation of a Spanish word: *pio* ← *papillo* 'daddy'.

The age of 1;11 is characterized in the TR verbs by the continuous and frequent use of imperative singular forms (26/180), and by the emergence of the subjunctive mood (21/28) (whose endings are homophonous with those of the imperatives (-eh)), as well as by root forms (7/23); among the ITR verbs the most frequent forms are stems in -Vl (5/20).

In the data the root or stem forms seem to have the function of the missing auxiliary aspects:

Example: *MOT: *Tu(n) weneh?*   'Is she (he) sleeping?'
             *CHI: *Hana'.*   'Eat.'
             *MOT: *Tun haana.*   'She (he) is eating.'

The tokens of the perfective forms of the ITR verbs are proportionally less important (3/8) than at the age of 1;10, this confirms that they are to a large extent rote learned.

At the age of 1;11.9 we identified clear cases of derivation by the transitivizing suffix -t: *hana(-l(h))* → *han-t-eh* 'eat it!', *ch'ip' (ts'iib)* → *chi'it-eh* 'write it!'. The earliest inflected verb *bin* appears for the first time accompanied by the progressive aspect: *tambin* ← *táan u bin* 'are you leaving'; and in the subjunctive mood: *xi(e)kob* ← *xi'iko'ob* 'they might go'. In some instances the plural form is added to the 3.Sg of *bin* 'to go'.

Two verbs appear in the participle form -a'an (2/2).

The verb *'il* 'to see' in the Imp form shows the following alternation: *(i)leh, laxe* ← *il a wileh bixi* 'you look how'. The form of negation *ma'* and the 1. ergative pronoun *in* were observed:

ma'	t(áan)	i(n)	wil-i'	'I have not seen'
Neg	Prog	1.Sg Erg	see Neg	

For the first time a possessive pronoun has been found:

*CHI: *Taxt-a*   *baxa?*   'Where is your toy?'
%mor: Adv   2Sg Pos   N

The interrogative suffix *-i'* is added to the ITR stem *k'aat* 'to want' in: *k'aat-i'* (1/4) 'do you want?'

General observations: At this age the concept for smallness emerges, expressed in Yucatec Maya as an adjective (*chan*) and in Spanish formed by a diminutive (*-it-o,-a*): *chamiis* ← *chan miis*; *gaadiido* ← *gat-ito* 'kitten'.

There appeared a new blend: *emech* ← *eemen* + *Mech (teech)* 'put me down + Mech'.

The data shows one example of juxtaposition, composed of both languages: *miix-kaatoo* 'cat'.

The age of 2;0 is characterized by the TR verbs in imperative form (12/43) and by root forms (8/11). Concerning the ITR verbs, most of the tokens that we identified were hortatives (*ko'ox* (1/4)), but the most frequent types show the perfective aspect (3/6), or are root forms (5/5).

In some utterances the 1. ergative and the 1. possessive pronouns (which are identical) appear:

*CHI: *La'*   *Chito,*   *im(n)*   *baaxa im(n)*   *bola.* In   *nax- e'?*

%mor: Prox Chito   1Sg Pos   N   1Sg Pos   N   1.Sg Erg   lift up   Subj

%gloss: Here, Chito! My toy, my ball. Shall I lift it up?

3.3 Protomorphological Stage

At the age of 2.01 in both verb classes (TR,ITR) the most frequent forms were Imp (TR:15/104, ITR: 4/23: some of them still over-generalized). The subjunctive of the ITRS appeared (*-(V)a-k*) (3/3). The TR verbs occurred for the first time in the imperfective aspect *-ik* (2/3) and perfective aspect *-ah* (1/1).

*CHI: *Bix*   *men*   *-ki (-ik)*   *uch (ub).*
%mor: Adv   make   Impf   Adj
%gloss: 'How do you make it? It is beautiful.'
%exp: Bix a meentik, ub.

*MOT: *Masa', tsu wix Sandi?*
%gloss: Is it true, he has already urinated, Sandi?
*CHI: *Hmm. Wix*   *meet*   *-aj.*
%mor: to urinate   make   -PFV
%gloss: Yes, he has urinated.

The subjunctive mood (3/3) and one participle token have been found.
The imperative form of *taal* also appeared in plural: *koten-e'ex* 'come!'
The desiderative auxiliary is used in a clear, but not consistent form:

*CHI: *Tak*   *i(n)*   *wix.*
%mor: AUX   1.Sg Erg   urinate.
%gloss: I want to urinate.

The use of the 1. and 3. ergative pronouns is more frequent but not yet systematized.

The extragrammatical formations are:

Reduplication of a verb: *chuchuuch* ← *chu'uch* + *chu'uch* 'to nurse'. Blend: *luk'ech* ← *luk'en* + *teech (+Mech)* 'go away!'.

The overall present blend of *mek'ech* alternates with *mek'*, *mek'ej*.

At the age of 2;2 the imperative singular of both verb classes still dominated (TR: 26/104; ITR: 4/21).

Concerning the TR verbs, we already found a relatively high frequency of the imperfective aspect (9/24) and also of the perfective aspect markers (6/7). With respect to the ITRs the use of these markers was lower (2/3; 3/6).

The frequent use of the imperfective aspect is extended to some imperative forms of the TRs:

*CHI: *Mol-i(k)*   *nene*   *mol-ik*   *mol-ik.*
%mor: take-Impf   N   take-Impf   take-Impf
%gloss: Take it, baby, take it, take it!

But in the same recording the Imp *-eh* was used, both for TR and ITRs:

*CHI: *Mol-e*(h)   *nene. Ok-e*(n)   *oke-en*   *mama'.*
%mor: Take-Imp(TR)   N   enter-Imp(ITR)   enter-Imp(ITR)   N
%gloss: Take it, baby! Come in, come in, mummy!

A new form of (additive) overgeneralization of *-eh* was found: *xen-eh* (instead of *xen*) 'go!'

Blend: *'okech* ← *'ooken* + *teech (Mech)* 'come in, you (Mech)!'

With respect to the blend *mek'ech*, this form was being replaced by *mek'(eh)*:

*CHI: *Mali*   *meek'.*
%mor: N   hug
%gloss: Mali, hug me.
*CHI: *Meek'e(h)*   *mek'eh.*
%mor: hug-Imp   hug-Imp

%gloss: Hug me! Hug me!

The first identifiable derivation by the causative suffix -*s* is present: *luub-ul* 'to fall' → *lu'us-* 'to drop it'; the derivations resulting from the suffix -*t* are exactly the same as at the age of 1;11: *baxal, janal.*

Only at the end of 2;2 the the 1. Sg independent pronoun (*teen*) used.

4. Concluding remarks

The analysis of the development of verb inflections in a Maya Yucatec child shows that at the age of 1;9 there was evidence of spontaneous use of the imperative singular suffix -*eh* with TR verbs. This fact, on the one hand, and the significant reduction (60%) in the use of the roots on the other, mark the end of the pre-morphological stage.

During the transition phase (1;10 - 2;0) the child over-generalizes the first inflective imperative singular form of the TR to the ITR verbs. The imperative suffix converges with the homophonic subjunctive one (-*eh*), that is used by the child to express past and future actions as well as wishes, in this case, the context and intonation being the factors that contribute to our understanding of the child's intention. The imperfective forms of ITR verbs (-*Vl(h, '*) are used as roots.

The protomorphological stage can be marked at the age of 2;1. For the first time the frequency of the tokens of the correct imperative form of ITR verbs is the same as of the over-generalized ones. The data shows the emergence of the imperfective aspect marker -*ik* in the TR verbs, some of them appearing with the corresponding ergative pronouns (1. and 3. Sg). In this stage the new grammatical categories acquired are being analyzed and will emerge as productive ones in the last observed stage. Also the ergative pronouns (1., 3. pronouns) are used productively only in the protomorphological stage.

The few examples of the supposed derived forms, described from the third to the sixth phase, do not permit us to conclude that the child has already analyzed this process.

During the six months period we have found some extragrammatical operations, such as truncations, blends and reduplications.

The construction of the verb classes used begins with TR verbs, and is followed by ITRs. Typologically the language of the little child in her first two stages is similar to an agglutinating language: almost all the verbs have the suffix -*eh*. In this process, the most general and productive allomorph -*eh* was used like a superstable marker (Dressler and Karpf 1995). Only at and after 2;1 are the inflecting characteristics slowly being constructed, accompanied by the distinction of classes and paradigms.

At the end of the observed period (2;2) the child still did not produce any complete paradigms. But the over-generalization of the 2. Sg imperative is in a clear process of extinction.

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