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YUCATEC MAYA
NOUN and VERB MORPHO-SYNTAX

by

Robert Wallace Blair

1964

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INTRODUCTION

This dissertation is a structural analysis of the phonology and essential morphology of the noun and verb complex of Yucatec Maya as it is spoken today by inhabitants of the state of Yucatan, Mexico. The corpus gathered on tape (and deposited in the Archives of the Languages of the World at Indiana University) consists of narrative and conversational texts together with texts elicited directly to exemplify different points of grammar. Informants have been native speakers from different parts of Yucatan and of different ages and backgrounds: Avelino Dzib of Piste (central Yucatan), born ca. 1938, farmer; Gonzalo Pech of Telchac (north-central Yucatan), born ca. 1936, student; Manuel Tun of Valladolid (eastern Yucatan), born ca. 1912, a Protestant lay-preacher; Herculano Pech of Merida, born ca. 1890, an ex-lay-preacher; and Refugio Vermont of Peto (southern Yucatan), born 1939, a colporteur and student. To all of these I owe a debt of gratitude for their patient toil.

CHAPTER I

PHONOLOGY

1.1 Phoneme Inventory. The phonemes of Maya may be represented by the following symbols:

Non-syllabics (not combinable with accent) are twenty-six in number, including twenty-four consonants and two semi-vowels:

p	t	ʈ	č	k	ʔ
ᵑ	ᵑ̣	ɟ	č̣	ᵑ̣	
ᵑ̣					
(b)	(d)			(g)	
(f)		s	š		h
m	n				
w			y		
	l				
	r				
	(ř)				

Syllabics are fifteen in number, including five vowels /i e a o u/, each of which may combine with either of the accents /' (high) and /` (low), or may occur without accent.

Junctures, signalling the segmentation of the utterances into macro- and microspans, are four in number, including three contour junctures /./ (period), /,/ (comma), and /;/ (semicolon), together with one disjuncture marked by space between the segmental phoneme symbols. Close

juncture, i.e. any phoneme sequence not containing one of the four junctures, is indicated by adjacent letters or by space bridged by a tie-line (_).

1.2 Higher Level Units. A macrospan (or contour) is defined as any minimal section of a given utterance which is bounded by contour junctures, including the transition from silence to phonation that marks the beginning of an utterance. A microspan is defined as the minimal section of a contour bounded by disjunctures or by a disjuncture and a contour juncture. In discussion where a distinction between macrospan and microspan is unnecessary we use the term span for either one. The term utterance is used in reference to a stretch of speech of indeterminate length and containing an integral number of contours with no change of speaker.

1.3 Accent. Within a span some syllables may be more prominent than others. This prominence of certain syllables over others in a span may be due to the presence either of non-distinctive stress (a pulse the occurrence of which is predictable from its phonological environment) or of distinctive accents. The two accents, high and low, are, in fact, bundles of two or three features, including pitch, stress, and quantity.

We describe the allophones of both accents only for environments other than pre-contour-juncture, since the contour junctures are described partly in terms of their

unique pitch configurations imposed upon the prejunctional syllable.

High and low accents both have allophones differing essentially only in their pitch configurations: under either accent a syllable is stressed more than surrounding unaccented syllables; under either accent a syllable is somewhat longer than surrounding unaccented syllables in all environments except before /ʔ/; however, low accent has a low, level pitch configuration in contrast with high accent which has a high, rising or high, level pitch configuration. E.g. le mákoʔ that man, is allophonically [. ˨ .] or [. ˨ .], in contrast to le màkoʔ that cover, which is allophonically [. ˨ .].

1.4 Stress. Non-distinctive stress is a rhythmic pulse without the pitch or length features of accent. The following rules describe the occurrence of the stress pulse.

(1) In general, unless the pattern is interrupted by the occurrence of an accented syllable, the stress pulse occurs on the initial syllable of a span and thereafter on alternate syllables. (This rule includes the case of unaccented monosyllabic spans which are always stressed.)

E.g. nah house; ku hanal he eats.

(2) Exceptions to the general rule:

(a) Two-syllable length spans containing no accented syllable are stressed about equally on both syllables.

E.g. wenel sleep.

(b) An unaccented syllable preceding or following an accented syllable does not receive a stress pulse.

E.g. ku hantik le wàho? he eats the bread.

- 1.5 Junctures. The contour junctures are generally characterized by a pause (of unspecifiable length) as well as by features of deceleration in the rate of phonation, intensity decrescendo, and pitch-turn, these latter three extending over the previous syllable. Specifically the contour junctures are characterized as follows:


./ (period juncture) is distinguished:

(1) usually by a retardando effect on the previous syllable;



(2) often by a decrescendo effect on the previous syllable;

(3) by a pitch effect on the previous syllable:

(a) a sharp down-turn if the syllabic is \acute{V} .

E.g. ?untúl mák. one man has the pitch configuration [. ], the high accent in mák being realized by a sharp down-turn attributable to the period juncture;



(b) a slight down-turn or level hold if the final syllabic is \grave{V} or V (an unaccented vowel).

E.g. ?unpél màk. one cover and ?unpél nah. one house have the pitch configuration [. ] or [. ];

(4) by a pause generally somewhat longer than that for comma juncture but equal in length to that

of semicolon juncture.

/;/ (semicolon juncture) is distinguished:

- (1) usually by a retardando effect on the previous syllable;
- (2) often by a decrescendo effect on the previous syllable;
- (3) by a pitch effect on the previous syllable:
 - (a) extra-high rising pitch if the syllabic is \acute{V} .
E.g. $\text{'unpél} \acute{\text{bát}}$; one axe? has the pitch configuration [. ], the extra-high rising pitch being attributed to the semicolon juncture;
 - (b) high rising pitch if the syllabic is \grave{V} .
E.g. $\text{'unpél} \grave{\text{màk}}$; one cover? and $\text{'unpél} \acute{\text{bát}}$; one hailstone? have the pitch configuration [. ];
- (4) by a pause generally longer than that for comma juncture but equal in length to that of period juncture.

/,/ (comma juncture) is distinguished:

- (1) usually by a retardando effect on the previous syllable;
- (2) rarely by a decrescendo effect on the previous syllable;
- (3) by a pitch effect on the previous syllable:
 - (a) high pitch with dip if the syllabic is \acute{V} .
E.g. $\text{'untúl} \acute{\text{mák}}$, pero ... (a man, but ...)

has the pitch configuration [. ˊ ˊ ˊ];

- (b) slight rise or level hold if the syllabic is \dot{V} or V. E.g. ʔunpél māk, pero ...
one cover, but ... and ʔunpél bat, pero ...
one hailstone, but ... have the pitch configuration [. ˊ ˊ];

- (4) by a pause typically shorter than that for either of the other contour junctures.

In function, the contour junctures are similar to the corresponding junctures of English or Spanish: period juncture and semicolon juncture indicate a full stop in the utterance, at which point a change in speakers is acceptable and sometimes solicited. Each instance of either of these, then, marks a potential utterance terminus. Comma juncture, on the other hand, rarely marks utterance terminus; rather it usually indicates that the speaker has not completed his say and does not anticipate (or is not soliciting) a change in speakers.

1.6 Non-Syllabics

- 1.6.1 Attestation of Contrasts. The following sets of forms demonstrate the phonemic status of non-syllabics which contrast in respect to point of articulation. Where possible, each is attested in post junctural (#--) and prejunctural (--#) environments.

Labials

#--		--#	
pàš	<u>music</u>	tùp	<u>earring</u>
p'às	<u>debt</u>	sùp	<u>milpa fence</u>
b'às	<u>hammer</u>	túb	<u>spit</u>
bùfo	<u>donkey</u>	--	
fàsil	<u>easy</u>	--	
màš	<u>chile silvestre</u>	sùm	<u>rope</u>
wìš	<u>urinate</u>	šív	<u>grass</u>

Dentals

tòn	<u>male member</u>	šòt	<u>cut</u>
t'ón	<u>calf muscle</u>	šét	<u>piece</u>
dòn	<u>gift</u>	--	
nòm	<u>partridge</u>	šèn	<u>go</u>
le?	<u>leaf</u>	šúl	<u>dibble</u>
fèy	<u>king</u>	péřtenesèř	<u>belong</u>

Alveolars

čik	<u>honor it</u>	?uč	<u>good</u>
č'ik	<u>give it</u>	b'ùč	<u>vapor</u>
si?	<u>firewood</u>	tùs	<u>lie</u>

Alveopalatals

čùn	<u>tree trunk</u>	b'áč	<u>quail</u>
č'òm	<u>buzzard</u>	b'èč	<u>grouse</u>
šùn	<u>ma'am</u>	b'áš	<u>hammer</u>
yùm	<u>lord</u>	p'áy	<u>pull</u>

#-- Velars --#

kaye?	<u>the fish</u>	bàk	<u>horn</u>
kaye	<u>sing it</u>	bak	<u>meat</u>
gáyo	" <u>hey Mac</u> "	--	

Pharyngeals

ʔàl	<u>son</u>	naʔ	<u>mother</u>
hòl	<u>hole</u>	nah	<u>house</u>

The following exemplify consonants which contrast in respect to manner of articulation:

Tense Stops

#--		--#	
pàl	<u>boy</u>	páp	<u>spicy hot</u>
tàl	<u>come</u>	pàt	<u>knead</u>
ʔòl	<u>explain</u>	hàʔ	<u>separate</u>
čàl	<u>wash</u>	páč	<u>back</u>
kàl	<u>neck</u>	pàk	<u>fold</u>
ʔam	<u>spider</u>	maʔ	<u>no</u>

Glottalized Stops

pènkeč	<u>several</u>	sùp	<u>milpa fence</u>
tón	<u>calf muscle</u>	nuʔut	<u>narrow</u>
ʔòn	<u>gun</u>	suʔuđ	<u>bitter</u>
čòm	<u>buzzard</u>	naʔač	<u>too tight</u>
kòm	<u>hollow</u>	kuʔuk	<u>sprout</u>
bòn	<u>dye</u>	haʔab	<u>year</u>

Voiced Stops

bũo	<u>donkey</u>	--
dòn	<u>gift</u>	--
gónsalo	<u>Gonzalo</u>	

Spirants

#--		--#
fàsil	<u>easy</u>	--
sásil	<u>light</u>	màs <u>more</u>
šáš	<u>vacant side</u>	máš <u>chile silvestre</u>
hàs	<u>lay strands of rope</u>	wàh <u>bread</u>

Nasals

maʔ	<u>no</u>	šiʔim <u>corn</u>
naʔ	<u>mother</u>	seʔen <u>cough</u>

Semi-Vowels

wál	<u>leaf</u>	ʔóšow <u>heat</u>
yàl	<u>her son</u>	boʔoy <u>shade</u>

Liquids

lál	<u>pour</u>	boʔol <u>pay</u>
	mèrèč	<u>a lizard</u>

řeàl	<u>12 cents</u>	pěřtenesěř <u>belong</u>
	le řèyeʔ	<u>the king</u>

1.6.2 Allophony.

Stops and Affricates

The six voiceless plain stops /p t ɸ č k ʔ/ and five voiceless glottalized stops /p̚ t̚ ɸ̚ č̚ k̚/ are voiceless in all environments. Following and preceding a juncture the force of release of the stops of the respective series varies from very weak to very strong, depending upon the speaker in part, but more upon certain paralinguistic features of emphasis. Intervocally and preconsonantly the tense-stops are not ordinarily aspirated,

and the glottalized stops are released somewhat more lightly than in other positions.

The voiced glottalized stop /b̥/ is a preglottalized fortis bilabial stop initial in the syllable except intervocalically. There it is sometimes heard without glottalization as a lenis stop or even as a fricative (as in Spanish) e.g. b̥ète do it : tu b̥ètah he did it. In syllable final the /b̥/ may be actualized by various allophones, all of which share components of glottal and bilabial closure, and lack plosive release. These allophones of /b̥/ may be voiced for the initial part of their duration or voiceless throughout; they may or may not be nasalized; they may have the glottal closure simultaneous with or slightly preceding the lip closure. Initially and medially, then, in Maya words both /b̥/ and /b/ may occur, although in Spanish words only /b/ appears. In final position contrast is maintained between /b̥ p̥ m̥/, only /b̥/ having glottal closure without plosive release. E.g. k̥ab̥ hand kib̥ candle n̥áb̥ hand measure.

The stops /b d g/ occur only in Spanish loans and only span-initially or medially. All allophones of these stops are voiced and plain (unglottalized). /b/ contrasts with /b̥/ only initially in respect to the glottal feature.

The glottal stop /ʔ/ as well as the glottalized series often give the impression of laryngealizing a preceding high-accent vowel, more strikingly so when the vowel is also preceded by a consonant of the same set.

Examples: čič bird, kák fire (ki'ik blood).

In a sequence /V^oV^oV/ the second glottal stop (if realized at all) is realized only as a slight prolongation and laryngealization of the vowel. Examples: če'o'o'ob trees, pa'a'a'an broken.

However in a sequence /V^o V/ there is no prolongation or laryngealization. Example: ška' 'ábil great grandchild.

Spirants

The spirants /s š/ are sibilants contrasting with each other in point of articulation. /s/ is an apical alveolar or prealveolar rill fricative as in Spanish and /š/ is a post-alveolar or alveopalatal grooved fricative as in English. E.g. sen very šen go. The spirant /f/ occurs only in Spanish loans. It is a voiceless labiodental fricative.

The phoneme /h/ is realized by the following allophones in the environments specified:

(a) a voiceless pharyngeal spirant:

- (1) initially before a vowel. Here its articulatory "shape" is that of the following vowel, and the degree of spirantization varies between that of the Mexican Spanish "jota" or /x/ and the American English /h/. Examples: híl withe, hèl change, hal let down (arriar), hòl hole, hùl illumine;
- (2) between a vowel and a consonant or disjuncture

followed by a consonant. Here its shape is largely that of the preceding vowel. Examples:

síh te'elo'	<u>he was born there</u>
čonkéhnahí	<u>he deer-hunted</u>
tu yénsah čìna	<u>he picked oranges</u>
toh le 'bea'	<u>this road is straight</u>
ku čuh kay	<u>he catches fish</u>

(3) following a juncture, disjuncture, or consonant and preceding a consonant. Here its shape is roughly that of a mid-central vocoid.

Examples:

htaman	<u>sheep</u>
hpik	<u>a bug</u>
hčòm	<u>buzzard</u>
htu'ul	<u>rabbit</u>

(b) a voiced pharyngeal spirant:

(1) intervocalically. Here its shape is or is moving toward that of the following vowel.

Examples:

síhil	<u>be born</u>
čéhel	<u>die out</u>
čahal	<u>tickle</u>
tòhol	<u>price, value</u>
púhul	<u>get angry</u>
síhen	<u>I was born</u>
sího'on	<u>we were born</u>
le nahe'	<u>the house</u>

le naho? that house

'a nahil your house

- (c) a scarcely noticeable devoicing of a vowel ranging through a strong voiceless pharyngeal spirant (l) following a vowel and preceding a juncture: (If the vowel bears an accent the /h/ is more likely to be less spirantized than if the vowel bears no accent.) Examples:

kéh deer

wàh bread

kòh pound

čúh squash

kih sisal

'eh hole in egg shell

nah house

koh tooth

puh pus

It should be noted here that in certain contours--and repetitions of these--the final syllable ends in a vowel with consistently little or no noticeable devoicing off-glide, e.g. tia aunt, tio uncle, mèsa table, čìna orange, tàta father, etc., most of them loans from Spanish. In other contours, however, the final syllable contains a vowel terminating in either a slight or a heavier degree of devoicing, e.g. hàh true, wàh bread, kéh deer, etc., none of them being loans from Spanish. Furthermore, these latter retain the /h/ as a voiceless pharyngeal spirant

when not followed by a juncture, whereas the former (loan words) under no condition have a postvocalic /h/. For example: [hà·htal] be true is never [hà·tal], [ʔonké·hna^hi] he deer-hunted is never [ʔonké·nahi]. For these reasons we adopt the convention of writing these latter always with the syllable final /h/, the former always without it. Any slight devoicing glide of a contour final vowel, then, is considered an effect conditioned by the following juncture. And to account for all alternants of /-Vh/, we must add a zero allophone of /h/ which occurs optionally before juncture. Thus mèsà table and wènsah put to sleep are, in their second syllables, optimally both phonetically and phonemically different, though before a juncture they may be phonetically identical.

Nasals

The nasals /m n/ contrast as to point of articulation, /m/ being bilabial, /n/ being velar [ŋ] before velar consonants or another /n/ and optionally before a disjuncture or a terminal juncture, alveolar [n] elsewhere. E.g.

senke ^h	<u>very</u>
lén ʔu ^h	<u>quite good</u>
ʔákánnahi	<u>he groaned</u>
sukinnahen	<u>I fasted</u>
ʔónnaheč	<u>you shot</u>

Semi-Vowels

The semi-vowels /w y/ are non-syllabic vocoids whose articulatory mechanisms match those of /u i/ respectively

except that the semi-vowels both have only higher vocoid al-
lophones; in final position they tend to be slightly
fricativized and slightly devoiced. Unlike the vowels,
moreover, the semi-vowels are never accompanied by an
accent nor are they preceded by /ʔ/.

E.g. yóʔlal about ʔioʔ that i
 wóp flatten ʔuoʔ that bead
 weč armadillo ʔueč you are the moon

Liquids

The phoneme /l/ is a "clear" lateral in all positions.
Following an unaccented vowel and before a juncture, its
allophones are sometimes weakly articulated. E.g. lãb'
old, wenel sleep, tãl come. The phoneme /r/ is a voiced
alveolar flap as in Spanish. It occurs only intervocali-
cally. There are about a dozen words of non-Spanish ori-
gin in which it occurs, e.g. mèresč a lizard, kãn kãrič'
wildcat. It occurs also in Spanish loan words where it
contrasts with /F/, the Spanish trill, e.g. pèro but,
bũño donkey. The trill is not limited to intervocalic
position but occurs (in loans only) also initially,
fèy king, and finally, ku mèresèř he merits.

1.7 Syllabics .

The vowels /i u/ contrast with /e o/ respectively in
tongue height. /i/ and /e/ are front unrounded, /u/ and
/o/ are back rounded. /a/ is low central. All vowels may
occur with either high or low accent.

Examples:

i	ʔík	<u>left</u>	pík	<u>petticoat</u>	pík	<u>insect</u>
e	ʔák	<u>dirty</u>	ʔék	<u>star</u>	beh	<u>road</u>
a	bát	<u>ax</u>	káb	<u>broth</u>	bat	<u>hail</u>
o	kóm	<u>hollow</u>	čóm	<u>buzzard</u>	čóm	<u>piñuela plant</u>
u	pút	<u>carry</u>	pút	<u>papaya</u>	ʔuk	<u>flea</u>

The quality variation of the vowels under different accents is very slight: without accent the vowels--most notably /a/--are sometimes more lax and more central than the allophones of the corresponding vowels under high or low accent. E.g. káb hand may be k[a]b or /k[əv]b/, but káb broth is never /k[əv]b/. In general, however, the quality of the vowels approximates that of the Spanish vowels.

1.8 Phonotactics.

- 1.8.1 Minimal Sequences. An utterance in Maya must contain a contour juncture preceded by a sequence of at least three segmental phonemes, the middle one of which is a syllabic, i.e., any vowel, accompanied by high, low, or no accent. The restrictions on the initial and final segment are as follows: any semi-vowel or consonant except /r/ may occur initially before any vowel (though b, d, g, f, and ř are limited in this position to words borrowed from Spanish). In prejunctural position the semi-vowel /w/ does not occur after /u/, nor does /y/ occur after /i/. The other consonants--except b d g f and r which never occur finally--may occur following any vowel.

1.8.2 Clusters. In utterances containing more than three segmental phonemes further restrictions obtain. We can describe these in terms of phoneme clusters (which, following A. A. Hill¹, we define as a sequence of two or more phonemes of the same class without the intervention of phonemes of another class). In Maya the phoneme types which cluster are consonants, vowels, and accents.

1.8.2.1 Accent Clusters. Few structural limitations have been observed on the clustering of accents in microspans. In two-syllable microspans, for example, the following patterns have been observed:

CVCVC	wenel	<u>sleep</u>
CVCVC	?émel	<u>descend</u>
CVCVC	kanán	<u>guard</u>
CVCVC	lùbul	<u>fallen</u>
CVCVC	?a kík	<u>your sister</u>
CVCVC	nánáč	<u>very far</u>
CVCVC	wá kàš	<u>or chicken</u>

Only sequences of CVCVC and CVCVC are not found, though these may occur if a disjuncture intervenes. The description of accent clustering in longer spans must await a closer analysis of disjuncture.

1.8.2.2 Consonant Clusters. No consonant clusters occur pre-juncturally. Span-initial, prevocalic clusters are those

¹ Introduction to Linguistic Structures (New York, 1958), p. 69.

which occur in Spanish loan words. These may consist of:

- (1) a voiced or voiceless stop (p t k b d g) followed by a liquid (r or l) with the structural limitation that the dental stops cannot be followed by l. E.g. pronto, plasa, bruho, blanda, tren, drama, krus, klima, grasia, gloria.
- (2) a labial stop (p b) or s, ñ or h followed by w, e.g. pwes, bweno, swenyo, rweda, hwàn.
- (3) r, b, d, s, t, m followed by y, e.g. ryenda, dyario, syelo, tyan, myan, (the last two of which are not Spanish loans, but Maya forms resulting from the contraction of tɨʔ yan and mín yan, respectively. These are the only exceptions noted to the statement that almost the only span-initial prevocalic clusters are those which occur in Spanish loans.)
- (4) a triple cluster of the form stop + liquid + semi-vowel, e.g. prweba, trweno.

By setting up a special phonological category, pre-onset, we can here make note of other post-junctural consonant patterns. By pre-onset we define a consonant segment which occurs usually before a disjuncture followed by another consonant said to be the span (or syllable) -onset. Four consonants can occur in the pre-onset slot, h, š, k, t, and the presence of a pre-onset does not

restrict the onset consonant. In transcription the pre-onset is separated from the following consonant by space (indicating disjuncture), but in this case, of course, the pre-onset consonant is not considered to be a syllable nor a part of any syllable.

Examples:

ḳàʔ	<u>male singer</u>
ṣ̌ ḳàʔ	<u>female singer</u>
ḳ ḳàʔ	<u>our song</u>
ṭ ḳayah	<u>we sang it</u>

One other fact of post-junctural consonant patterning is that a pre-pre-onset slot allows three consonants to occur post-juncturally, the first or second being generally followed by disjuncture. Only k can fill the pre-pre-onset position, and it may precede only h or ṣ̌ of the pre-onset consonants. Examples: ḳ ṣ̌ ʔcupal our girl

ḳ ḥ ʔtèl our rooster

Span medially, i.e. neither pre- nor post-juncturally, any consonant can occur singly in intervocalic position.

Examples:

ʔaʔbal	<u>plum</u>
ʔcupal	<u>girl</u>
ṭópol	<u>hatch out</u>
ʔatan	<u>wife</u>
ʔbútul	<u>pile on</u>
ʔbaʔil	<u>mutual</u>

ʋíʃin	<u>younger sibling</u>
čičan	<u>small</u>
čičo'ob	<u>birds</u>
pàkal	<u>folded</u>
ʃekel	<u>flat rock</u>
ku ganař	<u>he earns</u>
le fàsiló'	<u>the ease</u>
tàse	<u>bring it</u>
bařal	<u>play</u>
ʋémel	<u>descent</u>
hanal	<u>eat</u>
ʋèlel	<u>burn</u>
kìriř	<u>stain (by sweat)</u>
le řeye'	<u>the king</u>
payalči	<u>prayer</u>
čowak	<u>long</u>
káhal	<u>begin</u>
če'ob	<u>trees</u>

Span-medially a large number of consonant clusters are possible, in fact two-member consonant clusters occur in which almost any consonant which may occur in final position is allowed before almost any consonant which may occur in initial position. A closer study of disjuncture may indicate certain restrictions on medial two-member consonant clusters, since disjuncture may intervene between many combinations. The following observations are pertinent here:

The labial nasal /m/ may occur distinctively as the prior member of a dyadic cluster though in most cases before a non-labial consonant it may optionally be assimilated to the point of articulation of the following consonant. Examples:

ʔu kɪmlal	<u>his dying</u>	(also ʔu kɪnlal)
maʔ kɪmkeniʔ	<u>I didn't die</u>	(also maʔ kɪ[ŋ]keniʔ)
ʔoʂoʔomte	<u>shell it</u>	(also ʔoʂoʔonte)
kɪmse	<u>kill it</u>	(also, and usually kɪnse)
ʔu támnɪl	<u>his liver</u>	(but <u>never</u> ʔu támnɪl)

Similarly /n/ may occur distinctively before a labial consonant, although in most cases it is assimilated. E.g. šanboʔob' shoes (cf. šanab' shoe), also šanboʔob'.

A large number of medial consonant clusters of the shape CCC, CCCC, and CCCCC occur which cannot be accounted for simply by positing the juxtaposition of smaller permitted sequences. Some of these clusters are due to vowel syncope, e.g. ku hantkoʔob' (cf. ku hantikoʔob', both meaning 'they eat'); others are due to the joining of a consonantal suffix to a stem-final cluster, e.g. u hantmah he has eaten it; others may be due to the juxtaposition of a word-final cluster with a word-initial onset of C, CC, or CCC, e.g. hant le wahaʔ eat this tortilla, kins k š káš kill our hen; still others may be due to a combination of vowel apocope and juxtaposition of word- or stem-final with word-initial clusters. No attempt is made

here to catalog the various combinations and restrictions that may obtain in such clusters.

1.8.2.3 Vowel Clusters. Every span contains at least one syllable nucleus made up of one of the five vowels and one of the two accents or no accent. Every syllable peak consists of one of these nuclei and every occurrence of one of these nuclei constitutes the occurrence of a syllable peak. Successive peaks may or may not be separated by a consonant. Twenty-four of the twenty-five theoretically possible dyadic clusters of vowels have been encountered. The only missing dyadic vowel cluster is /au/. Examples of the twenty-four occurring clusters follow (since the contrast between VV and V'V is rather subtle--and surely lost some of the time--we give for each vowel cluster the identical sequence (if it is found) of V'V:

	VV		V'V
ii	ma' letii' <u>not he</u>		ma' si' i' <u>not fire-wood</u>
ie	letie naho' <u>that house</u>		le si' e' <u>the fire-wood</u>
ia	ti a tãta <u>to your father</u>		le si' a' <u>this fire-wood</u>
io	tio <u>uncle</u>		le si' o' <u>that fire-wood</u>
iu	ti u tãta <u>to his father</u>		'u či' u tãta <u>his father's mouth</u>
ei	ku léik <u>he lassoes it</u>		ku he' ik <u>he opens it</u>
ee	lée <u>lasso it!</u>		he' e <u>open it</u>
ea	tu léah <u>he lassoed it</u>		tu he' ah <u>he opened it</u>

ea	tu léo'ob	<u>they</u>	tu he'o'ob	<u>they opened</u>
		<u>lassoed it</u>		<u>it</u>
eu	le u nàla?	<u>this corn</u>	he? u nàla?	<u>here's his</u>
		<u>of his</u>		<u>corn</u>
ai	ma? mèsa?	<u>not a</u>	ma? sa'i?	<u>not atole</u>
		<u>table</u>		
ae	le mèsae?	<u>the table</u>	le sa'e?	<u>the atole</u>
aa	le mèsaa?	<u>this table</u>	le sa'a?	<u>this atole</u>
ao	le mèsao?	<u>that table</u>	le sa'o?	<u>that atole</u>
au	?u mèsa u tàta	<u>his fa-</u>	le sa? u tya'al	<u>the atole</u>
		<u>ther's</u>		<u>for him</u>
		<u>table</u>		
oi	ma? lìbroi?	<u>not a book</u>	ma? to'i?	<u>not a wrap</u>
oe	le lìbroe?	<u>the book</u>	le to'e?	<u>the wrap</u>
oa	le lìbroa?	<u>this book</u>	le to'a?	<u>this wrap</u>
oo	le lìbroo?	<u>that book</u>	le to'o?	<u>that wrap</u>
ou	?u lìbro u tàta	<u>his fa-</u>	le to? u tya'al	<u>the wrap</u>
		<u>ther's</u>		<u>for him</u>
		<u>book</u>		
ui	?u ?uil	<u>his moon</u>	ma? tu'i?	<u>not stench</u>
ue	le ?ue?	<u>the moon</u>	le tu'e?	<u>the stench</u>
ua	le ?ua?	<u>this moon</u>	le tu'a?	<u>this stench</u>
uo	le ?uo?	<u>that moon</u>	le tu'o?	<u>that stench</u>
uu	--		--	

The maximum vowel clusters contain three vowels. These are rare and almost always due to a loan word being juxtaposed to a vocalic minor morpheme.

E.g. le tìoa? this uncle
 mariae? as for Maria

One word of questionable origin has been found with a vowel cluster: pao a kind of sabucan, yielding such triadic clusters as the following:

ma' pa:ci' not a sabucan
le pa:oe' the sabucan, etc.

1.9 Justification of interpretations.

In this section the phonemic interpretations proposed in this paper are defended against alternative interpretations.

Glottalized Stops

The close-knit sequences of sound which have been set up as glottalized stops /p' t' tʃ' c' k'/ might be considered as possibly clusters of stops + /ʔ/. This would reduce the phoneme inventory by five members. However, it would introduce unique clusters finally where no other clusters occur and create initial, medial, and final clusters of an oddly restricted pattern.

Affricates

The phone sequences [ts ts' tʃ tʃ'] are interpreted as unit phonemes because this again preserves the CVC canonical pattern of roots which a cluster solution would give up at the saving of two phonemes. Also the decision to interpret the glottalized stops as unit phonemes almost forces us to recognize the affricates, which also occur both plain and glottalized, as unit phonemes, since otherwise we would have unique triple clusters in both roots and affixes.

The /b'/ Phoneme

This phoneme with its glottalized allophones before juncture and plain allophones elsewhere is interpreted first of all as a unit phoneme for the same reasons as

those given for the glottalized series.

The Sequence V^oV

Somewhat problematical is the interpretation of the sequence V^oV (as in ha^oas banana, ma^oay dust, bo^ool pay, tu^oul rabbit, ki^oiš thorn, se^oen cough) pronounced with a single chest pulse interrupted or laryngealized by the glottal action (that of closure or "squeezing"). That is, in the cases referred to there is no sublaryngeal reactivation or re-articulation of the vowel. If the glottal interruption is sharp, the echo or "passive" emission of the vowel may be nearly as loud and clear as the "active" portion preceding the glottal closure. In such cases the effect is similar to that of separate pulses. Often, however, the sequence V^oV is heard as a single syllabic pulse, the vowel trailing off in a creaky quality referred to as laryngealization. Cases of V^oV sequences such as those described above are interpreted as single syllables with "complex" cyllabics.

It is not possible to analyze the sequence as V^o since V^oV is not infrequently in contrast with V^o as in pá^ote wait for him, pa^oati it got molded. Nor is it possible to analyze the sequence as VV since (in prejunctural position) VV^o and V^oV contrast, e.g. le líbroo^o that book, líbro^oob^o books.

Without increasing the phoneme inventory we could alternatively treat the sequence V^oV as \dot{V} (glottalized

vowel). Since the second vowel in such sequences is indeed not a separate syllable as all other vowels are interpreted to be, this would seem to lend support to writing a single glottalized vowel. The main reason for not choosing the $\overset{\cdot}{V}$ alternative is that it would indicate a contrast of $\overset{\cdot}{V}$ with sequences we desire to write as $V^{\cdot}V$ in which a morpheme break occurs, e.g. paʔani it was dug (pán dig), paʔe break it (paʔ break), le čeʔaʔ this tree (čeʔ tree). There seems, in fact, to be no articulatory difference between these and the sequences within morphemes where the $\overset{\cdot}{V}$ interpretation would seem preferable. We have, therefore, preferred to write $V^{\cdot}V$ for all these sequences, whatever their morphophonemic status.

Semi-Vowels

The non-syllabic vocoids i and u are not considered allophones of the syllabic vocoids i and u respectively, because many roots would have the unique patterns of VVC and CVV where only i and u could occur in initial or final positions, whereas if these non-syllabic vocoids are interpreted as consonants they fit nicely into the patterns of consonant distribution.

CHAPTER II
MORPHO-SYNTAX

2.0 General Introduction. The description in Chapter I of utterances as composed of hierarchically organized sequences of sound units--phonemes, microspans and macrospans--was made independently of the organization of these sound units into meaningful stretches. It is the purpose of the present chapter to relate the former level (phonology) to the latter (morpho-syntax) and to describe the system of sequences of morphemes within certain larger units to be delimited below.

On the phonological level, as we have seen, an utterance is made up of an integral number of contours (one or more) each ending in a contour juncture and at least one of which is independent or isolable; contours are made up of one or more microspans; microspans are in turn composed of one or more syllables, and these are composed of linear (or bilinear) sequences of phonemes. The phonologically minimal utterance, then, is composed of a monosyllabic contour.

On the morpho-syntactic level an utterance is made up of an integral number of sentences (one or more), these typically being made up of verb phrases and/or noun phrases, the minimal, limiting case of which is a single verb or noun complex. A complex is composed of a nucleus or theme with or without a periphery.

It is convenient to speak of three types of morphemes:
(1) major or lexical morphemes (equivalent to stems);
(2) minor morphemes (including affixes and theme-peripheral morphemes) which are grammatical or relational in function and therefore described in the grammar; (3) ambifunctional morphemes, which occur sometimes as stems and sometimes as minor morphemes.

2.1 General Morphophonemics. A morpheme may have invariant alternants, i.e. be realized always by the same sequence of phonemes or, alternatively, a morpheme may have multiple alternants, i.e. be realized by alternants varying in their shapes in different environments according to the conventions of the language. In this and subsequent sections the representation of morpheme sequences will be by morphophonemic transcription. In any sequence, then, a morpheme is represented by a sequence of morphophonemic symbols, the inventory of which includes all the phoneme symbols plus certain others (represented usually by capitalized letters). Each letter in the morphophonemic representation of a morpheme is to be taken as a morphophoneme, the rules for the phonemic value of which are supplied only for those morphophonemes having more than one phonemic value. That is, except in environments specified by the rules, the morphophonemic symbols have the same value as the phonemic symbols.

The selection of different alternants may be optional

or obligatory; it may be contingent upon the presence of specified phonological, grammatical, or both phonological and grammatical features of the environment; and it may apply only to specified morphemes or to any morpheme fitting the phonological specifications of the rules.

We will discuss general morphophonemic alternation in the following sections. Section 2.1.1 will treat--for stem morphemes and for such minor morphemes as are regulated by these same rules--both automatic and non-automatic alternation the selection of which is contingent upon phonologically specified environment. Section 2.1.2 will treat the special cases of contraction and sporadic alternation. The alternants of minor morphemes, the selection of which is not covered in 2.1.1, and the alternants of stem morphemes not covered in 2.1 will be described in later sections.

2.1.1 Automatic and Non-automatic Phonologically Conditioned Alternation. Morpheme alternants whose selection is contingent upon a phonologically definable environment are discussed below according to the phonological nature of the alternation. The following subsections treat the various types: 2.1.1.1 Replacement Alternation; 2.1.1.2 Subtractive Alternation.

2.1.1.1 Replacement Alternation. The substitution in a given environment of a sequence of one or more phonemes by an equal length sequence is termed replacement alternation.

Three types of replacement alternation are found to occur in Maya. These are categorized under the headings (A) Assimilation. (B) Dissimilation. (C) Other.

(A) Assimilation.

(1) Progressive Vowel Harmony. A sort of vowel harmony is present in Maya in which the vowel of certain suffixes obligatorily assimilates to (i.e. is determined by) the quality of the vowel of the preceding syllable. The morphophonemic symbol V is used to mark such assimilating vowels. Examples¹:

wen- \emptyset -VL sleep (wen + 417 + 342) is /wenel/
ʔah- \emptyset -VL waken (ʔah + 417 + 342) is /ʔahal/

¹ Following the morphophonemic representation of a sequence, a morpheme by morpheme analysis is provided in parentheses. The stem morphemes are identified by a gloss and the minor morphemes by index numbers keyed to the inventory of minor morphemes found in 2.2.1. The identifications are entered in a linear sequence as they occur in the form, with one exception: minor morpheme 332, which has both an infix allomorph (-VʔV-) and a suffixed allomorph (-aʔa-) is represented in the analysis as if it occurred in the suffix position. For example:

 332 321 342
ʔo + VʔV + n + \emptyset + VL (be shot)

is broken down as follows:

(ʔo..n shoot + 321 + (-332-) + 342).

ʔok-ϕ-VL enter (ʔok + 417 + 342) is /ʔokol/
kím-ϕ-VL die (kím + 417 + 342) is /kímil/
pek-Vk-ḃ-al stretched out (pek stretch out + 522 +
521 + 531) is /pekeḃal/
(k-u) lo-VʔV-š-ϕ-VL he is hit (222 + 213 + loš
strike + 321 + (-332-) +
342) is /loʔošol/
(ká) lúb-ϕ-Vk-ϕ let him fall (231 + lúb fall + 417 +
361 + 613) is /ká lúbuk/

- (2) Regressive Vowel Harmony. A regressive vowel harmony may optionally be present, most frequently in accompaniment with other morpho-phonemic processes. Since the alternation is never obligatory, no special symbols are used to mark it. For example, the sequence heʔ-in ḃin-ϕ-eʔ I'll go (227 + 211 + ḃin go + 417 + 712) may have either phonemic realization /heʔin ḃineʔ/ or /hiʔin ḃineʔ/, the latter with regressive vowel harmony. Similarly heʔ-a ḃin-ϕ-eʔ you'll go (212) may be either /heʔa ḃineʔ/ or /haʔa ḃineʔ/, and heʔu ḃin-ϕ-eʔ he'll go (213) may be /heʔu ḃineʔ/ or /huʔu ḃineʔ/. The sequences ʔok-ϕ-aʔa-n in šok-ik-ϕ I've read it (224 + 332 + 344 + 211 + šok read + 351 + 613) and ʔok-ϕ-aʔa-n u šok-ik-ϕ he's read it (213) may be respectively /ʔokiʔin šokik/ and /ʔokuʔun šokik/. Similarly minaʔan in

tàkin I have no money (min not have + 332 + 344 + 211 + tàkin money) and mina'an u tàkin he has no money (213) may be respectively /mini'in tàkin/ and minu'un tàkin/.

- (3) Assimilation of Nasals. The nasal consonants optionally assimilate to the point of articulation of a following consonant (except for a few cases for which we account by postulating an obligatory disjuncture) (which we represent in our morphophonemic writing with the symbol +); therefore the symbols m and n, as used in morphophonemic representation, are assigned the following phonemic values: n is /m/ before labial consonants except w: Examples: k-in pá'-t-ik-∅ I await it (222 + 211 + pá' await + 321 + 351 + 613), k-in p'uh-ul I get angry (222 + 211 + p'uh get angry + 342), k-in bin I go (222 + 211 + bin go), 'in bùfo my burro (211 + bùfo donkey) t-in mèn-t-ah-∅ I made it (221 + 211 + mèn make + 321 + 341 + 613); /n/ before w, non-labial consonants, vowels, and junctures: Examples: k-in lòš I strike (222 + 211 + lòš strike), 'in nàl my corn (211 + nàl corn), len 'u' very good, kin day. m is /n/ before non-labial consonants: Examples: sam-sam-al /sansamal/ daily (021 + sam day + 514),

t-u kím-s-ah-∅ /tu kínsah/ he killed him (221 + 213 + kím die + 321 + 341 + 613);

/m/ before labial consonants, vowels, optional disjuncture, and obligatory disjuncture:

Examples: ?íčam-o?ob wives (?íčam wife + 616), ?u tám+n-il his liver (213 + támán liver + 515), ?u kim+-l-al his dying (213 + kim die + 342 + 514), bín kím+-k-en I'll die (229 + kím die + 351 + 611), k-u yošo?om+-t-ik-∅ he shells it (222 + 213 + ?ošo?om shell + 321 + 351 + 613).

(B) Dissimilation. The morphophoneme k may optionally be represented by /h/ in the environment of a following stop of the same point of articulation, whether or not a disjuncture intervenes. For example: sak-kun-t-e whiten it! (sak white + 311 + 321 + 613) may be either /sakkunte/ or /sahkunte/; ?a?-ik-∅ gùsto (it) gives pleasure (?a? give + 351 + 613 + gùsto pleasure) may be either /?a?ik gùsto/ or /?a?ih gùsto/; sak kòl white milpa may be either /sak kòl/ or /sah kòl/; tak kawa? to Kawa may be /tak kawa? or /tah kawa?/.

The morphophoneme t may optionally be represented by /h/ in the environment of a following plain or glottalized stop of the same point of articulation or a plain or glottalized affricate only if a disjuncture does not intervene. For example: ?in wéttal my companion (211 + ?ét accompany + tal come) may be either

/ʔin wétta/ or /ʔin wéhta/; the form ketʔan parable (ket like + ʔan word) may be /kettan/ or /kehta/; ʔin wotočoʔob my houses (211 + ʔotoč house + 616) may be /ʔin wot(o)čoʔob/ or /ʔin wohčoʔob/.

Glottalized consonants are optionally (but generally) represented by /ʔ/ in the environment of a following consonant if no disjuncture intervenes. Examples: kéknoʔob pigs (kéken pig + 616) may be /kéknoʔob/ or /kéʔnoʔob/; le takn-eʔ that ripe one (cp. takan ripe + 712) may be /le takneʔ/ or /le taʔneʔ/; lík-s-ik-∅ he raises it (lík-rise + 321 + 351 + 613) may be /líksik/ or /líʔsik/; ʔu hobnel his body cavity (213 + hobon cavity, hollow + 512) may be /ʔu hobnel/ or /ʔu hoʔnel/; lúb-s-e fell it! (lúb-fall + 321 + 613) may be /lúbse/ or /lúʔse/; haʔučil beauty may be /haʔučil/, /haʔčil/, or /haʔčil/.

In the speech of some, ř is replaced by h before a stop consonant. Examples: (k-u) kréh-t-ik-∅ (he) believes it (222 + 213 + kréř believe + 321 + 351 + 613); cp. (k-u) kréř (he) believes (222 + 213 + kréř believe); kréř-n-ah-i he believed (kréř believe + 417 + 421 + 613).

In many words l in an unaccented syllable before a juncture or a disjuncture is replaced by h. E.g. ším-b-aL walk (ším walk + 411 + 342) may be /šímʔal/ or /šímʔah/; kon-∅-b-iL to be sold (kon sell + 321 + 525 + 532) may be /konʔil/ or /kombih/; t-u-lák-aL all (t in + 213 + lák totality + 511) may be /tulákal/ or /tulákah/.

(C) External Sandhi. Most words which in their citation form begin in /ʔ/ have sandhi forms in which /ʔ/ is replaced by /y/ after 213 (ʔu-) and by /w/ after 211 (ʔin-) or 212 (ʔa-). Examples: ʔàl son: ʔin wàl my son (211 + ʔàl son), ʔa wàl your son (212), ʔu yàl his son (213); k ʔàl our son (214); ʔil see: k-in wil-∅-ah I see (222 + 211 + ʔil see + 321 + 421), k-a wil-∅-ah you see (212), k-u yil-∅-ah he sees (213); k ʔil-∅-ah we see (214).

A few forms, mostly words borrowed from Spanish, do not undergo this change. For these we set up a morpho-phonemic symbol ʔ to indicate a "firm" glottal stop.

Examples: ʔámigo friend: ʔin ʔámigo my friend (211), ʔu ʔámigo his friend (213), k ʔámigo our friend (214); ʔòn avocado: ʔin ʔòn my avocado (211); ʔùh bead, moon: ʔa ʔùh your bead (212), ʔu ʔùh his bead (213).

Usually in compounds, but also in non-compounds, 213 may be only implied by the presence of the sandhi form beginning in /y/. Examples: š-kimen-yíčam widow (112 + kimen dead + 213 + ʔíčam husband); t-yét-eL with him (t in + 213 + ʔét accompany + 512); contrast: t-a-wet-eL with you (212), t-ʔét-eL with us (214).

2.1.1.2 Phoneme Loss. The phenomena of phoneme loss or subtractive alternation are treated under three headings:

(A) Cluster Reduction (B) Vowel Elision (C) Other.

(A) Cluster Reduction. The morphophonemic symbol of a capital letter L is used to indicate a consonant which is realized as /l/ except in the environment of

a following consonant where it is optionally (but generally) lost. Examples: $\text{bo}^{\circ}\text{oL-t-e}$ pay him ($\text{bo}^{\circ}\text{oL}$ pay + 321 + 613) may be / $\text{bo}^{\circ}\text{olte/}$ or / $\text{bo}^{\circ}\text{ote/}$; $\text{šim-b}^{\circ}\text{-aL-t-e}$ visit him (cp. $\text{šim}^{\circ}\text{baL}$ take a walk) (šim walk + 411 + 342 + 321 + 613) may be / $\text{šim}^{\circ}\text{balte/}$ or / $\text{šim}^{\circ}\text{bate/}$; k-in $\text{woh}^{\circ}\text{eL-t-ik-}\emptyset$ I know him (222 + 211 + ohel know + 321 + 351 + 613) may be /kin $\text{woh}^{\circ}\text{eltik/}$ or /kin $\text{woh}^{\circ}\text{etik/}$; $\text{đik-b}^{\circ}\text{-aL-n-ah-i}$ he told a story (đik tell + 411 + 342 + 417 + 421 + 613) may be / $\text{đik}^{\circ}\text{balnahi/}$ or / $\text{đik}^{\circ}\text{banahi/}$.

In a few forms the loss of L is obligatory before a consonant: kuL-t-al to sit down (kuL sit + 416 + 342) and $\text{čil}^{\circ}\text{tal}$ to lie down (čil lie + 416 + 342) can be only / kutal/ and / čital/ respectively. But note $\text{kuL-Vk-b}^{\circ}\text{-al}$ seated (kuL sit + 522 + 525 + 533) and $\text{čil-Vk-b}^{\circ}\text{-al}$ laid out (čil lie + 322 + 525 + 533).

In some words (e.g. nal corn, kal neck) a syllable final l is never lost, even before a juncture, such forms are written with l instead of L.

In a cluster $C_1 C_2 C_3$, where C_1 is k or t, C_2 is k, and C_3 is any consonant, C_2 is dropped.

Examples:

k-k-bin we go (222 + 214 + bin go) is realized as /k bin/ ;

$\text{t-k-bo}^{\circ}\text{oL-t-ah-}\emptyset$ we paid him (221 + 214 + $\text{bo}^{\circ}\text{oL}$ pay + 321 + 341 + 613) is realized as /t $\text{bo}^{\circ}\text{otah/}$;

ʔuǰ t-k-ʔič we like it (ʔuǰ good + t in + 214 + ʔič eye) is realized as /ʔuǰ t ʔič/;

a sequence V + VʔV is reduced to VʔV as in ʔo-VʔV-n-ǰ-V1 be shot (ʔo..n shoot + 321 + (-332-) + 342) which is phonemically realized as /ʔoʔonol/;

a sequence VʔV + V is reduced to VʔV as in hàn-t-aʔa-ak-ǰ let him eat (hàn- eat + 321 + 332 + 361 + 613) which is phonemically realized as /hàntaʔak/;

a sequence Vʔ + VʔV is optionally reduced to VʔV as in paʔ-ǰ-aʔa-n broken (paʔ break + 321 + 332 + 344) may be /paʔan/ or /paʔaʔan/;

čeʔ-oʔob̂ trees (čeʔ tree + 616) may be /čeʔob̂/ or /čeʔoʔob̂/.

- (B) Vowel Elision. In disyllabic stems of the shape CVCVC in which both vowels are the same (in quality though not necessarily in accent), the second vowel is optionally elided when the stem final consonant is followed by a vowel. Examples: šanab̂oʔob̂ shoes (šanab̂ shoe + 616) may be either /šanab̂oʔob̂/ or /šamb̂oʔob̂/; wínikoʔob̂ men (wínik man + 616) may be /wínikoʔob̂/ or /wínkoʔob̂/; kékeneč̂ you're a pig (kékēn pig + 612) may be /kékeneč̂/ or /kékneč̂/; pàkatoʔon look at us (pàkat look at + 614) may be /pàkatoʔon/ or /pàktoʔon/.

The vowel of suffixes of the shape -VC is also frequently elided when the suffix is followed by a

vowel. Examples: k-u loš- \emptyset -ik-o^o'ob' they strike
(222 + 213 + loš strike + 321 + 351 + 616) may be
/ku loško^o'ob'/ or /ku lošiko^o'ob'/; ká wèn- \emptyset -Vk-eč
may you sleep (231 + wèn- sleep + 421 + 361 + 612)
may be /ká wèn+keč/ or /ká wènekeč/.

- (C) Other Reductions. ? is generally lost before h even
across disjuncture. Example: letie? hwàn that is
Juan is usually /letie hwàn/.

2.1.2 Contraction. A not infrequent phenomenon in Maya is
that of contraction. No thorough study of this has been
made, but the following examples illustrate the sort of
thing it is.

The full form k-u yiL- \emptyset -ik-en he sees me (222 + 213
+ ?il see + 321 + 351 + 611) may have the following pho-
nemic realizations:

/kuyiliken/	/kyiliken/
/kuyilken/	/kyilken/
/kuyiken/	/kyiken/
/kiken/	

We can represent these possibilities by writing the
full form and indicating the parts which may be dropped:

k([u]y)i(l[i])ken

Similarly: t-u y-il- \emptyset -ah-en he saw me (221 + 213 +
?il see + 321 + 341 + 611) may have the following phonemic
realizations:

/tuyilahlen/	/tyilahlen/
/tuhilhen/	/tyilhen/
/tuyilen/	/tyilen/
/tuyihen/	/tyihen/
/tihen/ or /tilen/	

or, in formula $t([uly]i \underset{h}{l}([a]h) en$

The following sequences compare other contracted forms with their respective full phonemic forms:

1. 'utia'al in k̀k > 'uti'il in k̀k for my sister;
2. 'il a wil 'buka'ah u nuši' bũřo
> la 'buk u nuši' bũřo see how many burros;
3. má' tán a wilik > mán wilik you don't see it;
4. ma' tán in wilik > mın wilik I don't see it;
5. wá u nàl > wu nàl or his corn;
6. bín 'á'abaken > bín 'á'ken I'll give;
7. ma'atèč u bın > ma'ač u bın he never goes;
8. 'o'ok u 'a'abal u hanal > 'u 'a'al u hanal
he has already been given his food.

2.2 Morpheme Classes.

- ### 2.2.1 Minor Morpheme Classes. Minor morphemes are inventorized according to their privileges of occurrence with stems of different classes and according to their position of occurrence in respect to the stem and other minor morphemes. Each minor morpheme is assigned a three-digit index number and, where possible, given a tag as well. The index

numbers are grouped into decade classes the members of which, in general, are mutually exclusive and distributionally similar so that maximally general statements of the co-occurrence relations of these with stems and other minor morphemes can be made. Preposed minor morphemes are assigned to the first and second century classes. Postposed minor morphemes are assigned to the third through seventh century classes according to their class affiliation: suffixes which occur in verb sequences are assigned numbers within the third and fourth century; suffixes which occur in noun sequences are assigned numbers within the fifth century; suffixes which occur in sequence with stems of two or more classes are assigned numbers within the sixth century; phrase-final enclitics are assigned numbers within the seventh century. Operators (reduplication and accent substitution) are assigned three-digit numbers in which the initial digit is 0.

Minor Morpheme Inventory

000 Operators

$$\begin{array}{l}
 010 \\
 011 \text{ Fortitive}_1 \left(\begin{array}{c} C_1 V_1 {}^?VC_2 \\ C_1 V_1 C_2 \end{array} \right) > \left[\begin{array}{c} C_1 V_1 {}^?V(C_2) - C_1 V_1 {}^?VC_2 \\ C_1 V_1 (C_2) - C_1 V_1 C_2 \end{array} \right] \\
 012 \text{ Fortitive}_2 (C_1 \hat{V}_1 C_2) > C_1 \hat{V}_1 (C_2) - C_1 V_1 C_2 \\
 013 \text{ Fortitive}_3 (C_1 V_1 C_2) > C_1 V_1 {}^?V(C_2) - C_1 V_1 {}^?VC_2
 \end{array}$$

020

021 Fortitive₄ (C₁V₁C₂ > C₁V₁-C₁V₁C₂)

022 Fortitive₅ ($\begin{bmatrix} C_1V_1C_2 \\ C_1\dot{V}_1C_2 \end{bmatrix}$ > C₁ṽ₁-C₁V₁C₂)

023 Fortitive₆ ($\begin{bmatrix} C_1\dot{V}_1C_2 \\ C_1V_1\text{?}VC_2 \end{bmatrix}$ > $\begin{bmatrix} C_1\dot{V}_1-C_1\dot{V}_1C_2 \\ C_1V_1\text{?}V-C_1V_1\text{?}VC_2 \end{bmatrix}$)

030

031 Sequentive (C₁V₁C₂ > $\begin{bmatrix} C_1V_1C_2^{en}-C_1V_1C_2 \\ C_1V_1C_2^{a1}-C_1V_1C_2 \end{bmatrix}$)

032 Past Participle ($\begin{bmatrix} C\dot{V}C \\ CVC \end{bmatrix}$ > CṽC)

040

041 Groups of (C₁V₁C₂ > C₁V₁-C₁V₁C₂)

100-200 Preposed minor morphemes

100 Prefixes

110

111 Masculine ?ah- ~ h-

112 Feminine š-

113 Formative h-

200 Peripheral minor morphemes

210

211 first person singular ?in-

212 second person singular ?a-

213 third person singular ?u-

214 first person plural k-

220 Modals

221	<u>Completive</u>	t-
222	<u>Incompletive</u>	k- ~ t-
223	<u>Durative</u>	tán ~ t-
224	<u>Terminative</u>	ʔoʔok ~ ʔ-
225	<u>Obligative</u>	yan
226	<u>Precise Present</u>	tánt
227	<u>Assurative</u>	heʔel ~ heʔ-
228	<u>Punctual Future</u>	ken-
229	<u>Durative Future</u>	bín
231	<u>Optative</u>	ká-

300 Suffixes in sequence with transitive verbs

310

311	<u>Causative</u> ₁	-kun ~ -kin
312	<u>Usative</u>	-in
313	<u>Causative</u> ₂	-b [,]
314	<u>Celeritive</u>	-k [,]

320

321	<u>Transitive</u>	-t ~ (-s ~ -es) ~ -∅
-----	-------------------	----------------------

330

331	<u>Perfective</u>	-m
332	(<u>Past</u>) <u>Participle</u>	-aʔa ~ VʔV

340

341	<u>Gerundial</u> ₁ (<u>Active</u>)	-ah
342	<u>Gerundial</u> ₂ (<u>Passive</u>) ¹	-aL ~ il ~ -VL
343	<u>Imperfect</u> (<u>Passive</u>)	-b [,] ~ -∅

¹ Active with intransitive verbs.

344	<u>Perfect (Passive)</u> ¹	-n		
350				
351	<u>Conjunct</u>	-ik	~	-iL
360				
361	<u>Conjunct</u>	-Vk	~	-ak
400	Suffixes in sequence with intransitive verbs			
410				
411	<u>Repetitive Action</u>	-b'	~	-n
412	<u>Celeritive</u>	-k'		
413	<u>Essive</u> ₁	-p		
414	<u>Inceptive</u>	-č		
415	<u>Essive</u> ₂	-t	~	∅
416	<u>Posturative</u>	-l	~	-t
417	<u>General Class</u>	-n	~	-∅
418	<u>Cyclic Action</u>	-ank		
420				
421	<u>Intransitive</u>	-ah	~	-∅
422	<u>Imperative</u>	-en		
500	Suffixes in sequence with nouns			
510				
511	<u>Collective</u>	-al		
512	<u>Inalienable</u>	-el		
513	<u>Relational</u>	-ul		
514	<u>Relational</u>	-al		
515	<u>Abstractive</u>	-il		
516	"ago"	-ak	~	-(h)eak
517	"(what)ever"	-ak		

¹ Active with intransitive verbs.

- 520
521 Gerundial -b[,]
522 Gerundial -Vk
523 Instrumentive -Vb[,]
524 Active Gerund -ah
525 Passive Gerund -b[,]
530
531 Gerundial -VL ~ -aL
532 Gerundive -iL
540
541 Integrative -tak
542 Relational -il
600 Suffixes in sequence with nouns and verbs
610 Pronominals
611 first person singular -en
612 second person singular -eč
613 third person singular -e ~ -i ~ -∅
614 first person plural -o^oon
615 second person plural -e^eeš
616 third person plural -o^oob^o ~ -∅
620
625 second person pluralizer -e^eeš
626 third person pluralizer -o^oob^o
700 Enclitics
710
711 Proximal -a^o
712 Referential -e^o
713 Distal -o^o
714 Locative/Negative -i^o

715 "yet" -ili?

716 "even" -ina

2.2.2 Major Morpheme Classes. Morphemes which are not minor morphemes are major morphemes, i.e. stems. Stems are classed into four general classes on the basis of their respective compatibility with minor morphemes. Minor morphemes which have exclusive privilege of combination with a class (or a subclass) of stems are said to be divisive for that class. In this section we define the stem classes and their respective subclasses. The following are the stem classes:

- (1) Particles, which combine with no thematic minor morpheme
- (2) Enumeratives, which combine only with 041
- (3) Nouns, which combine with both 210 and 542
- (4) Verbs, which combine with 220

2.2.2.1 Particle stems always form morphologically simple themes. Subclassification of particles by their syntactic distribution remains still to be done. We simply list some of the members of the class:

bweno	<u>well</u>	pwes	<u>well</u>	ti?	<u>in</u>
šan	<u>also</u>	entonses	<u>then</u>	te?	<u>at</u>
tun	<u>then</u>	ademas	<u>furthermore</u>	miš	<u>nor</u>
este	(<u>hesitation</u>)	ka	<u>and then</u>	ka?áč	<u>before</u>

2.2.2.2 Enumerators make up a closed class with six members: the numbers one to five, 'un (also hun-), ka'a-, 'óš-, kàn-, hó', plus the enumerative interrogative hay- how many, how much. All members of the class are combinable with the reduplicative operator O41 and occur only with a noun classifier. Examples:

hun-túl mák	<u>one</u> (an. cl.) <u>man</u> ;
hun-péL lìbro	<u>one</u> (inan. cl.) <u>book</u> ;
hu-hun-túl-il	<u>one by one</u> ;
ka'a-ka'a-túl-il	<u>two by two</u> ;
ha-hay-túl-il	<u>how many by how many</u> .

It should be noted that the Spanish numerals, seis, syète, 'očo, etc., which are the only ones now used in counting from six upwards (and optionally also from one to five) are not members of the enumerative class since they do not combine with O41 nor do they occur with a noun classifier.

2.2.2.3 Nouns (N) form a large class defined by their compatibility with 210 and 542. Noun stems of the following shapes are found:

CVC	bát	<u>axe</u>	CVVC	'ain	<u>alligator</u>
CVC	màk	<u>cover</u>	CVCVC	ímin	<u>horse</u>
CVC	bát	<u>hailstone</u>	CVCVC	tàkin	<u>money</u>
CVVC	ba'aL	<u>thing</u>	CVCVC	tohol	<u>price</u>
			CVVCVC	ku'ukum	<u>feather</u>
			CVCVVC	'ono'ot	<u>cenote</u>

A few trisyllabic stems are found, probably all of which

are historically compound or complex forms (as indeed are many of the disyllabic forms also). Examples: one - to five, one (also many), heart, how, many, how much. All members shoulder class are combinable with the reduplicative operator young man and occur only with a noun classifier. Examples: apron, mill) serenata serenade.

The noun stem class is divided into a number of subclasses defined as follows: one by one;

(1) One large subclass of noun stems is formed by those stems which are uniquely compatible with 541 (-tak). It should be noted that the Spanish term attributives (At), Attributive stems are divided into a number of subclasses on the basis of their compatibility or incompatibility with an operator of reduplication and according to their selection of different allomorphs of that operator.

At, do not reduplicate. These may be monosyllabic or bisyllabic. Examples:

CVC	séb	fast	CVCVC	polok	fat	
CVC	bát	dark	CVCVVC	kili'ič	holy	
CVC	CV	toh	straight	CVCVC	'ódiL	poor
CVC	CVVC	ka'am	loud	CVCVC	'fasil	easy
CVVC	CVVC	CVVC	CVVC	CVVC	CVVC	

At, are stems of the shape CVC which occur with either 021 or 022. Examples:

sak	white	sasak	or	sàsak	very white
čič	hard	čičič	or	čičič	very hard
čak	red	čačak	or	čàčak	very red

At₃ are stems of the shape CVC which occur with 022.

Examples:

kàs	<u>bad</u>	kàkas	<u>very bad</u>
nàç	<u>near</u>	nànaç	<u>very near</u>
hày	<u>thin</u>	hàhay	<u>very thin</u>

At₄ are stems of the shape CVC or CVVC which occur

with 023. Examples:

náč	<u>far</u>	nánáč	<u>very far</u>
sís	<u>cool</u>	sísís	<u>very cool</u>
káh	<u>bitter</u>	kákáh	<u>very bitter</u>
su [?] uç	<u>sour</u>	su [?] usu [?] uç	<u>very sour</u>
ya [?] ab	<u>many</u>	ya [?] aya [?] ab	<u>very many</u>

At₅ includes those members of the attributive subclass of nouns which occur only in reduplicated form.

Example:

bi [?] bi [?] kih	<u>soft</u> (said of animal fur)
lo [?] olo [?] oč	<u>crooked</u>
çe [?] eçek	<u>few</u>

(2) Another subclass of noun stems is formed by those members which can occur in the frame # Enumerator ___ Noun #. These we call classifiers.

Some members have high accent in the frame # Enum ___ ± N # but low accent in any other environment. Examples:

ʔun kúč one load, ʔun kúč ʔiši[?]im one load of corn;
kúč load.

Other members have low accent in the frame

Enum ___ ± N # but high accent in any other environment.

Examples:

ʔun kʰán one mecate¹; ʔu kʰánil in sándiáil my mecate
for watermelon.

Nearly all members have unchanging high accent.

A large number of these classifiers have membership in the noun class as well. Some, though they can occur in the classifier divisive frame # Enum ___ N #, cannot occur in the frame # Enum ___ # as most of the classifiers can. E.g. ʔun-kìlo ʔásukař one kilo of sugar, but ʔun-pél kíllo one kilo (not #ʔun kíllo#).

In general, classifiers have reference to genus, shape, or measure. Examples of these follow. Those which are limited to the frame # Enum ___ N # (i.e. cannot occur in the frame # Enum ___ #) are marked with an asterisk.

Genus Classifiers:

túl animals (incl. humans): ʔun-túl mák one man,

ʔun-túl číc one bird;

kúl plants: ʔun-kúl sakáb one corn stalk,

kaʔa-kúl čèʔ two trees;

pél non-plant, non-animal; general or neutral:

ʔun-pél nah one house.

Shape Classifiers:

čít elongated things: ʔun-čít haʔas one banana,

¹ mecate--a measure of land twenty meters square

ka'a-čít 'òk two legs,

'óš-čít yàlkab' three fingers;

wál flat, thin things: 'un-wál wàh one tortilla,

ka'a-wál hu'un two sheets of paper;

šét, šót pieces: 'un-šét bák one piece of meat,

ka'a-šót wàh two pieces of bread;

čáp, čapa' flat, thin things in a stack:

hun-čáp wàh a stack of tortillas.

Measure Classifiers:

Time: mès month: 'un-mès kambal one month of study;

ha'ab' year: ka'a-ha'ab' two years;

sútuk moment (in the future).

Events: tén time: hun-tén one time;

mál time: ka'a-mál two times;

pák time: hun-pák one time.

Size, Length, Weight:

čáh drop: 'un-čáh ha' a drop of water;

múl pile: 'un-múl tùnič' a pile of rock;

kúč load: 'un-kúč 'iši'im a load of corn;

lúb' league (4 kilometers): ka'a-lúb' two leagues;

mék' armful: hun-mék' si' an armful of firewood;

šákab' pace, step

čóy bucket

*kílo kilogram

lúč gourd

púl jug, urn

tičibkab' height one can reach

wa [?] alah	<u>height of a man</u>
na [?] b	<u>measure of thumb-little finger reach</u>
hatka [?] b	<u>measure of thumb-index finger reach</u>
ko [?] ok	<u>fist width</u>
ha [?] g	<u>part</u>
o [?] k	<u>handful</u>
lot	<u>bundle, bunch</u>
mut	<u>almud</u>

(3) A third subdivision of the noun stem class is based on their morphological characteristics when they occur following a possessive pronoun. Two types of characteristics serve to divide the class in this respect: (1) Accent; (2) Selection of genitive suffixes. These subclass divisive criteria are exemplified in the following:

(1) A number of nouns in which the initial syllable bears either high or no accent in environments other than after a possessive pronoun and before a genitive suffix, have a low accent on the initial syllable in the environment of a possessive when not followed by a genitive suffix. Nouns of this subclass will be identified as N. The mechanics of the alternation of the initial syllabic can be represented by the following formula:

$$\left. \begin{array}{c} \acute{V} \\ V \end{array} \right\} > \grave{V} .$$

čič' bird 'u čič'il his bird 'u čič' his bird
kat clay 'in katil my clay 'in kàt my clay

Some of the more frequent nouns of this subclass are listed here:

'abal	<u>plum</u>	bák	<u>meat</u>	bát	<u>axe</u>
č'ekel	<u>bedrock</u>	č'imin	<u>horse</u>	čún	<u>squash</u>
čúk	<u>carbon</u>	čil	<u>granary</u>	čuyub'	<u>hanger</u>
čóy	<u>pail</u>	homa'	<u>griddle</u>	'iši'im	<u>corn</u>
kih	<u>henequen</u>	kib'	<u>candle</u>	kák	<u>fire</u>
'kán	<u>hammock</u>	káš	<u>bushland</u>	'keban	<u>sin</u>
'kéken	<u>pig</u>	'keyem	<u>pozole</u>	'kíwik	<u>plaza</u>
'kóben	<u>kitchen</u>	kúč'	<u>tobacco</u>	nal	<u>corn ear</u>
'op'	<u>tostado</u>	'púl	<u>pitcher</u>	pišan	<u>soul</u>
šáče'	<u>comb</u>	šamač	<u>griddle</u>	sakáb	<u>corn plant</u>
šúš	<u>basket</u>	htaman	<u>sheep</u>	tanah	<u>home</u>
wakaš	<u>cow</u>				

Nouns not of this class are marked simply N.

(2) The optional selection of possession-possessor suffixes effect another division of the noun class.

(a) A few noun stems, exclusively names of body

parts which are not controlled by will, may take

šl2 (-el). These are termed inalienable nouns.¹

¹ It should be noted that these nouns are not inalienable in the sense that the suffix is obligatory when the noun is possessed or that the noun cannot occur without the possessive prefix plus the relational suffix. Each of these nouns occurs also unpossessed and without the relational suffix, though a difference in meaning obtains in a possessed member of the class with and without the relational suffix: 'u č'o'of his hair (not that functioning as a part of his body, but now disassociated, as, say, preserved in a bottle).

Examples:

?u b'akel	<u>his bone</u>	?u b'akel	<u>his flesh</u>
?u do'od'el	<u>his hair</u>	?u do'omel	<u>his brain</u>
?u du'el	<u>His heart</u>	?u čala'atel	<u>his rib(s)</u>
?u čočel	<u>his intes-</u>	?u hobnel	<u>his bowels</u>
	<u>tines</u>		
?u ki'ikel	<u>his blood</u>	?u k'ewlel	<u>his skin</u>
?u y'otel	<u>his skin</u>	?u tánnel	<u>his liver</u>

- (b) At least one noun may take the relational suffix 514 (-al) with or without the second relational suffix 542 (-il): ?u y'ikal his chile (which accompanies something else he is eating); ?u y'ik his chile; ?u y'ikalil his chile for eating something with.
- (c) At least one noun may take the relational suffix 513 (-ul) with or without the second relational suffix 542; ?u meyhul his work; ?u meyah his work; ?u meyhil, ?u meyhulil his work relative to something.
- (d) Presumably all nouns can take the second relational suffix 542 (-il), the meaning of which seems to be, roughly: relative to, used by or for, etc. For example:

?u nah-il his house.

Members of the noun class which occur with the suffixes -el, -al, -ul are to be marked in the dictionary as

N (-el), N (-al), N (-ul) respectively.

A small subclass of noun stems is formed by those time expressions which combine with 516 -ak ~ -(h)eak ~ -yak ~ -ahkeak ago. Examples: hun ha'ab'-ak a year ago; sám-eak a moment ago, ho'ohle-ak (or ho'ol-he-ak) yesterday; hunpél kin-ak a day ago; ?unten-ahkeak one time.

2.2.2.4 Verbs form a large class defined by their exclusive privilege of occurrence with 220. Verb stems of the following shapes are found:

CVC	pán	<u>dig up</u>	CVCVC	ʔókot	<u>dance</u>
CVC	ʔón	<u>shoot, hunt</u>	CVCVC	tùkul	<u>think</u>
CVC	čoʔ	<u>clean</u>	CVCVC	pa'kač	<u>heat tortillas</u>
CVʔVC	boʔol	<u>pay</u>	CVCVʔVC	ʔošoʔom	<u>shell (e.g. corn)</u>
			CVʔVCVC	heʔesím	<u>sneeze</u>

As with nouns, many of the disyllabic verb stems are historically complex forms. Verb stems borrowed from Spanish may have other shapes, e.g. kréř believe, pěrtenesèř belong, etc.

Verb stems are grouped into subclasses on the basis of the transitive and intransitive status markers with which they combine. They are further subdivided according to their patterns of stem alternations and certain paradigmatic restrictions. Paradigms for each class are provided in Appendix A.

(1) Verb stem class 1 (Vs_1) is made up of those verb stems which take the zero alternant of the transitive status marker 321 and the -n alternant of the intransitive status marker 417. This class is in turn subdivided according to certain patterns of stem alternation:

$Vs_{1.1}$ A large subclass is made up of verb stems with four stem alternants of the shapes (a) CVC, (b) CVC, (c) CV..C, (d) CVC as with $\acute{z}on$ to shoot: (a) $\acute{z}one$ shoot it! (b) $\acute{z}onen$ shoot! (c) $\acute{z}o(\acute{z}o)ni$ it got shot (d) $\acute{z}óni$ it was shot. Examples are listed under the form of alternant (a):

$\acute{b}ah$ hammer	$\acute{b}ak$ roll up, wrap up	$\acute{b}al$ hide (guardarse)
$\acute{b}aš$ hammer	$\acute{b}it$ pinch	$\acute{b}on$ dye
$\acute{b}uh$ divide in two	$\acute{b}ut$ stuff in (embutir)	$\acute{b}ay$ splice, place end to end
$\acute{d}el$ take off	$\acute{d}ol$ explain, line up	$\acute{d}ak$ cure, treat
$\acute{d}am$ submerge	$\acute{d}ap$ heap	$\acute{d}ik$ shave
$\acute{d}ot$ fling	$\acute{d}op$ thrust in (as a pole in the ground)	$\acute{c}ak$ boil
$\acute{c}ep$ rub	$\acute{c}in$ tilt, tip	$\acute{c}ok$ hurl
$\acute{c}uy$ sew	$\acute{c}ah$ drip	$\acute{c}ak$ cut
$\acute{c}eb$ tilt	$\acute{c}eh$ extinguish (extinguir, acabar)	$\acute{c}et$ change directions (desviar)
$\acute{c}ot$ wind up	$\acute{c}uy$ hang	$haš$ separate
$haš$ whip, strike	$hač$ chew	hal lower, slacken a line (arriar)

haš <u>lay strands</u> <u>of rope</u>	hay <u>extend</u>	hek <u>split</u> (<u>separar,</u> <u>desgajar,</u> <u>desprender</u>)
hel <u>change</u> (<u>mudar</u>)	hep' <u>pinch</u>	het <u>break</u> (<u>partir</u>)
hit' <u>weave, braid</u>	hoč <u>harvest</u>	hok <u>pull up</u> (<u>by</u> <u>roots</u>)
hoč' <u>lasso, cinch</u> <u>up</u>	hol <u>pierce</u>	hul <u>illuminate;</u> <u>throw</u> (<u>some-</u> <u>thing large</u>)
huč' <u>grind</u>	hup <u>throw some-</u> <u>thing small</u>	hub' <u>destroy, knock</u> <u>over</u> (<u>as a</u> <u>pile of wood</u>)
kač' <u>break apart</u>	koč' <u>snap in two</u>	koč' <u>coil up</u>
koh <u>hit</u>	kol <u>make milpa</u>	kop <u>roll up</u>
kuč' <u>load</u>	kal <u>close, shut</u>	kam <u>receive</u>
kaš' <u>tie up</u>	keč' <u>fold, change</u> <u>directions</u>	keš' <u>change</u>
kil <u>hurt a wound</u>	kit <u>disperse,</u> <u>spread</u>	kop <u>knock</u>
kos <u>cut with</u> <u>scissors</u>	kub' <u>deliver</u>	kuč' <u>spin</u> (<u>hilar</u>)
kup <u>cut</u> (<u>some-</u> <u>thing soft</u>)	kut <u>mash, tamp</u> (<u>food</u>)	lah <u>slap</u>
lak <u>loosen,</u> <u>detach</u>	lam <u>stick, sink</u> <u>into</u> (<u>meter</u>)	leb' <u>uncover</u>
loh <u>redeem</u>	lom <u>stab, prick</u>	loš' <u>hit</u>
luk <u>swallow</u>	mač' <u>grab, hold</u>	mah <u>buy</u>
mek <u>fold</u>	mok <u>tie a knot</u>	muč' <u>close eyes</u>
muk <u>bury</u>	nač' <u>(come) near</u>	nuč' <u>join</u>
nup' <u>close</u> (<u>tapar</u>)	pak <u>fold up</u>	paš' <u>play</u> (<u>music</u>)
pat <u>mold, knead</u>	peč' <u>weight down,</u> <u>hold down</u> (<u>apesgar</u>)	peč' <u>flatten, apply</u> <u>pressure,</u> <u>embarrass</u>
pit <u>clean off,</u> <u>take off</u> (<u>clothing</u>)	poč' <u>milk an</u> <u>animal</u>	pot <u>perforate</u>

puč	<u>squeeze (out)</u> (<u>estrujar</u>)	puk	<u>chip out</u> (<u>desmoronar</u>)	puk	<u>dissolve</u>
paš	<u>owe</u>	pat	<u>leave (dejar)</u>	pik	<u>break (some- thing thin like a pencil point)</u>
ˈpil	<u>open eyes</u>	pit	<u>jump up and down</u>	ˈpuč	<u>throw down with force, cudgel</u>
ˈpuh	<u>stir</u>	saɸ	<u>stretch (as elastic)</u>	sin	<u>stretch out, spread out</u>
šet	<u>break off</u> (<u>partir</u>)	šik	<u>crack, split</u> (<u>rajar</u>)	šit	<u>open (e.g. a purse)</u>
šot	<u>cut</u>	šot	<u>cut</u>	taḱ	<u>stick on</u> (<u>pegar</u>)
tiɸ	<u>splatter</u>	tič	<u>raise up</u> <u>high</u>	tik	<u>un-do, come undone</u>
tuk	<u>dislocate, sprain</u>	taḱ	<u>light a fire</u>	tin	<u>tighten, take up slack, tune up</u>
toh	<u>empty out,</u> (<u>vaciar, hacer chorrear, trasladar</u>)	tok	<u>pick (fruit, leaves)</u>	toš	<u>share, divide out</u>
ˌtub	<u>submerge</u>	yač	<u>flatten</u>	yet	<u>massage (sobar)</u>
waɸ	<u>bend some- thing over</u>	wak	<u>set off a loud noise</u> (<u>firecracker, gun, tongue click</u>)	wek	<u>shed (liquids)</u>
wet	<u>avoid, hinder</u>				

Vs_{1.2} are those verb stems of class I which have three stem shapes: (a) CVC, (b) CVC, (c) CV..C.

Examples:

čuh <u>burn</u>	čuk <u>catch</u>	čup <u>fill</u>
čul <u>wet</u>	sat <u>lose</u>	šok <u>read, count</u>
šup <u>spend,</u> <u>use up</u>	tok <u>snatch</u>	tup <u>put out</u> (<u>apagar</u>)
tus <u>lie</u>	ťan <u>speak</u>	ťit' <u>spread out</u>

Vs_{1.3} A small number of monosyllabic stems which in their citation (or first) alternant end in /ʔ/ or /h/ have an alternant in which the final consonant is replaced by /b/. Examples:

č'aʔ <u>put</u>	č'aʔ <u>permit,</u> <u>let go</u> (<u>dejar,</u> <u>soltar</u>)	č'aʔ <u>fetch (coger)</u>
č'iʔ <u>bite</u>	č'oʔ <u>clean (lim-</u> <u>piar)</u>	haʔ <u>sharpen</u>
heʔ <u>open</u>	lèh <u>lasso</u>	šeh <u>vomit</u>
paʔ <u>break</u>	poʔ <u>wash</u>	toʔ <u>wrap</u>

Vs_{1.4} A large number of verb stems of this subclass have a constant shape. The following are CVC:

báb' <u>empty out</u>	č'íl <u>peel</u>	č'úl <u>scrape a pan</u> <u>with the finger</u> <u>or a tortilla</u>
húk <u>protect</u>	húy <u>stir up</u> (<u>liquids</u>)	kól <u>tug, pull</u> (<u>jalar</u>)
k'él <u>toast</u>	k'óč <u>carry on the</u> <u>head</u>	k'óy <u>dig out</u>
lál <u>pour out</u>	léč' <u>lick</u>	mék' <u>embrace</u>

mán	<u>pass</u>	nét'	<u>scratch (with the teeth)</u>	nól	<u>suck (as on a piece of candy)</u>
núk	<u>answer</u>	núp'	<u>trap</u>	níč'	<u>take a bite of</u>
náy	<u>dream</u>	pán	<u>dig up</u>	páŕ'	<u>massage</u>
páy	<u>borrow loan (prestar)</u>	pól	<u>construct, chip out, (labrar)</u>	pók	<u>heat up, toast (tortillas)</u>
sús	<u>peel, whittle</u>	tét	<u>choose</u>	tít	<u>shake</u>
tók	<u>burn</u>	túb'	<u>spit</u>	tóč	<u>peck</u>
yéŕ'	<u>make jest</u>	yéy	<u>choose</u>		

The following are CV'VC:

ŕu'uč'	<u>kiss, smoke,</u>	ču'uč'	<u>nurse (mamar, chupar)</u> <u>suck on (chupar)</u>
ča'ač'	<u>chew</u>	ha'aŕ'	<u>take out by hand</u> <u>(as honey)</u>
la'ač'	<u>itch</u>	lu'uč'	<u>pick up and eat a</u> <u>bite of food with a</u> <u>section of tortilla</u>
le'ep'	<u>scratch with the</u> <u>fingernails</u>	na'at	<u>understand</u>
še'ep	<u>pinch (pellizcar)</u>	ta'ak	<u>hide</u>

Vs_{1.5} A few disyllabic verb stems of this subclass have two stem alternants: CVCVC or CVCVC and CVCC, as with (a) tükul, (b) tuklik. Examples:

bokol	<u>stir (batir)</u>	čahal	<u>tickle</u>
čakat	<u>cross (cruzar)</u>	čikil	<u>shake down</u>
pakat	<u>look (mirar)</u>	tükul	<u>think</u>
pikit	<u>fan</u>		

Vs_{1.6} A few verb stems require the suffix 342 (-V1) in all intransitive forms stative and processive, but not in the transitive forms. Examples of these are listed here with 342 in parentheses: (1) 'bak(V1) roll up, (2) kon(V1) sell, (3) pak(V1) plant, (4) 'uk(V1) drink.

(2) A second subclass of verb stems (Vs₂) is formed by those which take the -t alternant of the transitive status marker 321 and the -n alternant of the intransitive status marker 417. No stem alternation has been observed with this class. The following members of this subclass have the shape CV[̇]C:

čén	<u>feed</u>	č'íb	<u>write</u>
híl	<u>drag</u>	h'íč	<u>take out</u> (as a <u>machete</u> , <u>a long thorn</u>)
kóy	<u>pull</u> (as a <u>bucket</u> <u>in a well</u>)	pák	<u>weed</u> (<u>desyerbar</u>)
píb	<u>barbeque</u>	pús	<u>dust off</u>
sít	<u>jump, jump over</u>	šób	<u>whistle</u>
yún	<u>move</u> (<u>mecer</u>)		

The following members have the shape CV[̇]VC:

bo'ol	<u>pay</u>	č'e'ek	<u>preach</u>
če'eh	<u>laugh</u>	ho'oč	<u>scratch</u>
ku'ul	<u>rub</u>	k'a'ay	<u>announce</u>
nu'uk	<u>indicate</u>	pa'aš	<u>make fun of</u> (<u>enseñar, dirigir,</u> <u>guiar</u>)

se'en cough ša'ak' mix up (revolver)
yu'uč rub hard; crumple
up (paper)

The following members are disyllabic:

b'akal <u>roll up</u>	b'alak' <u>surround</u>
čulub' <u>collect rain</u> <u>water</u>	č'eneb' <u>stick out (as head from</u> <u>window)(asomarse)</u>
he'esim <u>sneeze</u>	kanan (also kanán) <u>care for, herd</u>
kóčak' <u>kick (patear)</u>	lákín <u>accompany</u>
mahan (also mahán) <u>loan</u>	mákan <u>prepare</u>
náhal <u>earn</u>	ʔókot' <u>dance</u>
ʔošoʔom <u>shell</u>	pakač' <u>heat tortillas</u>
šáčab' <u>take a step</u>	ššub' <u>whistle (silbar)</u>
tiriš' <u>rattle</u>	tohol <u>throw out (as someone from</u> <u>a house)</u>
walak' <u>leaf through,</u> <u>turn leaves</u>	wayak' <u>dream</u>

(3) A third subclass of verb stems (Vs_3) is formed by those which take the -s alternant of the transitive status marker 321.

$Vs_{3.1}$ A large subdivision of Vs_3 is made up of those verb stems which take 342 (-V1) in the present intransitive, (e.g. k-in wen- \emptyset -V1 I sleep (222 + 211 + wen sleep + 421 + 342) and the zero alternant of the intransitive status marker 417 in the non-present

intransitive (e.g. wèn-Ø-en I slept) (wèn sleep + 417 + 611). All stems of this subclass have the shape CVC; nearly all have a high accent in their citation form or first alternant and a second alternant with low accent. Since these stems are always bound, we cite the examples as traditionally in combination with 342:

ʔahal	<u>awaken</u>	bánal	<u>fall</u> (of <u>fruit</u>)
ʔémel	<u>descend</u>	hókol	<u>leave</u>
kímil	<u>die</u> (unique past active participle kimen)	kóhol	<u>arrive</u>
kučul	<u>arrive</u> (unique alter- nation č ~ h: kuhsik)	lákál	<u>lósän</u> (<u>despegarse</u>)
líkil	<u>rise</u>	lúbul	<u>fall</u>
lukul	<u>leave</u>	ʔokol	<u>enter</u>
nákál	<u>arrive</u>	síhil	<u>be born</u>
típil	<u>jut out</u> (<u>asomarse</u>)	túbul	<u>forget</u>
wenel	<u>sleep</u>		

Vs_{3.2} A small subdivision of Vs₃ is formed by the three members 'bin go, tál come, mán pass by which take the zero alternant of 417 but do not take 342.

Vs_{3.3} Another subdivision of Vs₃ is formed by those verb stems which take the -n alternant of the intransitive status marker 417 in the non-present intransitive (e.g. pék-n-ah-en I moved) (pék move + 417 + 421 + 611) and the zero alternant of the intransitive status marker 417 in the

present (e.g. k-in pék-∅ I move) (222 + 211 + pék move + 417). Examples: naʔakal ascend, pék move, ʔuʔul arrive.

(4) A fourth class of verb stems (Vs₄) is made up of verbs which combine uniquely with posturative 416 and with the instrumentive formative 523. Since these stems are always bound, we cite the examples as traditionally, in combination with 416 + 342:

čiɫtal	<u>lie down</u>	čuytal	<u>hang</u>
hawtal	<u>lie supine</u>	kuɫtal	<u>sit</u>
mučtal	<u>assemble</u>	noktal	<u>lie prone</u>
pektal	<u>stretch out</u>	ʔoktal	<u>squat</u>
šoltal	<u>kneel</u>	šaktal	<u>go on all fours</u>
waʔatal	<u>stand</u>		

(5) A fifth class of verb stems is made up of those verbs whose intransitive themes are formed from the transitive theme by the addition of status neutralizer 421 (-ah). Before intransitive status marker 417 (-n) the presence of 421 is optional. Three subdivisions are formed according to which transitive status marker the stem takes:

Vs_{5.1} are those which take the zero alternant of the transitive status marker 321. Examples:
ʔeʔes show, ʔil see, key scold, paʔt wait for, expect,
puʔuh scare off, shoo away, saʔas forgive, ʔuʔuy hear, sense
(the unique alternant ʔuʔub is used exclusively with non-third person).

Vs_{5.2} are those which take the -t alternant of 321.
Examples: kúl worship, tún taste, try, tempt, 'us blow.

Vs_{5.3} are those which take the -s alternant of 321.
Examples: haw stop, káh begin, ka'an teach, ka'ah
remember, tu'up put out, erase.

2.3 Higher Level Formations.

Stems and minor morphemes are the irreducible elements out of which sentences are formed. However, it is simplest to describe sentences as made up not of sequences of stems and minor morphemes, but of sequences of constructions, recognizing levels of phrase formation and theme formation.

Themes, the lowest level of morphological construction considered in sentence formation, may be composed of simple or compounded stems with or without additional thematic minor morphemes. Each theme is affiliated with a class determinable from its internal composition. Thus four theme classes are recognized: Nouns, Verbs, Enumerators, Particles. Noun and verb themes may be derived by certain thematic affixes from other noun or verb themes. That is, a noun or verb theme may be derived by the addition of derivational thematic affixes into a theme of a different class or into a new theme of the same class. Thus, verb themes may be formed from noun themes or other verb themes, and noun themes may be formed from verb themes or other noun themes. Enumerator themes are formed only of enumerator stems ± 021. Particle themes are never

derived and are thus coterminous with particle stems.

Theme formation, the development and distribution of stems in respect to minor morphemes, is discussed in 2.3.1. The formation of certain types of phrases (noun and verb complexes) is left to section 2.3.2.

2.3.1 Theme Formation. We have described a theme as a sequence of morphemes containing a single stem or compounded stems with or without additional thematic (derivational or qualifying) minor morphemes. In the present section we examine the structural parts of themes and their co-occurrence relations in the following order: 2.3.1.1 Verb Compounds, 2.3.1.2 Noun Compounds, 2.3.1.3 Thematic Minor Morphemes.

2.3.1.1 Verb Compounds. Besides having a single verb stem as its nucleus, a verb theme may have compounded stems (forming a compound theme). Compounds are characterized by one or more of a number of features: the members (1) occur in a fixed order in respect to each other; (2) cannot be interrupted by extraneous morphemes; (3) function as a unit, admitting theme-external minor morphemes only at the peripheries; (4) may form an idiom which contrasts in meaning with a phrase containing the same stems; (5) may form a theme of a different subclass from that of either member alone. Verb compounds are formed in the following ways:

- (1) Verb Theme + Noun Theme:

- t-in čák-če'e-t-ik-∅ I'm wood chopping it
(223 + 211 + čák chop + če' wood) + 321 +
351 + 613);
- ᵑil-ᵑič-n-en-e'eš peel your eyes! (ᵑil open +
ᵑič eye + 417 + 422 + 615);
- ᵑon-kéh-n-ah-i he deer hunted (ᵑon hunt + kéh
deer + 417 + 421 + 613);
- k-u kanan-taman he (sheep)herds (222 + 213 +
kanan take care of, guard + taman sheep);
- k-u čín-pòl-t-ik-o'ob they bow (to) it (222 +
213 + čín incline + pòl head + 321 + 351 +
616);
- t-u kat-či'-t-ah-∅ he inquired (about) it (221 +
213 + kat ask + či' mouth + 321 + 341 +
613);
- ᵑu péč-kab-t-m-ah-∅ he has touched it with his
hand (213 + péč touch + kab hand + 321 +
331 + 341 + 613);
- t-in čay-páč-t-ik-eč I'm following you (223 + 211 +
čay line up + páč back + 321 + 351 + 612);
- ká u tánt-ᵑól-t-e may he pay heed (231 + 213 +
tánt try, prove + ᵑól heart, inside + 321 +
613);
- t-u bá'-nak-t-ah-∅ he girded it (up) (221 + 213 +
ba' surround + nak belly + 321 + 341 + 613).

(2) Noun Theme + Verb Theme:

k-u ta⁷-mán-s-ik-∅ he passes (by) him (222 +
213 + ta⁷ direct + mán pass + 321 + 351 +
613);

k-u hól-čák-t-ik-∅ he cuts a path (222 + 213 +
hól hole + čák chop + 321 + 351 + 613);

sak-če'eh-n-ah-i he smiles (sak white + če'eh
laugh + 417 + 421 + 613);

tán u yà-yah-tán-t-ik-eč he is insulting you
(223 + 213 + 021 + yàh pain + tán speak +
321 + 351 + 612).

(3) One special kind of verb compound is formed by
a verb theme plus certain noun (or particle?) stems which
we shall call adverbial compounders. Examples:

(a) čín throw away, out, down. Common to com-
pounds which include this morpheme is the referent
verb of impelling, e.g.:

t-u tohol-čín-t-ah-eč-o'ob' they threw you out (221 +
213 + tohol throw out + čín throw + 321 + 341 +
612 + 626);

hól-čín-t-e make hole throwing something! (hól hole
+ čín throw);

t-u šó-šol-čín-t-ik-∅ they bow down (to) him (221 +
213 + 011 + šol kneel + čín throw + 321 + 351 +
613);

(b) lan action involving repeated sequence of a
given act, e.g.:

t-u toš-lan-t-ah-Ø le wàho? he divided out the bread
one after another (toš divide out);

t-u kaš-lán-t-ah-o'ob he tied them one after another
(kaš tie);

(c) tán reciprocal; each other, among themselves.

E.g.: tán u kims-lan-tám-bal they are killing amongst
themselves one after another (kim- die);

t-u toš-lan-tám-bal he divides it out one after
another.

(4) Another special kind of verb compound is formed by preposing certain attributive noun stems or particles to verb themes. Some of the more common attributives used as compounders are lah all, čan little, hač intensive, ka'a two, again, čič hard, fast, seb' fast, ki' good, ma'alob' good. Examples:

lahkímo'ob' they all died (lah all + kím- die);

tu lahhàntah he ate it all (lah all + hàn- eat);

tán u čanmeyah he is working a bit (čan little
+ meyah work);

tán u hačmeyah he is really working (hač very +
meyah work);

ka'abino'ob' they went again (ka'a two, again +
bin go);

ku sebbin he goes fast (seb' fast + bin go);

ku čičbin he goes fast (čič hard + bin go).

2.3.1.2 Noun Compounds. A compound noun theme may be formed in the following ways:

(1) Noun theme + noun theme:

ki'ikna¹ dysentery (ki'ik blood + na¹ stomach);

'étšib fellow man, friend ('ét with + šib man);

šya'aš'ič green eyes (ya'aš green + 'ič eye);

nohpòl governor (noh big + pòl head);

šana¹bčák (a species of wasp which builds a nest
whose shape suggests a shoe) (šana¹b shoe +
čák rain).

A few elements earlier grammars have treated as affixes we are treating as bound noun stems. These are -bil, -šil, -be'en, -nál, -kab, and bul-.

Examples:

tàtašil father (tàta father + -šil reverential);

yunšil Lord (yum lord, gentleman);

yumbil Lord God;

čanbil baby (in reference to the Christ Child
only) (čan small + bil reverential);

ko'olel¹bil Virgin Mary (ko'olel lady);

kolnál farmer (milpero) (kol milpa + nál of the
business or nature of);

lu'umkab inhabitant, man (lu'um land + kab
"creature");

bul¹kin all day long (bul throughout + kin day);

bul'ákab all night ('ákab night);

hanalbe'en edible (han- eat, food + be'en worthy);

šikbe'en honorable (šik honor, salute).

(2) Verb theme + Noun theme:

ʔokhaʔ baptism (ʔok enter + haʔ water);

ʔahkinsahwínik murderer (kinsah kill +
wínik man);

hkònbak meat seller (kòn sell + bak meat);

kulnah temple, church (kul worship + nah house);

menwàh tortilla maker (mèn make + wàh tortilla);

škašbak bone-setter, bandager (kaš tie + bak bone);

škimenyícam widow (kimen dead + ʔícam husband);

katabčeʔ cross (kat cross + čeʔ wood, tree).

(3) Noun theme + Verb theme:

šmeyahbèt hired girl (meyah work + bèt do);

ʔéttàl companion (ʔét with + tàl come).

2.3.1.3 Verb Thematic Minor Morphemes. On the basis of their internal composition and their relations with the remainder of the verb complex we divide verb themes into transitive and intransitive themes. Verb complexes we divide into three modes, imperative, processive, and stative, the definitions of which we reserve until 2.3.2.

2.3.1.3.1 Transitive Themes. The following chart serves to indicate the modal restrictions (for transitive theme sequences) together with the ordering of these thematic minor morphemes. Where segments of the chart are divided horizontally, those suffixes in lower sections occur only in stative verb complexes; those suffixes in upper sections occur only in processive verb complexes. The unit number

corresponds to that of the index number for the affix in the inventory (2.2.1).

Class 350, 360, and 610 are not thematic suffixes but are included here to show their sequence relation to the other suffixed minor morphemes. Their distribution in respect to verb complexes must await section 2.3.2.

CHART OF THEMATIC, CONJUNCT, AND TERMINAL
AFFIXES COMBINING WITH TRANSITIVE VERBS

110	010	BASE	310	320	330	340	350	360	610	620
	REDUPLICATION		1 kun ~kin	1 t ~s	1 m	1 ah ~ø	1 ik ~iL	1 Vk ~ak	1 en 2 eč	
			2 in	~es ~ø	2 a'a	2 VL ~aL			3 ø ~i ~e	
			3 b			3 b			4 o'on	
3 h			4 k			~ø			5 e'eš	5 e'eš
						4 n			6 o'ob	6 o'ob
MARGIN		CORE			MARGIN	CONJUNCT	TERMINI			

A transitive theme consists maximally of three parts: base, transitive core, and margin, minimally of two parts, base and transitive core. We now define these: a base is a stem or a compound. A transitive core consists of a base plus a suffix of 320 or suffixes of 310 and 320 plus, optionally with certain bases, an operator of reduplication. A margin consists of a single suffix (341) or one of four sequences of suffixes of classes 330 and 340, and, optionally with one margin suffix sequence, prefix 113.

It is convenient at this point to define the five margin patterns of transitive themes:

Margin A (forming TRANSITIVE THEME A) is 341

Margin B (forming TRANSITIVE THEME B) is the sequence

331 + 341

Margin C (forming TRANSITIVE THEME C) is the sequence

332 + 342

Margin D (forming TRANSITIVE THEME D) is the sequence

332 + 343

Margin E (forming TRANSITIVE THEME E) is the sequence

332 + 344

Margin F (forming TRANSITIVE THEME F) is the sequence

332 alone.

No other combinations of suffixes of class 330 with class 340 occur; these five patterns then are exhaustive for transitive verb forms.

We shall proceed now to discuss each of the minor morphemes which occur in transitive themes, beginning with the core suffixes of class 310.¹

The discussion which follows the chart gives further details on each thematic morpheme and its relations with other thematic minor morphemes and with stems and themes. The term base is used here to stand for any simple or compound stem with or without an adverbial adjunct.

¹ See fn. 1 on p. 30.

Set 310 are first order suffixes occurring always inside all other verb thematic suffixes.

(1) 311 (-kún ~ -kín) (kun ~ kin) causative serves to derive transitive verb themes from noun stems (frequently of the attributive subclass) or from noun themes and from verb stems of class 5. The meaning is cause to turn so or become such (contrary to the natural or original state). In transitive expressions 311 is always followed by either 321 (-t) or 321 (-s). Examples:

sak-kun-t-e whiten it! (sak white + 311 + 321 + 613);

sasil-kún-s-e illumine it! (sasil light + 311 + 321 + 613);

miš+baʔal-kun-s-e cause it to come to nought (miš not + baʔal thing + 311 + 321 + 613).

The alternant -kun occurs following a syllable with a non-back vowel. Examples:

čil-kun-t-e lay it down! (čil-lie + 311 + 321 + 613);

keʔel-kun-t-e cool it! (keʔel cold + 311 + 321 + 613);

sak-kun-t-e whiten it! (sak white + 311 + 321 + 613).

The alternant -kin occurs (with exceptions noted below) following a syllable with a back vowel. Examples:

toh-kin-t-e straighten it! (toh straight + 311 + 321 + 613);

polok-kin-s-e fatten it! (polok fat + 311 + 321 + 613);

ʔuɸ-kin-t-e repair it! (ʔuɸ good + 311 + 321 + 613);

mul-kin-s-e pile it! (mul mound + 311 + 321 + 613).

Certain exceptions have been observed where the alternant -kun occurs after the vowel o: ko'oh-kun-s-e (also ko'oh-kin-s-e) raise the price! (ko'oh expensive); ki'imak-^oól-kun-t-e (but not ki'imak-^oól-kin-t-e) make him happy (ki'imak-^oól joy).

The alternants without high accent and those with high accent are free to occur with almost any stem, the difference being that the latter "perhaps indicate more emphasis" (?). Examples:

sak-kun-t-e or sak-kún-t-e whiten it!;

čil-kun-t-e or čil-kún-t-e lay it down!

polok-kin-s-e or polok-kín-s-e fatten it!

In some forms, however, the alternant with high accent is obligatory: sas-il-kún-s-e (but not sas-il-kun-s-e) illumine it! (However sás-il-kun-s-e or sás-il-kún-s-e illumine it! are both accepted by the informant).

(2) 312 (-in) usative also serves to derive a transitive verb theme from a noun stem, though the nouns with which it combines are quite few and are never of the attributive subclass. The meaning of 312 is have for, take for, or serve for. 312 is always followed by 321 alternant -t. Examples: (t-u) pàl-in-t-ah-∅ (he) took for his son (221 + 213 + pàl son + 312 + 321 + 341 + 613); (k-u) kàbà^a-in-t-ik-∅ hwàn (he) is named Juan (222 + 213 + kàbà^a name + 312 + 321 + 351 + 613); (tán u) si^o-in-t-ik-∅

(he's) making firewood (223 + 213 + si' firewood + 312 + 321 + 351 + 613); kič-in-t-e use it to get warm! (kič get warm + 312 + 321 + 613).

(3) 313 (-b) causative serves to derive transitive verb themes from noun (frequently attributive noun) stems or themes and from verb stems or themes. The meaning is cause to turn so, become such or do so. 313 is always followed by 321 alternant -es. Examples:

sak-b-es-e whiten it! (sak white + 313 + 321 + 613);
sahak-b-es-e scare it! (sahak fear, afraid);
sùk-b-es-e tame it! (sùk tame); čik-b-es-e make it appear! (čik appear); ʔo'ok-b-es-e finish it!
(ʔo'ok end).

(4) 314 (-k) celeritive serves to derive verb themes from verb stems or themes. The meaning is do an action; often quickness is implied. 314 in transitive expressions is always followed by 321 alternant -es. Examples: čil-k-es-e lay it down quick! (čil- lie + 314 + 321 + 613); koč-k-es-e snap it, rip it (koč rip); bal-k-es-e make it roll (bal roll); tul-k-es-e over-fill it (tul overflow).

Set 321 is a second order core terminal verb thematic suffix which serves as the transitive status marker. It has four allomorphs.

(1) 321 allomorph -t is suffixed to verb stems of class 2. Examples:

ʔib-t-e write it! (ʔib write + 321 + 613);
mís-t-e sweep it! (mís sweep); kanán-t-e guard it!

(kanán guard).

It also occurs following 311 and 312: sís-kún-t-e
cool it! (sís cool + 311 + 321 + 613);
k'ič-in-t-e use it to get warm! (k'ič get warm + 312 +
321 + 613).

It is mutually exclusive with 313 and 314.

It also occurs as the transitive status marker with
most compound verb themes: (k-u) kònbak'-t-ik-∅ (he)
meat-sells it (e.g. beef) (222 + 213 + kòn sell +
bak' meat + 321 + 351 + 613); ∅ay-pač-t-e follow it
(∅ay line up + pač back + 321 + 613);
(k-u) šot-kin-t-ik-∅ (he) judges him (222 + 213 +
šot cut + kin day + 321 + 351 + 613);
(k-u) hòl-∅on-t-ik-∅ (he) shoots a hole in it (222 +
213 + hòl hole ∅on shoot + 321 + 351 + 613).

321 also occurs as the transitive status marker with
most verbs borrowed from Spanish: (k-u) kréř-t-ik-∅
(he) believes it (222 + 213 + kréř believe + 321 +
351 + 613); (k-u) pėřtenesėř-t-ik-∅ (it) belongs
(to) it (222 + 213 + pėřtenesėř belong + 321 + 351 +
613).

(2) 321 alternants -s and -es are suffixed to verb
stems of class 3. Examples: lúb-s-e fell it! (lúb'
fall + 321 + 613); pėk-s-e move it! (pėk move);
na'ak-s-e climb it! (na'ak- climb); kín-s-e kill
it! (kím die); hók-s-e take it out! (hók- exit);

ʔáh-s-e awaken him! (ʔáh- awaken); tál-s-e bring it! (tál come); biN-s-e take it! (biN go).

Alternant -s occurs following 311, as in kuL-kín-s-e seat him! (kuL sit + 311 + 321 + 613).

Alternant -es occurs following 313 or 314:

sak-b-es-e whiten it! (sak white + 313 + 321 + 613); hál-k-es-e let it fall! (hál loose + 314 + 321 + 613).

Following stems, the two alternants are in free variation, though -s is more common. Examples: káh-s-∅ le šök-oʔ or káh-es-∅ le šök-oʔ begin the reading! (káh begin + 321 + 613 + le the šök reading + 713); but káh-es-∅ begin it! (káh + 321 + 613) or káh-s-e begin it! (káh + 321 + 613).

(3) 321 alternant -∅ is suffixed to verbs of class 1.

Examples: ʔon-∅-e shoot it (ʔon shoot + 321 + 613); (k-u) man-∅-ik-∅ (he) buys it (222 + 213 + man buy + 321 + 351 + 613).

330 are third order thematic suffixes, first order margin suffixes.

331 is a third order verb thematic suffix which derives verb themes we shall categorize as perfective. This suffix always precedes 341 (-ah) and follows 321. It is mutually exclusive with 220, but cooccurs obligatorily with 210. Examples:

?u m'is-t-m-ah-∅ (he) has swept it (213 + m'is sweep + 321 + 331 + 341 + 613); ?in mán-s-m-ah-eč I've transferred you (211 + mán pass + 321 + 331 + 341 + 612); ?a loš-∅-m-ah-en you've struck me (212 + loš strike + 321 + 331 + 341 + 611).

The sequence 331 + 341 comprises margin B.

332 is a third order verb thematic suffix (with one infix alternant). Its interrelations with other thematic suffixes of transitive verb themes is described here; its relations with thematic suffixes of intransitive themes will be described below.

332 may occur with verb stems or verb themes derived by ± 310 + 320. It may be followed by 342, or by 361--the sequence 332 + 342 comprises margin C; the sequence 332 + 343 comprises margin D; the sequence 332 + 344 comprises margin E. The sequence when it is not followed by 343 or 344 comprises margin F. With a transitive core, it derives a past passive participle. Examples:

kim-s-a'a-b-i he was killed (kim- die + 321 + 332 + 343 + 613); šib-t-a'a-n-∅ it has been written (šib write + 321 + 332 + 344 + 613); pán-∅-a'a-Vk-∅ may it be dug (pán dig + 321 + 332 + 361 + 613); ke'el-kun-t-a'a-n-∅ it has been cooled (ke'el cold + 311 + 321 + 332 + 344 + 613); sak-b-es-a'a-b-i- it was whitened (sak white + 313 + 321 + 332 + 343 + 613).

The alternant -a^oa is suffixed to any transitive verb core or to verb stems of stem classes other than Vs₁. Examples are seen above.

The alternant V^oV is infixal to verb stems of class Vs₁ to form margins D or F. Examples:

k-u he-V^oV-b^o-∅-V1 it gets opened (222 + 213 + he..b^o open + 321 + (-332-) + 342);

čo-V^oV-b^o-∅-∅-i it got cleaned (čo..b^o clean + 321 + 332 + 343 + 613).

340 are fourth order thematic suffixes.

341 (-ah) occurs after 331 to form a perfect gerund (Margin B), after 320 to form an imperfect gerund (Margin A). Examples: ^ou loš-∅-m-ah-en he has struck me

(213 + loš strike + 321 + 331 + 341 + 611);

(t-u) loš-∅-ah-en (he) struck me (221 + 213 + loš strike + 321 + 341 + 611); (t-u) žib^o-t-ah-∅ (he)

wrote it (221 + 213 + žib^o write + 321 + 341 + 613);

(t-u) kán-b-es-ah-en (he) taught me (221 + 213 + kán teach + 313 + 321 + 341 + 611).

342 (-V1) occurs only with 332 in transitive verbs, the sequence 332 + 342 forming margin C and translating as present passive. Examples:

(k-u) hán-t-a^oa-V1 (it) gets eaten (222 + 213 + hán eat + 321 + 332 + 342); (t-u) č^o-V^oV-n-∅-V1

(it) is being shot (221 + 213 + č^o..n shoot +

321 + (-332-) + 342). The remaining alternants of 342 are described below with the intransitive verb forms.

343 (-b ~ ∅) occurs only with 332; it has the meaning imperfect (past) (passive). Examples:

lúb-s-a'a-b-i it was felled (lúb fall + 321 + 332 + 343 + 613); mís-t-a'a-b-i it was swept (mís sweep + 321 + 332 + 343 + 613).

Alternant -∅ of 343 occurs only with the infixed alternant of 332. Examples:

∅o-VV-n-∅-∅-i he was shot (∅o..n shoot + 321 + (-332-) + 343 + 613); lo-VV-š-∅-∅-en I was struck (lo..š strike + 321 + (-332-) + 343 + 611).

Alternant -b of 343 occurs after the other alternant of 332. Examples: hán-t-a'a-b-i it was eaten (hán eat + 321 + 332 + 343 + 613).

344 (-n) occurs only with 332 and has the meaning perfect (past) (passive). Examples: lúb-s-a'a-n-∅ it has been filled (lúb fall + 321 + 332 + 344 + 613); mís-t-a'a-n-∅ it has been swept (mís sweep + 321 + 332 + 344 + 613).

For classes 350, 360, see Section 2.3.2.

2.3.1.3.2 Intransitive Themes. The following chart serves to indicate the modal restrictions for intransitive theme sequences and the respective positions of these thematic minor morphemes. Again in horizontally divided segments, those suffixes in lower sections occur only in stative verb complexes, those in upper sections only in processive verb complexes. The discussion following the chart gives further details on each suffix.

CHART OF THEMATIC, CONJUNCT, AND TERMINAL
AFFIXES COMBINING WITH INTRANSITIVE VERBS

110	010	BASE	410	420	330	340	350	360	610	620
			1 ḅ ~n	1 ah ~∅		2 aL ~iL ~VL	1 ik ~iL	1 ak		5 e'eṣ̌ 6 o'o'ḅ
3 h	REDUPLICATION		2 ḳ 3 p̣ 4 č̣ 5 ṭ ~∅ 6 ḷ ~t 7 ṇ ~∅ 8 ank		2 a'a	4 n			1 en 2 eč̣ 3 ∅ ~i 4 o'on 5 e'eṣ̌ 6 o'o'ḅ	
MARGIN		CORE			MARGIN	CONJUNCT		TERMINI		

An intransitive theme, like a transitive theme, consists maximally of three parts, BASE, intransitive CORE, and MARGIN, minimally of BASE and intransitive CORE. The base may be either a simple stem or a compound. An INTRANSITIVE CORE consists of a base plus a suffix of class 410 ± 420. A margin consists of a single suffix 342 or a sequence of 332 + 344 (i.e. margin E). We shall term the margin consisting of 410 + 342 as margin G.

Set 410 are first order suffixes.

411 (-ḅ ~ -n) occurs only with 342, the combination 411 + 342 forming a theme restricted to use only in the processive mode.

The alternant -b' occurs with several stems, most of which have to do with some sort of repeated action.

Examples: šim-b'-al walk (šim walk + 411 + 342),
kil-b'-al shake, thunder, lem-b'-al shimmer, shine,
đik-b'-al tell a story, converse.

The alternant -n has been found only with one stem:
šik'-n-al fly (šik' wing + 411 + 342).

For a theme containing 411 + 342 to be used in the stative or imperative mode, it must be rederived by 417.

Examples: šim-b'-aL-n-ah-en I walked (šim + 411 + 342 + 417 + 421 + 611); šim-b'-aL-n-en walk! (šim + 411 + 342 + 417 + 422).

412 (= 314) (-k') discussed above in relation to transitive themes must now be described in relation to intransitive themes. In intransitive verb themes, 412 is always followed by 421. Examples:

(k-u) čil-k'-ah-VL (he) lies down quickly (222 + 213 + čil lie + 412 + 421 + 342); čil-k'-ah-en I lay down quickly (čil lie + 412 + 421 + 611).

413 (-p) forms intransitive themes of either processive or stative mode. It is always followed by 421.

Examples: (k-u) sahak-p-ah-VL (he) is afraid (222 + 213 + sahak fear + 413 + 421 + 342); ki'im-p-ah-eč you got hurt (ki'im hurt + 413 + 421 + 612);
he? a ki'im-p-ah-VL-e? you'll get hurt (227 + 212 + ki'im hurt + 413 + 421 + 342 + 712);

ˈbín sak-p-ah-ak-eč you'll whiten (229 + sak white + 413 + 421 + 361 + 612).

414 (-č) is tagged inceptive in reference to its meaning become so (or such). There is frequently no meaning difference discoverable between 415 and 414, although the latter more frequently than the former can be translated become, change into. 414 derives intransitive themes from noun stems (most frequently from the attributive subclass of noun stems). It is always followed by 421 and may occur in stative or processive mode only.

Examples: (k-u) ˈbey-č-ah-VL it happens (222 + 213 + ˈbey thus + 414 + 421 + 342); ˈbey-č-ah-i it happened (ˈbey + 414 + 421 + 613); ká sás-č-ah-Vk-∅ let it dawn! (231 + sás light + 414 + 421 + 361 + 613).

451 (-t ~ -∅) is termed essive in reference to its meaning of be (or become) so (or such). It derives intransitive verb themes from noun stems (frequently attributive nouns) and from certain noun themes.

Alternant -t occurs only in the processive mode and is always followed by 342. Examples:

(k-u) keʔel-t-al (it) is (or gets) cold (222 + 213 + keʔel cold + 415 + 342); (k-u) yákaḃ-t-al (it) is (or is becoming) night (222 + 213 + ʔákab' night + 415 + 342).

Alternant -∅ occurs only in the stative mode and is always followed by 421. Examples: keʔel-∅-(a)h-i it was (or got) cold (keʔel cold + 415 + 421 + 613);

ʔákab- \emptyset -(a)h-i it was (or became) night (ʔákab
night + 415 + 421 + 613). (In all instances the
alternant of 421 lacks the vowel but preserves the h.)

416 (-t ~ -l) is termed posturative in reference to
its meaning of assume a position or stance; it forms in-
transitive themes of either mode from verbs of class Vs₄.

Alternant -t occurs only in the processive mode and
is always followed by 342. Examples:

(k-u) čil-t-al (he) lies down (čil-t-al he lies down)
(222 + 213 + čil lie down + 416 + 342).

Alternant -l occurs only in the stative mode where
it may be followed by 421, 351, or 361, or in the impera-
tive mode where it is followed by 422. Examples:

čil-l-ah-i he lay down (čil + 416 + 421 + 613);

čil-l-en lie down! (čil + 416 + 422);

pek-l-ah-en I stretched out (pek stretch out + 416 +
421 + 611); pek-l-en stretch out (pek + 416 + 422);

ká pek-l-ak- \emptyset let him stretch out (231 + pek + 416 +
361 + 613).

417 (-n ~ \emptyset) is an intransitive theme formative for
stative and imperative modes only. In the imperative mode
it is followed by 422. Examples:

loš-n-en hit! (loš hit + 417 + 422);

kày-n-en sing! (kày sing + 417 + 422);

boʔoL-n-en pay (boʔoL pay + 417 + 422).

In the stative mode, 417 may be followed by 421 or by

361. It is added to bases and intransitive themes not derived by 416. Examples:

loš-n-ah-i he struck (loš strike + 417 + 421 + 611);
kày-n-ah-en I sang (kày sing + 417 + 421 + 611);
bo'ol-n-ah-eč you paid (bo'ol pay + 417 + 421 + 612); (ká) loš-n-ak-en may I strike (231 + loš strike + 417 + 361 + 611). Also to mode-restricted themes like the following: ki-kil-ank-iL-n-ah-i it trembled (011 + kil shake + 418 + 342 + 417 + 421 + 613); dik-b-aL-n-ah-i he told a story (dik-tell a story + 411 + 342 + 417 + 421 + 613).

Alternant -Ø occurs after stems of class Vs_{3.1}.

Examples: ?ah-Ø-en I awoke (?ah-awake + 417 + 611);
h-lúb-Ø-i he fell (113 + lúb fall + 417 + 613);
?ok-Ø-en enter! (?ok-enter + 417 + 422).

Alternant -n occurs after other stems which take 417.

Example: pán-n-ah-i he dug (pán dig + 417 + 421 + 613).
It occurs also after themes formed with 411 + 342 or 418 + 342. Examples:

ším-b-aL-n-ah-o'on we walked (ším-walk + 411 + 342 + 417 + 421 + 614); ki-kil-ank-iL-n-ah-i it trembled (011 + kil shake + 418 + 342 + 417 + 421 + 613).

418 (-ank) occurs only with 342, the combination 418 + 342 forming a theme restricted to use only in the processive mode. The meaning imparted by 418 is do an action rhythmically or in a cycle. Examples:

(k-u) ləl-ank-il (it) blooms (222 + 213 + ləl
flower + 418 + 342); (k-u) heʔ-ank-il (it) ovates,
lays eggs (222 + 213 + heʔ egg + 418 + 342);
(k-u) kuL-ank-il (he) sits down repeatedly (222 +
213 + kuL sit + 418 + 342).

For a theme containing 418 + 342 to be used in the
stative or imperative mode, it must be re-derived by 417.
Examples: ləl-ank-iL-n-ah-i it bloomed (ləl flower +
418 + 342 + 417 + 421 + 613).

421 (-ah ~ ∅) is a second-order suffix (or more
properly a movable suffix since it can precede 417 whose
function can be characterized in some environments as
status neutralizer, in other environments as status
maintainer. Environments in which its function is to
neutralize an established status are after transitive
verb stems of class 5. Examples:

?il-∅-ah-n-ah-en I saw (?il see + 321 + 421 + 417 +
421 + 611);

kan-b-es-ah-n-ah-i he taught (kan learn + 313 +
321 + 421 + 417 + 421 + 613);

keʔel-kun-t-ah-n-ah-eʔeš you (all) cooled (keʔel
cold + 311 + 321 + 421 + 417 + 421 + 615).

Environments in which its function can be better
characterized as status maintainer are: after 412--417.
A number of examples have been given already under these
respective suffix listings.

Alternant - \emptyset occurs following the \emptyset alternant of 417, as in ?ém- \emptyset - \emptyset -en I descended (?ém- descend + 417 + 421 + 611).

Alternant -h occurs following the \emptyset alternant of 415, as in ya?ab' \emptyset -h-i there were many (ya?ab' many + 415 + 421 + 613).

Alternant -ah occurs following non-zero alternants of suffixes 412--414, 416, 417. Examples:

sít'¹-k'-ah-i he jumped (sít' jump + 412 + 421 + 613);
sak-p-ah-i it turned white (sak white + 413 + 421 + 613);
nohoč'-č-ah-i it got big (nohoč' big + 414 + 421 + 613);
kuš'-l-ah-i it lived (kuš' live + 416 + 421 + 613).

332, as described above, is a third order verb thematic suffix whose interrelation with other thematic suffixes of transitive verb themes has been described; its interrelation with thematic suffixes of intransitive themes is described in the following:

332 occurs with intransitive themes before 344 to form a past active participle. Examples:

lub'¹- \emptyset -a?a-n-en I have (or am) fallen (lub' fall + 417 + 332 + 344 + 611) (compare lub'-s-a?a-n-en I have been felled which, 332 being added to a transitive theme (lub' + 321) translates as a past passive participle).

It also frequently follows 421 in such derived intransitive themes as:

loš-n-ah-a?a-n-en I have struck (loš strike + 417 + 421 + 332 + 344 + 611); nohoč-č-ah-a?a-n-eč you have become big (nohoč big, tall + 414 + 421 + 332 + 344 + 612); čil-l-ah-a?a-n-∅ he has lain down (čil lie down) (čil lie down + 416 + 421 + 332 + 344 + 613); čik-p-ah-a?a-n-∅ it has appeared (čik-appear + 413 + 421 + 332 + 344 + 613); bal-k-ah-a?a-n-∅ it has rolled (bal roll + 412 + 421 + 332 + 344 + 613).

342 (-aL ~ iL ~ VL) occurs only in processive mode intransitive verb sequences in the following environments:

(1) After 421 when this is preceded by 412, 413, 414.

Examples: (k-u) sít-k-ah-VL (he) jumps (222 + 213 + sít jump + 412 + 421 + 342); (k-u) sahak-p-ah-aL (he) fears (222 + 213 + sahak fear + 413 + 421 + 342); (k-u) na?ah-č-ah-VL (he) becomes full (222 + 213 + na?ah full + 414 + 421 + 342).

(2) After 412, 413 when followed by 418. Examples:

(k-u) sít-k-al-ank-iL (he) jumps up and down (222 + 213 + sít jump + 412 + 342 + 418 + 342).

(3) After 411, 415, 418. Examples:

(k-u) ším-b-aL (he) walks (222 + 213 + ším- walk + 411 + 342);

(k-u) nohoč-t-aL (he) gets big (222 + 213 + nohoč big + 415 + 342); k-u he?-ank-iL it lays eggs (222 + 213 + he? egg + 418 + 342).

Alternant -aL occurs following a member of 410 (except 418): (k-u) šim-b'-aL (he) walks (222 + 213 + šim-walk + 411 + 342); lem-b'-aL shines (lem shine + 411 + 342).

Alternant -iL occurs only after 418, as in:

(k-u) lòl-ank-iL (it) blooms (222 + 213 + lòl flower + 418 + 342). A few forms also have -aL apparently in free variation with -iL after 418.

Alternant -VL occurs following 421 or 332:

ke'el-č-ah-VL get cold (ke'el cold + 414 + 421 + 342);

(k-u) hí-V'V-t-∅-VL (it) is braided (222 + 213 + hí..t braid + 321 + (-332-) + 342).

344 (-n) in intransitive verb sequences occurs only after 332. For examples, see above under 332, p. 87.

Suffixes outside the margin are extra-thematic or peripheral suffixes. These will be treated below in 2.3.2.

2.3.1.3.3 Prefix and Operators.

Prefix 113 occurs optionally before all verbs in the stative mode except those which have margin E or F. Its function is not yet identified, though in certain cases it can provide the only distinction between an imperative and a stative verb. Compare:

h-kím-∅-en I died (113 + kím die + 417 + 611);

kím-∅-en die! (kím die + 417 + 422);

h-ʔòk-∅-en I entered (113 + ʔòk enter + 417 + 611);
ʔòk-∅-en enter! (ʔòk enter + 417 + 422)r.

Examples of 113 in other stative constructions:

h-biN-s-aʔa-b-i it was taken (113 + biN go + 321 +
332 + 343 + 613).

The operators of class 010 share a constant of empha-
sis or fortitiveness. Each member of the class has two
alternants, one a complete reduplication of the stem, the
other a partial reduplication. The alternant of complete
reduplication occurs with mono-syllabic stems whose final
consonant is n. The alternant with partial reduplication
occurs with polysyllabic stems and mono-syllabic stems
whose final consonant is not n. The alternants of partial
reduplication consist of reduplicating the initial conso-
nant and syllabic of the stem.

011 $\left\{ \begin{array}{l} CV^{\circ}VC > CV^{\circ}V(C)CV^{\circ}VC \\ CVC > CV(C)CVC \end{array} \right\}$ is illustrated in

the following examples:

k-u ba-baš-t-aʔa-al it is roundly struck (with a
hammer) (222 + 213 + 011 + baš to hammer +
321 + 332 + 342):

k-u lo-lom-∅-ik-∅ he stabs it hard (222 + 213 +
011 + lom stab + 321 + 351 + 613);

k-u bon-bon-∅-ik-∅ he stains it all up (222 +
213 + 011 + bon stain, dye + 321 + 351 + 613);

t-u ċin-ċin-∅-ah-∅-oʔob they bombarded him (with

stones) (221 + 213 + 011 + čín throw + 321 + 341 + 613 + 626);

k-u ša'a-ša'ak-∅-ik-∅ he scrambles it up (222 + 213 + 011 + ša'ak mix + 321 + 351 + 613).

012 (CVC > CV'(C)CVC) is illustrated in the following examples:

t-u šó-šol-čín-t-ah-u-ba-o'ob they threw themselves down on their knees (221 + 213 + 012 + šol kneel + čín throw + 321 + 341 + 213 + ba self + 626).

013 (CVC > CV'V(C)CV'VC) is illustrated in the following examples:

t-u su'u-su'ut-∅-ik-u-ba (t-u kán) he tosses and turns (in his hammock) (223 + 213 + 013 + turn, return + 321 + 351 + 213 + ba self) (t in + 213 + kán hammock);

k-u 'o'on-'o'on-t-ik-∅ he peppers it with shot (222 + 213 + 013 + 'on shoot + 321 + 351 + 613);

k-u ha'a-ha'a'-∅-ik-∅ he really beats him up (222 + 213 + 013 + ha'a' hit + 321 + 351 + 613).

031 is an operator of complete reduplication with an additive element connecting the stem to the reduplicated part. Two alternants occur, one with a conjoiner -al, the other with -en. The former occurs only with the stem tan as in:

'tanal-tan dispute (031 + 'tan speak); the latter alternant occurs only with other stems. The meaning of

031 involves actions repeated individually one after another, as in the following:

k-u šólen-šól-o'ob' they kneel one after another
(222 + 213 + 031 + šól kneel + 626);

k-u múlen-múl-t-ik-o'ob' he piles them up one upon the other (222 + 213 + 031 + múl pile up + 321 + 351 + 616);

k-u p'óken-pók-o'ob' they crouch down one after another (222 + 213 + 031 + p'ók crouch, stoop + 626).

032 ($\begin{bmatrix} \text{CVC-VC} \\ \text{CVC-VC} \end{bmatrix}$ > CVC-VC) is an operator of

accent substitution which serves to derive past active participle forms from verbs of class Vs_{1.1}.

Examples:

lùb-V1-Ø' he is fallen (está caído) (032 + lùb' fall + 342 + 613);

?ém-V1-o'on we are (have) descended (estamos bajados) (032 + ?ém descend + 342 + 614);

kùč-V1-Ø' he is (has) arrived (está llegado)
(032 + kùč- arrive + 342 + 613).

2.3.1.4 Noun Thematic Minor Morphemes. There are two order classes of noun thematic suffixes, one of noun thematic prefixes, and a noun thematic operator of reduplication. These are taken up in this order.

510 are first order suffixes deriving noun themes from noun stems.

520 are first order suffixes deriving noun themes from verb stems or themes.

511 (-al) occurs with only a few stems: those used as number classifiers and at least two others. It indicates a collection or group and may frequently be rendered together or in all. Examples:

'ka'a-pél-al two in all, a group of two(things)
(ka'a two + 'pél classifier for inanimates + 511);

(t-u y) óš-túl-al-o'on the three of us together
(t in + 213 + 'óš three + túl classifier for animates + 511 + 614); pàl-al-o'ob' they are
(a group of) boys pàl boy + 511 + 616).

Suffixes 512 through 514 form a paradigmatic set with a constant of relationship. They may be followed by a second relational suffix, 542.

Suffix 512 (-el) occurs with a few nouns (described as a subclass in 2.2.2.3) indicating an inalienable relationship between the noun and its possessor. Examples:

?u 'do'om-el his brain (213 + 'do'om brain + 512);
?in ki'ik-el my blood (211 + ki'ik blood + 512);
?a do'od-el-il your hair (212 + do'od hair + 512 + 542).

Suffix 513 (-ul), whose precise relationship meaning has not been identified, occurs in the form ?u meyah-ul his work (213 + meyah work + 513).

Suffix 514 (-al), whose precise relationship meaning has also not yet been identified, occurs in the form ?u yik-al its chile (accompanying other food) (213 + ?ik chile + 514).

Suffix 515 serves to derive noun themes from noun stems. It may have relational meaning also. It may be followed by the second relational suffix 542. Examples:

sak-il whiteness (sak white + 515);

?u sak-il-il its whiteness (213 + sak white + 515 +

542); haʔuʔ-il beauty (haʔuʔ pretty + 515);

wínik-il body (wínik man + 515); dios-il

divinity (dios god + 515).

Suffix 516 (-ak ~ (h)eak) occurs only with certain noun stems which have reference to non-future time.

Examples: lùnes-eak last Monday (lùnes Monday + 516);

?ákab-eak last night (?ákab night + 516);

hoʔol-heak yesterday;

kaw-heak day before yesterday;

hun kìn-ak one day ago.

Alternant -ak occurs following a nasal consonant; also in hun-haʔab-ak one year ago. Alternants -eak or -heak occur (in free variation?) elsewhere. A few instances have been observed of a reduplication of 516 in the form -ak(h)eak or -ahkeak, as in hun tenakeak (also hun tenahkeak and hun

tenakheak) once some time ago.

Suffix 517 (-ak) occurs in conjunction with particles he (and wá) often translated by (what)ever, as in:

he tu[?]uš-ak whatever the place, wherever (he + tu[?]uš where + 517);

he bahuš-ak whatever the cost, however much (he + bahuš how much + 517);

he máš-ak whoever (he + máš who + 517);

wá ba[?]aš-ak whatever (wá if + ba[?]aš what, thing + 517).

Suffixes of 520 serve to derive nouns from verbs.

521 is suffixed to verbs of motion and always precedes 531. Examples:

?u biN-b-al his going (213 + biN go + 521 + 531);

?u tál-b-al his coming (213 + tál come ? 521 + 531);

?u luk-b-al his leaving (213 + luk- leave + 521 + 531).

522 (-Vk) plus 525 (-b) + 531 (-al) may be suffixed to verb stems of class Vs₄ to derive postural gerunds which have the meaning be in a position or circumstance.

531 always follows 522 + 525. Examples:

kuL-Vk-b-al-en I am seated (kuL sit + 522 + 525 + 531 + 611);

čil-Vk-b-al-eč you are in a lying down position (čil lie + 522 + 525 + 531 + 612);

way kah-Vk-b-al-ø-a? he is residing here (way here + kah town + 522 + 525 + 531 + 613 + 711);

kuš-Vk-b-al living, be alive (kuš- live + 522 + 525 + 531).

Suffix 523 is a non-productive suffix which, added to certain verb stems, produces a noun meaning instrument for doing something. For example:

škal-ab' lever for tightening (112 + kal tighten + 523).

Suffix 524 (-ah) may be suffixed to a transitive verb core (composed of stem ± 310 + 321) to form an active gerund. Examples:

?il-∅-ah seeing (?il to see + 321 + 524);

?ánt-∅-ah aid (?ánt to help + 321 + 524);

kím-s-ah killing (kím- die + 321 + 524);

kan-b-es-ah teaching, doctrine (kan to learn + 310 + 321 + 524).

525 (-b) plus 532 (-il) form a passive gerund which we term a gerundive. Examples:

kon-∅-b-il to be sold, for sale (kon sell + 321 + 525 + 532);

t-u túš-t-ah-∅ kím-s-b-il he sent him to be killed
(221 + 213 + túš send, order + 321 + 341 + 613 + kím- die + 321 + 525 + 532).

525 also occurs after 522 and before 531 to form postural gerunds as illustrated above under 522.

Suffixes of 530 are characterized by their occurrence after suffixes of 520.

Suffix 531 (-VL ~ -aL) occurs with 521 to form a unique gerund for motion verbs, as illustrated above under 521.

It also occurs in the sequence $Vs_4 + 522 + 525 + 531$ as illustrated under 522 above.

It also occurs with verb stems of class $Vs_{3.1}$ to form nouns or gerunds, as for example:

wen-Vl sleep, sleeping; han-Vl food, eating;

kím-Vl death, dying.

Alternant -VL occurs only with verb stems $Vs_{3.1}$.

Alternant -aL occurs in all other environments of 531.

Suffix 532 (-il) occurs only with 525 to form a gerundive, as illustrated above under 525.

Suffix 541 (-tak) occurs with perfect participles and attributive nouns. It is optionally followed by a plural member of set 610, i.e. by 614, 615, or 616. Its meaning is each one considered individually, which we translate as ones or each. Examples:

lúb-Vl-tak-o'ob' they are fallen ones (032 + lúb' fall
+ 342 + 541 + 616);

lúb'-s-a'a-n-tak-o'on we are felled ones (lúb' fall +
321 + 332 + 344 + 541 + 614);

loš-n-ah-a'a-n-tak-o'ob' you are ones who have hit
(loš' hit + 417 + 421 + 332 + 344 + 541 + 616);

ma'alob'-tak-e'eš' you are each good (ma'alob' good
+ 541 + 615).

542 (-il) is a suffix which indicates, as do suffixes 512--514, a relationship between two nouns, the relationship expressed by 542 being, roughly, that of thing used to person or thing using, or thing derived to person or thing deriving. 542 can be preceded but not followed by a member of 512--514. It may usually be translated with of. Examples:

- ?u ha?il in wič the water of my eyes (my tears)
(213 + ha? water + 542 + 211 + ?ič eye, face);
- ?u hàn-(V)l-il kól the food of the milpa (213 +
hàn + 531 + 542 + kól milpa);
- ?u če?en-il mák a man's well (213 + če?en well +
542 + mák man);
- ?u ko?olel-il Sámaria the woman of Samaria (213 +
ko?olel woman + 542 + Sámaria).

The prefixes 111 and 112 and the operator 021 occur in sequence with nouns. 111 and 112 serve to derive noun themes from verb or noun stems. Noun themes derived from verb stems by these are agentives, having the meaning doer of the action. 111 indicates a male, 112 a female agent.

Examples:

- h-káy singer (male) (111 + káy sing);
š-káy singer (female) (112 + káy sing);
h-men doer, maker (shaman) (111 + men make);
š-kaš-bák woman bone-binder (112 + kaš tie + bák
bone).

Noun themes derived from noun stems by these prefixes are usually animate nouns. The prefix 111 may indicate strength or male sex, the prefix 112 may indicate weakness or female or indeterminate sex. At times 112 seems to con-
note lack of respectability. Examples:

with 111		with 112	
h-mìs	<u>cat</u>	š-turiš	<u>dragonfly</u>
h-tèl	<u>rooster</u>	š-lèč	<u>sow</u>
h- o ?	<u>tom turkey</u>	š-ya?aš-kač	<u>fly</u>
h-taman	<u>sheep</u>	š- a -wayak	<u>dream-giver</u>
			(a species of bird)

Not all nouns or even all animate nouns combine with a prefix. Some animate nouns which do not are:

pèk, dog, kéh, deer, sínik, ant, ímin, horse.

112 is prefixed to certain verb compounds. Its function here has not been identified. For example:

t-u š-čeh-?ókol he is laughing-crying (223 +
213 + 112 + čeh laugh + ?ókol cry).

Operators of class 020 occur in sequence with certain nouns to indicate emphasis or degree.

021 ($C_1V_1C_2 > C_1V_1-C_1V_1C_2$) is illustrated in the following examples:

sa-sak very white (sak white);
či-čič very hard (čič hard);
ča-čak very red (čak red).

$$022 \left(\begin{array}{c} C_1 V_1 C_2 \\ C_1 \dot{V}_1 C_2 \end{array} \right) > C_1 \dot{V}_1 - C_1 V_1 C_2 \text{) is illustrated}$$

in the following examples:

kà-kas very bad (kàs bad);

nà-na' very near (nà' near);

sà-sak very white (sak white);

šì-šib' manly man (šib' man).

$$023 \left(\begin{array}{c} C_1 \dot{V}_1 C_2 \\ C_1 V_1 ? VC_2 \end{array} \right) > \begin{array}{c} C_1 \dot{V}_1 - C_1 \dot{V}_1 C_2 \\ C_1 V_1 ? V - C_1 V_1 ? VC_2 \end{array} \text{) is illus-}$$

trated in the following examples:

ná-náč very far (náč far);

su?u-su?u' very sour (su?u' sour).

2.3.2 Simple Sentence Constituency. Having described in section 2.3.1 the development of noun themes as well as transitive and intransitive verb themes, our main concern now is to describe the development of noun and verb complexes beyond the theme level in forming simple sentences or constituents of simple sentences. That is, we have now to discuss the minimal forms which simple sentences may take, together with some of the simpler expansions of these.

Taking the well-known definition of a sentence as a "grammatical form not in construction with any other grammatical form," we may divide sentences into two ranks, major and minor. A minor sentence is one which contains no predicated (noun or verb) phrase. Typical of such

sentences are such interjections as, for example, ?ah oh!, ?adyós hello!, waw? gosh!, etc. A major sentence--or, henceforth, just sentence--is one which contains at least one independent predicated phrase.

: We group Maya sentences into two types, Nominal and Verbal. These are described as follows:

(1) Nominal sentences are those with a single predicated noun phrase (NP) or with two noun phrases as immediate constituents, one predicated (i.e. independent) and serving as the topic or item to be described. A predicated noun phrase must include a bound subject (a member of set 610).

(2) Verbal sentences are those with a single verb phrase (VP). A verb phrase, if it does not have 422 (Imperative) as one of its constituents, must include a bound subject morpheme (a member of pronominal set 610) or a bound actor morpheme (a member of pronominal set 210) or a bound goal morpheme (a member of set 610 or 210); it may include both a bound actor morpheme and a bound goal morpheme (210 and 610 respectively), one or more construct suffixes, as well as modifiers, appositives, and the like.

On the basis of the several possible paradigmatic relations (or configurations) of noun and verb themes with sets 610 and 210, 350 and 360, and the modal set 220, we divide noun and verb complexes into the following types, represented diagrammatically:

I. Imperative Mode

A. Intransitive

$$+ \begin{array}{|c|} \hline \text{Core} \\ \hline \text{VimI} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Plu} \\ \hline 625 \\ \hline \end{array}$$

B. Transitive

$$+ \begin{array}{|c|} \hline \text{Core} \\ \hline \text{V}_{tr} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Goal} \\ \hline \frac{212+ba}{610} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Plu} \\ \hline 625 \\ \hline \end{array}$$

II. Stative Mode

A. Nominal

$$+ \begin{array}{|c|} \hline \text{Theme} \\ \hline \text{Nom} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Subject} \\ \hline 610 \\ \hline \end{array}$$

B. Verbal Intransitive

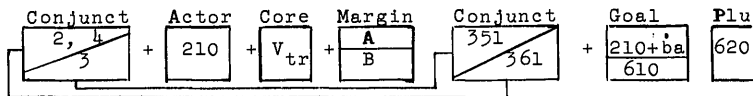
$$\begin{array}{|c|} \hline \text{Conjunct} \\ \hline \frac{3}{4} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Margin} \\ \hline 113 \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Core} \\ \hline \text{V}_{in} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Margin} \\ \hline E \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Conjunct} \\ \hline \frac{351}{361} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Subject} \\ \hline 610 \\ \hline \end{array}$$

C. Verbal Transitive

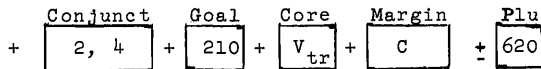
$$\begin{array}{|c|} \hline \text{Conjunct} \\ \hline \frac{3}{4} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Margin} \\ \hline 113 \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Core} \\ \hline \text{V}_{tr} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Margin} \\ \hline \begin{array}{l} E \\ D \end{array} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Conjunct} \\ \hline \frac{351}{361} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Subject} \\ \hline 610 \\ \hline \end{array}$$

III. Processive Mode with 210

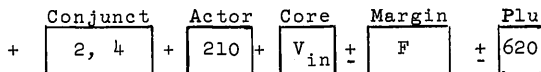
A. Transitive Active



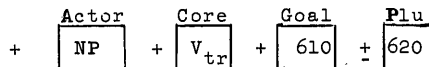
B. Transitive Passive



C. Intransitive Active



IV. Processive Mode without 210



In the following sections we shall describe and exemplify each of these configurations by showing the complex interrelationships between themes and peripheral or extra-thematic minor morphemes of classes 350, 360, 210, 220, 610 in the three modes, Imperative, Stative, and Processive, respectively.

2.3.2.1 Imperative Mode. Only verb themes occur in the imperative mode, and these may be of either intransitive or transitive status. The imperative mode is uniquely characterized by the obligatory absence of 210 and the construct suffixes 351, 361, as well as the obligatory presence--depending upon the theme status--of either 422 or 610/212 + 'ba self.

A. Intransitive Imperative. An intransitive verb complex in the imperative mode (abbreviated intransitive imperative) is the only form of the verb complex which does not have a member of either set 210 or 610 present. It is formed by an imperative core made up of 416 + 422 or 417 + 422.

Examples of 416 + 422:

pek-l-en stretch out! (pek stretch out + 416 + 422);

wa?a-l-en stand up! (wa?a- stand up + 416 + 422).

Examples of 417 + 422:

'kop-n-en knock! ('kop knock + 417 + 422);

či?-n-en bite! (či? bite + 417 + 422);

lúb-∅-en fall (lúb fall + 417 + 422);
ʔšk-∅-en enter (ʔòk enter + 417 + 422).

Themes derived by suffixes 411 must be completed by 342 and then re-derived as an imperative core.

Examples:

ším-b-aL-n-en walk! (ším- walk + 411 + 342 + 417
+ 422);
šik'-n-aL-n-en fly! (šik' wing + 411 + 342 + 417 +
422).

422 may optionally be followed by 625 to form a plural imperative. Examples:

šok-n-en-eʔeš read! (šok read + 417 + 422 + 625);
ʔáلكab'-n-en-eʔeš run! (ʔáلكab' run + 417 + 422 +
625).

Two verb stems of class V_{3.2} have suppletive alternants in the intransitive imperative:

š-∅-en-eʔeš go (bin go + 417 + 422 + 625);
koʔot-∅-en-eʔeš come! (tál come + 417 + 422 + 625).

B. Transitive Imperative. A transitive verb complex in the imperative mode (a transitive imperative) is formed with a transitive core to which a member of 610 other than 612 or 615 is suffixed to mark goal.

Examples:

pàk(a)t-∅-oʔon look-at us! (pàkat look-at + 321 +
614);
kán-b-es-oʔob' teach them! (kán learn + 313 + 321 +
616).

The reflexive complex 212 + 'ba self stands in lieu of 612 to mark the goal 2nd p. sg. in transitive imperative constructions. Examples:

he'eL-s-a-ba rest yourself! (he'eL rest + 321 + 212 + 'ba self);

búk-b'es-a-ba dress yourself! (búk clothe + 313 + 321 + 212 + 'ba self).

The 2nd p. pl. suffix 625 occurs in transitive imperative also. Examples:

'ánt-∅-en-e'eš help me! ('ánt- help + 321 + 611 + 625);

'ánt-∅-a-ba-e'eš help yourselves! 'ánt- help + 321 + 212 + 'ba self + 625).

2.3.2.2 Stative Mode. Both noun and verb themes occur in the stative mode. This mode is uniquely characterized by the presence of 610 marking the subject and the absence of 620.

2.3.2.2.1 Nominal Stative. A noun complex in the stative mode (a stative noun phrase) is formed by suffixing to a noun theme a member of 610. The meaning of the resulting complex (of the noun theme and any dependent members of the noun phrase) is: subject (610) is described by the noun phrase to which it is attached. In such a construction the subject is in an immediate constituent relationship with the entire noun complex preceding it, whether this is a simple or derived theme or a phrase the head of which is the noun theme.

Examples of a stative noun phrase based on a simple noun theme:

wínik-eč you are (a) man (wínik man + 612);

wi?ih-o?on we are hungry (wi?ih hunger, hungry + 614);

?ámigó-e?eš you are friends (?ámigo friend + 615).

Examples of a stative noun phrase based on a derived noun theme or noun phrase:

hač in ?ámigó-e?eš you're my real friends (hač very + 211 + ?ámigo friend + 615);

ma? wá k ?ámigo-eč-i? are you not our friend?

(ma? not + wá interrogative + 214 + ámigo friend + 612 + 714).

Nominal sentences containing two noun phrases in the relation description + item described, i.e. equational sentences, are made up of a noun phrase predicated by 610 plus a pronoun or noun phrase agreeing in person and number with the predicator. Examples:

?in ?ámigo-eč tèč you are my friend (211 + ?ámigo friend + 212 + tèč you);

hač nohoč-∅ le če?-a? this tree is very big (hač very + nohoč big + 613 + le demonstrative + če? tree + 711);

ka?a-pél-∅ in-šikin I have two ears (ka?a- two + pél thing + 613 + 211 + šikin ear);

ma? hač toh-∅ k ?ól-i? we're not very well (ma? not

+ hač very + toh straight + 613 + 214 + ?61
heart + 714);

?a tya?al-Ø šan le pòk-a? is this hat yours also?
(212 + tya?al possession + 613 + šan also +
le demonstrative + pòk hat + 711).

2.3.2.2.2 Verbal Stative. A verb complex in the stative mode may be in the intransitive or the transitive status. In either it is terminated by a member of 610 marking the subject. The meaning of the complex is: Subject is in the state of having undergone (or having to undergo) the "action" of the verb.

2.3.2.2.2.1 Intransitive Stative Non-Conjunct. Intransitive verbs in the stative mode are in the active voice. The minimum form which an intransitive stative may take is:

±113 + INTRANSITIVE CORE + TERMINUS

h-sít-k'-ah-en I jumped (113 + sít jump + 412 +
421 + 611);

ču?um-p-ah-eč you began (ču?um begin + 413 + 421 +
612);

bey-č-ah-i it was so (bey so + 414 + 421 + 613);

?ákab'-Ø-h-i it was night (?ákab' night + 415 + 421 +
613);

láh-kím-Ø-Ø-o'ob' they all died (láh all + kím die +
417 + 421 + 616);

ším-b-aL-n-ah-eč you walked (ším walk + 411 + 342 +
417 + 421 + 612);

h-seb'-tál-∅-∅-e'eš you came fast (113 + seb' fast +
tál come + 417 + 421 + 615).

Expansions on the minimum may take the following
form (not including the conjunct forms, for which see
below):

±113 + INTRANSITIVE CORE ± MARGIN E + TERMINUS

h-sít'-k'-ah-a'a-n-en I have jumped (113 + sít'
jump + 412 + 421 + 332 + 344 + 611);

ču?um-p-ah-a'a-n-eč you have begun (ču?um begin +
413 + 421 + 332 + 344 + 612);

kuš-l-ah-a'a-n-∅ he has lived (kuš live + 416 +
421 + 332 + 344 + 613);

h-loš'-n-ah-a'a-n-o'ob' they have struck (113 + loš'
strike + 417 + 421 + 332 + 344 + 616);

h-tál-∅-ah-a'a-n-eč you have come (113 + tál come +
417 + 421 + 332 + 344 + 612) (usually this is
pronounced /tálha?aneč/ or /tála?aneč/);

bín-∅-ah-a'a-n-∅ he has gone (bín go + 417 + 421 +
332 + 344 + 613) (usually this is pronounced
/bíha?an/).

2.3.2.2.2.2 Transitive Stative Non-Conjunct. Transitive verbs
in the stative mode are in the passive voice. The minimum
forms which a transitive stative may take are:

(a) ±113 + TRANSITIVE CORE + MARGIN D + TERMINUS

or

(b) + TRANSITIVE CORE + MARGIN E + TERMINUS

Examples of (a):

hàn-t-a?a-b-i it was eaten (hàn eat + 321 + 332 +
343 + 613);
wèn-s-a?a-b-o?ob they were put to sleep (wèn sleep +
321 + 332 + 343 + 616);
h-~~o~~-V?V-n-~~o~~-en I was shot (113 + ~~o~~..n shoot + 321 +
332 + 343 + 611).

Examples of (b):

hàn-t-a?a-n-o?ob they have been eaten (hàn eat +
321 + 332 + 344 + 616);
wèn-s-a?a-n-~~o~~ he has been put to sleep (wèn sleep +
321 + 332 + 344 + 613);
~~o~~n-~~o~~-a?a-n-en I have been shot (~~o~~n shoot + 321 +
332 + 344 + 611).

2.3.2.2.2.3 Conjuncts. Expansions of such transitive statives,
as also of intransitive statives, involve conjunct forms
which we now must digress to discuss. The term conjunct is
used to refer to a dependency relation in certain forms be-
tween certain modals or modal surrogates and the suffixes
351 and 361. Conjunct forms may be either in stative or
in processive mode. To illustrate: the presence of a
modal (abbreviated M) in a class including the members 228,
229, and 231, or the presence of a time modal surrogate
such as ?úč long ago, ~~o~~?ok ka?apeL 'kin already two days,
requires the presence of 361 in stative verb sequences:
bín ču?um-p-ah-Vk-en I'll begin (229 + ču?um begin
+ 413 + 421 + 361 + 611);

ká ču?um-p-ah-Vk-∅ let him begin (231 + ču?um +
413 + 421 + 361 + 613);
ken ču?um-p-ah-Vk-∅ when he begins (228 + ču?um +
413 + 421 + 361 + 613);
?úč ču?um-p-ah-Vk-∅ long ago he began (?úč long ago
+ ču?um + 413 + 421 + 361 + 613);
ǰo?ok ka?apél kin ču?um-p-ah-Vk-∅ already two days
(it is since) he began (ǰo?ok end + ka?a two
+ pél cl. + kin day + ču?um + 413 + 421 + 361 +
613).

The presence of a manner modal surrogate (MS) such as
'bey thus, 'biš how, he?ebiš like, as, 'bikiš when, ma?alob'
well, ?istikyah with difficulty, tu seblakil suddenly,
etc. requires the presence of 351 in stative verbs:

'bey ču?um-p-ah-ik-en thus I began ('bey thus +
ču?um + 413 + 421 + 351 + 611);
'biš ču?um-p-ah-ik-eč how did you begin? ('biš how
+ ču?um + 413 + 421 + 351 + 612);
ma?alob' ču?um-p-ah-ik-∅ he began well (ma?alob'
good + ču?um + 413 + 421 + 351 + 613);
?istikyah ču?um-p-ah-ik-∅ he began with difficulty
(?istikyah with difficulty + ču?um + 413 +
421 + 351 + 613).

In each of these the modal or modal surrogate and the
suffix 351 (or 361) are said to be in conjunction; the verb
complex containing them we refer to as a conjunct form.

We establish classes of modals and modal surrogates on the basis of their selection of different conjunct suffixes. The classes are numbered in the following chart, the criteria for each class (the conjunct suffix or suffixes required by the M or MS) are given, and the modes in which the conjunctions occur are specified.

CHART OF CONJUNCT CLASSES

Class	Membership	Criteria	Mode
1	221	341	Processive
2	222-227	351	Processive
3	228-231/Time MS	361	Stative
4	Manner MS	351	{ Processive Stative

2.3.2.2.2.4 Intransitive Stative Conjuncts. Having now defined

conjunct forms and classified modals and modal surrogates by the conjunct suffixes associated with them, we return to the description of expanded stative verbs.

An intransitive stative formed without margin E may occur with conjunct₃ or conjunct₄. Examples with conjunct₃:

bin loš-n-ak-en I'll strike (229 + loš strike + 417 + 361 + 611);

ken tál-ǰ-ak-ǰ when he comes (228 + tál come + 417 + 361 + 613);

ʔúč ǰíb-n-ak-eč long ago you wrote (ʔúč long ago + ǰíb write + 417 + 361 + 612).

Examples with conjunct₄:

bey loš-n-ah-ik-en thus I struck (bey thus + loš strike + 417 + 421 + 351 + 611);

biš sàs-ǰ-ǰ-ik-ǰ (tèč) how did it dawn (for you)?
(= ¿qué tal te amaneció?) (biš how + sàs light + 415 + 421 + 351 + 613);

maʔalob mís-n-ah-ik-oʔon we swept well (maʔalob well + mís sweep + 417 + 421 + 351 + 614).

An intransitive stative formed with margin E may occur only with conjunct₄:

maʔalob čuʔum-p-ah-aʔa-n-ik-ǰ he began well
(maʔalob well + čuʔum begin + 413 + 421 + 332 + 344 + 351 + 613);

ʔistikyah šòk-n-ah-aʔa-n-ik-eč you counted with difficulty
(ʔistikyah with difficulty + šòk count, read + 417 + 421 + 332 + 344 + 351 + 612).

2.3.2.2.2.5 Transitive Stative Conjuncts. A transitive stative

formed with margin D may occur with conjunct₄:

bey kím-s-aʔa-b-il-ak-en thus I was killed
(bey thus + kím die + 321 + 332 + 343 +

- 351 + 361 + 611);
ma²alob² ču²um-b²-es-a²a-b²-ik- \emptyset it was begun well
(ma²alob² well + ču²um begin + 313 + 321 +
332 + 343 + 351 + 613);
ma²alob² mfs-t-a²a-b²-il-ak- \emptyset it was swept well
(ma²alob² well + mfs sweep + 321 + 332 +
343 + 351 + 361 + 613);
biš² β o-V²V-n- \emptyset - \emptyset -ik- \emptyset how was he shot? (biš² how +
 β o..n shoot + 321 + (-332-) + 343 + 351 + 613).
A transitive stative formed with margin E may occur
only with conjunct₄:
bey² han-t-a²a-n-ik- \emptyset thus it has been eaten (bey²
thus + han eat + 321 + 332 + 344 + 351 + 613).
A transitive stative formed with margin F may occur
only with conjunct₃:
ká² han-t-a²a-(a)k- \emptyset let it be eaten! (231 + han
eat + 321 + 332 + 361 + 613);
bin² wèn-s-a²a-(a)k-eč² you'll be put to sleep
(229 + wèn sleep + 321 + 332 + 361 + 612);
ken² β o-V²V-n- \emptyset -Vk- \emptyset when he is shot (328 +
 β o..n shoot + 321 + (-332-) + 361 + 613).

2.3.2.3 Processive Mode. Only verb themes occur in the processive mode. A verb complex in the processive mode (a processive verb) consists of certain forms of intransitive or transitive themes preceded by an auxiliary (a modal or modal surrogate plus a pronoun of set 210) or by a noun phrase without an auxiliary, and followed by appropriate conjunct suffixes if required. If the form is intransitive or transitive active, the pronoun of set 210 marks actor; if the form is transitive passive, 210 marks goal; if the form is transitive active, a pronoun of 610 or a reflexive complex (210 + ba self) is suffixed to mark goal. Thus the meaning of a processive mode construction is Actor-Process-Goal (for transitive active forms),

Goal-Process (for transitive passive forms), or Actor-Process (for intransitive forms).

- 2.3.2.3.1 Intransitive Processive. Intransitive processive verbs are in the active voice. The minimal form one may have is:

+ Auxiliary + Intransitive Core

k-u ḥíb he writes (222 + 213 + ḥíb write);
tán a mís you're sweeping (223 + 212 + mís sweep).

Expanded sequences may be of the following forms:

Verb stems of subclasses 3.1 and 1.6 occur without core-level suffixes in the processive mode but with 342 (margin G) in combination with conjunct₂ modals (222-227) and conjunct₄ modal surrogates:

k-in wen- \emptyset -VL I sleep (222 + 211 + wen sleep + 417 + 342);

yan a wém- \emptyset -VL you must descend (225 + 212 + wém descend + 417 + 342);

tan u pak- \emptyset -VL he is planting (223 + 213 + pak-plant + 417 + 342);

bey u wen- \emptyset -VL he sleeps well (bey [= MS] + 213 + wen sleep + 417 + 342).

- 2.3.2.3.2 Transitive Processive. A transitive verb in the processive mode may be in the passive or in the active voice.

A. Passive Voice. A processive verb in the passive voice must have at least the form

Auxiliary + Transitive Core + Margin C +
Terminus

The auxiliary may be either conjunct₂ + 210 or conjunct₄ + 210. In this construction 210 marks goal and the construct suffix is 342. The optional terminus is a person pluralizer, 620, which, if it occurs, must be 625 if the pronoun in the auxiliary is 212, and 626 if the pronoun in the auxiliary is 213. Examples:

t-u hàn-t-a'a-l it is being eaten (223 + 213 +
hàn eat + 321 + 332 + 342);

t-u hàn-t-a'a-l-o'ob̄ they are being eaten (223 +
213 + hàn eat + 321 + 332 + 342 + 626);

k-a meyah-t-a'a-l-e'eš̄ you (all) are being served
(222 + 212 + meyah serve + 321 + 332 +
342 + 625);

biš̄ u men-t-a'a-l how is it made? (biš̄ how +
213 + men make + 321 + 332 + 342).

B. Active Voice with Auxiliary. A processive verb
in the active voice may have various forms as seen in the
diagrams on pp. and . We exemplify first those with
margin A (which occur in combination with the conjunct₁
modal 221); the constructions have the form:

+ Auxiliary + Transitive Core + Margin A + Terminus

t-u hàn-t-ah-o'ob̄ he ate them (221 + 213 + hàn
eat + 321 + 341 + 616);

t-u kím-s-ah-u-ba-o'ob̄ they killed themselves (221 +
213 + kím die + 321 + 341 + 213 + ba self + 626).

A processive verb with margin B has the form:

+ Auxiliary (+ MS₄ + 210) + Transitive Core +
Margin B + Conjunct 351 + Terminus

?u buk-b̄-es-m-ah-u-ba-o'ob̄ they have dressed
themselves (213 + buk clothe + 313 + 321 +
331 + 341 + 213 + ba self + 626);

biš̄ a buk-b̄-es-m-ah-il-a-ba how have you dressed
yourself? (biš̄ how + buk clothe + 313 +
321 + 331 + 341 + 351 + 212 + ba self);

?in kím-s-m-ah-ø I have killed it (211 + kím
die + 321 + 331 + 341 + 613).

Processive verbs with conjunct₂ modals have the
form:

Auxiliary (M/MS + 210) + Transitive Core +
Conjunct 351 + Terminus

Examples:

k-u šib̄-t-ik-ø he writes it (222 + 213 + šib̄

write + 321 + 351 + 613);
b'ey u b'f'ib-t-ik-ø-o'ob thus they write it (b'ey thus +
213 + b'f'ib write + 321 + 351 + 613 + 626);
yan u b'f'ib-t-ik-ø-o'ob he must write them (225 + 213 +
b'f'ib write + 321 + 351 + 616).

Processive verbs may have a multiple conjunction with the inner conjunction that of 221--341 and the outer conjunction that of manner MS--351 + 361, the entire construction then having the form:

Manner MS + 221 + 210 + Transitive Core + 341 +
351 + 361 + Terminus

Examples:

b'ey t-u h'än-t-ah-il-ak-ø-o'ob thus they ate it
(b'ey thus + 221 + 213 + h'än eat + 321 +
341 + 351 + 361 + 613 + 626);
ma'alob t-in loš-ø-ah-il-eč I struck you well
(ma'alob good + 221 + 211 + loš strike +
321 + 341 + 351 + 612);
b'ey t-a loš-ø-il-en-e'eš thus you struck me
(b'ey thus + 221 + 212 + loš strike +
321 + 351 + 611 + 625).

Processive verbs with conjunct₃ modals (228-231) do not have conjunct suffixes. Their form is:

Auxiliary + Transitive Core + Terminus

Examples:

ken u loš-ø-eč he will hit you (228 + 213 +
loš strike + 321 + 612);
b'ín in h'än-t-e I will eat it (229 + 211 + h'än eat +
321 + 613);
ká u b'f'ib-t-ø-o'ob let them write it (231 + 213 +
b'f'ib write + 321 + 613 + 626);
b'ín a buk-b'es-a-ba-e'eš you will get dressed
(229 + 212 + buk clothe + 313 + 321 + 212 +
ba self + 625).

C. Active Voice without Auxiliary. Processive transitive verbs with a noun phrase in lieu of an auxiliary occur without conjunct suffixes, even though the noun phrase may be preceded by a manner MS. Their form is:

+ Manner MS + Noun Phrase + Transitive Core +
Terminus

The meaning of the construction, as of other transitive active constructions in the processive mode, is Actor-Process-Goal; this construction contrasts in meaning with other types of transitive verbs only perhaps in laying more emphasis on the identification of the actor. Examples:

hwàn hàn-t-e John ate it (hwàn John + hàn eat +
321 + 613);

bey letio'ob kím-s- ϕ -o'ob thus they killed it (bey
thus + letio'ob they + kím die + 321 + 613 + 626);

máš 'il- ϕ -eč who saw you? (máš who + 'il see +
321 + 612).

2.3.2.4 Remainder. We have thus far treated the constituency of themes and described the use and distribution of the alternants of thematic minor morphemes; also we have treated in a limited way the constituency of verbal and nominal sentences and described the cooccurrence relations of modals and modal surrogates with conjunct suffixes. It remains to specify the use and distribution of the alternants of non-thematic minor morphemes, namely the modals, conjunct suffixes, pronominals and phrase termini.

2.3.2.4.1 Modals.

221 (t-) indicates completive aspect. As defined above, it occurs only in the processive mode, only with transitive forms, and only in conjunction with 341.

Examples:

t-u yil- ϕ -ah-eč-o'ob they saw you (221 + 213 +
'il see + 321 + 341 + 612 + 626);

t-k-ʔil-ϕ-ah-ϕ we helped him (221 + 214 + ʔil see + 321 + 341 + 613).

222 (k- ~ t) is a minor morpheme which indicates incompletive aspect. (In this it contrasts most directly with 223 and 221.) Alternant k occurs in affirmative expressions; alternant t in negative. Examples:

k-u yil-ϕ-ik-ϕ he sees it (222 + 213 + ʔil see + 321 + 351 + 613);

maʔ t-u yil-ϕ-ik-ϕ he doesn't see it (222 + 213 + ʔil see + 321 + 351 + 613);

k-in ʔib̄ I write (222 + 211 + ʔib̄ write);

k-in ʔib̄-t-ik-ϕ I write it (222 + 211 + ʔib̄ write + 321 + 351 + 613);

k-a wém-ϕ-VL you descend (222 + 212 + ʔém descend + 417 + 342);

k-a wém-s-ik-ϕ you lower it (222 + 212 + ʔém descend + 321 + 351 + 613).

223 (tán ~ t) is an ambifunctional morpheme which as a minor morpheme indicates durative aspect. The alternants are in free alternation before vowels; only the alternant tan occurs before consonants or juncture. In combination with 212 and 213 there are the alternant forms ta or tán and tu or tún, respectively. Examples:

tán in ʔib̄ or t-in ʔib̄ I'm writing (223 + 211 + ʔib̄ write) but:

tán k ʔib̄ we are writing (223 + 214 + ʔib̄ write);

tán it is going on (affirmative response to a question in the durative aspect)(223);

t-in ʔib̄-t-ik-ϕ I'm writing it (223 + 211 + ʔib̄ write + 321 + 351 + 613);

t-a wém-ϕ-VL you're descending (223 + 212 + ʔém descend + 417 + 342);

t-a wém-s-ik-ϕ you're lowering it (223 + 212 + ʔém descend + 221 + 351 + 613).

224 ($\dot{\zeta}o^{\circ}ok \sim \dot{\zeta}$) which as a noun or verb means end, finish, serves as an auxiliary indicating terminative aspect. The alternants are in free variation before vowels; only the alternant $\dot{\zeta}o^{\circ}ok$ occurs elsewhere (not infrequently the form $\dot{\zeta}oka^{\circ}an$ occurs with the same meaning).

$\dot{\zeta}o^{\circ}ok$ in $\dot{\zeta}ib-\emptyset$ I have finished writing or I have written (224 + 211 + $\dot{\zeta}ib$ write + 417);

$\dot{\zeta}o^{\circ}ok$ in $\dot{\zeta}ib-t-ik-\emptyset$ I have finished writing it or I have written it (224 + 211 + $\dot{\zeta}ib$ write + 321 + 351 + 613);

$\dot{\zeta}-a$ wém- \emptyset -V1 you have descended (224 + 212 + ?ém descend + 417 + 342);

$\dot{\zeta}-u$ yém-s-ik- \emptyset he has lowered it (224 + 213 + ?ém descend + 321 + 351 + 613).

225 (yan) is a morpheme often translating as be, have. As a modal it indicates obligation or sometimes simple future. Examples:

yan in $\dot{\zeta}ib-\emptyset$ I must write, I'll write (225 + 211 + $\dot{\zeta}ib$ write + 417);

yan in $\dot{\zeta}ib-t-ik-\emptyset$ I must (will) write it (225 + 211 + $\dot{\zeta}ib$ write + 321 + 351 + 613);

yan in wém- \emptyset -V1 I must (will) descend (225 + 211 + ?ém descend + 417 + 342);

yan in wém-s-ik- \emptyset I must (will) lower it (225 + 211 + ?ém descend + 321 + 351 + 613).

226 (tánt) indicates action just completed.

Both 226 and 227 require the enclitic 712 at the terminus of the phrase. E.g.

tánt in 'fíb-ø-e? I just now wrote (226 + 211 + 'fíb
write + 417 + 712);

tánt a 'fíb-t-ik-ø-e? you just now wrote it (226 +
212 + 'fíb write + 321 + 351 + 613 + 712);

tánt u yém-ø-VL-e? he just now descended (226 +
213 + ?ém descend + 417 + 342 + 712);

tánt k ?ém-s-ik-ø-e? we just now lowered it (226 +
214 + ?ém descend + 321 + 351 + 613 + 712).

It may occur alone with 712 in response to a question containing 226, i.e.:

tánt wá a mís-t-ik-ø-e?; tánte?. Did you just now
sweep it? Yes, just now. (226 + wá interroga-
tive + 212 + mís sweep + 321 + 351 + 613 +
712) (226 + 712).

227 (he? ~ he?el) indicates assurative aspect. The alternants are in free variation before all members of 210. Enclitic 712 is required at the terminus of the phrase.

Examples:

he? in 'fíb-ø-e? I'll surely write (227 + 211 +
'fíb write + 417 + 712);

he? k 'fíb-t-ik-ø-e? we'll surely write it (227 +
214 + 'fíb write + 321 + 351 + 613 + 712);

he?el u yém-ø-VL-e? he'll surely descend (227 +
213 + ?ém descend + 417 + 342 + 712);

he? a wém-s-ik-ø-e? you'll surely lower it (227 +
212 + ?ém descend + 321 + 351 + 613 + 712).

(The form he?el + 712, i.e. he?ele?, occurs in
isolation meaning yes indeed!, that's right!)

The same form + 711-713 also occurs meaning here is,
look at in constructions such as he?el le lîbróa?
here's this book, look at this book!

228, 229, and 231 are modals which occur either in
the processive or the stative mode.

228 (ken-) indicates punctual future. Contracted
alternants kin, kan, and kun optionally occur (with
regressive vowel assimilation) before the pronominal
particles ?in-, ?a-, and ?u- respectively. Alternant
ken occurs in all other environments and optionally also
in these. Examples:

kin in ?í'b-t-e (or: ken in ?í'bte) I'll write it
(228 + 211 + ?í'b write + 321 + 613);

kan a ?í'b-t-e you'll write it (228 + 212 + ?í'b
write + 321 + 613);

kun u ?í'b-t-e he'll write it (228 + 213 + ?í'b
write + 321 + 613);

ken k ?í'b-t-e we'll write it (228 + 214 + ?í'b
write + 321 + 613).

228 occurs without conjunct suffix in transitive con-
structions containing 210 as illustrated.

It requires 351 in transitive constructions not con-
taining 210, but with the actor identified by a noun

phrase as in the following:

tèn ken ʔí'b-t-ik-Ø I'll write it (tèn I + 228 +
ʔí'b write + 321 + 351 + 613);

to'on ken ʔí'b-t-ik-Ø we'll write it (to'on we +
228 + ʔí'b write + 321 + 351 + 613);

hwàn ken ʔí'b-t-ik-Ø John will write it (hwàn John
+ 228 + ʔí'b write + 322 + 351 + 613).

It requires construct₃ in all stative constructions:

ken ʔí'b-t-a'a-Vk-Ø when it gets written (228 + ʔí'b
write + 321 + 332 + 361 + 613);

ken ʔí'b-n-ak-Ø when he writes (228 T ʔí'b write +
417 + 361 + 613).

229 (bín) indicates durative future. Its construct
patterns are identical with those of 228:

no conjunct bín in ʔí'b-t-e I'll write it (229 +
211 + ʔí'b write + 321 + 613);

bín a ʔí'b-t-Ø-e'eš you'll write it (229 + 212 +
ʔí'b write + 321 + 613 + 625).

conjunct 351

tèn bín ʔí'b-t-ik-Ø I'll write it (tèn I + 229 +
ʔí'b write + 321 + 351 + 613);

to'on bín ʔí'b-t-ik-Ø we'll write it (to'on we +
229 + ʔí'b write + 321 + 351 + 613).

conjunct₃

bín ʔí'b-t-a'a-Vk-Ø it'll be written (229 + ʔí'b
write + 321 + 332 + 361 + 613);

bín 'í'ib'-n-ak-en I'll write (229 + 'í'ib' write + 417 + 361 + 611).

231 (ká) indicates optative. In the processive mode it occurs only with transitive active verbs without conjunct suffixes:

ká u 'í'ib'-t-e may he write it, that he write it
(213 + 213 + 'í'ib' write + 321 + 613);

ká in 'í'ib'-t-e may I write, that I write it (231 + 211 + 'í'ib' write + 321 + 613).

It occurs with conjunct₃ in the stative mode:

ká 'í'ib'-t-a'a-k-ø may it be written, that it be written (231 + 'í'ib' write + 321 + 332 + 361 + 613);

ká 'í'ib'-n-ak-eč may you write, that you may write
(231 + 'í'ib' write + 417 + 361 + 612).

2.3.2.4.2 Conjunct Suffixes. The suffix 351 (ik ~ iL) occurs in processive verbs in conjunction with conjunct₂ modals. In such constructions only alternant ik occurs. Examples:

tán in hàn-t-ik-ø I'm eating it (223 + 211 + hàn eat + 321 + 351 + 613).

351 occurs in processive verbs also in conjunction with conjunct₄ modal surrogates outside a conjunction of 221-341. In such constructions only alternant iL occurs; it is optionally followed by 361. Examples:

'bey t-a hàn-t-ah-il-ø thus you ate it ('bey thus + 221 + 212 + hàn eat + 321 + 341 + 351 + 613);

'biš t-u mèn-t-ah-iL-ak-∅-o'ob how did they do it?
(biš how + 221 + 213 + mèn do + 321 + 341 +
351 + 361 + 613 + 626).

It also occurs after an intransitive verb core in the stative mode in conjunction with conjunct₄ modal surrogates. In such constructions only the alternant ik occurs.

Examples:

'bey 'ǰib-n-ah-ik-en thus I wrote ('bey thus + 'ǰib
write + 417 + 421 + 351 + 611);

'biš kuš-l-ah-ik-o'ob how did they live? (biš how +
kuš live + 416 + 421 + 351 + 616).

351 also occurs in conjunction with conjunct MS₄ in transitive and intransitive stative constructions after margin E. Here either the ik or the iL alternant is selected, as in 'bey mèn-t-a'a-n-iL-∅ or

'bey mèn-t-a'a-n-ik-∅ thus it has been made ('bey +
mèn make + 321 + 332 + 344 + 351 + 613).

It also occurs in conjunction with conjunct MS₄ in transitive stative constructions after margin D, and is optionally followed by 361. If not followed by 361, either alternant may occur; if followed by 361 only alternant iL may occur. Examples:

'bey 'ǰib-t-a'a-b-ik-∅ or 'bey 'ǰib-t-a'a-b-il-∅ thus
it was written ('bey thus + 'ǰib write + 321 +
332 + 343 + 351 + 613);

'bey 'ǰib-t-a'a-b-il-ak-∅ thus it was written ('bey
thus + 'ǰib write + 321 + 332 + 343 + 351 + 361 +
613).

The suffix 361 (-Vk ~ ak) occurs with transitive and intransitive verbs in the stative mode in conjunction with conjunct₃ modals and modal surrogates, as in:

ká béy-č-ah-ak-ø may it be so (331 + béy so +
414 + 421 + 361 + 613);

bín říb-n-ak-ec you will write (229 + říb write +
417 + 361 + 612);

ʔúč kuš-1-ak-oʔoḅ they lived long ago (ʔúč long ago
+ kuš live + 416 + 361 + 616);

ken říb-t-aʔa-ak-ø it will be written (328 + říb
write + 321 + 332 + 361 + 613).

It occurs in the stative and processive mode as an optional double conjunct after 351, asiin:

bey t-u bêt-ø-iL-ak-ø thus he did it (bey thus +
221 + 213 + bêt do + 321 + 351 + 361 + 613);

maʔalob bêt-ø-aʔa-b-iL-ak-ø it was done well
(maʔalob good + bêt do + 321 + 332 + 343 +
351 + 361 + 613).

Alternant -Vk occurs only in a construction with the infixed alternant of 332, that is, only in the environment (-332)--, as in:

ká ʔo-VʔV-n-ø-Vk-ø may he be shot (231 + ʔo..n
shoot + 321 + (-332-) + 361 + 613);

bín hi-VʔV-t-ø-Vk-ø it will be braided (229 +
hi..t braid + 321 + (-332-) + 361 + 613).

2.3.2.4.3 Pronominals and Pronominal Pluralizers. Certain interpronominal cooccurrence relations not yet described can be illustrated in a chart of pronoun paradigms.

Paradigm A		Paradigm B	
Sg.	Pl.	Sg.	Pl.
1 ?in-	k...(e?es)	1 -en	-o?on(e?es)
2 ?a	?a...e?es	2 -ec	-e?es
3 ?u	?u...o?ob	3 - \emptyset ~ e ~ i	- \emptyset ~ o?ob

Paradigm A is made up of members of set 210 (as person markers), three of which members combine with one or the other member of 620. The combinations ?a...-e?es (212--625) and ?u...-o?ob (213--626), indicate second and third person plural respectively; the combination k...-e?es (214--625) indicates first person plural inclusive (including plural persons addressed, as you-all and we or you-all and I).

Paradigm A occurs in the following environments with the following functions:

- (1) with nouns to mark possessor:

?in t̄ata my father

?a ?ámigo your friend

k hu?un-e?es our paper (of you-all and me or us)

?a suku?un-e?es your (older) brother

?u yí?in-o?ob their (younger) sibling

?u k̄ik hwan John's (older) sister

?u k̄ik a tata your father's (older) sister

- (2) with processive active verbs to mark actor:
- k-in ḅin-ø̣ I go (222 + 211 + ḅin go + 417);
k-a ḅin-ø̣-eʔeṣ̌ you-all go (222 + 212 +
ḅin go + 417 + 625);
tan k ḅin-ø̣-eʔeṣ̌ we-all go (223 + 214 +
ḅin go + 417 + 625);
yan u ḅin-ø̣-oʔoḅ they must go (225 + 213 +
ḅin go + 417 + 626);
yan u ʔf̣ḅ-t-ik-ø̣-oʔoḅ they must write it (225 +
213 + ʔf̣ḅ write + 321 + 351 + 613 + 626);
- (3) with processive passive verbs to mark goal:
- tán u pék-s-aʔa-al-oʔoḅ they are being moved
(223 + 213 + pék move + 321 + 332 +
342 + 626);
yan a kím-s-aʔa-al-eʔeṣ̌ you-all are to die
(225 + 212 + kím die + 321 + 332 +
342 + 625).

Paradigm B is made up of the members of set 610, one of which combines optionally with 625 to indicate first person plural inclusive (including persons addressed).

Paradigm B occurs in the following environments with the following functions:

- (1) with nouns to mark subject (thus forming a nominal stative complex):
- wínik-en I am a man (wínik man + 611);
koʔolel-oʔoḅ they are ladies (koʔolel lady + 626);

ʔu ʔámigo-eč you are his friend (ʔámigo friend
+ 612);

sukuʔun-oʔon-eʔeš we are brothers (sukuʔun
brother + 614 + 625);

(2) with transitive and intransitive verbs in the
stative mode to mark subject:

h-bín-φ-φ-i he went (113 + bín go + 417 + 421 + 613);

h-tàL-s-aʔa-b-i he was brought (113 + tàL come +
321 + 332 + 342 + 613);

sol-l-ah-en I knelt (sol kneel + 416 + 421 + 611);

(3) with transitive verbs in the processive mode to
mark goal:

t-u loš-φ-ah-en he struck me (221 + 213 + loš
strike + 321 + 421 + 611);

(4) with transitive imperative and transitive pro-
cessive to form a reflexive complex (210 + ba self)
to mark goal in lieu of 610:

t-u loš-φ-ah-u-ba-oʔob̄ they struck themselves
(221 + 213 + loš strike + 321 + 421 +
213 + ba self + 626);

kanán-t-a-ba-eʔeš guard yourselves (kanán guard +
321 + 212 + ba self + 625);

k-in wil-φ-ik-in-ba I see myself (222 + 211 + ʔil
see + 321 + 351 + 211 + ba self);

t-k-ʔil-φ-ik-k-ba we saw ourselves (221 + 214 +
ʔil see + 321 + 351 + 214 + ba self).

It should be noted that the reflexive complex does not occur in the processive mode without an auxiliary. Thus: hwàn t-u loš-∅-ah-uba' John hit himself (hwàn John + 221 + 213 + loš strike + 321 + 341 + 213 + ba self) is grammatical (as is hwàn t-u loš-∅-ah-∅ John hit it) (hwàn + 221 + 213 + loš strike + 321 + 341 + 613); but the form hwàn loš-∅-u-ba' is not grammatical (as is hwàn loš-∅-e John hit it) (hwàn + loš strike + 321 + 613); máš loš-∅-eč who struck you? (máš who + loš strike + 321 + 612); ?in šok-∅-m-ah-o'ob' I have read them (211 + šok read + 321 + 331 + 341 + 616); yan u meyah-t-ik-∅-o'ob' they must serve them (225 + 213 + meyah serve + 321 + 351 + 616 + 626).

The following set of pronoun themes is formed by the conjunction of a morpheme pronoun formative with first and second person marking members of 610:

t-èn <u>I, me</u>	t-o'ón <u>we, us</u>	t-o'ón-e'eš <u>we, us</u>
t-èč <u>you</u>	t-e'eš <u>you-all</u>	(incl.)

(The equivalents of these for the third person singular and plural are leti' he, him, and letio'ob' (also leobti') they, them.)

Two members of set 610 have multiple alternants. Suffix 613 has three alternants, -i, -e, and -∅, which have the following distribution:

Alternant -i occurs in stative verbs, except those with margin E or F, in the environment of a following juncture, e.g. šok-n-ah-i he read (šok read + 417 + 421 + 613);

ʔánt-∅-aʔa-b-i he was helped (ʔánt help + 321 + 332 + 343 + 613):

Alternant -e occurs before a juncture in transitive imperative and transitive processive verbs which do not contain a conjunct suffix, e.g. hàn-t-e eat it, (hàn eat + 321 + 613), bín u hàn-t-e he will eat it (229 + 213 + hàn eat + 321 + 613).

Alternant -∅ occurs in all other environments, e.g. in stative verbs with margin E or F:

hàn-t-aʔa-n-∅ it has been eaten (hàn eat + 321 + 332 + 344 + 613);

hàn-t-aʔa-ak-∅ let it be eaten (hàn eat + 321 + 332 + 361 + 613);

in other stative verbs in the environment of any following element which is not a juncture:

šok-n-ah-∅ ʔič ʔeskwèla he read in school (šok read + 417 + 341 + 613);

ʔánt-∅-aʔa-b-∅ tumen hwàn he was helped by John (ʔánt help + 321 + 332 + 343 + 613);

before a non-juncture in transitive imperative and transitive processive verbs, e.g. hàn-t-∅-eʔeš eat it! (hàn eat + 321 + 613 + 625);

bín u hàn-t-ø-o'ob they will eat it (229 + 213 +
hàn eat + 321 + 613 + 625);

in all other processive verb or stative noun constructions,

e.g. nohoč-ø it is big (nohoč big + 613);

k-u ʔí'b-t-ik-ø he writes it (222 + 213 + ʔí'b' write
+ 321 + 351 + 613);

k-a ʔí'b-t-ik-ø-e'ěš you-all write it (222 + 212 +
ʔí'b' write + 321 + 351 + 613 + 625).

Suffix 616 has two alternants, -ø and -o'ob. The zero alternant occurs only before 626, e.g.

k-u hàn-t-ik-ø-o'ob they eat them (222 + 213 +
hàn eat + 321 + 351 + 616 + 636);

the alternant -o'ob occurs in all other environments.

A peculiar ordering relationship obtains when a member of 620 occurs with 614 or 616: if 614 and 625 both occur in a transitive construction, the order of the suffixed pronouns is optional, e.g.

ʔánt-ø-o'on-e'ěš or ʔánt-ø-e'ěš-o'on help us!
(ʔánt help + 321 + 614 + 625) or
(ʔánt help + 321 + 625 + 614).

If 616 and 625 both occur in a form, 625 must precede 616, e.g. hàn-t-e'ěšo'ob eat them! (hàn eat + 321 + 625 + 616).

2.3.2.4.4 Phrase Termini. The minor morphemes of set 710 are phrase closing suffixes or enclitics. The members 711, 712, and 713 comprise a paradigmatic set with a constant of reference.

711 (-a?) refers to something near in time or space, thus it often translates as this or here, e.g.

?in làpis-a? my pencil here or this pencil of mine

(211 + làpis pencil + 711);

'bey-a? like this ('bey thus + 711).

713 (-o?) refers to something not so immediate in time or space. It often translates as that or there, e.g. ?in làpis-o? my pencil there or that pencil of

mine (211 + làpis pencil + 713);

'bey-o? like that ('bey thus + 713).

712 (-e?) may refer to something in mind, something already under discussion, or it may mark or set a topic to be commented on. Thus it often may be translated as the or as for though frequently it is not translated at all, e.g. ?in làpis-e? čak-ø as for my pencil, it is red.

In nominal stative constructions, if the topic (or dependent part) precedes the comment (or independent part), the topic must be terminated by 712 (if not by 711 or 713), but if the topic follows the comment, it need not contain a member of the reference set (we consider the normal order to be comment + topic and the order topic + comment to be an inversion).

Examples:

ha'ud-ø u yič mária Mary's face is pretty.

?u yič mária-e? ha'ud-ø Mary's face is pretty.

Frequently the members of this paradigmatic set occur in conjunction with phrase initial or phrase medial morphemes such as the modals 226 and 227 (which always require 712 as the phrase terminus), the particle le demonstrative, and other morphemes such as bey thus, wá if, etc. Examples:

ba^haš le k-a wa^ha^hal- \emptyset -ik- \emptyset t-^hen-o^h what is it that you
tell me? (in which le and 713 are in conjunc-
tion) (222 + 212 + ^ha^ha^hal tell + 321 + 351 + 613

+ pronoun formative + 611 + 713); also

ʔa- \emptyset t-^hen le t^hakin ka^ha^hbet a ʔik- \emptyset ti^h t-^hen- \emptyset give
me that money it is necessary for you to give
me (ʔa give + 613 + pronoun formative + 611 +
le demonstrative + t^hakin money + ka^ha^ha^hbet it is
necessary + 212 + ʔik give + 613 + ti^h to +
pronoun formative + 611 + 713);

he^h in t^hal-e^h I'll surely come (227 + 211 + t^hal
come + 712);

tánt in wèn- \emptyset -Vl-e^h I just slept (226 + 211 + wèn
sleep + 417 + 342 + 712);

bey t-u bèt- \emptyset -ah-iL-ak- \emptyset -o^hob-o^h thus they did it
(bey thus + 221 + 213 + bèt do + 321 + 341 +
351 + 361 + 613 + 626 + 713);

wá ma^h- \emptyset t-u bèl-e^h, ʔú^hkin-t-e if it is not
correct, make it right! (wá if + ma^h negative
+ 714 + t in + 213 + bèl road + 712), (ʔú^h good
+ 311 + 321 + 613).

715 (-ili?) occurs with noun, verb and particle stems. It serves to limit or restrict the meaning of the theme in number or time, and can usually be translated by yet, still, since, already, just, only, or exactly. Examples:

kwàtro syentos mekates-ili? just 400 mecatés;
moč-ili? síh-∅-ik-∅ he was born already a cripple
(moč cripple + 715 + síh be born + 417 + 351 +
613);

ma?-ili? síh-ik-∅ before (i.e. not yet) he was born
(ma? not + 715 + síh- be born + 351 + 613);

ti hun-pél-ili? kùč-il in just one place (ti in
hun one + pé1 classifier for inanimates + 715 +
kùč place + 515).

716 (-ina) is a non-productive enclitic found to occur only with the negative particles ma? and miš:

ma?-ina tèč not even you;

miš-ina tèn nor even me.

714 (-i?) occurs in a variety of functions:

(a) as a transitive imperative phrase terminus indicating immediateness: For example:

?ánt-∅-en-i? help me at once! (?ánt help +
321 + 611 + 714);

kím-s-∅ a hàn-t-∅-i? kill it for you to eat!
(kím die + 321 + 613 + 212 + hàn eat + 321 +
613 + 714);

saʔas-∅-∅ tèn šan-i? forgive me then also!
(saʔas forgive + 321 + 613 + tèn I, me +
šan also + 714);

(b) as a phrase terminus to indicate specific location, "right there" in phrases usually having an indication of motion to, existence at, or position in a place. **Examples:**

te k-u paʔat-(a)l-i? right there it remains
(te at, there + 222 + 213 + paʔat- remain +
342 + 714);

bìblia k-u šoV?V-k-∅-Vl-i? the bible is read
there (bìblia + 222 + 213 + šo..k read, study
+ 321 + (-332-) + 342 + 714);

yan-∅ t-in wot(o)č-i? it is right there in my
house (yan be existent + 613 + t(i) in + 211
+ ?otoč house + 714);

hay-péL haʔab t-a bèt-∅-ah-∅-i? how many years
did you put in there? (hay how many + péL
classifier for inanimates + haʔab year + 221 +
212 + bèt do + 321 + 341 + 613 + 714);

(c) as a phrase terminus in conjunction with a negative particle (maʔ or miš); it is obligatory in the following construction types:

(1) negative particle with a noun phrase:

maʔ sak-∅-i? it is not white (maʔ not + sak
white + 613 + 714);

ma? wá ?in ?ámigo-eč-i? are you not my friend?

(ma? not + wá interrogative + 211 + ?ámigo
friend + 612 + 714);

(2) negative particle with certain verb phrases:

Examples:

ma? in woh(e)l-i? I don't know (ma? not + 211 +
?ohel know + 714);

ma? wèn-ø-en-i? I did not sleep (ma? not + wèn
sleep + 417 + 611 + 714);

ma? in kát ká wèn-ø-Vk-eč-i? I don't want you to
sleep (ma? not + 211 + kát want + 231 + wèn
sleep + 417 + 361 + 612 + 714);

ma? ʔo?ok-ø-Vk-ø in wèn-ø-Vl-i? I haven't finished
sleeping (ma? not + ʔo?ok finish + 417 + 361 +
613 + 211 + wèn sleep + 417 + 342 + 714).

1	I shoot it	I get shot	I shoot
2	I am shooting it	I am being shot	I am shooting
3	I'm done shooting it	I'm done being shot	I'm done shooting
4	I am to shoot it	I am to be shot	I am to shoot
5	I just now shot it	I've just been shot	I just now shot
6	I'll surely shoot it	I'll surely be shot	I'll surely shoot
7	when I've shot it	when I am shot	when I shoot
	I'll shoot it	I'll be shot	I'll shoot
8	I'm going to shoot it	I'm going to be shot	I'm going to shoot
9	that I (may) shoot it	that I be shot	that I (may) shoot
10	long ago I shot it	long ago I was shot	long ago I shot
11	thus I shoot it	thus I am shot	thus I shoot
12	I shot it	I was shot	I shot
13	I've shot it	I've been shot	I have shot
14	thus I shot it	thus I was shot	thus I shot
15	thus I've shot it	thus I've been shot	thus I have shot
16			I am shot (estoy tirado)
17			I was shot (me tiró)
	TRANSITIVE ACTIVE	PASSIVE	INTRANSITIVE ACTIVE

1	k-in	ʔon-ʔ-ik-ʔ	k-in	ʔo-VʔV-n-ʔ-VL	k-in	ʔon-ʔ
2	t-in	ʔon-ʔ-ik-ʔ	t-in	ʔo-VʔV-n-ʔ-VL	t-in	ʔon-ʔ
3	ʔ-in	ʔon-ʔ-ik-ʔ	ʔ-in	ʔo-VʔV-n-ʔ-VL	ʔ-in	ʔon-ʔ
4	yan	in ʔon-ʔ-ik-ʔ	yan	in ʔo-VʔV-n-ʔ-VL	yan	in ʔon-ʔ
5	tánt	in ʔon-ʔ-ik-ʔ-eʔ	tánt	in ʔo-VʔV-n-ʔ-VL-eʔ	tánt	in ʔon-ʔ-eʔ
6	heʔ	in ʔon-ʔ-ik-ʔ-eʔ	heʔ	in ʔo-VʔV-n-ʔ-VL-eʔ	heʔ	in ʔon-ʔ-eʔ
7	ken	in ʔon-ʔ-e	ken	ʔo-VʔV-n-ʔ-Vk-en	ken	ʔon-ʔ-ak-en
8	ʔɪn	in ʔon-ʔ-e	ʔɪn	ʔo-VʔV-n-ʔ-Vk-en	ʔɪn	ʔon-ʔ-ak-en
9	ká	in ʔon-ʔ-e	ká	ʔo-VʔV-n-ʔ-Vk-en	ká	ʔon-ʔ-ak-en
10	ʔúʔ	in ʔon-ʔ-ik-ʔ	ʔúʔ	ʔo-VʔV-n-ʔ-Vk-en	ʔúʔ	ʔon-ʔ-ak-en
11	bey	in ʔon-ʔ-ik-ʔ	bey	in ʔo-VʔV-n-ʔ-VL	bey	in ʔon-ʔ
12	t-in	ʔon-ʔ-ah-ʔ	(h-)ʔo-VʔV-n-ʔ-ʔ-en	(h-)ʔon-ʔ-ah-en	(h-)ʔon-ʔ-ah-en	
13	ʔin	ʔon-ʔ-m-ah-ʔ	ʔon-ʔ-aʔa-n-en	ʔon-ʔ-ah-aʔa-n-en	ʔon-ʔ-ah-aʔa-n-en	
14	bey t-in	ʔon-ʔ-ah-il-ak-ʔ	bey ʔo-VʔV-n-ʔ-ʔ-ik-en	bey ʔon-ʔ-ah-ik-en	bey ʔon-ʔ-ah-ik-en	
15	bey in	ʔon-ʔ-m-ah-il-ʔ	bey ʔon-ʔ-aʔa-n-il-en	bey ʔon-ʔ-ah-aʔa-n-il-en	bey ʔon-ʔ-ah-aʔa-n-il-en	
16			bey ʔon-ʔ-aʔa-n-ik-en	bey ʔon-ʔ-ah-aʔa-n-ik-en	ʔon-ʔ-VL-en	
17				(h-)ʔon-ʔ-en	(h-)ʔon-ʔ-en	

TRANSITIVE ACTIVE

PASSIVE

INTRANSITIVE ACTIVE

Verb Stem Class 1

1	he sweeps it	it gets swept	he sweeps
2	he is sweeping it	it is being swept	he is sweeping
3	he's done sweeping it	it's done being swept	he's done sweeping
4	he is to sweep it	it is to be swept	he is to sweep
5	he just now sweep it	it has just been swept	he just now swept
6	he'll surely sweep it	it'll surely be swept	he'll surely sweep
7	when he's swept it he'll sweep it	when it's swept it'll be swept	when he has swept he'll sweep
8	he's going to sweep it	it's going to be swept	he's going to sweep
9	that he (may) sweep it	that it (may) be swept	that he (may) sweep
10	long ago he sweep it	long ago it was swept	long ago he swept
11	thus he sweeps it	thus it is swept	thus he sweeps
12	he swept it	it was swept	he swept
13	he's swept it	it's been swept	he has swept
14	thus he swept it	thus it was swept	thus he swept
15	thus he has swept it	thus it has been swept	thus he has swept
16			it is swept (está barrido)

TRANSITIVE ACTIVE

PASSIVE

INTRANSITIVE ACTIVE

1	k-u mǐs-t-ik- ϕ	k-u mǐs-t-a'a-aL	k-u mǐs- ϕ
2	t-u mǐs-t-ik- ϕ	t-u mǐs-t-a'a-aL	t-u mǐs- ϕ
3	ʃ-u mǐs-t-ik- ϕ	ʃ-u mǐs-t-a'a-aL	ʃ-u mǐs- ϕ
4	yan u mǐs-t-ik- ϕ	yan u mǐs-t-a'a-aL	yan u mǐs- ϕ
5	tánt u mǐs-t-ik- ϕ -e?	tánt u mǐs-t-a'a-aL-e?	tánt u mǐs- ϕ -e?
6	he? u mǐs-t-ik- ϕ -e?	he? u mǐs-t-a'a-aL-e?	he? u mǐs- ϕ -e?
7	ken u mǐs-t-e	ken mǐs-t-a'a-ak- ϕ	ken mǐs-n-ak- ϕ
8	bín u mǐs-t-e	bín mǐs-t-a'a-ak- ϕ	bín mǐs-n-ak- ϕ
9	ká u mǐs-t-e	ká mǐs-t-a'a-ak- ϕ	ká mǐs-n-ak- ϕ
10	ʔúʃ u mǐs-t-e	ʔúʃ mǐs-t-a'a-ak- ϕ	ʔúʃ mǐs-n-ak- ϕ
11	bey u mǐs-t-ik- ϕ	bey u mǐs-t-a'a-aL	bey u mǐs- ϕ
12	t-u mǐs-t-ah- ϕ	(h-)mǐs-t-a'a-b-i	(h-)mǐs-n-ah-i
13	ʔu mǐs-t-m-ah- ϕ	mǐs-t-a'a-n- ϕ	(h-)mǐs-n-ah-a'a-n- ϕ
14	bey t-u mǐs-t-ah-il-ak- ϕ	bey mǐs-t-a'a-b-ik- ϕ	bey mǐs-n-ah-i
15	bey u mǐs-t-m-ah-il- ϕ	bey mǐs-t-a'a-n-il- ϕ	bey mǐs-n-ah-a'a-n-il- ϕ
		bey mǐs-t-a'a-n-ik- ϕ	bey mǐs-n-ah-a'a-n-ik- ϕ
			mǐs- ϕ -a'a-n-n- ϕ

TRANSITIVE ACTIVE

PASSIVE

INTRANSITIVE ACTIVE

- 1 you fell it
- 2 you're felling it
- 3 you're done felling it
- 4 you are to fell it
- 5 you just now felled it
- 6 you'll surely fell it
- 7 when you've felled it
you'll fell it
- 8 you're going to fell it
- 9 that you (may) fell it
- 10 long ago you felled it
- 11 thus you fell it
- 12 you felled it
- 13 you've felled it
- 14 thus you felled it
- 15 thus you have felled it
- 16

- | | |
|---------------------------|-----------------------------|
| you get felled | you fell |
| you are being felled | you are falling |
| you're done being felled | you're done falling |
| you are to be felled | you are to fall |
| you've just been felled | you've just fallen |
| you'll surely be felled | you'll surely fall |
| when you are felled | when you fall |
| you'll be felled | you'll fall |
| you're going to be felled | you're going to fall |
| that you (may) be felled | that you (may) fall |
| long ago you were felled | long ago you fell |
| thus you are felled | thus you fell |
| you were felled | you fell |
| you've been felled | you have fallen |
| thus you were felled | thus you fell |
| thus you have been felled | thus you have fallen |
| | you're fallen (estás caído) |

TRANSITIVE ACTIVE

PASSIVE

INTRANSITIVE ACTIVE

1	k-a lúb-s-ik- ϕ	k-a lúb-s-a?a-aL	k-a lúb- ϕ -VL
2	t-a lúb-s-ik- ϕ	t-a lúb-s-a?a-aL	t-a lúb- ϕ -VL
3	β -a lúb-s-ik- ϕ	β -a lúb-s-a?a-VL	β -a lúb- ϕ -VL
4	yan a lúb-s-ik- ϕ	yan a lúb-s-a?a-aL	yan a lúb- ϕ -VL
5	tánt a lúb-s-ik- ϕ -e?	tánt a lúb-s-a?a-aL-e?	tánt a lúb- ϕ -VL-e?
6	he? a lúb-s-ik- ϕ -e?	he? a lúb-s-a?a-aL-e?	he? a lúb- ϕ -VL-e?
7	ken a lúb-s-e	ken lúb-s-a?a-ak-eč	ken lúb- ϕ -Vk-eč
8	bfn a lúb-s-e	bfn lúb-s-a?a-ak-eč	bfn lúb- ϕ -Vk-eč
9	ká a lúb-s-e	ká lúb-s-a?a-ak-eč	ká lúb- ϕ -Vk-eč
10	ʔúč a lúb-s-e	ʔúč lúb-s-a?a-ak-eč	ʔúč lúb- ϕ -Vk-eč
11	bey a lúb-s-ik- ϕ	bey a lúb-s-a?a-aL	bey a lúb- ϕ -VL
12	t-a lúb-s-ah- ϕ	(h-)lúb-s-a?a-b-eč	(h-)lúb- ϕ -eč
13	ʔa lúb-s-m-ah- ϕ	lúb-s-a?a-n-eč	lúb- ϕ -a?a-n-eč
14	bey t-a lúb-s-ah-il-ak- ϕ	bey lúb-s-a?a-b-ik-eč	bey lúb- ϕ -ik-eč
15	bey a lúb-s-m-ah-il- ϕ	bey lúb-s-a?a-n-il-eč	bey lúb- ϕ -a?a-n-il-eč
		bey lúb-s-a?a-n-ik-eč	bey lúb- ϕ -a?a-n-ik-eč
16			lúb- ϕ -VL-eč

TRANSITIVE ACTIVE

PASSIVE

INTRANSITIVE ACTIVE

Appendix B
Text with Analysis and Translation

1. /ya'ab máke?, ku ya'alike?,/

ya'ab mák- e? k- ?u ya'al- ø- ik- ø- e?
ya'ab many mak man + 712 222 + 213 + 'a'al say + 321 + 351 + 613 + 712
many people say
Many people say

2. /čen túsil ya'ala'al/

čen tús- il ya'al- ø- a'a aL
čen just tús lie + 525 'a'al say + 321 + 332 + 342
just lying is said
it is told only falsely (of)

3. /?u bisa'al mák ti? 'aktun/

?u biN- s- a'a aL mák ti? 'aktun
213 + biN go + 321 + 332 + 342 mák man ti? in 'aktun cave
is carried off man into cave
a man being carried off to a cave

4. /tumen nukuč tàtao'ob./

tumen nukuč tàta- o'ob
tumen by nukuč great tàta father + 616
by great fathers
by the ancients.

5. /ba'ale? lela? 'umpe ba? hah./
 ba'aL- e? lel- a? 'un- peL ba'aL hah
 ba'aL thing + 712 lel deixis + 711 'un one + peL cl. ba'aL thing hah true
 (the) thing is that (is) one true thing
 but it really happened.

6. /ká 'úč ti? 'untú tánkeleme?/
 ká 'úč- -ø- -ø ti? 'un túL tán-kelem- e?
 ká and 'úč happen + 417 + 613 ti? to 'un one túL cl. tán-kelem- + 713
 and it happened to one youth
 It happened to one young man;

7. /bisa'abi. sa'ati./
 biN- s- a'a- b- -i sa'at- ø- -ø
 biN go + 321 + 332 + 343 + 613 sa'at get lost + 417 + 613
 he was carried off he got lost
 He was carried off. He got lost.

8. /ma? 'ohélta'an tu'us 'o'oki./
 ma? 'ohél- t- a'a- n- -ø tu'us 'o'ok ø- i
 ma? not 'ohél know + 321 + 332 + 344 + 613 tu'us 'o'ok end + 417 + 613
 not known where he ended
 It was not known where he had come to an end.

Glossary A
Special Symbols and Abbreviations

1. A hyphen (-) is used in the morphophonemic representation of a form to mark morpheme cuts. It is used in the representation of single affix morphemes or allomorphs to mark the direction of linkage: postposed, the hyphen marks a prefix; preposed, it marks a suffix; the infixes allomorph of 332 is written (-V°V-).
2. Underlining (___) is used to mark the gloss or glosses of a form.
3. Parentheses () are used to enclose a Spanish gloss; to indicate an elidable vowel (or consonant); also, in English glosses, to enclose words not appearing in the Maya form.
4. The symbol (~) is used to indicate an alternation.
5. The symbol (+) in (morpho)phonemically written forms indicates an obligatory morphophonemic disjuncture. In analytic explanations (between parentheses), the symbol (+) indicates concatenation with no commitment with respect either to a phonemic or to a morphophonemic disjuncture. In all other cases, it represents the word 'plus.'
6. The symbols (# ... #) mark the beginning and the end of a substitution frame.
7. Diagonals (/ /) are used to enclose material in phonemic representation. Maya forms in the second part of this grammar which are not enclosed in diagonals are to be taken as morphophonemic representations.
8. The symbols (V) and (C) are used as abbreviations of vowel and consonant, respectively.
9. Enumerator classifier is abbreviated (cl.), animate (an.), inanimate (inan.).

END

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