

The Acquisition of K'iche' Status Suffixes*

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Kaufman (1977) coined the term 'status marker' to describe the suffixes typically found on verbs in Mayan languages. The Mayan status suffixes simultaneously mark distinctions in transitivity, aspect and modality, derivational status, phrasal position and clause type, although the status suffixes in most Mayan languages only mark a subset of these distinctions. From a universalist perspective, the status suffixes are highly marked in that few languages require the addition of morphemes that specifically mark verb transitivity as well as the presence or absence of a phonological phrase boundary or clause type. From a language internal perspective, the status suffixes are unusual in that while most of the inflectional morphology in the Mayan languages is agglutinative, the morphology of the status suffixes is fusional, serving a diverse range of functions. The acquisition of these morphemes turns out to be unique as well.

In this paper I describe the acquisition of the status suffixes in the Eastern Mayan language K'iche'. Most current acquisition theories predict that the K'iche' status suffixes should be among the last morphemes that children acquire. My recordings, on the other hand, demonstrate that the status suffixes are among the first verbal inflections that K'iche' children use. In this paper, I first present a description of the K'iche' status suffixes followed by a discussion of the acquisition data. I conclude with the implications such data have for current acquisition theories.

K'iche' status suffixes

The K'iche' status suffixes distinguish four distinct verb features. First, they mark the difference between transitive and intransitive verb stems (Kaufman 1990). The example in (1) shows this difference for two eating verbs.

- (1) a. kawaʔik¹
k-∅-waʔ-ik
INCOMP-3B-eat-SIV
'S/he is eating.'
- b. xintijoh
x-∅-in-tij-oh
COMP-3B-1A-eat-STV
'I ate something.'

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The verb *waʔ* in (1a) is intransitive and requires the intransitive status suffix /-ik/. The verb *tij*, on the other hand, is a root transitive verb and requires the transitive status suffix /-oh/.

Second, the K'iche' status suffixes mark a difference between root and derived transitive verb stems. The Mayan languages generally use overt derivational suffixes to convert noun, adjective, intransitive verb and positional stems into transitive verb stems. K'iche' adds a distinct V:j status suffix to these stems in which the vowel echoes the vowel in the verb stem. Examples of various derived transitive verbs are provided in (2). The verb in (2a) is derived from the noun *cha:k* 'work'. Additional evidence that derived transitive verbs have a distinct status morphology is shown by the fact that none of the verbs in (2) carry a root transitive verb status suffix illustrated above in (1b). Intransitive verb stems derived from other lexical classes use the regular intransitive status suffixes illustrated in (1).

(2) a. Derivation from a noun root

k-∅-in-cha:k-o:j
INCOMP-3B-1A-work-SDTV
'I'm working something'

b. Derivation from an intransitive verb root

x-∅-in-kam-is-a:j
COMP-3B-1A-die-CAUSE-SDTV
'I killed something'

c. Derivation from a positional root

ch-∅-a-tak'a-b'-e:j
DEP-3B-2A-stand-INSTR-SDTV
'Stand it up!'

Third, the status suffixes mark a difference in what Kaufman (1977) describes as 'verb status'. Verb status covers differences in mood, aspect and verb incorporation. Mood differences include the distinction between indicative and imperative moods. The imperative forms of the verbs in (1) are shown in (3).

(3) a. ch-at-waʔ-oq

DEP-2B-eat-SIV
'Eat!'

b. ch-∅-a-tij-aʔ

DEP-3B-2A-eat-STV
'Eat something!'

Verb status also includes the difference between the 'plain' and perfect aspects. The plain status suffixes occur with the incompletive and completive aspects while the perfect status suffixes only occur with the perfect aspect. Examples of the perfect forms of intransitive and transitive verbs are provided in (4).

(4) a. in-waʔ-inaq
 1B-eat-PERF
 'I have eaten.'

b. ʔ-a-tij-o:m
 3B-2A-eat-PERF
 'You have eaten something.'

Finally, for intransitive verbs and root transitive verbs, the status suffixes indicate whether the verb occurs in the middle or at the end of a phonological phrase (5a,b). The derived transitive status suffix appears on the verb regardless of its position (5c).

(5)	Phrase-Medial Context	Phrase-Final Context
Intransitive Verbs	a. ma x-in-waʔ taj NEG COMP-1B-eat NEG 'I didn't eat'	x-in-waʔ-ik COMP-1B-eat-SIV 'I ate'
Root Transitive Verbs	b. wara:l k-ʔ-in-tij wih here INCOMP-3B-1A-eat PROLOC 'Here (is where) I eat something'	k-ʔ-in-tij-oh INCOMP-3B-1A-eat-STV 'I eat something'
Derived Transitive Verbs	c. x-ʔ-in-cha:k-o:j le: ab'i:x COMP-3B-1A-work-SDTV the field 'I worked the field'	x-ʔ-in-cha:k-o:j COMP-3B-1A-work-SDTV 'I worked something'

A host of verb particles in K'iche', including the negation, emphatic and dubitative particles, also have distinct phrase-medial and phrase-final forms (cf. Kaufman 1990). I will not include the particle suffixes in this analysis. I provide a table that summarizes the forms and functions of the K'iche' status suffixes in (6), c.f. Kaufman (1990). Parentheses indicate that the form only appears when the verb occurs in phrase-final position. The form of the status suffix on dependent intransitive verbs alternates between (-a) and (-oq) in the phrase-medial and phrase-final positions respectively.

(6) K'iche' status suffix inflectional paradigm

Aspectual Categories	Root Transitive	Derived Transitive	Derived Intransitive
Plain:	(-oh)	-Vj	(-ik)
Dependent:	-aʔ ^a	-Vj	-a/(-oq)
Perfect:	-o:m	-Vm	-inaq

^a -aʔ is used with verbs whose root vowel is /i e a/; -oʔ when the root vowel is /o/; and -uʔ when the root vowel is /u/.

Acquiring the Status suffixes

The K'iche' status suffixes provide an unusual window into basic processes that guide language acquisition. Their multifunctional status suggests that they would be late acquisitions for children (Slobin 1973; Karmiloff-Smith 1979; Pinker 1984). Functional considerations predict that K'iche' children would acquire the status suffixes long after they acquire verb inflections that mark more basic distinctions such as aspect and agreement. The functions marked by the status suffixes range from the common distinction between indicative and imperative verb moods to the highly unusual distinction between root and derived transitive verbs and the distinction between phrase-medial and phrase-final contexts. I would judge the distinction between transitive and intransitive verb stems to fall somewhere between these other functions. While many languages mark a distinction between transitive and intransitive verbs through agreement morphology (e.g., ergative versus absolutive), few languages add a separate morpheme to mark this difference.

A comparison of status suffixes across the Mayan languages shows that K'iche' is unusual in combining so many diverse functions in its status suffixes. The status suffixes in most Mayan languages only mark differences in verb moods and aspect. Although many Mayan languages have distinct status suffixes for transitive and intransitive verbs, many of the languages neutralize the transitivity distinction at some point in the status inflectional paradigm (largely through the use of zero morphemes for plain status forms). Few Mayan languages mark the distinction between root and derived transitive verbs, and fewer still mark the distinction between the phrase-medial and phrase-final position of the verb. Still, Kaufman (1990) reconstructs a status system for proto-Maya similar to the one that presently exists in K'iche'. In terms of frequency in the family, the functions of the status suffixes fall roughly into the following order from least to most marked, assuming that the most commonly found distinction is the least marked and that the least commonly found distinction is the most marked.

(7)

{ Mood }
{ Aspect } less marked than { Transitivity } less marked than { Derived Transitivity }
{ Phrase Position }

Based on these markedness considerations I would expect K'iche' children to first use the status suffixes to indicate differences in verb mood and aspect followed by the transitivity distinctions and finally the distinctions of derived transitivity and phrasal position.

There are a number of language internal features and processes that obscure the differences between the verb types, and thereby increase the difficulty of using the appropriate status suffix. Most derived transitive verbs have polysyllabic stems, but there are some common derived transitive verbs with monosyllabic stems that resemble root transitive verbs, c.f., *xatij* 'you ate it' (root transitive verb) and *xab'i:j* 'you said it' (derived transitive verb). Homonyms such as the intransitive verb *xintzaq* 'I fell' and root transitive verb *xintzaq* 'I lost it,' or near homonyms such as the intransitive verb *xinwalij* 'I got up' and the derived transitive verb *xinwali:j* 'I raised it,' further obscure the distinction based on transitivity. Passivization also results in minimally distinct transitive and intransitive verb stems, e.g., *xinchapoh* 'I caught it' and *xcha:pik* 'It was caught.' K'iche' children must be alert to some fairly subtle semantic and phonological features when acquiring the status suffixes.

The status suffixes have implications for other acquisition theories as well. Kenneth Wexler (1994; 1998) has developed an acquisition theory that predicts children will sometimes use nonfinite verb forms where adults use finite verbs. Wexler's Optional Infinitive hypothesis has been extended to predict that children will optionally use verb stems in languages like K'iche' that lack infinitives. Thus, Wexler's theory predicts that K'iche' children would optionally produce verb stems that lack the required status suffixes since these suffixes are part of the K'iche' verb's finite morphology. Since the status suffixes mark the difference between perfect and nonperfect aspects, it is also interesting to see how K'iche' children compare to their American counterparts in acquiring the perfect. The perfect is a late acquisition for children learning American English (Brown 1973) although children acquiring English in Scotland acquire it early (Gathercole 1986).

K'iche' Acquisition Data

Between 1978 and 1980 I recorded longitudinal samples of three children learning K'iche'. I provide an overview of these samples in Table 1. I recorded one hour of conversation with each of the children approximately every two weeks. I grouped the samples into sets of three to obtain more data for each grammatical feature at each developmental period.

Table 1. Ages, MLUs and number of utterances for the K'iche' language samples.

Al Tiya:n			Al Cha:y			A Carlos			
Sample	age ^a	MLU ^b	number of utterances	age ^a	MLU ^b	number of utterances	age ^a	MLU ^b	number of utterances
1-3	2;1.17	1.2	732	2;9.8	1.6	945	3;1.5	1.8	735
4-6	2;2.6	1.4	1069	2;10.6	2.1	1348	3;1.25	2.4	963
7-9	2;3.19	1.8	1155	2;10.27	2.2	1160	3;4.2	2.8	1760
10-12	2;7.21	2.1	844	3;0.16	2.7	1197	3;4.23	2.8	1272
13-15	2;10.5	2.8	1026	3;1.5	2.7	1159	3;6.26	3.1	1333
16-18				3;2.28	3.0	1103	3;8.5	3.3	1508
19-21				3;4.10	3.2	794			

^aAges are written as years;months.days

^bMLU is the measure of the mean length of utterances in number of morphemes

Much to my surprise, K'iche' children use verbs with status suffix morphemes from the beginning. I provide early examples of the children's productions with status suffixes in (8). (The asterisks in all child language samples mark obligatory morphemes that were absent in the child's production. Exclamations mark overgeneralized morphemes. The equal sign indicates an adult expression that is equivalent to the child's utterance. The slash '/' marks verb and positional roots.)

(8) a. Al Tiya:n (2;1.7: Intransitive verb)

ay, ay, ek.

= *x-Ø/b'e-ik

*COMP-3B/go-SIV

'Oh, oh, it went.'

b. Al Cha:y (2;9.3: Root transitive verb)

tijo cha?

= *k- \emptyset -*u/tij-oh cha?

*COMP-3B-*3A/eat-STV say

'He eats it, he says.'

c. A Carlos (3;0.14: Derived transitive verb)

kub'ij

= k- \emptyset -u/b'i?~j

COMP-3B-3A/name-SDTV

'He says it.'

I provide further data on the children's use of the status suffixes in Table 2. This table shows the extent to which the children use status suffixes in their obligatory contexts. For this analysis, I only included intransitive and root transitive status suffixes in phrase-final contexts since these contexts provide the clearest evidence for the status suffixes with these verbs. I did not include dependent uses of these verbs since the dependent forms of the root transitive and intransitive verbs are similar in phrase-medial contexts and I am not confident that my transcriptions record the necessary detail to distinguish these uses. I counted all uses of the derived transitive status suffixes in both phrase-medial and phrase-final contexts. Table 2 displays both the number of tokens the children produced as well as the proportion of obligatory contexts in which the children used each status suffix.

Table 2. Number and proportion of status suffix use on root transitive, derived transitive and intransitive verbs

	Al Tiya:n						Al Cha:y						A Carlos					
	RTV		DTV		IV		RTV		DTV		IV		RTV		DTV		IV	
Sample	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.
1-3	4	.8	5	.83	15	.71	7	.47	44	.97	17	.71	29	.97	9	1.0	74	.95
4-6	7	1.0	6	.86	39	.87	11	.73	76	.96	33	.92	20	.87	20	1.0	50	.98
7-9	2	.67	5	1.0	51	.91	12	.8	48	.90	36	.90	50	.96	61	1.0	147	.99
10-12	8	.8	7	.88	38	.97	36	.88	77	.97	36	.95	23	1.0	45	1.0	127	.98
13-15	12	.92	35	1.0	74	1.0	33	.73	65	1.0	56	.94	28	.96	66	.97	140	.98
16-18							20	.91	70	.94	43	.88	22	.96	31	1.0	66	.98
19-21											29	.88						

The children supplied status suffixes in more than seventy percent of obligatory contexts in all but a couple of sessions. Al Tiya:n and Al Cha:y exhibit some difficulties with status suffixes on their root transitive and intransitive verbs in their first three samples; in the later samples they supply the status suffixes in over seventy percent of their obligatory contexts. A Carlos had evidently mastered the use of the status suffixes by the time I began recording his speech.

It is remarkable that the children exhibit high proportions of status suffix usage across the three different verb types. The children appear to use approximately twice as many status suffixes

with derived transitive as with root transitive verbs, and three to four times as many with intransitive verbs. These discrepancies are primarily due to the restrictions I placed on counting the contexts for status suffixes. The children only used root transitive verbs in phrase-final position in a minority of their utterances. Most of the time they added a verb particle or noun phrase after the root transitive verbs. In such contexts the status suffix can be omitted. In contrast, all uses of derived transitive verbs require the status suffix. This creates many more opportunities to observe the children's use of the derived transitive status suffix. The frequent use of status suffixes with intransitive verbs was more surprising. The children were much less likely to follow their intransitive verbs with particles or noun phrases. The varied contexts that occur with the children's verbs make it all the more remarkable that they show such high rates of status suffix use across all three verb types.

The children's mastery of the status suffixes contrasts sharply with their omission of the verb prefixes for aspect and agreement. Note that Al Tiya:n and Al Cha:y omitted the aspect and agreement prefixes on their verbs in examples (8a and b). I provide data on the children's acquisition of these morphemes elsewhere (Pye 1991; 2001). A Carlos was the only one of my three subjects who used verb aspect and agreement inflections with more than fifty percent of his verbs, and then only in his final language samples. Al Tiya:n and Al Cha:y supplied aspect prefixes on less than ten percent of their verbs. The children's acquisition of the status suffixes appears to be well in advance of their acquisition of the other obligatory verbal inflections.

One explanation for the children's high proportion of status suffix use might be that they treated all their verbs as if they were derived transitive verbs. That is, instead of alternating between phrase-medial and phrase-final verb forms, as is required for the intransitive and root transitive verb classes, the children could just use the phrase-final verb forms for all their verb classes. This explanation would account for the high proportion of status suffix use shown in Table 2 without providing evidence that the children had actually analyzed the functions of the status suffixes.

I tested this hypothesis by counting the number of times the children used the phrase-final status suffixes in phrase-medial position. I used a liberal set of contexts for defining phrase-medial positions for this analysis. K'iche' speakers commonly add the status suffixes for emphasis before the direct object noun phrase. I included such contexts in my count of phrase-medial positions where my K'iche' consultants judged these to be phrase-medial contexts. The resulting count presents a worse-case estimate of the children's overgeneralizations. I provide examples of the children's overgeneralizations in (9). I use the exclamation mark (!) to indicate overgeneralizations in the children's productions.

(9) Examples of children's phrase-final overgeneralizations

a. Al Tiya:n (2;7.28)
 ek eyub'
 = *x-0/b'e:-!ik *pa juyub'
 *COMP-3B/go-!SIV *to mountain
 'He went to the mountain.'

b. Al Cha:y (3;0.8)
 no, tijo la

= no *k-0-*in/tij-!oh la
 no, *INCOMP-3B-1A/eat-!STV emph
 'No, I am eating it!'

c. A Carlos (3;1.5)
 inch'ob'oh taj
 = *k-0-in/ch'ob'-!oh taj
 *INCOMP-3B-1A/know-!STV NEG
 'I do not know it.'

While the children did sporadically overgeneralize the phrase-final status suffixes, they did not do so to any great degree. The results in Table 3 indicate that the children only used the phrase-final status suffixes in phrase-medial contexts sporadically. Evidently the children knew which contexts require the use of the phrase-final status suffixes and alternated appropriately between the phrase-medial and phrase-final forms of the verb stems.

Table 3. Number and proportion of phrase-final overgeneralizations

Sample	Al Tiya:n		Al Cha:y		A Carlos							
	RTV	IV	RTV	IV	RTV	IV						
	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.		
1-3	0	-	2	.09	1	.01	3	.05	4	.15	1	.02
4-6	0	-	0	-	2	.01	16	.16	1	.01	3	.03
7-9	2	.05	6	.08	5	.03	11	.12	2	.01	6	.02
10-12	2	.02	9	.10	10	.06	33	.21	0	-	1	.00
13-15	1	.02	3	.02	8	.06	10	.07	5	.03	3	.01
16-18					3	.03	1	.00	1	.01	1	.00

Transitivity

The next task is to examine whether the children had acquired a knowledge of the various functions that the status suffixes serve. One of the main functions of the status suffixes is to mark verb transitivity. It is reasonable to ask how accurately the children marked transitivity with the status suffixes. My analysis of the children's acquisition of the ergative and absolutive agreement prefixes indicates that the children had an early awareness of which verbs were transitive or intransitive (Pye 1990). I expected an analysis of the children's acquisition of transitivity distinctions with the status suffixes would produce a similar result.

There are two types of errors the children could make with respect to verb transitivity. They could use a transitive status suffix on an intransitive verb or an intransitive status suffix on a transitive verb. I counted the use of an intransitive status suffix on a transitive verb as an error in marking transitive verbs. The use of a transitive status suffix on an intransitive verb was counted as an error in marking intransitive verbs. These results are shown in Table 4.

Table 4. Transitivity errors with status suffixes

Sample	Al Tiya:n				Al Cha:y				A Carlos			
	TV		IV		TV		IV		TV		IV	
	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.	no.	p.
1-3	1	.20	0	-	0	-	0	-	0	-	0	-
4-6	0	-	1	.09	0	-	0	-	0	-	0	-
7-9	0	-	1	.04	0	-	0	-	0	-	0	-
10-12	0	-	0	-	0	-	0	-	0	-	0	-
13-15	0	-	0	-	0	-	0	-	0	-	0	-
16-18					1	.04	1	.02	0	-	0	-

These results indicate an extremely early knowledge of verb transitivity. The children essentially made no mistakes in their use of the status suffixes to mark verb transitivity. The few errors that I have indicated in Table 4 are due to the conservative way in which I analyzed the children's data rather than an indication of difficulties among the children with verb transitivity. Al Tiya:n's transitive error (shown in 10a) is due to the fact that I counted as incorrect her use of the transitive form of the verb *-yaʔ* 'give' rather than the obligatory Focus Antipassive form (*-yaʔowik*)². Al Cha:y's transitive error (shown in 10b) also originated in this fashion. The example in (10c) shows one of Al Tiya:n's intransitive errors. The children's overall accuracy, coupled with the productivity of the status suffixes, implies that K'iche' children establish verb transitivity very early in their acquisition of the language. They do this despite the optional use of nonemphatic NP arguments in parental speech. In other words, the K'iche' children can successfully identify the transitive/intransitive distinction encoded in the status suffixes in the absence of reliable clues to the verbs' argument structures from overt subject and object noun phrases.

(10) Examples of the children's transitivity errors

a. Al Tiya:n (2;1.17)

noʔ, at oh.
 = noʔ, at *x-*at/*yaʔ-!ow-*ik
 no, you COMP-2B/give-FA-SIV
 'No, you gave it.'

b. Al Cha:y (3;3.14)

jachin yaʔoh b'ay chupam?
 = jachin *x-∅/yaʔ-!ow *le: ab'aj chi-u-pa:m
 who COMP-3B/give-FA the rock at-3A-stomach
 'Who put the rock inside it?'

- c. Al Tiya:n (2;1.30)
 ju:n chaqo le?
 = ju:n *x-Ø/tzaq-!o le?
 one COMP-3B/fall-STV there
 'One fell there.'

An analysis of the children's use of the derived transitive verbs provides additional evidence that K'iche' children acquire transitivity distinctions in an error-free manner. The children could make several types of mistakes in using the derived transitives. They could, for example, add the root transitive status suffix to the derived transitive stems. While most of the derived transitive stems are polysyllabic, many are not. One of the most frequent verbs in K'iche' is the verb *-a:j* ('want'), which is inflected as a derived transitive verb. This verb contrasts minimally with root transitive verbs like *-ch'aj* ('wash') and root intransitive verbs like *-kanaj* ('wait'). Still another possibility is that the children could use the intransitive status suffixes with the derived transitive verbs. I performed this analysis by counting the number of correctly and incorrectly terminated derived transitive verbs the children used. I provide the results for an error analysis of derived transitive verbs in Table 4. Once again, we find that the K'iche' children were using the derived transitive status suffixes with few errors. The examples of the children's errors in (11) show that on rare occasions the children omitted the derived transitive verb status suffix.

Table 4. Derived transitive verb error analysis

Samples	Al Tiya:n		Al Cha:y		A Carlos				
	Number	Proportion	Number	Proportion	Number	Proportion			
1-3	5	1	.83	44	1	.97	9	0	1.0
4-6	6	1	.86	76	3	.96	20	0	1.0
7-9	5	0	1.0	48	5	.90	61	3	.95
10-12	7	1	.88	77	2	.97	45	0	1.0
13-15	35	0	1.0	65	0	1.0	66	2	.97
16-18				70	4	.94	31	0	1.0

(11) Examples of the children's derived transitive verb errors

- a. Al Tiya:n (2;7.21)
 qxa chu q'ab' chik
 = *x-Ø-q/esa-*j le: u-q'ab' chi-k
 COMP-3B-4A/take-*SDTV the 3A-hand again-STATUS
 'We took out his hand again.'
- b. Al Cha:y (2;9.28)
 k'a te laya
 = *ch-Ø-*a/k'at-*isa-*j le: *a-radio
 DEP-3B-2A/shine-*CAUSE-*SDTV the 2A-radio
 'Turn on your radio.'

c. A Carlos (3;3.18)

al wa:n, siki la le me?s

= al wa:n, *k-Ø-*a/siki-*j la le me?s

FAM Jane, INCOMP-3B-2A/call-*SDTV here the cat

‘Jane, call the cat here.’

Verb status

I was not able to identify obligatory contexts for the use of the perfect and imperative forms of the status suffixes. Dependant forms of the status suffixes are obligatory when a motion verb is incorporated into the verb stem, but instances of motion verb incorporation are rare in the children’s productions. Where they occur, the children correctly added the dependent form of the status suffix, as shown in (12):

(12) A Carlos (3;3.18)

lawila? le: ak'

= *ch-0-ul-aw/il-a? le: ak'

*DEP-3B-come-2A/see-STV the chicken

‘Come see the chicken!’

To assess the productivity of the dependent and perfect forms in the children’s productions I counted the number of verb types and tokens that appeared with the dependent and perfect suffixes. These analyses are shown in Tables 6 and 7. The dependent analysis does not include the irregular imperative forms for the verbs *b'e:* ‘go’, *kul* ‘sit’, and *pet* ‘come’ since these forms do not take the regular dependent status suffixes. The second person imperative for the verb *b'e:* is simply *jat* rather than the expected **chatb'oq* (< ch-at/b'e:-oq). The children used the irregular imperative verbs frequently from the beginning of the study. Table 6 shows that the productivity of the irregular imperative verbs did not generalize to the regular intransitive verbs. This result underlines the degree to which the children’s use of imperatives was confined to a small set of verbs even for the transitive verbs. Not counting the irregular intransitive verbs, the children’s most frequent imperatives were produced with the verbs *b'an* ‘do’, *chap* ‘grab’, *il* ‘see’, *k'am* ‘carry’ and *ya?* ‘give’. All of these verbs are root transitive verbs and their frequency accounts for the skewed distribution of the children’s imperative forms across the three types of K'iche' verbs.

Table 6. Frequency of the children's dependent verb forms (T = verb types; t = verb tokens)

Sample	Al Tiya:n						Al Cha:y						A Carlos					
	RTV		DTV		IV		RTV		DTV		IV		RTV		DTV		IV	
	T	t	T	t	T	t	T	t	T	t	T	t	T	t	T	t	T	t
1-3	3	6	0	0	2	2	1	4	4	9	0	0	3	4	1	1	0	0
4-6	4	9	2	2	0	0	10	35	8	37	2	5	11	22	4	9	1	2
7-9	4	7	2	3	1	1	9	24	11	24	3	6	11	55	6	19	2	2
10-12	7	37	0	0	2	3	8	33	8	20	2	3	14	69	5	16	2	2
13-15	8	26	4	4	1	1	13	38	7	12	0	0	12	67	9	20	3	4
16-18							12	22	7	20	3	7	10	28	3	8	1	3

Table 7. Frequency of the children's verbs in the perfect (T = verb types; t = verb tokens)

Sample	Al Tiya:n						Al Cha:y						A Carlos					
	RTV		DTV		IV		RTV		DTV		IV		RTV		DTV		IV	
	T	t	T	t	T	t	T	t	T	t	T	t	T	t	T	t	T	t
1-3	0	0	0	0	0	0	1	1	0	0	2	3	0	0	1	2	1	2
4-6	1	2	1	2	1	1	2	2	0	0	3	4	3	3	2	2	1	2
7-9	1	1	1	1	2	3	3	3	0	0	0	0	4	9	1	1	2	7
10-12	2	3	0	0	0	0	4	5	0	0	1	2	2	2	0	0	2	5
13-15	3	4	0	0	1	1	0	0	0	0	1	2	1	1	0	0	1	6
16-18							2	4	0	0	2	17	1	1	0	0	1	5

While the numbers in Tables 6 and 7 may be small, they demonstrate that K'iche' children can produce verbs with contrasting status suffixes from the beginning of their second year. For example, Al Cha:y produced the root transitive verb *chap* 'grab' in the forms: *chapa?* (imperative, 2;9.28), *chap* (plain/phrase-medial, 2;10.6), *chapom* (perfect, 2;10.14), and *chopoh* (plain/phrase-final, 2;10.14). Al Tiya:n produced the root transitive verb *il* 'see' in the forms *qil* (plain, 2;1.22) and *qila?* (imperative, 2;1.22). Such distinctions allow K'iche' children to use the morphological resources of their language to communicate their intentions from an early period of language development. These results support a more general conclusion that K'iche' children use the status suffixes appropriately and productively from the start of language acquisition. The next section of this paper explores the implication of such a finding for current acquisition theory.

Theoretical Implications

So far I have shown that K'iche' children make early and accurate use of the status suffixes in their language. I now wish to address the implications this finding has for current acquisition theory.

Pinker (1984) proposed two hypotheses to account for children's morphological acquisition. His first proposal, exhaustive hypothesization, assumes that once children isolate a morpheme they initially attach all possible functions to the morpheme's form and eliminate the functions that are contradicted by the context of use. Pinker felt that exhaustive hypothesization was unacceptable because it asks children to keep track of every conceivable morpheme function in every conceivable context. The hypothesis also predicts that children will acquire morphemes that mark several functions before isolating morphemes since the children have fewer hypotheses to eliminate from their check lists for the synthetic morphemes. While children, on the whole, tend to acquire isolating morphemes more easily than synthetic morphemes (Slobin 1973; Karmiloff-Smith 1979), the K'iche' status suffixes show that this general trend fails to hold across the board. On rare occasions children find it possible to use multifunctional morphemes productively.

The second hypothesis that Pinker proposed is hypothesis sampling. Under this proposal, children consult a weighted list of possible functions and test these possibilities one-at-a-time against evidence from the adult language. Weighted hypothesis sampling would predict that children assume certain morpheme functions first according to their distribution in the world's languages. For K'iche', weighted hypothesis sampling predicts that the children would acquire the aspect and agreement verb prefixes before the more marked status suffixes. Since the opposite is the case, I am forced to conclude that markedness considerations do not prevent children from acquiring morphemes with language-specific functions. Evidently, children are capable of using marked features of the adult language from the start.

Semantic prominence has always been one of the main explanations that investigators have given to account for the late acquisition of inflections relative to nouns and verbs (Brown 1973). Recently, theorists have appealed to the distinction between lexical and functional categories to account for the late acquisition of inflections in English (Radford 1990). I analyze the K'iche' status suffixes as functional projections since they mark modal, aspectual and transitivity features analogous to the functional projections in other languages. Their early appearance in the speech of K'iche' children indicates that children can access some functional projections in the first stages of acquisition and mark them appropriately. The absence of functional categories, therefore, cannot be the explanation for the late acquisition of inflections in English. I found many cases where the K'iche' children had only produced the status suffixes without also producing the verb root, as shown in (13).

(13) Productions of verbs without the verb root

- a. Al Chaay (2;9.8)
wik'
= kanikowik
k-∅/nik-ow-ik
INCOMP-3B/shine-FA-SIV
'It shines.'

b. Al Tiyaan (2;1.17)

?ik.

= kawa?ik.

k-∅/wa?-ik.

INCOMP-3B/eat-SIV

'It eats.'

c. A Carlos (3;1.5)

ma ju wach e

= chak'ama? jun uwach e

ch-∅-a/k'am-a? jun u-wach e

DEP-3B-2A/bring-STV one 3A-eye there

'Bring one there.'

Wexler (1994; 1998) accounts for the absence of tense inflections in children's English by assuming that children require a long time to master the details of verb inflection. During this period Wexler proposed that children will use a nonfinite form of the verb in place of the finite form. While there is no overt infinitive marker on verbs in English, the infinitive is overtly marked in many European languages, and acquisition researchers have found evidence of children using infinitive verbs in the main clauses of French (Pierce 1989), German (Poepfel & Wexler 1993) and many other languages. K'iche' raises an immediate difficulty for Wexler's proposal since K'iche' does not make use of infinitive verb forms in embedded clauses the way that Germanic and Romance languages use them. K'iche' verbs are fully inflected for aspect and agreement in embedded clauses or appear as nominalized forms that resemble English constructions like 'She regretted my coming.' Thus, Wexler's hypothesis poses several interesting questions about children's verb forms in K'iche'. One possible interpretation would predict that K'iche' children would use fully inflected verbs from the beginning since K'iche' lacks an infinitive construction that is analogous to the infinitive found in English. The examples in (8), (9) and (12) show that this interpretation is not empirically supported. K'iche' children do not begin marking aspect and agreement until they are three and a half years old.

A second interpretation of Wexler's hypothesis is worth further scrutiny. This interpretation would extend Wexler's prediction to include not just the infinitive form, but also any nonfinite verb forms found in the language including the nominalized forms of English and K'iche'. This interpretation would be a true extension of Wexler's hypothesis since up to the present he has limited his discussion of the English data to the infinitive. Wexler does not discuss the use of gerunds like 'coming' even though the -ing suffix is the first inflection to appear on children's verbs in English. English also makes use of zero nominalized verb forms such as 'hit' and 'cry.' Such forms would provide another avenue for the production of non-inflected verbs in children's English. The key difficulty with this interpretation is that nominalized verbs have a very different syntactic distribution than the plain verbs and infinitives. Nominalized verbs head noun phrases rather than verb phrases and this interpretation would give children's utterances a unique syntactic structure.

The distinction between children's verbs and nominalized verbs becomes more evident when we turn to K'iche'. K'iche' makes use of many distinct nominalization forms as illustrated in

(14).

(14) Examples of verb nominalization in K'iche' (Kaufman 1977; Mondloch 1981)

b'i:n-em ('travel' (IV)-NOM) 'trip'
ul-ik ('arrive' (IV)-NOM) 'arrival'
loq'-o:j ('buy' (RTV)-NOM) 'purchase'
ti:k-oʔn ('plant' (RTV)-NOM) 'planting'
b'a:n-ik ('do' (RTV)-NOM) 'doing'
k'ayi-x-ik ('sell' (DTV)-PASS-NOM) 'selling'
ch'ak-an-ik ('win' (RTV)-ABS-NOM) 'winning'

K'iche' uses the -em and -ik suffixes to nominalize intransitive verbs and the -o:j, -oʔn and -ik suffixes to nominalize transitive verbs. The passive and antipassive forms of transitive verbs may also be nominalized with the -em and -ik suffixes.

At first glance, the use of nominalized verb forms would appear to account for the presence of the status suffix and the absence of the aspect and agreement prefixes in the children's speech as in examples (13a and b). These examples are exceptional in that they contain intransitive verbs that take the -ik nominalization. Since the -ik nominalization has the same form as the status suffix for intransitive verbs this evidence is ambiguous. However, the status suffixes for root transitive and derived transitives are distinct from the nominalization suffixes. The children's use of the status suffixes with transitive verbs (examples 8b and c, and 9b and c) proves that they were producing finite verbs with the proper status suffixes rather than nominalized verbs. I conclude that the second interpretation of Wexler's hypothesis also lacks support and that his hypothesis cannot account for the K'iche' children's use of the status suffixes.

I now think that the K'iche' children's early use of the status suffixes provides evidence that the status distinctions mark a core function of the language. The status suffixes indicate a modality distinction not too dissimilar to the finiteness distinction in European languages. If verb inflections that mark modality/transitivity are core linguistic features, then I would predict their early acquisition in any language. This hypothesis predicts the early use of the status suffixes in K'iche' corresponds to the early use of infinitive forms in European languages. By early use I mean that children will produce status inflections before producing inflections for tense and agreement.

It is interesting to consider the distribution of the status suffixes among the various Mayan languages in this light. Although there have been many changes to the status distinctions over time, the Mayan languages have all maintained some part of the original status system. Many of the changes that have occurred, have resulted in further transitivity and modality distinctions. The Mayan languages that place absolutive agreement morphemes after the verb root, consistently postpose them to the status suffixes. This distributional evidence provides some support for the notion that the status suffixes constitute a core feature of Mayan verbal inflection.

Another possibility is that the children's verb forms reflect the metrical character of the language. I showed in an earlier paper (Pye 1983) that stress placement plays a key role in determining which verb syllables K'iche' children produce. K'iche' places primary lexical stress on the final syllable, which contains the status suffix of verbs in phrase-final position. Lexical stress produces a constraint on the children's production rather than their perception since K'iche'

children produce the penultimate syllables of verbs when they occur in phrase-medial position. The children's ability to alternate between the phrase-medial and phrase-final verb forms shows that they are aware of both verb syllables, but limited to producing only one syllable at a time.

I conclude with the observation that the K'iche' status suffixes seem to overturn the most widely accepted acquisition universals. At the very least, the acquisition of the status suffixes demonstrates the power of children's ability to acquire the nuances of language. These results also suggest that an exclusive focus on language universals ignores the real challenge of learning the eccentric details of specific languages.

Notes

¹All K'iche' words are shown in the practical orthography developed by the Proyecto Linguístico Francisco Marroquín (Kaufman 1976). The orthographic symbols have their standard IPA values except: <tz> = /ts/, <ch> = /tʃ/, <b'> = /b/, <tz'> = /ts'/, <ch'> = /tʃ'/, <x> = /ʃ/, <j> = /X/. I use the colon <: > to indicate long vowels.

I have also used the following morphological abbreviations: COMP = completive aspect, DEP = dependent prefix, INCOMP = incompletive aspect, PERF = perfect aspect, 1A, 2A, 3A = first, second, third person singular ergative person markers (what Mayanists refer to as 'set A'), 1B, 2B, 3B = first, second, third person singular absolutive person markers (or 'set B'), PASS = the passive suffix (what Mondloch 1981 refers to as Passive 1), ABS = the absolutive antipassive, FA = the focus antipassive suffix, DTV = derived transitive verb stem, RTV = root transitive verb stem, IV = intransitive verb stem, SDTV = the status suffix for derived transitive verbs, STV = the clause-final status suffix for root transitive verbs, SIV = the clause-final status suffix for intransitive verbs.

²The adult grammar requires the Focus Antipassive construction where the subject argument is in focus (as in 10a), questioned (as in 10b) or relativized (c.f. Larsen 1987). The Focus Antipassive adds an -ow suffix to root transitive verbs and a -Vn suffix to derived transitive verbs while converting the stem to an intransitive verb that takes the regular intransitive verb status suffixes.

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Abbreviations

COMP	completive aspect	DEP	dependent prefix
INCOMP	incompletive aspect	PERF	perfect aspect
PASS	passive ₁ suffix	ABS	absolutive antipassive
FA	focus antipassive suffix	A	set A agreement (ergative)
1	first person singular	B	set B agreement (absolutive)
2	second person singular	STATUS	the status suffix
3	third person singular	CAUSE	causative affix
4	first person plural	INSTR	instrumental affix
FAM	familiar particle	NEG	negation particle
emph	emphatic particle	NOM	nominalization suffix

V	vowel	PROLOC	prolocative particle
IV	intransitive verb stem	DTV	derived transitive verb stem
RTV	root transitive verb stem	SDTV	status suffix for DTV
STV	status suffix for RTV	SIV	status suffix for IV