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NOTE:

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THE CHUJ LANGUAGE

A DISSERTATION SUBMITTED TO  
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BY  
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## INTRODUCTION

Chuj is a Mayan language spoken in the northwestern part of the Department of Huehuetenango, Guatemala. The name of the language apparently derives from a regional Spanish term for sweatbath, a characteristic feature of Chuj house sites. The Chuj speakers themselves refer to the language simply as "our language."

In their classifications of the Mayan languages, Kroeber (1939), Halpern (1942), McQuown (1956), and Swadesh (1961) have suggested slightly different genealogical classifications of Chuj. Kroeber grouped Chuj with Tzeltal, Tzotzil, and Tojolabal in a single branch of the family. Halpern and McQuown set off Chuj as a separate branch by itself, and McQuown suggested that Chuj might less cautiously be grouped with Jacaltec, Kanjobal, and Solomec. Swadesh grouped Chuj with Tzeltal, Tzotzil, Tojolabal, Chortí, Chontal, and Chol. The details of Mayan classifications are not yet clear, but it is apparent that the Mayan languages which most resemble Chuj are its neighbors: Tojolabal, Tzeltal, and Tzotzil to the northwest, Jacaltec to the southwest, and Kanjobal to the south and east.

### The Distribution of Chuj Speakers

The area of Chuj speech (Figure 1) is centered around the municipios of San Mateo Ixtatán and San Sebastián Coatán,

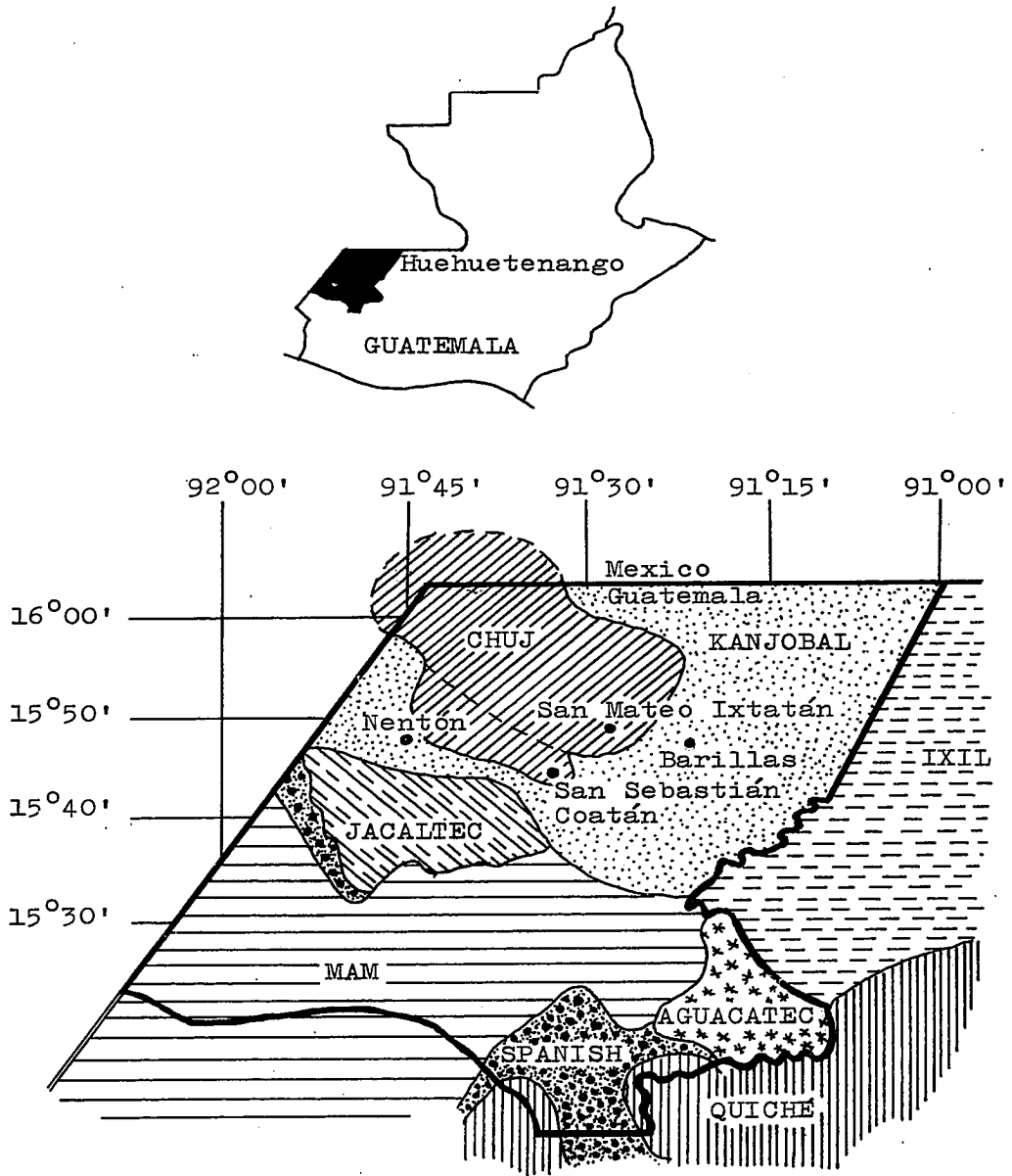


Fig. 1--Distribution of languages in Huehuetenango, Guatemala

and includes most of the municipio of Nentón. The existence of a small number of Chuj speakers in an adjacent area within Mexico has been reported by Tejeda (1958). There are two major dialects of Chuj. One of these, the dialect described in this study, is spoken in the municipio of San Mateo Ixtatán and in the northern two-thirds of the municipio of Nentón. The second dialect, which has been described briefly by Williams and Williams (1966), is spoken in the municipio of San Sebastián Coatán and in the southeastern corner of the municipio of Nentón. The boundaries of the San Mateo dialect were determined in a dialect survey carried out by Nicholas A. Hopkins and Francisco Santizo Andrés in the Summer of 1965. Additional information concerning the location of Chuj speakers was elicited from informants in critical areas. In addition to the primary linguistic data, a number of secondary sources were consulted. Principal among these were Recinos (1954), Valdés Oliva (1965), and the language maps prepared by the Seminario de Integración Social (1964) and the Instituto Indigenista Nacional (1962). The distribution of Chuj dialects shown in Figure 1 is a synthesis of these sources.

#### The Number of Chuj Speakers

The exact number of Chuj speakers is unknown, since the Mexican and Guatemalan censuses record only the fact that an individual speaks an Indian language, but do not specify which of the Indian languages he speaks. No figures on the Chuj population in Mexico are available, but this population prob-



ably numbers less than one thousand speakers of Chuj. The official Guatemalan estimate of the number of Chuj speakers in that country in 1950 is 10,771 (Dirección General de Estadística 1950: Cuadro 29). This figure is based on an estimate of the dominant languages in each municipio and not on an exact head count. The actual number of Chuj speakers in Guatemala at that time may have been somewhat higher, and the number at present is surely much higher.

Nearly all of the Indian population of the municipios of San Mateo Ixtatán and San Sebastián Coatán speak Chuj. Perhaps half of the Indian population of the municipio of Nentón speak Chuj. In 1950, according to the Guatemalan census (Dirección General de Estadística 1950: Cuadro 2), the Indian population of these three municipios totaled 16,149 (Table 1). Of these Indians, 13,798 were reported to speak an Indian language in the home (Dirección General de Estadística 1950: Cuadro 30). The official estimate of 10,771 Chuj speakers in 1950 is thus reasonable, but perhaps slightly low.

TABLE 1  
POPULATION IN 1950 OF THREE MUNICIPIOS  
IN NORTHWESTERN GUATEMALA

Municipio	Ladinos	Indians	Total
San Mateo Ixtatán	401	7,434	7,835
San Sebastián Coatán	26	4,513	4,539
Nentón	920	4,202	5,122
Totals	1,347	16,149	17,496

By 1964, the year of the latest Guatemalan census, the population of the three Chuj municipios had increased tremendously, and the number of Chuj speakers must have increased accordingly. Figures on ethnic and linguistic composition of the 1964 population have not yet been made available, but figures on the total population have been published (Calderón 1965). These data (Table 2) show that Nentón has more than

TABLE 2  
POPULATION IN 1964 OF THREE MUNICIPIOS  
IN NORTHWESTERN GUATEMALA

Municipio	Urban	Rural	Total
San Mateo Ixtatán	2,892	9,011	11,903
San Sebastián Coatán	247	5,643	5,881
Nentón	912	9,518	10,430
Totals	4,051	24,172	28,214

doubled in population, San Mateo Ixtatán has increased its population by more than half, and San Sebastián Coatán has increased its population by more than one third. The huge increase in the population of Nentón can be attributed in large part to the immigration of Kanjobal speakers from the municipio of San Miguel Acatán into the southern parts of Nentón. There appears to have been no such large-scale Kanjobal immigration into either San Mateo Ixtatán or San Sebastián Coatán, nor does there appear to have been a large increase in the Ladino (non-Indian) population of these municipios. The number of Chuj speakers in Guatemala at the present time can thus be es-

estimated as at least 15,000 and probably less than 20,000. The present age distribution of Chuj speakers can be estimated from Figure 2, which shows the age distribution of Indians who spoke Chuj in the home in 1950 (Dirección General de Estadística 1950: Cuadro 29).

#### Sources of Chuj Linguistic Data

No detailed description of Chuj has ever been published. The missionary David Ekstrom (1961) has produced a partial translation of the New Testament into the dialect of San Mateo Ixtatán, but has published no grammatical sketch of the dialect. Translations of the New Testament into the dialect of San Sebastián Coatán have been produced by Kenneth Williams (1963a, b, c) and the latter has recently published a short grammatical sketch of that dialect (Williams and Williams 1966). Other than the New Testament translations; the Williams' brief sketch; short vocabulary lists in Recinos (1954), Swadesh (1961), and Mayers (1966); and some textual data in Andrade (1946); no information of the Chuj language is available in published sources.

With the exception of the New Testament translations and Williams' recent sketch, all published data on Chuj were made available to me in the files of the University of Chicago's Macro-Mayan Project. In addition, I was able to consult, in those files, tape recordings and unpublished vocabulary lists taken in Guatemala by Norman A. McQuown, Brent Berlin, and Nicholas A. Hopkins. From September, 1963, to May, 1964, I carried out preliminary analyses of the language based on those

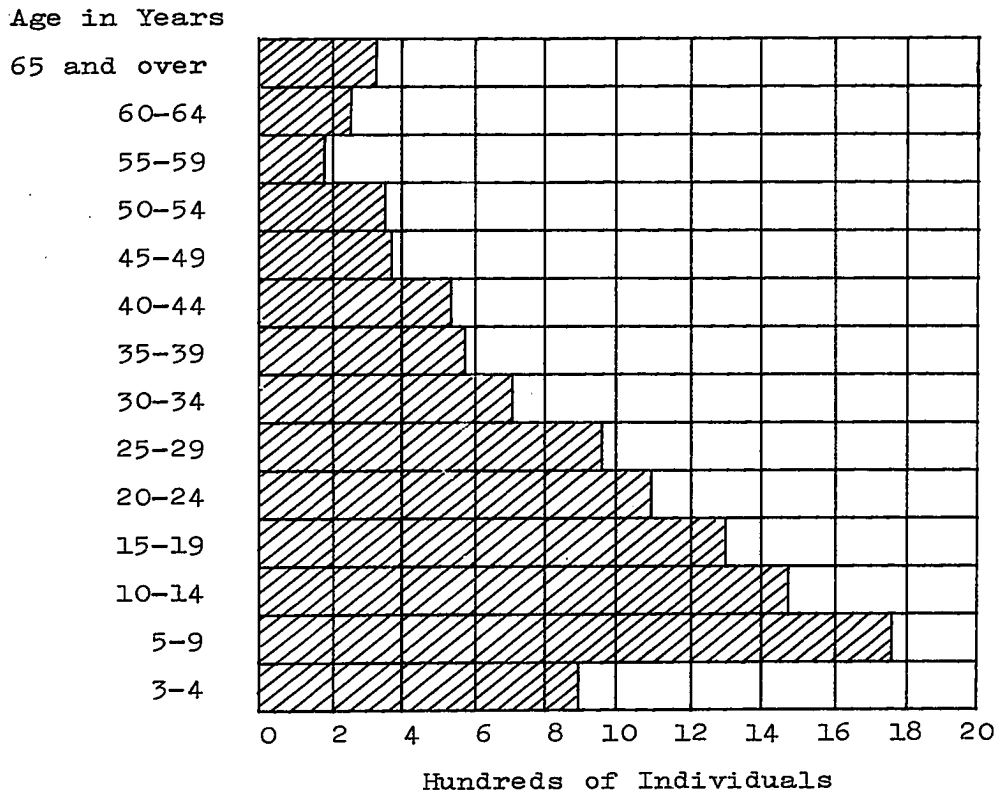


Fig. 2--Age distribution of Indians in Guatemala speaking Chuj in the home in 1950

data. From August, 1964, to September, 1965, I carried out further investigations in Huehuetenango, Guatemala, with the aid of a native Chuj speaker from San Mateo Ixtatán. The data collected in that period consist of extensive notes taken from slightly more than one year of intensive patterned elicitation from the major informant, 160 pages (four hours of recorded tape) of textual material taken from that informant, 525 pages (six hours of recorded tape) of textual material taken from other speakers of the San Mateo Ixtatán dialect of Chuj, and twenty-seven 175-word questionnaires collected in a dialect survey of the Chuj area.

All textual material was first recorded on magnetic tape in conversational situations, transcribed in phonemic orthography by the major informant, checked against the tape recording, re-checked with the major informant, and then translated into Spanish phrase by phrase. Roots, stems, and lexical items were added to a slip-file dictionary that contains approximately 10,000 entries. A major source of roots not found in the textual material was a list of all possible monosyllabic root shapes. Each of the potential roots was tested for occurrence in several derivational and inflectional paradigms, and each root identified in this manner was added to the dictionary file.

I consider these data to be of high reliability. The major informant, Francisco Santizo Andrés, was of exceptional intelligence, to the point of recognizing and correcting inadequacies in my preliminary phonemic orthography. His tran-

scriptions, all of which I checked closely, are excellent. His speech, which I checked against that of other San Mateo Ixtatán informants, is in all respects typical of the San Mateo Ixtatán dialect. His ready identification of hundreds of local plants during a botanical survey, his participation in local Indian affairs as leader of a minor political faction, and every other aspect of his behavior indicate that he is, culturally as well as linguistically, typical of the Chuj community. As such, he served as a reliable source of Chuj data and as a dependable manipulator of materials in his language.

Final analysis of the Chuj data was carried out in Chicago from September, 1965, to June, 1966, under the supervision of Professors Paul W. Friedrich and Norman A. McQuown of the University of Chicago.

CHAPTER I

PHONOLOGY

Phonemes

Consonant Phonemes

The combinations of manner of articulation and point of articulation in terms of which Chuj consonant phonemes are described are presented in Table 3, which shows the phonemic sym-

TABLE 3  
CONSONANT PHONEMES

Manner of Articulation	Point of Articulation				
	Labial	Apico- gingival	Lamino- alveolar	Velar	Glottal
Plain Stops and Affricates	p	t c	č	k	ʔ
Glottalized Stops and Affricates	p'	t' c'	č'	k'	
Voiced Stops	b	d		g	
Fricatives	f	s	š	x	h
Nasals	m	n		ŋ	
Semivowels	w		y		
Lateral		l			
Flap		r			

bol used for each consonant phoneme. The phonemes / b d g f / occur only in non-native roots.

#### Vowel Phonemes

The five Chuj vowel phonemes are the high front vowel /i/, the low front vowel /e/, the low central vowel /a/, the high back vowel /u/, and the low back vowel /o/.

#### Stress Phonemes

The phonemes of stress in Chuj are weak stress, which is left unmarked, strong stress /'/, and sentence stress /"/.

#### Juncture Phonemes

Chuj junctural phonemes are close juncture, marked by a single space or by /+/, and open juncture, marked /#/.

#### Contour Phonemes

The three phonemes of contour in Chuj are marked with arrows indicating the direction of glide. Rising contour is marked /↑/, level contour is marked /→/, and falling contour is marked /↓/.

#### Pitch Phonemes

The three phonemes of pitch in Chuj are marked with numbers indicating the level of pitch: highest pitch, /<sup>3</sup>/; middle pitch, /<sup>2</sup>/; lowest pitch, /<sup>1</sup>/. In phonemic transcription, the series of numbers denoting significant pitch levels is written to the right of the symbol for open juncture, and is followed by the notation of contour.



Allophones

## Consonant Allophones

Allophones of /p/

Before open juncture, /p/ is manifested phonetically as a voiceless bilabial stop, followed by a syllable consisting of the stop closure and a voiceless vocoid: [p.p̥.].<sup>1</sup> The vocoid may be a repetition of the vowel preceding the stop, a similar but centralized vocoid, or the high central vocoid [ɨ].

·'nɪp̥.p̥i̯>·

/# nɪp̥#<sup>3</sup> ↓/

Before a consonant or close juncture, /p/ is manifested phonetically as a tense, voiceless, bilabial stop, without release. Unless pre-consonantal /p/ is either the initial member of a consonant cluster which follows juncture, or the medial member of a three-consonant cluster, a syllable boundary follows the bilabial stop.

---

<sup>1</sup>In the phonetic transcriptions of Chuj material, the following symbols will be used: [·] syllable boundary; ['] strongest stress; [,] weaker stress; [ ] (unmarked) weakest stress; [·] voiceless; [·] non-syllabic; [-] fricativized contoid; [>] backed; [<] fronted; [^] raised; [v] lowered; [·] lengthened; ["] implosion of preceding contoid; ['] glottalization of preceding contoid; [ ] blade articulation; raised [?], simultaneous glottal closure; raised [+], pharyngeal or local friction; and lowered [ω], lip rounding. A segmental phone raised slightly above other segmental phones indicates a weak articulation. The pitch line is marked by a solid line above, through, or below the segmental phones; the height of the line indicates relative height of pitch. Contoid and vocoid symbols have approximately the phonetic values described by Trager (1958), except that the symbol [N] is used here for the velar nasal. The symbols [C] and [V] represent any contoid and any vocoid, respectively.

.,tap.'sim.

/# tápsím #<sup>23</sup> ↓/

Before a vowel, /p/ is manifested phonetically as a tense, voiceless, bilabial stop, lightly aspirated by a voiceless onset to the following vowel.

.'pi<sub>2</sub>i.t.ta<sub>2</sub>.

/# pít #<sup>3</sup> ↓/

.,tɛ.'p<sub>2</sub>an.

/# tépán #<sup>23</sup> ↓/

#### Allophones of /t/

Before open juncture, /t/ is manifested phonetically as a tense, voiceless, gingival stop, followed by a syllable in which the stop closure releases into a voiceless vocoid. The vocoid may be a repetition of the vowel preceding the stop, a similar but centralized vocoid, or the high central vocoid [ɨ]. The stop closure preceding the release syllable may be absent completely, or weak, manifested only in an anticipation of the gingival stop in the quality of the vowel: [.t<sub>v</sub>.], or [V<sup>t</sup>.t<sub>v</sub>.].

.'pa.t.ta<sub>2</sub>^.

/# pát #<sup>3</sup> ↓/

.'pat.ta<sub>2</sub>.

/# pát #<sup>3</sup> ↓/

.,ɛɛ.'tət.tɛ>.

/# rétét #<sup>23</sup> ↓/

Before a consonant or close juncture, /t/ is manifested phonetically as a tense, voiceless, gingival stop, without release. Unless a pre-consonantal /t/ is either the initial member of a consonant cluster which follows juncture, or the medial member of a three-consonant cluster, a syllable boundary

follows the gingival stop.

.,pat.,?a<l.'ka<l. /# pát ?álkál #<sup>23</sup>↓/

.'pat.na.,xi<sub>2</sub>. /# pátnaxíh #<sup>13</sup>↓/

Before a vowel, /t/ is manifested phonetically as a tense, voiceless, gingival stop, which may be lightly aspirated by a voiceless onset to the following vowel.

.'tón. /# tón #<sup>3</sup>↓/

.,pi.tan°. ,?ε°. 'k'ii<sub>2</sub>. /# pítan ?ék'íh #<sup>23</sup>↓/

#### Allophones of /c/

Before open juncture, /c/ is manifested phonetically as a voiceless syllable consisting of a tense, voiceless, tip-articulated, gingival stop, followed by a voiceless homorganic fricative and a voiceless high central vocoid: .ts̥. . The gingival stop may be anticipated in the preceding syllable.

.'pa.ts̥. /# pác #<sup>3</sup>↓/

.,pε°. 'e<sup>t</sup>.ts̥. /# pé?éc #<sup>23</sup>↓/

.'vit.ts̥. /# wíc #<sup>3</sup>↓/

Before a consonant or close juncture, /c/ is manifested phonetically as a tense, voiceless, tip-articulated, gingival stop, followed by a voiceless homorganic fricative, and either preceded or followed by a syllable boundary. If the stop is preceded by a syllable boundary, it may be anticipated in the

preceding syllable: [tsC], [ts.C], or [ᵀtsC]. If the syllable boundary follows the stop, the stop may be repeated in the following syllable.

•,pi̇.ᵀ.'tsvi̇.i̇. /# pícwiḣ#<sup>23</sup>↑/

•,piṫ.ᵀ'tsvii̇. /# pícwiḣ#<sup>23</sup>↓/

Before a vowel, /c/ is manifested phonetically as a tense, voiceless, tip-articulated, gingival stop, followed by a voiceless homorganic fricative, which may be lightly aspirated by a voiceless onset to the following vowel. A syllable boundary precedes the gingival stop: [tsᵀᵛ].

•,tsi̇.'miṅ. /# címiṅ#<sup>23</sup>↓/

•,pi̇.'tsik̇'.k̇'ʔi̇. /# pícik̇' #<sup>23</sup>↓/

•,pȧ.'tsaṗ'.ḃ". /# pácáp' #<sup>23</sup>↓/

#### Allophones of /č/

Before open juncture, /č/ is manifested phonetically as a voiceless syllable consisting of a tense, voiceless, blade-articulated, alveolar stop, followed by a voiceless homorganic fricative and a voiceless high central vocoid: [tšᵀ]. The stop may be anticipated in the preceding syllable: [ᵀ.tšᵀ].

•,pē̇.ᵀ.tšᵀ. /# péč #<sup>3</sup>↓/

•,ḃ'ȧ.'lu̇.ᵀ.tšᵀ. /# p'áluč #<sup>23</sup>↓/

Before a consonant or close juncture, /č/ is manifested phonetically as a tense, voiceless, blade-articulated, alveolar stop, followed by a voiceless homorganic fricative and syllable boundary.

.,pitš.pil.'k'oi. / # pičpilk'óy #<sup>13</sup> ↓ /

Before a vowel, /č/ is manifested phonetically as a voiceless syllable consisting of a tense, voiceless, blade-articulated, alveolar stop, followed by a voiceless homorganic fricative, which may be lightly aspirated by a voiceless onset to the following vowel.

.'tš<sup>1</sup>oi. .tš<sup>2</sup>o. / # čič #<sup>3</sup> ↓ /

.,pi. .tš<sup>1</sup>uul. / # pičú<sup>23</sup> ↓ /

.'tš<sup>a</sup>ka. / # čak #<sup>3</sup> ↓ /

#### Allophones of /k/

Before open juncture, /k/ is manifested phonetically as a voiceless syllable consisting of a tense, voiceless, velar stop, followed by a voiceless vocoid. The vocoid may be a repetition of the vowel preceding the stop, a similar but centralized vocoid, or a high central vocoid. The velar stop may be anticipated in the preceding syllable.

.'tš<sup>a</sup>ka. / # čak #<sup>3</sup> ↓ /

.'t's'a.ka. / # c'ák #<sup>3</sup> ↓ /

Before a consonant or close juncture, /k/ is manifested phonetically as a tense, voiceless, velar stop. Unless pre-consonantal /k/ is either the initial member of a consonant cluster which follows juncture, or the medial member of a three-consonant cluster, a syllable boundary follows the velar stop.

.,pɛk. 'ti'ʔ.ʔə. /# péktíʔ #<sup>23</sup>↓/

Before a vowel, /k/ is manifested phonetically as a tense, voiceless, velar stop, which may be lightly aspirated by a voiceless onset to the following vowel. A syllable boundary precedes the velar stop.

.,pat. 'ʔa<l. 'ka<l. /# pát ʔálkál #<sup>23</sup>↓/

.,pɛ. 'kɛʔ.ʔə. /# pékéʔ #<sup>23</sup>↓/

.'k'ʔam.kiš. ta.kə. /# k'ámkišták #<sup>12</sup>↑/

.,mɛ. 'k<sup>i</sup>iš. š<sup>i</sup>. /# mékiš #<sup>23</sup>↓/

#### Allophones of /ʔ/

Before open juncture, /ʔ/ is manifested phonetically as a glottal stop, followed by a syllable consisting of a glottal stop and a vocoid. The vocoid may be voiceless or weakly voiced, and may be a high or mid centralized vocoid in quality: [ʔ.ʔ<sub>±</sub>] or [ʔ.ʔə].

.,pɛ'k. 'ti'ʔ.ʔi>. /# péktíʔ #<sup>23</sup>↓/

.'a<sup>+</sup>ʔ.ʔə. /# háʔ #<sup>3</sup>↓/

Before close juncture, /ʔ/ is manifested phonetically as a glottal stop, followed by syllable boundary. The /ʔ/ does not occur before consonants in close transition.

ʔol. 'va., laʔ. ,tšax.til. /# ʔol wáláʔ čáxtil /

Before a vowel, /ʔ/ is manifested phonetically as a glottal stop, preceded by syllable boundary. If a vowel precedes the glottal stop, the stop may be anticipated in the quality of the vowel.

tiʔ. 'ʔit. t'š'š'š. /# tíʔíč' #<sup>23</sup>↓/

pi.tan. 'ʔe. 'k'ii. /# pítan ʔék'íh #<sup>23</sup>↓/

ʔi. 'ši. m. /# ʔíším #<sup>23</sup>↓/

#### Allophones of /p'/

Before open juncture, /p'/ is manifested phonetically as a lenis, voiceless, bilabial closure, with simultaneous glottal closure or slight implosion, followed by syllable boundary. The syllable boundary may be followed by a release syllable consisting of a voiceless, implosive, bilabial stop and a voiceless high central vocoid.

pa. 'tsep. /# pácáp' #<sup>23</sup>↓/

'k'ʔap. /# k'áp' #<sup>3</sup>↓/

'l&p. p'š. /# lép' #<sup>3</sup>↓/

Before a consonant or close juncture, /p'/ is manifested phonetically as a lenis, voiceless, bilabial stop, with simultaneous glottal closure or implosion. A syllable boundary follows.

.,tup".'təx.ᵑ̥.      /# túp'téx #<sup>23</sup>→/

Before a vowel, /p'/ is manifested phonetically as a lenis, implosive, bilabial stop, which may be either voiced or voiceless. A syllable boundary precedes the stop. If the preceding phoneme is a vowel, the syllable boundary may be preceded by glottal closure.

.,ti?.'b"an. ,ti?.'b"an.      /# tít'an tít'an #<sup>23</sup>↓/

.,p"u. .t"an.      /# p'út'an #<sup>23</sup>↓/

.,b"u. .t"an.      /# p'út'an #<sup>23</sup>↓/

#### Allophones of /t'/

Before open juncture, /t'/ is manifested phonetically as a voiceless syllable consisting of a lenis, voiceless, implosive, gingival stop and a voiceless high central vocoid. The stop may be anticipated in the preceding syllable by an implosive gingival closure.

.,t"u<sup>t</sup>. .t"ᵑ̥.      /# t'út' #<sup>3</sup>→/

.,t"u. .t"ᵑ̥.      /# t'út' #<sup>3</sup>↓/

Before a consonant or close juncture, /t'/ is manifested as a lenis, voiceless, implosive, gingival stop, and is



followed by a syllable boundary.

.,iæt".'tal.                    /# yét'tál #<sup>23</sup>↓/  
.?iš.,vet".'šii.                /# ?iš wét'ših #<sup>23</sup>↓/

Before a vowel, /t'/ is manifested phonetically as a lenis, voiceless, implosive, gingival stop, and is preceded by a syllable boundary.

.'t"iv                                /# t'íw #<sup>3</sup>↓/  
.'p"u'. 't"á'n.                    /# p'út'án #<sup>23</sup>↓/

#### Allophones of /c'/

Before open juncture, /c'/ is manifested phonetically as a fortis, voiceless, tip-articulated, gingival stop, followed by a homorganic voiceless fricative, with glottal constriction on both segments.

.?o't's'.                            /# ?óc' #<sup>3</sup>↓/

The allophone of /c'/ which appears before a consonant or close juncture is the same as that which appears before open juncture.

.tsin.,pit's'.tša.'mo.ko.        /# cin píc'čamók #<sup>13</sup>↓/

Before a vowel, /c'/ is manifested phonetically as a fortis, voiceless, tip-articulated, gingival stop, followed by a voiceless homorganic fricative, with glottal constriction on both segments. A syllable boundary precedes the stop.

The glottal constriction may become complete glottal closure which is released after the fricative: [·t's'ʔ].

·'t's'a·ka< . /# c'ák #<sup>3</sup>↓/

·,pɛ·'t's'an. /# péc'án #<sup>23</sup>↓/

#### Allophones of /č' /

Before open juncture, /č' / is manifested phonetically as a voiceless syllable consisting of a fortis, voiceless, blade-articulated, alveolar stop, followed by a voiceless homorganic fricative and a voiceless high central vocoid, with glottal constriction on all three segments. The stop may be anticipated in the preceding syllable.

·'ʔi·'t'š'ɣ̥. /# ʔíč' #<sup>3</sup>↓/

·,tiʔ·'ʔit'·t'š'ɣ̥. /# tíʔíč' #<sup>23</sup>↓/

Before a consonant or close juncture, /č' / is manifested phonetically as a fortis, voiceless, blade-articulated, alveolar stop, followed by a voiceless homorganic fricative, with glottal constriction on both segments. A syllable boundary follows the fricative. Before a high front, non-syllabic, voiced vocoid, the fricative segment is missing, and the phonemic contrast with /t' / is maintained through the blade-articulation and slightly backer position of /č' /.

·,xat'š'·'b'ɛn. /# xáč'p'én #<sup>23</sup>↓/

·tɛ·,vat'·,ɪax·'vɪN. /# te wáč' yáx wɪN #<sup>23</sup>↓/

Before a vowel, /č'/ is manifested phonetically as a fortis, voiceless, blade-articulated, alveolar stop, followed by a voiceless homorganic fricative, with glottal constriction on both segments. A syllable boundary precedes the stop. The glottal constriction may become complete glottal closure, releasing after the fricative.

·'t'š'al·                    /# č'al #<sup>3</sup>↓/

·,pi·t'š'an·, 'ε·'k'ij·       /# píč'an 'ék'ih #<sup>23</sup>↓/

#### Allophones of /k'/

Before open juncture, /k'/ is manifested phonetically as a voiceless syllable consisting of a fortis, voiceless, velar stop, followed by a voiceless high central vocoid, with glottal constriction on both segments. The glottal constriction may become complete glottal closure, releasing after the velar stop is released. Either the glottal constriction or closure, or the glottal constriction and the velar closure, may be anticipated in the preceding syllable.

·'pa·k'ʔ<sub>2</sub>·                    /# pák' #<sup>3</sup>↓/

·,pi·'tsi·'k'ʔ<sub>2</sub>·               /# píčík' #<sup>23</sup>↓/

Before a consonant or close juncture, /k'/ is manifested phonetically as a lenis, voiceless, velar stop, with glottal constriction, glottal closure simultaneous with the closure of the velar stop, or slight implosion. A syllable boundary follows.

·,spak". 'b"éx.

/# spák'p'éx #<sup>23</sup>↓/

·,pak". 'xa"p.

/# pák'xáp' #<sup>23</sup>↓/

Before a vowel, /k'/ is manifested phonetically as a voiceless velar stop with either simultaneous glottal closure or slight implosion. After a vowel, the stop is fortis; after a consonant, the stop is lenis. The glottal constriction may become complete glottal closure, releasing after the velar stop is released, and this glottal constriction or closure may be anticipated in the preceding syllable.

·,pitš.pil.'k'oi<sub>2</sub>.

/# píčpilk'óy #<sup>13</sup>↓/

·,spa". 'k"i<sub>2</sub>.

/# spák'íh #<sup>23</sup>↓/

#### Allophones of /b/

The phoneme /b/, which occurs only in loans from Spanish, has not been attested before open juncture. The usual source of /b/ is the Spanish bilabial stop, which occurs only rarely in word-final position.

In all other positions, /b/ is manifested phonetically as a lenis, voiced, bilabial stop. A syllable boundary precedes the stop. After open juncture, the bilabial stop may be pre-nasalized.

·,ba.'rum.baa<sub>2</sub>.

/# bárúmbah #<sup>31</sup>↓/

·,<sup>m</sup>ba.'rum.baa<sub>2</sub>.

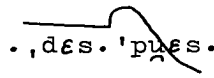
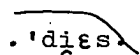
/# bárúmbah #<sup>31</sup>↓/

·,bu<sub>2</sub>é.noo<sub>2</sub>.

/# bwénoh #<sup>31</sup>↓/

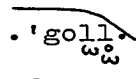
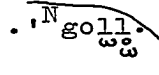
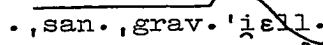
Allophones of /d/

The phoneme /d/, which occurs only in loans from Spanish, has not been attested before open or close juncture. In all other positions, /d/ is manifested phonetically as a lenis, voiced, gingival stop, and is preceded by a syllable boundary.

	/# después # <sup>23</sup> ↓/
	/# dyés # <sup>3</sup> ↓/

Allophones of /g/

The phoneme /g/, which occurs only in loans from Spanish, has not been attested before open or close juncture. In all other positions, /g/ is manifested phonetically as a lenis, voiced, velar stop. After open juncture, the stop may be prenasalized.

	/# gól # <sup>3</sup> ↓/
	/# gól # <sup>3</sup> ↓/
	/# sán gráwyél # <sup>23</sup> ↓/

Allophones of /f/

The phoneme /f/, which occurs only in loans from Spanish, has not been attested before open or close juncture, or before a consonant. Before a vowel, /f/ is manifested phonetically as a voiceless labio-dental fricative.

	/# fórmah # <sup>31</sup> ↓/
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Allophones of /s/

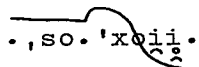
Before open juncture, /s/ is manifested phonetically as a voiceless, tip-articulated, gingival, slit fricative, with the vocal quality of the high central vocoid [ɨ]. Syllable boundary may either precede or follow the fricative. If the syllable boundary precedes the fricative, the allophone of /s/ is a voiceless syllable consisting of the fricative and a voiceless high central vocoid.

·'ʔi.s̥.	/# ʔís # <sup>3</sup> ↓/
·,dæs.'pʷæs.	/# déspwés # <sup>23</sup> ↓/

Before a consonant or close juncture, /s/ is manifested phonetically as a voiceless, tip-articulated, gingival, slit fricative, with the vocal quality of the high central vocoid [ɨ]. If a consonant follows, syllable boundary usually follows the fricative, but may precede it. Before close juncture, syllable boundary follows the fricative.

·,pís.'mu<.tš̥.	/# písmuč # <sup>23</sup> →/
·,pi'.'smu<.tš̥.	/# písmuč # <sup>23</sup> ↓/
·,spi'.'štɛx.	/# spíštéx # <sup>23</sup> ↓/

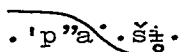
Before a vowel, /s/ is manifested phonetically as a voiceless, tip-articulated, gingival, slit fricative, with the vocal quality of the high central vocoid [ɨ]. Syllable boundary precedes the fricative.

.,so.'xoi.  


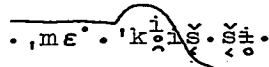
/ # sóxóy #<sup>23</sup> ↓ /

### Allophones of /š/

Before open juncture, /š/ is manifested phonetically as a voiceless syllable consisting of a voiceless, blade-articulated, alveolar, slit fricative followed by a voiceless high central vocoid. The fricative may be anticipated in the preceding syllable. The point of articulation of the fricative is slightly fronted after the vowels /i e/ and slightly backed after the vowels /o u/.

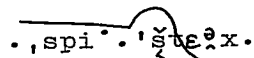
.,p'a.š.  


/ # p'áš #<sup>3</sup> ↓ /

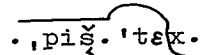
.,mε.'kōš.š.  


/ # mékiš #<sup>23</sup> ↓ /

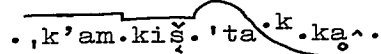
Before a consonant or close juncture, /š/ is manifested phonetically as a voiceless, blade-articulated, alveolar, slit fricative, with the vocal quality of the high central vocoid [ɨ]. Before a consonant, syllable boundary may precede the fricative, but usually follows it. Before close juncture, syllable boundary follows the fricative. The point of articulation of the fricative is slightly fronted after /i e/ and slightly backed after /o u/.

.,spi.'štəx.  


/ # spíštəx #<sup>23</sup> ↓ /

.,piš.'təx.  


/ # píštəx #<sup>23</sup> ↓ /

.,k'am.kiš.'ta.k.kə.  


/ # k'ámkišták #<sup>13</sup> ↓ /

Before a vowel, /š/ is manifested phonetically as a voiceless, blade-articulated, alveolar, slit fricative, with the vocal quality of a high central vocoid. The point of articulation of the fricative is slightly backed before /o u/ and slightly fronted before /i e/. Syllable boundary precedes the fricative.

·'ša·.ka<sup>o</sup>·. / # šák #<sup>3</sup>↓ /

#### Allophones of /x/

Before open juncture, /x/ is manifested phonetically as a voiceless, velar or post-velar, slit fricative, with the vocal quality of a high central vocoid. The fricative may be followed by a voiceless syllable consisting of a re-articulation of the velar fricative and a high central (voiceless) vocoid. The point of articulation of the fricative, which varies from velar to post-velar, is apparently unrelated to the vocalic environment.

·'pa·.x<sup>o</sup>·. / # páx #<sup>3</sup>↓ /

·,spak"·. 'b"éx·. / # spák'p'éx #<sup>23</sup>↓ /

·,tup"·. 'tε<sup>o</sup>x<sup>o</sup>·. / # túp'téx #<sup>23</sup>↓ /

Before a consonant or close juncture, /x/ is manifested phonetically as a voiceless, velar or post-velar, slit fricative, with the vocal quality of a high central vocoid. Syllable boundary follows the fricative.



.,pax.'k'u.tsi. /# páxk'úc #<sup>23</sup>↓/

Before a vowel, /x/ is manifested phonetically as a voiceless, velar or post-velar, slit fricative, with the vocal quality of a high central vocoid.

.,paat.na.,xi. /# pátnaxíh #<sup>13</sup>↓/

.,pak''.xap? /# pák'xáp' #<sup>23</sup>↓/

.,xat's'.b''ε.n. /# xáč'p'één #<sup>23</sup>↓/

#### Allophones of /h/

Before open juncture, /h/ is manifested phonetically as a non-syllabic devoiced continuation of the preceding vowel, followed by syllable boundary.

.,sp''aN.'p''ii. /# sp'áNp'íh #<sup>23</sup>↓/

.,b''a.'raa. /# p'áráh #<sup>23</sup>↓/

.ba.'rum.baa. /# barúmbah #<sup>31</sup>↓/

Before a consonant or close juncture, the phoneme /h/ does not occur. The morpheme which before vowels or open juncture is manifested phonetically as /p'íh/, for example, is manifested as /p'í/ before a consonant or close juncture.

.,p''i.i''i.i''i. /# p'íhíhíh #<sup>13</sup>↓/

.,p''i.'p''ill. /# p'íp'íl #<sup>23</sup>↓/

.tsin'.b''i.'aN.'t's'all. /# cin p'í ?aN č'ál #<sup>13</sup>↓/

Before a vowel, /h/ is manifested phonetically as a non-syllabic, voiced or voiceless, onset to the following vowel, with local or pharyngeal friction on the non-syllabic segment. After close juncture preceded by a voiceless fricative, the onset is usually voiceless.

·'a <sub>2</sub> <sup>+</sup> a·?·?ə·	/# há? # <sup>3</sup> ↓/
·,p'i·'ɛ <sub>2</sub> <sup>+</sup> ε·xə·	/# p'íhéc # <sup>23</sup> ↓/
·,p'i·i <sub>2</sub> <sup>+</sup> i·i <sub>2</sub> <sup>+</sup> i <sub>2</sub> ·	/# p'íhihíh # <sup>13</sup> ↓/

#### Allophones of /m/

The phoneme /m/ is manifested phonetically as a voiced bilabial nasal. Before open juncture, the nasal may devoice. Before a vowel, syllable boundary precedes the nasal; otherwise, syllable boundary follows.

·,?iv·'šim·	/# ?íším # <sup>23</sup> ↓/
·'lɛmm·	/# lém # <sup>3</sup> ↓/
·,pis·'mu·tšɛ·	/# písmúč # <sup>23</sup> ↓/
·,pa·man·,pa·'man·	/# páman pámán # <sup>23</sup> ↓/
·,mɛ·'k <sub>2</sub> <sup>i</sup> iš·	/# mékíš # <sup>23</sup> ↓/

#### Allophones of /n/

The phoneme /n/ is manifested phonetically as a voiced, tip-articulated, gingival nasal. Before open juncture, the nasal may devoice. Before a vowel, syllable boundary precedes

the nasal; otherwise, syllable boundary follows.

.,pa.man'. ,pa.'ma'n.	/ # páman pámán # <sup>23</sup> ↓ /
.,xat's'.'b"e'nn.	/ # xáč'p'én # <sup>23</sup> ↓ /
. 'ni v p. pi.	/ # ní p # <sup>3</sup> ↓ /
.k'i.na.'Náp?	/ # k'inaNáp' # <sup>13</sup> ↓ /

#### Allophones of /N/

The phoneme /N/ is manifested phonetically as a voiced nasal which varies from pre-palatal to velar in point of articulation. Before the front vowels /i e/, and before /y/, the nasal is pre-palatal. Before /a/, the nasal is palatal. Elsewhere, the nasal is velar. Before open juncture, the nasal may devoice. If a vowel precedes, syllable boundary occurs before the nasal; otherwise, syllable boundary follows.

. 'ñi' ?ə.	/ # Ní' ? # <sup>3</sup> ↓ /
. 'ñεε.	/ # Néh # <sup>3</sup> ↓ /
. 'Naa.	/ # Náh # <sup>3</sup> ↓ /
. ,No.'lep?	/ # Nólóp' # <sup>23</sup> ↓ /
.sko'. ,Nu'. 'su' ?ə.	/ # sko Núsú' ? # <sup>23</sup> ↓ /
. 'ma.ñiaa.	/ # máNyah # <sup>31</sup> ↓ /
. 'toNN.	/ # tón # <sup>3</sup> ↓ /
. ,p"aN. 'p"ii.	/ # p'áNp'íh # <sup>23</sup> ↓ /

Allophones of /w/

The phoneme /w/ is manifested phonetically as a voiced, labiodental, slit fricative, as a non-syllabic, voiced, rounded, high back vocoid, or as a combination of these segments. After two consonants or a sequence of juncture plus consonant, /w/ is manifested phonetically as a non-syllabic, voiced, rounded, high back vocoid. Before open juncture, /w/ is manifested phonetically as a voiced labiodental fricative, which may be rounded and preceded by anticipatory rounding and high back offglide of the preceding vowel; the fricative may devoice. Elsewhere, /w/ is manifested phonetically as a voiced, labiodental, slit fricative. Before a vowel (but not after CC, +C, or #C), syllable boundary precedes the phonetic manifestation of /w/. Elsewhere, except after CC, +C, or #C, syllable boundary follows.

·'pués.	/ # pwés # <sup>3</sup> ↓ /
·,dés.'pués.	/ # déspwés # <sup>23</sup> ↓ /
·'t'ivv.	/ # t'íw # <sup>3</sup> ↓ /
·,b'a'·'a <sup>u</sup> v.	/ # p'a'áw # <sup>23</sup> ↓ /
·,sk'ev.tši.'təx. <sup>x<sub>2</sub></sup> .	/ # sk'éwčitéx # <sup>13</sup> ↓ /
·,k'ε.vε.'vi <sub>2</sub> .	/ # k'éwewih # <sup>13</sup> ↓ /
·nok'·,ši.va.'la <sup>u</sup> v.	/ # nok' šíwaláw # <sup>13</sup> ↓ /

Allophones of /y/

The phoneme /y/ is manifested phonetically as a non-syllabic, voiced, high front vocoid. Before open juncture, the vocoid may be followed by a non-syllabic, voiceless, homorganic vocoid. Before a vowel, syllable boundary precedes the voiced vocoid; elsewhere, syllable boundary follows.

·,so.'xol <sub>2</sub> i.	/# sóxóy # <sup>23</sup> ↓/
·'pai <sub>2</sub> i.	/# páy # <sup>3</sup> ↓/
·,sp'ái.'b'i <sub>2</sub> i.	/# sp'áyp'íh # <sup>23</sup> ↓/
·,iét''. 'tal.	/# yét' 'tál # <sup>23</sup> ↓/
·,ia'·.b'i <sub>2</sub> l.	/# yáp' 'il # <sup>23</sup> ↓/

Allophones of /l/

The phoneme /l/ is manifested phonetically as a voiced, tip-articulated, gingival lateral. Before open juncture, the lateral begins voiced and then devoices. After the rounded vowels /o u/, the lateral may be rounded. Before a vowel, syllable boundary precedes the lateral; elsewhere, syllable boundary follows.

·'ʔaill.	/# ʔál # <sup>3</sup> ↓/
·'goll.	/# gól # <sup>3</sup> ↓/
·,b'él.b'um.'b'aa.	/# p'élp'ump'áh # <sup>13</sup> ↓/

<u>·'lɛm̩</u>	/# lɛm̩ # <sup>3</sup> ↓/
<u>·'lɛb̩·p̩</u>	/# lɛp̩ # <sup>3</sup> ↓/
<u>·,b̩'a·'lu̩t̩s̩u̩</u>	/# p̩'álúč # <sup>23</sup> ↓/

### Allophones of /r/

The phoneme /r/ is manifested phonetically as a gingival trill, flap, or fricative. Before open juncture, /r/ is manifested phonetically as a tip-articulated gingival trill which begins voiced and ends voiceless; syllable boundary follows the voiceless segment. After open juncture, /r/ is manifested phonetically as either a voiced, tip-articulated, gingival flap, or as a voiceless homorganic groove fricative. Elsewhere, /r/ is manifested phonetically as a voiced, tip-articulated, gingival flap. Before a vowel, syllable boundary precedes the phonetic manifestation of /r/; elsewhere, syllable boundary follows.

<u>·'p̩'ur̩</u>	/# p̩'úr # <sup>3</sup> ↓/
<u>·,r̩ɛ·'tɛt̩t̩ɛ&gt;</u>	/# r̩étét # <sup>23</sup> ↓/
<u>·,r̩ɛ·'tɛt̩t̩ɛ</u>	/# r̩étét # <sup>23</sup> ↓/
<u>·,sp̩'ir̩·b̩'a·'ti̩</u>	/# sp̩'ír̩p̩'atíh # <sup>13</sup> ↓/
<u>·'for̩.maa̩</u>	/# fórma# <sup>31</sup> ↓/
<u>·,b̩'a·'raa̩</u>	/# p̩'aráh # <sup>23</sup> ↓/

## Vowel Allophones

Vowel Quality

The phoneme /i/ is manifested phonetically as a voiced, unrounded, high front vocoid. The point of articulation of the vocoid ranges from tense [i] to lax [ɪ]. The most common variant is [i].

The phoneme /e/ is manifested phonetically as a voiced, unrounded, mid front vocoid. The point of articulation of the vocoid ranges from tense [e] to lax [ɛ]. The most common variant is [ɛ].

The phoneme /a/ is manifested phonetically as a voiced, unrounded, low central vocoid. The point of articulation of the vocoid ranges from tense [a<sup>^</sup>] to lax [a]. Before /l/, the vocoid is frequently fronted [a<sup><</sup>]. The range of /a/ does not extend as high as [ə] nor as back as [ɑ].

The phoneme /o/ is manifested phonetically as a voiced, rounded, mid back vocoid. The point of articulation of the vocoid ranges from tense [o<sup>^</sup>] to lax [ɔ]. The most common variant is [o].

The phoneme /u/ is manifested phonetically as a voiced, rounded, high back vocoid. The point of articulation of the vocoid ranges from tense [u] to lax [ʊ]. Before /ç/ or /ç'/ the vocoid tends to have fronting offglides: [u<sup>i</sup>]. The most common variant is [u].

Vowel Quantity

There is no phonemic contrast between vocoids of shorter and longer duration. However, vowels in unchecked syllables

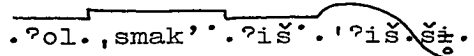
tend to be manifested as allophones which are noticeably longer in duration than the allophones of the same vowel in checked syllables. The last vowel before open juncture also tends to be manifested as a vocoid longer in duration than vocoids in other syllables.

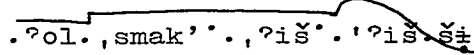
#### Stress Allophones

Three phonemes of stress are necessary and sufficient for the adequate description of Chuj stress patterns. Two stresses, weak (unmarked) and strong (/'/), are sufficient to account for contrastive stresses on lexical items. While no perfect minimal pairs have been found, lexical items of similar phonemic shape which differ in stress patterns have been observed: /wáleh/ value, /wále'/?/ sugar cane. A third stress, marked /"/, is necessary to describe sentence stress--the strongest of the strong stresses in an utterance. In a phonetic transcription which recognizes four levels of stress, /"/ is represented by the strongest stress, /'/ by either of the two strongest stresses, and the unmarked weak stress is represented by either of the weakest two stresses. The contrast between /"/ and /'/, where both are manifested as the same phonetic stress, is maintained through a secondary feature: the highest pitch level always accompanies the sentence stress. Since pitch levels may be affected by contour phonemes, the contrast between strong stress and sentence stress is neutralized before open juncture.

Two utterances which illustrate the contrast between weak and strong stress are the following sentences:

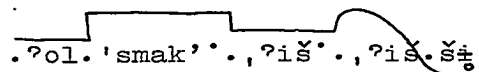


 .ʔol.,smak'..ʔiš'..ʔiš.šš. /# ʔol smák' ʔiš ʔiš#<sup>15</sup>↓/

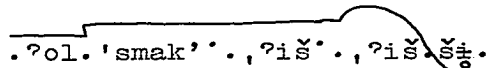
 .ʔol.,smak'..,ʔiš'..ʔiš.šš. /# ʔol smák' ʔiš ʔiš#<sup>23</sup>↓/

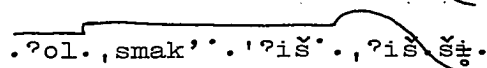
In the first example, weak stress marks /ʔiš/ as a specifier for the following (stressed) noun, /ʔiš/ woman. In the second example, strong stress marks both occurrences of /ʔiš/ as nouns. The two sentences may be glossed the woman will hit it (first example) and she will hit her (second example).

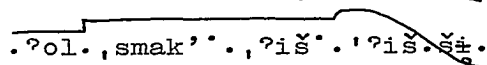
Two utterances which illustrate the contrast between strong stress and sentence stress are the second example above and the following sentence, in which emphasis is placed on the verb /mák'/ by raising the phonetic pitch on one syllable:

 .ʔol.'smak'..,ʔiš'..,ʔiš.šš. /# ʔol smák' ʔiš ʔiš#<sup>23</sup>↓/

Three possible phonetic representations of the sentence she will hit her illustrate the range and relative strengths of weak and strong stresses:

 .ʔol.'smak'..,ʔiš'..,ʔiš.šš.

 .ʔol.,smak'..'ʔiš'..,ʔiš.šš.

 .ʔol.,smak'..,ʔiš'..'ʔiš.šš.

In all three examples the syllable ʔol may take either the weakest phonetic stress (of four) or the next strongest phonetic stress. Phonemically, all three examples are transcribed /# ʔol smák' ʔiš ʔiš#<sup>23</sup>↓/, and all are identical in meaning.

## Juncture Allophones

Two phonemes of juncture, close juncture (marked /+/  
or with a single space) and open juncture (marked /#/), are  
necessary and sufficient to describe segmental allophonics.  
The allophones of open juncture are manifested phonetically  
in the allophones of the preceding phoneme, and have been de-  
scribed in Consonant Allophones, pages 12-33. The phonetic  
feature which distinguishes close juncture from close tran-  
sition without juncture is a hold on the syllable boundary.  
Thus, the distinction between close transition in /k'átepán/  
Old Church (a place name) and close juncture in /k'á tépán/  
old church is a hold on the syllable boundary following the  
syllable which represents /k'á/ in the second item. The fol-  
lowing are near-minimal pairs which illustrate Chuj junctural  
phenomena:

/# wan kílan ha lúmaših #<sup>13</sup>↓/ We are watching you get  
dirty (in the present).

/# wan kílanih #<sup>13</sup>↑ ha lúmaših #<sup>13</sup>↓/ We were watching  
while you got dirty (in the recent past).

/# wal yílan ha lúmaših #<sup>13</sup>↓/ He was watching you get  
dirty (in the recent or immediate past).

/# wal yílanih #<sup>13</sup>↑ ha lúmaših #<sup>13</sup>↓/ Just as he saw  
you, you got dirty (in the recent or immediate past, or in  
the present).

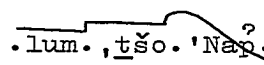
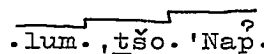
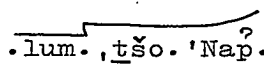
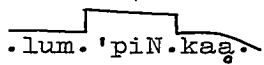
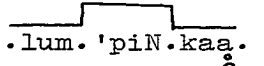
/# wálp'atih #<sup>13</sup>↓/ I say it.

/# wal p'atih #<sup>23</sup>↓/ He is going away now.

## Pitch and Contour Allophones

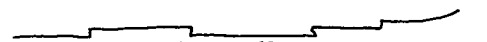
No phonemes of pitch or of contour are postulated on a lexical level, as no two lexical items differ in pitch or contour alone. However, the distribution of pitches and pitch contours over a string of morphemes cannot be predicted on phonological grounds. Phonemic pitches and contours have thus been established.

The three phonemic contours occur only in connection with open juncture and are manifested phonetically as rising, level, and falling pitch line over the pre-junctural syllable. Rising contour is marked /↑/, level contour is marked /→/, and falling contour is marked /↓/. The following transcriptions of the phrases /# lum čóNáp' # / the town and /# lum píNkah# / the plantation illustrate the phonetic manifestations of the three contours.

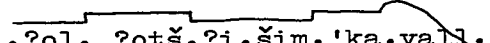
	/# lum čóNáp' # <sup>23</sup> ↓/
	/# lum čóNáp' # <sup>23</sup> →/
	/# lum čóNáp' # <sup>22</sup> ↑/
	/# lum píNkah # <sup>31</sup> ↓/
	/# lum píNkah # <sup>31</sup> →/

Except for the last two syllables before open juncture and syllables which are marked with sentence stress, pitch levels can be predicted from stress phonemes--the low pitch always occurs with weak stress and the mid pitch occurs with strong

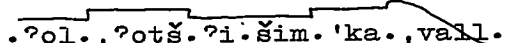
stress. Syllables which take sentence stress also take high pitch. On the second syllable before open juncture, pitch is not predictable on the basis of stress phonemes, but syllables with weak stress usually take low pitch, and syllables with strong stress usually take either mid or high pitch. Pitch is likewise not predictable from stress on the final syllable before open juncture, as syllables with strong stress usually take mid or high pitch, but weakly stressed syllables may take any pitch. Thus, pitch is contrastive only on the two syllables preceding open juncture, and may be considered to be part of the contour. In the phonemic transcription of Chuj used here, the pitch levels of the two pre-junctural syllables are marked after the open juncture and before the arrow which represents the pitch glide of the contour. Low, mid, and high pitch levels are marked /<sup>1</sup>/, /<sup>2</sup>/, and /<sup>3</sup>/, respectively. The following utterances illustrate the pitch phenomena associated with contours:

  
 .ʔol., ʔotš. ʔi.šim. 'ka.vall.

/# ʔol ʔóč ʔišim káwal #<sup>23</sup>↑/ The corn season will begin.

  
 .ʔol., ʔotš. ʔi.šim. 'ka.vall.

/# ʔol ʔóč ʔišim káwal #<sup>23</sup>↓/ The corn season will begin.

  
 .ʔol., ʔotš. ʔi.šim. 'ka.,vall.

/# ʔol ʔóč ʔišim káwal #<sup>23</sup>↓/ The corn season will begin.

.lum.'tšo.Nap<sub>2</sub>

/# lum čóNap' #<sup>23</sup>↓/ the town

.lum.'piN.kaa<sub>2</sub>

/# lum píNkah #<sup>31</sup>↓/ the plantation

.t'a.'sp'a?b'e.,lall<sub>2</sub>.

/# t'a sp'áp'elal #<sup>12</sup>↑/ firstly

.tσα.matš.'p'a.ti<sub>2</sub>.

/# camač p'átih #<sup>23</sup>↓/ Are you going?

.tσα.matš.'p'a.ti<sub>2</sub>.

/# camač p'átih #<sup>31</sup>↓/ You're really going?

.,?a.iam.,tu'.min.

/# ?áyam túmín #<sup>23</sup>↓/ Is there money?

.,?a.iam.'tu.min.

/# ?áyam túmín #<sup>31</sup>↓/ There really is money?

#### Generalized Statements of Consonant Allophones

In general, Chuj stops are unreleased and followed by a syllable boundary before consonants or close juncture, and released into a voiceless vocoid before open juncture. Glottal-

ized stops are either implosive or glottalized before vowels. Plain (non-glottalized) stops are lightly aspirated before vowels. Voiced stops are neither aspirated, implosive, nor glottalized, but they may be pre-nasalized after open juncture and before vowels.

Affricates are generally unreleased (except through their fricative segments) before consonants or close juncture, and they are released into voiceless high central vocoids before open juncture. Glottalized affricates have glottal constriction over their segments. Plain affricates are lightly aspirated.

In general, voiced continuants devoice before open juncture. Voiceless continuants show some assimilation to the surrounding phonemes.

### Phoneme Sequence Restrictions

#### Vowel Clusters

Vowel clusters are limited, and appear to derive from two sources: (1) stylistic loss of intervocalic /ʔ/ which is morpheme-final in bi-morphemic forms, and (2) borrowing of forms having vowel clusters in other languages. One item which shows a vowel cluster but is apparently neither a loan nor derived from a form with /ʔ/ is the hailing cry /keréoh/.

Vowel clusters which have been observed are /ie ia io ae au ou ui ue/. The following forms illustrate these clusters and their sources.

/ie/

/siéntoh/ < Spanish ciento; one hundred

/tiémpoh/ < Spanish tiempo; era  
 /diés/ < Spanish diez; ten  
 /siémpreh/ < Spanish siempre; always, certainly

/ia/

/tíapók/ < Kanjobal; the place Ixtiapoc, San Juan Ixcoy  
 /č'íá'/? < Kanjobal; the place Chiá, Barillas  
 /č'íápah/ < ?; nagual or guapo; companion soul  
 /kaméliah/ < Spanish camelia; the place Finca Las Came-  
 lias, San Mateo Ixtatán

/io/

/rósárioh/ < Spanish rosario; rosary  
 /sáran pión/ < Spanish saranpión; measles

/ae/

/č'áemíh/ < /č'á'emíh/ to receive from above  
 /p'áelíh/ < /p'á'elíh/ to twist a joint  
 /č'áemíh/ < /č'á'emíh/ to make a mess

/au/

/c'áúp'/ < /c'á'úp'/ a disease of maize

/ou/

/p'óum p'éh/ < /p'ó'um p'éh/ road worker  
 /p'óum kášáh/ < /p'ó'um kášáh/ box maker

/ui/

/rúinah/ < Spanish ruina; ruins

/ue/

/rúétah/ < Spanish rueda; spinning wheel

Since suffixation of roots with /il/, /ex/, /an/, /ox/, and /um/ is common, all vowel clusters are theoretically possible. Nevertheless, few vowel clusters have been observed. All vowel sequences which occur in Spanish are likewise potential Chuj sequences, but the Chuj tendency is to borrow Spanish vowel clusters as sequences of semivowel and vowel, or to reduce the sequence to a single vowel. For example, several of the lexical items cited above have alternant forms in which the vowel cluster has been reduced: /syéntuh/ ~ /siéntoh/, /tyémpuh/ ~ /tiémpoh/, /dyés/ ~ /diés/, /sémreh/ ~ /siémpreh/, /sáranpyón/ ~ /sáran pión/, and /rwétah/ ~ /rúétah/.

#### Consonant Clusters

Consonant clusters of  $C_1C_2$  are common in intervocalic position. With few exceptions, the combinations of consonants which may occur in these clusters are limited only by the shapes of morphemes. The exceptions involve morphophonemic changes in which  $C_1$  is replaced by another phoneme, or in which the whole  $C_1C_2$  sequence is replaced by a single phoneme. The regular morphophonemic changes are /čč/ > /tč/, /c'č/ > /t'č/, /ʔC/ > /C/, /hC/ > /C/, and /p'h/ > /w/. A chart of the observed intervocalic consonant clusters is found in Figure 3. Rather than showing wide restrictions on permissible sequences of consonants, the chart appears to reflect only the greater productivity of suffixes beginning in /t č k ʔ š x l/ as opposed to suffixes be-



		C <sub>2</sub>																										
		p	t	c	č	k	ʔ	p'	t'	c'	č'	k'	b	d	g	s	š	x	h	m	n	N	w	y	l	r		
C <sub>1</sub>	p	x	x	x	x	x		x	x							x	x	-				x	x	x				
	t	x	x	x	x	x	x										x	x	-	x		x		x	x			
	c	x			x	x	x											x	-			x						
	č	x	x		-	x	x	x										x	x	-	x		x		x			
	k	x	x	x	x	x	x	x										x		-		x	x	x	x	x	x	
	ʔ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	p'	x	x	x	x	x	x	x		x	x	x						x	x	x	-	x		x	x	x		
	t'	x	x			x													x	x	-		x		x			
	c'	x		-	x		x												x	-			x		x			
	č'			x	-	x	x	x													-					-		
	k'	x	x	x	x	x	x	x											x	x	x	-		x	x	x	x	x
	b																			-							x	
	d																			-							x	
	g																			-							x	
	s	x	x	x	x	x	x	x									x											
	š	x	x		x	x	x	x												x	-	x		x	x	x	x	
	ǰ	x	x	x	x	x	x	x		x	x	x								x	x	-		x		x		
	h	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	m	x	x		x	x	x	x						x	x					x	-		x		x	x	x	x
	n	x	x	x	x	x	x	x		x		x								x	x	x	-		x	x	x	x
	N	x	x	x	x	x	x	x												x	x			x		x	x	
	w	x		x	x		x													x	x	-			x	x	x	
	y	x	x	x	x	x	x	x												x	-			x		x		
	l	x	x	x	x	x	x	x		x		x								x	x	x	-	x	x	x	x	
	r	x			x	x	x													x	-	x		x		x		

x = observed consonant cluster  
 - = cluster replaced by regular morphophonemic change  
 blank = cluster not observed

Fig. 3--Intervocalic C<sub>1</sub>C<sub>2</sub> consonant clusters

ginning in other consonants. The infrequency of clusters with /b d g r/ can be attributed to the tendency to reduce clusters in borrowed forms, which in any case would furnish only a few of the possible combinations.

Post-junctural clusters derive from two sources: (1) a large number of clusters resulting from the prefixation of the third person prefix /s/ to noun and verb stems, and (2) a limited number of clusters found in forms borrowed from Spanish. Both types of clusters are limited to sequences of two consonants, and the theoretically possible clusters of three consonants which could result from prefixation of /s/ to a borrowed form do not occur. The prefix /s/ before a consonant cluster is followed by close juncture: /s+CC/.

All combinations of /sC/ occur except \*/sč/, \*/sč'/, \*/s?/, and \*/sh/, which are replaced by /šč/, /šč'/, /y/, and /y/ by regular morphophonemic changes. Post-junctural clusters of Spanish origin are illustrated in the following items:

/Cy/

/wyén/ < Spanish bién; well

/wyáxah/ < Spanish viaje; journey

/kyéreh/ < Spanish quiere; to want

/syéntuh/ < Spanish ciento; one hundred

/tyémpuh/ < Spanish tiempo; era

/dyés/ < Spanish diez; ten

/Cw/

/kwáréntah/ < Spanish cuarenta; forty

- /bwénoh/ < Spanish bueno; good  
 /lwégoh/ < Spanish luego; later  
 /rwétah/ < Spanish rueda; spinning wheel

/Cr/

- /prówál/ < Spanish probar; to test something  
 /tréntah/ < Spanish treinta; thirty  
 /trámpah/ < Spanish trampa; trap  
 /tráwáxuh/ < Spanish trabajo; work  
 /tríguh/ < Spanish trigo; wheat  
 /san gráwyél/ < Spanish San Gabriel; Saint Gabriel

/Cl/

- /pléčah/ < Spanish flecha; arrow  
 /plátanár/ < Spanish platanar; Finca El Platanar, San Mateo Ixtatán  
 /plásah/ < Spanish plaza; town square or market  
 /plómah/ < Spanish plomo; ore  
 /plór/ < Spanish flor; flower

Some three-consonant clusters occur intervocalically in forms borrowed from Spanish. These are limited to consonant clusters similar to the loaned clusters listed above but preceded by a nasal or fricative.

- /san sewastyán/ < Spanish San Sebastián; Saint Sebastian  
 /kánsyón/ < Spanish canción; song  
 /sáranpyón/ < Spanish saranpión; measles  
 /kóntrah/ < Spanish contra(rio); enemy

/síémpreh/ < Spanish siempre; always, certainly

/déspwés/ < Spanish después; afterwards

/síNkwéntah/ < Spanish cincuenta; fifty

Only one pre-junctural consonant cluster has been observed, in a form borrowed from Spanish: /mádre máys/ < Spanish madre maíz, the name of an edible fern.

Clusters of two consonants separated by close juncture are freely formed, except that \*/č+č/, \*/c'+č/, and \*/h+C/ do not occur. The first two are replaced by /t+č/ and /t'+č/, respectively. The \*/h+C/ clusters do not occur because /h/ does not occur before close juncture; similarly, /ʔ/ may optionally drop before close juncture followed by a consonant.

## CHAPTER II

### MORPHOLOGY

#### Canonical Shapes and Morphophonemics

##### Morpheme Shapes

Roots and affixes in Chuj have different but partially overlapping sets of canonical forms. Roots are monosyllabic or longer; the longest native roots are trisyllabic, but loan forms from Spanish may be longer. Affixes are monosyllabic or shorter; the shortest are single consonants.

##### Root Shapes

The majority of Chuj roots are monosyllabic roots of the shape CVC.<sup>1</sup> Native roots of the shapes CV(C)CVC, CV<sub>1</sub>xV<sub>1</sub>C, and

---

<sup>1</sup>Previous citation of forms has been made in phonemic transcription enclosed in single slashes. Citation of roots, stems, and affixes, in the discussion of morphology and syntax, is often made in a morphophonemic transcription enclosed in double slashes: //šúš//. Each morph is presented in its assumed base shape--a series of morphophonemes which underlie its possible phonemic representations. The phonemic representations of a form in given contexts may be predicted from this shape (see page 60 and following pages). In the morphophonemic transcriptions, roots and derivational or inflectional affixes are joined by hyphens, while phrases are separated by single spaces. The symbols C and V represent any consonantal morphophoneme or any vocalic morphophoneme, respectively, in a manner analogous to the use of these symbols in phonetic and phonemic transcriptions. General formulae which represent a number of roots or a number of possible root shapes, rather than a single attested root, are written without slashes: CVC, CiC, CV<sup>?</sup>VC. Consonantal or vocalic morphophonemes which must be represented by the same phoneme are given the same numerical subscript: CV<sub>1</sub><sup>?</sup>V<sub>1</sub>C.

$CV_1^?V_1C$  also occur, but are not common, and a few roots of the trisyllabic shape  $CVCV_1^?V_1C$  have been observed. Roots which are borrowed from Spanish vary considerably in length and syllabic composition. Since the inventory of Spanish loans is an open and constantly changing set which varies from informant to informant (and a root may take a variety of more or less assimilated shapes in the speech of a single informant), no attempt will be made here to summarize borrowed root shapes. In general, however, borrowed roots differ from their Spanish sources in alteration of vowel quality and in reduction or other alteration of consonant clusters.

#### CVC Roots

The inventory of twenty-two consonants and five vowels which occur in native Chuj roots makes possible a total of 2,420 different CVC roots. Of these possible roots, at least 936 have been attested in texts or in elicitation. In the attested roots, the vowel /i/ occurs 206 times, /e/ occurs 180 times, /a/ occurs 244 times, /o/ occurs 195 times, and /u/ occurs 211 times. The combinations of consonants which occur in these roots are shown in Figure 4. There appear to be no restrictions on the selection of vowels which may occur in a given  $C_1-C_2$  frame. An analysis of the inventory of these frames, however, shows some regular patterns on non-occurrence of consonant combinations:

(1) Plain stops and affricates other than /p'/ do not occur as  $C_1$  in a  $C_1VC_2$  root which has as  $C_2$  a stop or affricate which differs from  $C_1$  only in glottalization. That is,

		C <sub>2</sub>																									
		p	t	c	č	k	ʔ	p'	t'	c'	č'	k'	b	d	g	s	š	x	h	m	n	N	w	y	l	r	
C <sub>1</sub>	p	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	x
	t	x	x		x	x	x	x	-	x	x	x					x	x	x	x	x	x	x	x	x	x	x
	c	x	x	x	-	x	x	x		-	-	x					x	x	x	x	x	x	x	x	x	x	x
	č	x	x	-	x	x	x	x		-	-	x					x	x	x	x	x	x	x	x	x	x	x
	k	x	x	x	x	x	x	x		x	x	-					x	x	x	x	x	x	x	x	x	x	x
	ʔ	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	x
	p'		x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	x
	t'					x	x	x	x								x	x	x	x	x	x	x	x	x	x	x
	c'	x	x	x	-	x	x	x		x	-	x					x	x	x		x	x	x		x	x	x
	č'	x	x	-	x	x	x	x		-	x						-	x	x		x	x	x	x	x	x	x
	k'	x	x	x	x	x	x	x				x					x	x	x	x	x	x	x	x	x	x	x
	b																										
	d																										
	g																										x
s	x	x	-	x	x	x	x	x	x	-	x					-	-	x		x	x	x		x	x	x	
š	x	x	-	x	x	x	x	x	x	-	-	x				-	x	x		x	x	x	x	x	x	x	
x	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	x	
h	x	x	x		x	x	x									x						x		x	x	x	
m		x		x	x	x	x	x	x	x	x					x	x	x	x	x	x		x	x	x	x	
n	x	x	x		x	x	x	x								x	x		x	x		x	x				
N	x			x	x	x	x		x	x	x					x	x	x	x			x		x	x	x	
w		x	x	x	x	x	x	x	x	x	x					x	x		x	x	x		x	x			
y								x		x	x					x		x	x							x	
l	x	x	x	x	x	x	x	x	x	x	x					x		x	x	x		x	x	x	x	x	
r	x	x			x						x					x			x		x		x				

x = observed combination  
 - = accounted for by regular morphophonemic rules  
 blank = not observed

Fig. 4--Co-occurring consonants in C<sub>1</sub>VC<sub>2</sub> roots

while the combination  $p_p'$  does occur, the combinations  $*t_t'$ ,  $*c_c'$ ,  $*č_č'$ , and  $*k_k'$  do not occur.

(2) An affricate may not occur as  $C_1$  in a  $C_1VC_2$  root which has as  $C_2$  an affricate not of the same point of articulation. That is, while the combinations  $c_c$  and  $č_č$  do occur, as do  $č'_č'$  and  $c'_c'$ , the combinations  $*c_č$ ,  $*c_č'$ ,  $*č_c$ ,  $*č_c'$ ,  $*c'_č$ ,  $*c'_č'$ ,  $*č'_c$ , and  $*č'_c'$  do not occur.

(3) The gingival fricative  $/s/$  does not occur in a  $C_1VC_2$  root which has as its other consonant a gingival or alveolar fricative. That is, the combinations  $*s_s$ ,  $*s_š$ , and  $*š_s$  do not occur.

(4) The fricatives  $/s/$  and  $/š/$  do not occur as  $C_1$  in  $C_1VC_2$  roots which have as  $C_2$  one of the affricates  $/c/$  and  $/č'/$ . That is, the combinations  $*s_c$ ,  $*š_c$ , and  $*š_č'$  do not occur.

(5) The fricative  $/š/$  does not occur as  $C_1$  in a  $C_1VC_2$  root which has as  $C_2$  the affricate  $/c'/$ . That is, the combination  $*š_c'$  does not occur.

The last three restrictions concern roots which have as  $C_1$  one of the fricatives  $/s/$  and  $/š/$ . The existence of a very few forms makes it difficult to write more general statements of restrictions. Except for the roots  $//šúš//$  wasp (a species of Polistes),  $//síč//$  hushing call to dogs,  $//séč//$  strike by one top on another (in the game of spinning tops),  $//šéč//$  forked,  $//šáč//$  forked,  $//šóč//$  land snail, and  $//sóc'//$  bat (any species), these three restrictions could be written as the following single restriction:

.



(3') The fricatives /s/ and /š/ do not occur as  $C_1$  in a  $C_1VC_2$  root which has as  $C_2$  a gingival or alveolar fricative or affricate.

The restrictions on CVC root shapes thus concern mainly the gingival-alveolar region and fricative and affricate articulation. Other gaps in the consonant co-occurrence chart are due to the infrequent occurrence of the phoneme /t'/ and the rare occurrences of /h/ and /y/ as root-initial consonants. Note that /h/ and /y/ do occur in hVC and yVC sequences, but as person markers and not as parts of the root.

#### CV(C)CVC Roots

Roots of the CV(C)CVC shapes include a number of forms which may in fact be bi-morphemic. However, it is difficult to justify morpheme cuts, as the individual parts seldom if ever recur. All known native bisyllabic roots are nouns. The set of CVCCVC forms is listed in Appendix A, where a possible etymological analysis is noted if part of the bisyllabic root is attested as a root in other environments. The CVCVC roots have been divided into three sets:  $CV_1xV_1C$ ,  $CV_1?V_1C$ , and a set which includes all other CVCVC roots.

The  $CV_1xV_1C$  roots are apparently developments of an earlier Proto-Mayan \*CVxC shape (Terrence S. Kaufman, personal communication); the Chuj root //náxat// distant, for example, is cognate with the Tzeltal form /naht/. One Chuj  $CV_1xV_1C$  form appears to be related to a Chuj CVC form, and may reflect an earlier pairing of  $CV_1xV_1C$  and CVC forms, or

a relationship in Proto-Mayan between \*CVxC and \*CVC forms:

//Náxap' // lake, //Náp' // rain. The set of known CV<sub>1</sub>xV<sub>1</sub>C Chuj roots follows.

//páxaw // waterfall

//póxom // place name: El Pojom, San Mateo Ixtatán

//póxox // a kind of palm tree

//póxow // pus

//tóxol // straight, salary

//čúxuy // Garrya laurifolia Hartw., and possibly other related species

//kúxup' // a kind of owl

//ʔáxaw // roof beam; this root also occurs in /ʔáxaw čán/, which Norman A. McQuown (personal communication) suggests may be analyzed as a compound of the roots //ʔáx // mas-ter, //ʔáw // cornfield, and //čán // snake, as /ʔáxaw čán/ is the name of a kind of rattlesnake.

//p'óxoč // place name: Yalambojoch, Nentón; the Spanish form of this name derives from the Chuj compound /yálaN p'óxoč/ the low place named /p'óxoč/.

//sóxoy // corn shuck

//šóxop' // place name: /šóxop' yók/ Río Xojibioc, San Mateo Ixtatán

//šúxux // a kind of tree

//náxat // distant

//Náxap' // lake

//wéxel // hunger

The roots of  $CV_1?V_1C$  shape appear to be developments of an earlier Proto-Mayan  $*CV?C$  root shape (Terrence S. Kaufman, personal communication). However, these roots appear to be of two types in modern Chuj: (1) those which reduce to CVC except before open juncture, and (2) those which remain  $CV?VC$  in all positions. The fact that not all  $CV_1?V_1C$  roots reduce to CVC in non-final positions was not noticed until the final days of field work, and consequently the complete inventory of stable  $CV?VC$  roots cannot be specified at present. Appendix B lists the  $CV_1?V_1C$  roots which are known to reduce to CVC, those which are known not to reduce, and those which were not checked. It is possible that the instable  $CV_1?V_1C$  Chuj roots (those which reduce to CVC) are developments of Proto-Mayan  $*CV?C$  roots, while the stable  $CV_1?V_1C$  Chuj roots developed from bimorphemic Proto-Mayan  $*CV?VC$  forms.

Of the 484 possible  $CV_1?V_1C$  roots, only seventy-five roots have been attested. These roots show sixty-six of the possible combinations of initial and final consonants; the attested combinations are shown in Figure 5. The number of attested forms is too small to give decisive data on restrictions of consonant co-occurrence, but it should be noted that none of the attested consonant combinations are such that they could not also occur in CVC roots. The infrequency of  $CV_1?V_1C$  roots ending in glottalized consonants is probably related to the Proto-Mayan  $*CV?C$  origin of this root shape. Note that none of the attested  $CV_1?V_1C$  roots end in the phonemes /ʔ t' k' r/.

		C <sub>2</sub>																											
		p	t	c	č	k	ʔ	p'	t'	c'	č'	k'	b	d	g	s	š	x	h	m	n	N	w	y	l	r			
C <sub>1</sub>	p	x	x	x												x													
	t																											x	
	c																											x	
	č	x																											
	k																												
	ʔ																												
	p'																												
	t'																												
	c'																												
	č'																												
	k'																												
	b																												
	d																												
	g																												
	s																												
	š																												
	x	x																											
	h																												
	m																												
	n																												
	N																												
	w																												
	y	x																											
	l																												
	r																												

x = observed combination

blank = combination not observed

Fig. 5--Co-occurring consonants in CV<sub>1</sub>ʔV<sub>1</sub>C roots

Roots of the shape CVCVC (other than  $CV_1xV_1C$  and  $CV_1^?V_1C$ ) are common. Probably the great majority of CVCVC forms in the total inventory of Chuj lexical items are loans from Spanish. However, forms of CVCVC shape which are not borrowed from Spanish also occur. Appendix C lists the 198 native Chuj forms of the shape CVCVC which have been attested. Since the predominant pattern of Chuj roots is CVC and VC suffixes are likewise common, it might be suspected that the CVCVC forms are composed of CVC roots and VC suffixes. If the items listed in Appendix C were arbitrarily cut into CVC roots and VC suffixes, the following suffixes would appear: -ep, -ap, -up, -it, -et, -at, -ut, -ic, -ac, -uc, -ič, -eč, -ač, -oč, -uč, -ik, -ek, -ak, -ok, -uk, -i?, -e?, -a?, -o?, -u?, -ip', -ep', -ap', -op', -up', -ič', -ik', -ak', -uk', -is, -es, -us, -iš, -eš, -aš, -oš, -ex, -ax, -ox, -ah, -uh, -im, -em, -am, -om, -um, -in, -en, -an, -on, -un, -uN, -aw, -ay, -oy, -il, -el, -al, -ol, and -ul. That is, all but forty of the possible VC combinations in Chuj would be realized as suffixes. The forty hypothetical suffixes which would not appear are -ip, -op, -ot, -ec, -oc, -it', -et', -at', -ot', -ut', -ic', -ec', -ac', -oc', -uc', -eč', -ač', -oč', -uč', -ek', -ok', -as, -os, -uš, -ix, -ux, -ih, -eh, -oh, -iN, -eN, -aN, -oN, -iw, -ew, -ow, -uw, -iy, -ey, and -uy.

Some of these hypothetical suffixes would occur only once; others would occur often. Thus, while it is possible that the Chuj CVCVC forms are bi-morphemic, without further at-

testation of the hypothetical CVC roots on which these forms could be based, they are here considered to be mono-morphemic. Note that a large percentage of these forms are plant and animal names. Further investigation of Chuj ethnobotany and ethnozoology may lead to the identification of new roots, allowing the analysis of these CVCVC forms as bi-morphemic.

#### Trisyllabic Roots

A few trisyllabic roots occur. With the exception of //tótoroʔ// Adam's apple, //méxmeʔeč// slingshot, and numerous borrowings from Spanish, these roots are each represented by two phonemic shapes, CVCV<sub>1</sub>ʔV<sub>1</sub>C alternating with CVCVC; that is, they alternate between trisyllabic and bisyllabic patterns. These roots are written as //CVCVʔC// in morphophonemic transcription (see Root Shape Alternation, page 67). The known examples of this type are:

//tók'oʔš// flower of Cucurbita ficifolia (Guatemalan Spanish chilacayote) and possibly other related species

//čákaʔN// deaf person

//cóx k'ínoʔš// a kind of bird

//ʔíšiʔč// a kind of bean

//ʔákaʔN// hornet larvae

//p'éreʔč// hen with few feathers

//c'ákaʔN// boundary marker

//c'ómaʔn// Ceonthus coeruleus Lag. and possibly other related species

//k'ášiʔl// wing

//k'óšoʔč// land snail

- //k'óloʔč// a kind of mushroom  
 //k'účiʔl// a kind of plant  
 //sínaʔn// scorpion  
 //šúmaʔk// flower (in general)  
 //mékiʔš// berry (in general)

The similarity of the -VʔC parts of these forms suggests that perhaps they are CVC roots plus the suffixes \*//oʔš//, \*//-VʔN//, \*//-Vʔč//, \*//-aʔn//, \*//-iʔl//, \*//-aʔk//, and \*//-iʔš//. Some of the CVC roots which would be left by such an analysis actually have been attested as noun or positional roots. Their derived forms are:

- //p'ér-an// naked above the waist  
 //c'ák-an// stones used in the construction of shelters for bird-hunting  
 //c'óm-om-ih// wilted  
 //k'ól-an// ball-shaped  
 //tók'-an// oversize

At least the positional root //p'ér// has a meaning similar to that of the hypothetical root in //p'éreʔč//, and the roots //c'ák//, //c'óm//, and //k'ól// have what could be meanings similar to those of the hypothetical roots in //c'ákaʔN//, //c'ómaʔn//, and //k'óloʔč//. Likewise, the form //ʔíšiʔč// may be related to /ʔíšim/ maize, if both are based on a root \*//ʔíš//. On the other hand, //ʔíšiʔč// may be a compound of /ʔíšim/ maize and /ʔíč/ chile pepper which has been shortened and re-analyzed as a //CVCVʔC// root. Similarly, //k'ášiʔl// wing and //k'óšoʔč// land snail may

be compounds related to /ší'íl/ hair (which may be from an underlying //ší'l// or bi-morphemic, from //ší'// too thin for its length and //-íl// derivational suffix) and //šóč// land snail. Thus, many (if not all) of the //CVCV?C// forms may have been bi-morphemic in origin. The non-recurrence of most of the hypothetical roots, the disparity of meanings between the hypothetical roots and noun and positional roots which have the same phonemic shapes, and the absence in Chuj of any //-V?C// suffixes other than the hypothetical suffixes on these forms, however, make it advisable not to analyze the //CVCV?C// forms as currently bi-morphemic. An analysis of these forms as prefix plus //CV?C// root also fails, as in this case only /ší'íl/ (which may in turn be bi-morphemic) recurs as a root, and none of the hypothetical prefixes recur except //čá'// two, //k'áh// old, and //k'úh// sun (noun roots which might be the first members of compounds in these forms).

#### Affix Shapes

Chuj affixes are of the shapes C, VC, CV, and hVC. Suffixes are C, VC, or hVC; prefixes are C, CV, or hVC. The inventory of affixes and their distributions with respect to roots and stems are discussed in connection with the derivation and inflection of stems. Examples of the affix shapes are found in the following examples:

/coN múnłaxih/ < //c-hoN-mún-l-ax-ih// we work  
 C-hVC-      -C-VC-VC



/ca mák'a?/ < //c-ha-mák'-ha?// you hit (it)  
 C-CV-        -hVC

### Morphophonemics

Some morphemes are represented by several phonemic shapes, each of which occurs in a particular set of phonologically- or morphologically-defined environments. This is accounted for by assuming that each morpheme may be represented by several different morphs, each of which occurs in a particular set of morphological environments. These allomorphs are composed of morphophonemes, each of which may have different phonemic representations in different phonologically-defined environments.

### Morphologically-Conditioned Allomorph Selection

The set of person markers which variously express personal possession, subject or object of verb action, or subject of stative stems, is represented by three sets of allomorphs. The set of allomorphs which occur as subjects of intransitive verb stems or as objects of transitive verb stems is:

//hin-// first person singular  
 //hač-// second person singular  
 //ø-// third person singular or plural  
 //hoN-// first person plural  
 //heš-// second person plural

The set of person markers occurring as subjects of transitive verb stems or as possessive prefixes to noun stems is:

//hin-// ~ //w-// first person singular  
 //ha-// ~ //h-// second person singular  
 //s-// ~ //y-// third person singular or plural  
 //ko-// ~ //k-// first person plural  
 //he-// ~ //hey-// second person plural

The set of person markers which occur as subjects of stative stems is:

//-in// first person singular  
 //-ač// second person singular  
 //-ø// third person singular or plural  
 //-oN// first person plural  
 //-eš// second person plural

The morpheme which forms the imperative of verb stems is represented by //-aN// after intransitive stems, and by //-ø// after transitive stems.

The noun (specifier) root male being is optionally represented by //w// before the person marker //ha-//, and is otherwise represented by //wiN//:

/wiN ha mám/ < //wiN ha-mám// your father  
 /wa mám/ < //w ha-mám// your father

The person markers may be considered to be unstressed allomorphs of the same morphemes that are represented by the stressed allomorphs //hín// first person singular, //háč// second person singular, //hón// first person plural, and //héš// second person plural, which occur as independent noun roots.

Similarly, the morphs which occur as verb inflections

for directional motion may be considered to be allomorphs of the same morphemes that are represented by stressed morphs as independent intransitive verbs of directional motion. The allomorphs which occur as inflection are //kan// remain, //kut// draw near, //ek'// pass by, //em// go down, //el// leave, //uč// enter, //p'at// go, //k'eʔ// rise, //k'oč// arrive, and //hul// come. The allomorphs which occur as intransitive verb roots with essentially the same meanings are //kán//, //kót//, //ʔék'//, //ʔém//, //ʔél//, //ʔóč//, //p'át//, //k'éʔ//, //k'óč//, and //húl//.

The morphophonemics of numeral constructions in Chuj are rather complex. Both numeral roots and the suffixes normally associated with numeral constructions often have several variant forms, the morphological environment determining which form occurs.

The numeral root five is represented by //hóy// before the stem-forming suffix //eʔ// and by //hóʔ// ~ //hóp'// elsewhere. The stem-forming suffix is represented by //-ø// after the numeral roots //xún// one and //čáʔp'// two. That is, where \*//xún-eʔ//, \*//čáʔp'-eʔ//, and \*//hóʔ-eʔ// are expected by analogy with other forms, //xún-ø//, //čáʔp'-ø//, and //hóy-eʔ// occur: //ʔóš-eʔ kíntal// three hundredweights, but //xún-ø kíntal// one hundredweight, //čáʔp'-ø kíntal// two hundredweights, and //hóy-eʔ kíntal// five hundredweights.

The numeral two is represented by //čáʔ// before numeral classifiers, before //tak// in numeral classifier construc-

tions, and in compound numeral stems: //čá?-wá?-aN// two animate beings, //čá?-tak-wá?-aN// two animate beings each, //čá?-wínak// two score. Elsewhere, two is represented by //čá?p'//.

The numerical value twenty is represented by two morphemes, //xúnak// ~ //xúnk'// and //wínak// ~ //wínk'//. The first occurs as the integer twenty, the second as the value twenty, or score, in the construction of stems which have a numerical value greater than twenty. That is, twenty as an integer is //xúnak//; forty, or two score, is //čá?-wínak//.

The Chuj morphemes four, five, six, seven, eight, eleven, twenty, and score have allomorphs which occur only before the suffixes //-éx// ~ //-íš// days from now, //-x// ~ //-éx// ~ //-š// ~ //-íš// days ago, and //-iN// period of days. Before these suffixes, the numerals are represented by the allomorphs //čón// four, //hóp'// five, //wák'// six, //húkup'// seven, //wáxšak'// eight, //húšluč'// eleven, //xúnk'// twenty, and //wínk'// score. Otherwise these numeral roots are represented by //čáN// four, //hó?// ~ //hóy// five, //wák// six, //húk// seven, //wáxšak// eight, //húšluč// eleven, //xúnak// twenty, and //wínak// score.

The period of days suffix //-iN// occurs only after numeral stems ending in //xúnk'// or //wínk'//; that is, after stems representing numbers higher than nineteen: //xúnk'-iN// period of twenty days, //xún s-čá?-wínk'-iN// period of twenty-one days, but //?óš-e? k'úh-al// period of three days.

The days from now morpheme is represented by // -íš // after // hóp' // five and // húkup' // seven, and by // -éx // elsewhere: // hóp'-íš // five days from now, // húkup'-íš // seven days from now, // xúnk'-éx // twenty days from now.

The days elapsed morpheme is represented by // -š // after // hóp' // five; by // -íš // after // húkup' // seven; by // -x // after // čá'p' // two, // 'óš // three, // čón // four, and // wák' // six; and by // -éx // elsewhere: // hóp'-š-ih // five days ago, // húkup'-íš-ih // seven days ago, // čá'p'-x-ih // two days ago, // wáxšak'-éx-ih // eight days ago, // y-hóp'-š-ih-al // every five days, // y-húkup'-íš-ih-al // every seven days, // s-xún s-čá'-wínk'-éx-ih-al // every twenty-one days.

The morphophonemics of Chuj numeral constructions are thus rather complex, but historically interesting. The forms // xúnk' // and // wínk' // and the suffix // -iN // may have their origins in a re-analysis of forms such as \* // xúnak-k'íN // twenty-day or \* // xún-k'íN // one twenty-day period and \* // wínak-k'íN // twenty-day or \* // wiN k'íN // male being-day, as contemporary Chuj // k'íN // festival is cognate with a number of items meaning day in other Mayan languages--festivals commonly being held every twenty days. The analysis of // xúnk' // and // wínk' // as contemporary mono-morphemic forms is based on their occurrence without // -iN // in constructions like // s-xúnk'-éx-ih-al // every twenty days and // s-xún s-čá'-wínk'-éx-ih-al // every twenty-one days.

The shapes and distributions of the allomorphs of the days from now and days elapsed morphemes leave little doubt that they are all historically related. The allomorphs of both with stems above seven are identical: // -éx // . With two, three, four, and six, the allomorphs differ only in the presence or absence of a vowel. With five and seven, the allomorphs likewise differ only in the presence or absence of a vowel. The loss of an earlier vowel after suffixation of // -ih // would explain all forms except // húkup' -íš-ih // .

Phonologically-Conditioned  
Allomorph Selection

The selection of person markers which occur as personal possessive prefixes before noun stems and as subjects before transitive verb stems is conditioned by the initial consonant of the noun or verb stem. If the initial consonant is // ? // or // h // , the person markers // w- // , // h- // , // y- // , // k- // , and // hey- // occur. Otherwise, the person markers // hin- // , // ha- // , // s- // , // ko- // , and // he- // occur. The following forms illustrate this selection of morphs:

- /yá?/ < //y-há?// his water  
 /yíp/ < //y-?íp// his strength  
 /spát/ < //s-pát// his house  
 /kólo?/ < //k-hól-ho?// we make a hole  
 /kúk'ex/ < //k-?úk'-ex// we drink (it)  
 /ko mák'a?/ < //ko-mák'-ha?// we hit (it)

The transitive verb phrase clitic which occurs after an underived transitive root if open juncture follows is represent-

ed by several morphs whose selection is conditioned by the vowel and by the final consonant of the root. Following a root-final //ʔ//, the morphs are of the shape //ʔVh//; elsewhere they are //hVʔ//. After one of the vowels //i e a// in the root, the vowel of the morph which represents the clitic is //a//; following //o// in the root, the vowel is //o//; following //u// in the root, the vowel is //u//. The following forms illustrate this selection of morphs:

- /p'íʔah/ < //p'íʔ-ʔah// to take kinks out of something  
 /p'íhaʔ/ < //p'íh-haʔ// to stretch something  
 /tíwaʔ/ < //típ'-haʔ// to carry something cylindrical  
 /mésaʔ/ < //més-haʔ// to sweep something  
 /čáʔah/ < //čáʔ-ʔah// to receive something  
 /čákaʔ/ < //čák-haʔ// to mistreat someone  
 /p'óʔoh/ < //p'óʔ-ʔoh// to fix something  
 /p'óloʔ/ < //p'ól-hoʔ// to roast something  
 /c'úʔuh/ < //c'úʔ-ʔuh// to chew sugar cane  
 /c'úluʔ/ < //c'úl-huʔ// to peel something

No //Céʔ// transitive verb roots have been attested.

The morpheme which inflects verbs for repetition of action is represented by //iš// after a consonant other than //č// or //l//, and before a consonant or juncture; by //iš// or //š// after //č// or //l//; and by //š// elsewhere. This selection of morphs is illustrated in the following forms:

- /ʔóčiših/ < //ʔóč-iš-ih// to enter again  
 /ʔótših/ < //ʔóč-š-ih// to enter again  
 /ʔéliših/ < //ʔél-iš-ih// to leave again

/ʔélših/ < //ʔél-š-ih// to leave again

/ʔélištah/ < //ʔél-iš-tah// to enter again towards

the speaker

Note that \*//ʔél-š-tah// does not occur.

#### Phonemic Representations of Morphophonemes

Morphophonemic transcriptions as presented here utilize essentially the same set of symbols as phonemic transcriptions. However, the phonemic representation of a given morphophoneme is not necessarily the phoneme whose symbol is identical. Certain sequences of two or more morphophonemes have special phonemic representations. That is, the phonemic representations of a morph may differ from one phonological environment to another. In order to predict the phonemic representations of a given morph, the following special phonemic representations of morphophonemic sequences must be taken into account.

#### Root Shape Alternation

Roots written //CVʔC// in morphophonemic transcription are represented phonemically by forms of the shape /CVʔVC/ before open juncture, and by forms of the shape /CVC/ elsewhere. Roots written //CVCVʔC// in morphophonemic transcription are represented phonemically by forms of the shape /CVCVʔVC/ before open juncture, and by forms of the shape /CVCVC/ elsewhere. This alternation of root shape in a different phonological environment may be the result of a Proto-Mayan pre-junctural re-articulation of the vowel in



\*CV?C and \*CVCV?C forms, from which these Chuj roots probably developed. Note that there are also //CV?VC// roots which are represented phonemically only as /CV?VC/ (see Appendix B). The alternation in root shape between allomorphs of the same morpheme is illustrated in the following forms:

/# slú?um #<sup>23</sup>↓/ < //s-lú?m// his land (subject not explicit); //s-// third person possessive prefix, //lú?m// land

/# slúm wíN #<sup>23</sup>↓/ < //s-lú?m wíN// his land (subject explicit); //s-// third person possessive prefix, //lú?m// land, //wíN// male being

/# nok' sína?an #<sup>13</sup>↓/ < //nok' sína?n// the scorpion;  
//nok'// animal, //sína?n// scorpion

/# nok' sínan čí? #<sup>13</sup>↓/ < //nok' sína?n čí?// that scorpion;  
//nok'// animal, //sína?n// scorpion, //čí?// there

#### Segmental Phoneme Alternation

Some sequences of morphophonemes have special phonemic representations which result in alternation of segmental phonemes in allomorphs of the same morpheme. These sequences are enumerated below. All other morphophonemes and combinations of morphophonemes are represented phonemically by a symbol identical to that which occurs in the morphophonemic transcription. Where //-// is marked, morpheme boundary is a necessary condition for the special phonemic representation to occur.

//?C// > /C/

//nC// > /C/

//ʔ+// > /ʔ+// or /+//  
 //h+// > /+//  
 //p'h// > /w//  
 //Ch// > /C/ if C is not //p'// or //ʔ//  
 //c-ʔ// > /c'//  
 //C-ʔ// > /C/ if C is not //c//  
 //-c-C// > /sC/ if C is not //ʔ// or //h//  
 //čš// > /tš/ or /tč//  
 //tš// > /tš/ or /tč//  
 //-s-č// > /šč//  
 //-s-č'// > /šč'//

The following forms illustrate these representations:

/xáših/ < //xáʔ-š-ih// to enter again  
 /k'átépan/ < //k'áh-tépan// Old Church (place name)  
 /ʔóše kíntal/ ~ /ʔóšeʔ kíntal/ < //ʔóš-eʔ kíntal// three

hundredweights

/k'á tépan/ < //k'áh tépan// old church  
 /sk'áwep'/ < //s-k'áp'-hep'// their hands  
 /sp'átep'/ < //c-ʔ-p'át-hep'// they go  
 /c'óčih/ < //c-ʔ-ʔóč-ih// he enters  
 /wíp/ < //w-ʔíp// my strength  
 /sko p'átih/ < //c-ko-p'át-ih// we go  
 /ʔótših/ ~ /ʔótčih/ < //ʔóč-š-ih// to enter again  
 /p'átših/ ~ /p'átčih/ < //p'át-š-ih// to go again  
 /ščáhep'/ < //s-čáʔ-hep'// their molars  
 /šč'ál/ < //s-č'ál// his thread

### Stress Alternation

The placement of strong stresses is not predictable by phonological criteria, and not entirely predictable by either morphological or syntactic criteria alone. In general, polysyllabic roots or sequences of root plus affixes take weak stress on their final syllables before close juncture, and these syllables optionally take strong stress before open juncture. Monosyllabic roots are optionally stressed before open juncture and generally stressed elsewhere. Multiple factors determine the details of the placement of stress.

Strong stress falls on the head of a construction; since the heads of most constructions are roots, the result is an apparent connection between morphological category (status as a root) and strong stress. However, in multiple-root constructions such as compound nouns, weak stress on one or more roots may be obligatory. On the other hand, in long single-root constructions, some affixes may take obligatory strong stress.

Monosyllabic roots of necessity take strong stress, when they are stressed, on their only vowel. Native bisyllabic roots take an assigned strong stress on their first syllable. But while most bisyllabic Spanish forms with penultimate stress are borrowed as such, some of these loans take obligatory final weak stress and others take optional final strong stress. The Spanish cuenta, for instance, is borrowed as /wéntah/ ~ /wéntáh/, but finca occurs only as /píNkah/ and never as \*/píNkáh/. Polysyllabic native roots such as those

of the /CVCV<sup>?</sup>VC/ shape take an assigned strong stress on their first vowel. The distribution of strong stresses on polysyllabic loans from Spanish, however, is not predictable. In general, trisyllabic loans from Spanish forms which have penultimate stress take strong stress on their first two vowels in Chuj: Spanish oficio > /<sup>?</sup>ópísyoh/ office, Spanish centavo > /séntáwoh/ cent. However, not all such loans are stressed on the initial syllable: Spanish entonces may be /<sup>?</sup>antónseh/ then. Likewise, the penultimate stress is not always retained in the loan: Spanish naranjas > /náranšá<sup>?</sup>aš/ a kind of orange. Thus, each morph must be marked in the lexicon for potential stress.

The contrast between strong and weak stress is generally neutralized in the syllable preceding open juncture. Most roots and affixes may take either stress in this position, but a set of loans including /píNkah/ never take strong stress on the final syllable, even before open juncture.

Thus, four stress marks are employed in morphophonemic transcription: // ' // marks root (or other) vowels which take strong stress except before open juncture, where they may take weak stress: //póm// incense, //lú<sup>?</sup>m// land, //sína<sup>?</sup>n// scorpion, //cíxtum// many, //pókok// powder. Root vowels which never take strong stress are marked // ^ //: //píNkàh// plantation, //séntáwòh// cent. Unmarked vowels take weak stress except before open juncture, where they may take strong stress. In addition, obligatory specification of stress in constructions is marked as follows: // ^ // marks obligatory strong stress,

and //˘// marks obligatory weak stress. For instance, the phrase every fifteen days is written //y-hóʔ-láxuN-il-ták k'úh-al//, since the root and affix appear in the lexicon as //láxuN// and //tak//, but the phonemic representation of the construction is /yólaxuNil ták k'úhal/.

### Morpheme Categories

#### Root Types and Sub-Classes

In the description of Chuj morphology, it is convenient to postulate the existence of six root classes, although it is difficult to place some roots in any one class as opposed to another. Derivation and inflection unambiguously identify most roots as members of a certain form class and no other. If a root is productive, observed to co-occur with a number of derivational or inflectional affixes, its root class is not difficult to characterize. However, when a root is attested in only a few derived or inflected forms its class membership is sometimes uncertain. Likewise, there are roots which co-occur with two or more sets of affixes, each of which characterizes a different root class. In these cases the assumption has been made that there are two or more homorganic roots which belong to separate root classes.

#### Verb Roots

Verb roots are of the shape //CVC//. Two sub-classes of verb roots are distinguished by derivational and inflectional criteria: transitive and intransitive. Verb roots are distinguished as a class by inflection for tense and as-

pect without derivation of the root. That is, a verb root may occur as a verb stem without derivational affixation.

Most transitive verb roots are unambiguously identified by their co-occurrence with the clitic //hV?// ~ //~?Vh// (see pages 62-63). A small group of roots share the derivations and inflections of this set of transitive roots, but do not occur with these clitics. When otherwise underived, this second set of transitive roots are suffixed with //-ex//. Some transitive verb roots occur both with the clitics and with //-ex//.

Intransitive verb roots are unambiguously identified by their co-occurrence with the clitic //-ih// without derivation of the root.

#### Noun Roots

Noun roots are of the shapes //CVC//, //CV?C//, //CVCVC//, //CVCV?C//, and //CVCCVC// (other than Spanish loans). Four sub-classes of nouns are distinguished by inflectional and derivational criteria: substantive, adjective, numeral, and specifier.

Substantives are difficult to characterize, as they include many minor sub-sets. In general, substantives are roots which, when underived, may be inflected for person but not for tense or aspect. Syntactically, most substantives may be immediately preceded by a specifier. However, there are some substantives which do not occur inflected for person, and some which cannot be preceded by a specifier. The occurrence of the overwhelming majority of substantives in these con-

structions, however, is sufficient to allow the establishment of a substantive form class.

Adjectives are generally of the shape //CVC//; one root, //yáʔš// green, has a //CVʔC// shape. While adjectives in general share with substantives inflection for person but not for tense and aspect, they differ in potential derivation by the suffix //p'// to form intransitive verb stems. A large sub-set of adjectives--those which describe colors--occur with unique derivational suffixes to form intransitive verb stems which describe color changes.

Numerals are of the shapes //CVC//, //CVCVC//, and //CVCCVC//. They may occur underived with affixes of person, but not with affixes of tense and aspect, and are distinguished from all other form classes by their occurrence with a unique set of derivational suffixes to form names of time periods and cycles. Syntactically, numerals are distinguished by their occurrence, underived, immediately before numeral classifier stems. The Chuj numeral system is vigesimal, built on the distinction of zero and nineteen basic units, with the extension of the system past these basic units being based on cycles of twenties. Numeral roots, however, exist only for numbers from one to twelve, for twenty, and for four hundred. The remaining numbers are represented by compound stems.

Specifiers form a small sub-class of nouns. With the three exceptions //wiN// male being, //k'inal// rain, and //ʔaN// kind of plant, these fifteen morphemes are homophonous with certain substantives. However, as specifiers they are

not derived, and are subject to inflection only for plural-- by a process different from that by which other nouns are pluralized. Specifiers are taxons of native categories of animate and inanimate objects. In general, a category corresponds to a set of objects composed of a specific raw material. The category whose taxon is //lúʔm//, for instance, includes land, earth, all earthen products, geographical features, and named geographical locations. Four specifiers refer to four classes of plants, corresponding to four native categories of plants. The inventory of specifiers and the categories with which they are associated follow.

//ʔíš// female beings, either human or mythological

//wíN// male beings, either human or mythological, including some illnesses

//nók'// animals and animal products

//ʔíšim// maize and wheat and their products

//č'áN// vines and their products

//téʔ// woody-stemmed plants and their products

//ʔáN// plants and plant products not covered by //téʔ//,

//č'áN//, and //ʔíšim//

//lúʔm// earth, earthen products, geographical features

//k'éʔn// stone and metals and their products

//k'ápak// cloth and cloth products

//náyleh// sheet-like nylon or plastic and its products

(from English nylon through local Spanish náilon)

//ʔác'am// salt and its products



//háʔ // liquids and hydrographic features

//yáp'il // illnesses

//k'inal // rains

### Positional Roots

Positional roots are of the shape //CVC//, and are distinguished from other form classes by a number of derivational reduplication processes which occur with no other form class. There exist many positional roots which are homorganic with and have similar meanings to transitive verb roots, but there are also a number of positional roots which have different meanings from homorganic transitive verb roots, and other positional roots which have no corresponding transitive verb root. Positional roots deal with the specification of shapes, aggregations, and other physical features of objects. Two sets of positionals may be distinguished. Distributive positionals describe features distributed across multiple objects; non-distributive positionals describe features concentrated on a single object. The two contrast most sharply in the form of derived numeral classifier stems:

//čáʔ-póc'-aN lúʔm // two dents in a clay object;

//čáʔ // two, //póc'-aN // numeral classifier for dents in a soft object, //lúʔm // specifier for earthen objects

//čáʔ-píl-aN lúʔm // two ball-shaped pieces of clay;

//čáʔ // two, //píl-aN // numeral classifier for ball-shaped objects, //lúʔm // specifier for clay or earthen objects

The root //póc' // is a non-distributive positional root; //píl // is a distributive positional root.

Particle Roots

Particle roots are distinct from other form classes in that they are not derived to form verb, noun, or positional stems, nor may they be inflected. Native particle roots are of the shape //CVC//, but many particles are Spanish in origin and have other shapes.

Onomatopoetic Roots

A small class of infrequently derived roots appear to result from onomatopoeia. These roots have been grouped here with exclamations and calls to animals, in a class of roots which borders on paralinguistic. Two main subdivisions of this class, each with two further subdivisions, are distinguished by derivational criteria. These sets are: (1) onomatopoetic roots, including (a) imitations of sounds from inanimate sources and (b) imitations of animal noises, and (2) calls and exclamations, including (a) calls to animals and (b) exclamations. The known inventory of these roots is small, and all known examples are listed below.

1.a. Onomatopoetic imitation of sounds from inanimate sources:

//pém //	bang!
//pón //	exploding skyrocket
//tít //	car horn
//cám //	scythe cutting wheat, grease in a fire
//cáw //	scythe cutting wheat, grease in a fire
//čís //	hissing air
//čín //	ringing

//čír// whirl of dragonfly wings  
 //čár// scraping of planks together  
 //kín// ringing  
 //kác// popping  
 //kúč'// gulp  
 //p'úr// bottle filling under water  
 //t'ín// plucked string  
 //t'áš// stones striking together  
 //t'óš// chopping sound of one blow  
 //t'óm// chopping sound of one blow  
 //č'óp// stick pulled out of mud  
 //k'áp// cracking fibers in a tree being felled  
 //k'ác// tick  
 //k'ór// bird's beak rattling against wood  
 //k'úk// knuckle popping  
 //xúč'// gnawing  
 //hús// ascending skyrocket

l.b. Onomatopoetic imitation of animal cries:

//táwuk// turkey gobble  
 //tók tók// cackle of laying hen  
 //túk túk// song of the //túktuk// bird  
 //túyil túyil// song of the //túyil// bird  
 //cír// noise of grasshopper  
 //čúk' čúk'// song of the //čúk'// bird  
 //c'ík// cry of birds (in general)  
 //c'ír// squeal of pigs  
 //č'ék// cry of the grackle

//č'é? // cry of a molested hen  
 //č'éř // startled cry of birds in general  
 //k'úk k'úk // call of a hen to her chicks  
 //k'úr // growl of an animal molested in its den  
 //sílon sílon // song of the //sílon// bird  
 //xór // snort of a horse  
 //náv // mewling of a cat  
 //Nih // growl of an angry dog  
 //Náh // bleat of a bull or cow  
 //wíc' // squeak of a rat  
 //wíč'il wíč'il // song of the //č'éł // parrot  
 //wín wín // cry of a hungry turkey  
 //wáx wáx // bark of a dog  
 //wóx wóx // call of a hen leading her chicks  
 //wúx wúx // grunt of an angry sow

2.a. Calls to animals (usually repeated two or more times):

//píš // call to a dog  
 //píwit // consoling call to a dog  
 //tóm // pacifying call to cattle  
 //túh // call to run off an offensive animal  
 //cíc // consoling call to infants  
 //čík // call to animals in pasture  
 //kúč // call to pigs  
 //k'úk // call to chickens  
 //síč // hushing call to a dog  
 //síh // call to run off chickens

//šáh// call to run off birds

//xúleh// call to sic dogs on something

//míš// call to a cat

2.b. Exclamations

//kéʔ// cry of surprise

//kéh// term of address between males

//keréoh// hailing cry

//ʔíʔ// grunt of sudden shock

//ʔéʔ// shamed greeting

//ʔéh// questioning reply

//ʔáh// response to molestation

//ʔáy// cry of pain

//ʔóh// response to molestation

//ʔóʔ// warning to children

//ʔúkuy// cry of surprise by female speaker

//ʔúš// sigh of relaxation

//ʔúh// cry of surprise and sympathy from female speaker

//ʔúy// exclamation used to frighten someone

//p'íʔ// affirmative reply

//č'íš// term of address between females

//č'íš ʔéy// hailing cry between females

//šít// summoning cry

//šáw// exclamation used to frighten someone

//híʔ// affirmative reply

//hínyeh// affirmative reply

//héh// affirmative reply

- //háý // response to hailing cry (female speaker)  
 //hóý // response to hailing cry (male speaker)  
 //húh // response to hailing cry (female speaker)  
 //níʔ // cry to call attention to something seen  
 //yéšyoh // expression of disapproval  
 //yóh // startled cry

### Stative Root

Stative stems are common, but only one root, //ʔáy // to be, has been observed to take only stative inflection.

### Formation of Stems

Roots are commonly affixed with a number of derivational affixes. The combination of root and derivational affix forms a stem with a meaning related to that of the root, which may or may not be of the same inflectional class as the root. The derivational affixes are discussed below in groups according to the inflectional class of the derived stem.

Other stems are formed by compounding roots of the same class or of different classes. These compound stems are discussed below, and are grouped according to the inflectional class of the derived stem.

### Derivation by Affixation

Most roots may be inflected without derivation, but it is common for roots to be affixed with one or more derivational morphemes. With the exception of root compounding, Chuj derivation is limited to suffixation. Suffixes derive verb, noun, stative, adverbial, and numeral classifier stems.

Formation of Verb Stems

Three classes of verb stems are derived by suffixation: transitive verb stems, intransitive verb stems, and verb stems of undetermined class. The latter stems may not be inflected without further derivation, and most may be derived to form either transitive or intransitive verb stems.

Formation of Verb Stems  
of Undetermined Class

//c// derives verb stems from transitive verb roots. The derived stems describe repetitive action. Stems derived with //c// must be further derived by //it// and //ex// before they may be inflected. Examples of this derivation are: //kál-c-it-ex// to mix something over and over < //kál// to mix something, //láv-c-it-ex// to fan something over and over < //láv// to fan something.

//č// derives verb stems from transitive and intransitive verb roots. The derived stems indicate completeness of action. Stems derived by //č// must be further derived before inflection; further derivation with //it// and //ex// forms a transitive verb stem, further derivation with //ax// forms an intransitive verb stem, and further derivation with //im// and //tak// forms a noun stem. Examples of these derivations are: //č'íy-č-it-ex// to rip something by pulling off small bits < transitive verb root //č'íy// to pull off small pieces of something, //č'íy-č-it-ax-(ih)// to be torn into little bits < transitive verb root //č'íy// to pull off pieces of something, //óč-č-ax-(ih)// to fill a thing with one's body, or to

enter all of something < intransitive verb root //ʔóč// to enter, //Ník'-č-im-tak// something all torn up < transitive verb root //Ník'// to tear cloth or paper.

//k'// derives verb stems from positional roots and stative stems derived from positional roots by suffixation with //an//. The derived stems must be further derived by //ax// to form intransitive verb stems. Examples of this derivation are: //páč'-k'-ax-(ih)// to be flat < positional root //páč'// flat sheet, //láN-an-k'-ax-(ih)// to be busy < stative stem //láN-an// < positional root //láN// busy.

//m// derives verb stems from transitive verb roots. The derived stems must be further derived either with //it// and //ex// to form transitive verb stems, or with //ax// to form intransitive verb stems. Examples of this derivation are: //k'éc̣-m-it-ex// to draw and quarter an animal < //k'éc̣// to carry something upright, //k'ěš-m-ax-(ih)// to be changed < //k'ěš// to change something.

//n// derives verb stems from transitive verb roots, positional roots, and onomatopoeic roots. Stems derived by //n// from transitive verb roots must be further derived by either //ax// or //aš//, forming intransitive verb stems. Stems derived by //n// from positional or onomatopoeic roots must be further derived by //ax//, forming intransitive verb stems. Examples of these derivations are: //mák'-n-aš-(ih)// to be hit < transitive verb root //mák'// to hit something, //núp-n-ax-(ih)// to be married < transitive verb root //núp// to cause someone to marry, //k'óx-n-ax-(ih)// to be seated <



positional root //k'óx// seated, //šít-n-ax-(ih)// to hiss  
 < onomatopoeic root //šít// hiss.

//Vl//, where //V// represents the preceding vowel, derives verb stems from positional roots. These derived stems must be further derived either with //x// or with //x// and //up'//, forming intransitive verb stems. Examples of these derivations are: //két-Vl-x-(ih)// to be barely able to walk < //két// barely able to walk, //wáč-Vl-x-up'-(ih)// to make a dry crunching noise < //wáč// very dry.

//C<sub>1</sub>//, reduplication of the initial consonant of the root, derives verb stems from positional roots. The derived stems must be further derived, either with //on// to form intransitive verb stems, or with //um// to form noun stems. The noun stems formed with //C<sub>1</sub>-um// occur only in compound stems with the noun root //p'áh// self. Examples of these derivations are: //wít'-C<sub>1</sub>-on-(ih)// to quiver < //wít'// jerking suddenly, //rém-C<sub>1</sub>-on-(ih)// to walk like a pot-bellied person < //rém// pot-bellied, //cáy-C<sub>1</sub>-um-p'áh// objects stuck together < //cáy// sticky.

#### Formation of Transitive Verb Stems

//t// derives transitive verb stems from substantive noun roots and from onomatopoeic roots. As transitive verb stems, the stems derived by //t// are further derived by //ex//. Stems derived in //t// may also be further derived by //ax// to form intransitive verb stems. Examples of these derivations are: //ʔáw-t-ex// to call someone < substantive noun root

//ʔáw// call, //ʔáw-t-ax-(ih)// to be called < substantive noun root //ʔáw// call, //píš-t-ex// to call a dog < onomatopoeic root //píš// call to dogs.

//l// derives transitive verb stems from transitive verb roots and from positional roots. Stems derived by //l// from transitive verb roots must be further derived either by //ax// or //an// to form intransitive verb stems, by //it// and //ex// to form transitive verb stems, or by //ap'// to form noun stems. Stems derived by //l// from positional roots must be further derived by //ax-(čam)// to form transitive verb stems which must be followed by the reflexive object //p'áh// self, inflected for the same person as the verb stem. Examples of these derivations are: //c'éy-l-ax-(ih)// to slip down sideways or to be turned up on one side < transitive verb root //c'éy// to turn something up on its side, //p'ák-l-an-(ih)// to wash hair < transitive verb root //p'ák// to wash hair, //c'éy-l-it-ex// to cause something to be turned up on its side < transitive verb root //c'éy// to turn something up on its side, //ʔúk'-l-ap'// drinking vessel < transitive verb root //ʔúk'// to drink something, //lák'-l-ax-(čam)...-p'áh// to embrace each other (in earnest) < positional root //lák'// near.

//it// derives transitive verb stems from stems already derived in //c//, //č//, //l//, or //p'//. The stems derived by //it// are causative in meaning. Examples of these derivations are: //kál-c-it-ex// to mix something over and over < undetermined verb stem //kál-c// < transitive

verb root //ká1// to mix something, //t'úy-p'-it-ex// to cause something to become smooth and shiny < intransitive verb stem //t'úy-p'// to become smooth and shiny < positional root //t'úy// smooth and shiny.

//taN// derives transitive verb stems from stems already derived in //up'// from positional roots. Examples of the derivation are: //wáč-up'-taN-ex// to spread something out to dry < unattested noun stem \*//wáč-up'// something dry < positional root //wáč// very dry, //wúč-up'-taN-ex// to rub something apart between the palms of the hands < unattested noun stem \*//wúč-up'// something easy to rub apart < positional root //wúč// easy to rub apart.

//ex// derives transitive verb stems from verb roots and stems, from noun roots, and from complex noun stems. All transitive verb stems except transitive verb roots without derivative suffixes end in //ex//, and some transitive verb roots take //ex// even if no other derivation occurs. Examples of the derivation of stems from transitive and undetermined verb roots and stems have been given above. Examples of the other occurrences of //ex// are: //k'án-ap'-ax-ex// to comply with a request < unattested intransitive verb stem \*//k'án-ap'-ax-(ih)// to be a request < unattested noun stem \*//k'án-ap'// request < transitive verb root //k'án// to request something, //čá?p'-ex// to break something in two < noun stem //čá?p'// two, //ʔóš-eʔ-ex// to break something into three pieces < noun stem //ʔóš-eʔ// three < noun root //ʔóš// three, //táʔN-ex// to throw lime on something, to

make lime out of something < noun root //táʔN// lime,  
 //pát-ex// to use something as a house (to make a house out  
 of some place) < noun root //pát// house, //ʔák'-l-ap'-ex//  
to use something for a purpose < unattested stem \*//ʔák'-l-  
 ap'// something used for a purpose < transitive verb root  
 //ʔák'// to do something, //cáy-C<sub>1</sub>-um-p'áh-ex// to tie ani-  
 mals together on the same leash < //cáy-C<sub>1</sub>-um-p'áh// things  
 stuck together < positional root //cáy// sticky.

#### Formation of Intransitive Verb Stems

//p'// derives intransitive verb stems from transitive  
 verb roots, positional roots, and adjectival noun roots. The  
 derived stems may be further derived by //ap'//, //en//, //il//,  
 or //al// to form noun stems, or by //ex// or //it// and //ex//  
 to form transitive verb stems. Examples of the derivations  
 are: //xáč'-p'-en// harvested field < transitive verb root  
 //xáč'// to harvest maize, //tán-p'-il// drum < transitive  
 verb root //tán// to strike something with the edge of the  
 fist, //k'án-p'-an-(ih)// to ask < transitive verb root //k'án//  
to request something, //pák-p'-(ih)// to become flexible <  
 positional root //pák// flexible or folded, //šáč-p'-al//  
crotch < positional root //šáč// forked, //kún-p'-ap'-il//  
stacked-up objects < positional root //kún// stacked,  
 //yáʔš-p'-(ih)// to turn green < noun root //yáʔš// green.

//w// derives intransitive verb stems from transitive  
 verb roots, positional roots, substantive noun roots, and  
 noun stems. The derived stems may be further derived by

//al// to form noun stems, //ex// to form transitive verb stems, or //ax// to form still other intransitive verb stems. Examples of these derivations are: //láv-w-(ih)// to fan < transitive verb root //láv// to fan something, //mák'-w-ax-(ih)// to fight < transitive verb root //mák'// to strike something, //púk-w-al// distribution < transitive verb root //púk// to distribute something, //kót-w-(ih)// to walk on all fours < positional root //kót// standing on four legs, //táx-w-(ih)// to search for pine < noun root //táx// pine, //ʔát'is-w-(ih)// to sneeze < noun root //ʔát'is// sneeze, //ták'-w-ex// to respond to something or to make a promise < transitive verb root //ták'// to give up something or to cease doing something habitually.

//ax// derives intransitive verb stems from verb stems already derived in //t//, //č//, //k'//, //m//, //n//, //w//, and //l//. Further derivation of stems formed with //ax// by //ok// to form adverbial stems is common. One instance of the derivation of a stem formed with //ax// to form a transitive verb stem has been observed: //k'án-ap'-ax-ex// to comply with a request. Examples of these derivations are: //ʔáv-t-ax-(ih)// to be called < transitive verb stem //ʔáv-t// < noun root //ʔáv// call, //p'áʔ-m-ax-(ih)// to be twisted < transitive verb root //p'áʔ// to twist a joint, //čék'-n-ax-ok// leaning over halfway < unattested intransitive verb stem //čék'-n-ax-(ih)// to be leaning over halfway < positional root //čék'// sloped.

//ax// ~ //x// derives intransitive verb stems from transitive verb roots. The two allomorphs are in free variation. The derived stems are passive in meaning. Examples of this derivation are: //níp'-ax-(ih)// ~ //níp'-x-(ih)// to be well-liked < //níp'// to like something, //xóy-ax-(ih)// ~ //xóy-x-(ih)// to be dug < //xóy// to dig something.

//aš// derives intransitive verb stems from noun stems, transitive verb roots, and verb roots previously derived in //n//. Examples of these derivations are: //sók'om-aš-(ih)// to get muddy < noun root //sók'om// mud, //čá'p'-aš-(ih)// to become two < noun stem //čá'p'// two, //púk-aš-(ih)// to be distributed < transitive verb root //púk// to distribute something, //mák'-n-aš-(ih)// to be hit < transitive verb root //mák'// to hit something.

//an// derives intransitive verb stems from noun stems, verb stems derived in //p'// from transitive verb roots, verb stems derived in //l// from transitive verb roots, and from positional stems formed by reduplication of the root, //CVC//. Examples of these derivations are: //ʔáw-al-an-(ih)// to sprout in a field after the field has been harvested < noun stem //ʔáw-al// cornfield < transitive verb root //ʔáw// to plant something, //k'án-p'-an-(ih)// to ask < transitive verb root //k'án// to request something, //p'ák-l-an-(ih)// to wash hair < transitive verb root //p'ák// to wash hair, //wéc-CVC-an-(ih)// to shimmer < positional root //wéc// shiny inside.

//x// derives intransitive verb stems from stems derived with //V1// from positional roots. Further derivation of these stems with //ok// to form adverbial stems is common. One case of the derivation of an intransitive verb stem from a noun root by the suffixation of //x// has been observed. Examples of these derivations are: //két-V1-x-(ih)// to be barely standing < positional root //két// barely standing, //lít'-V1-x-ok// on tiptoes < positional root //lít'// on tiptoes, //ʔál-x-(ih)// to grow up or to wax (in reference to the phases of the moon) < noun root //ʔál// heavy.

//VC<sub>2</sub>//, reduplication of the vowel and final consonant of the root, derives intransitive verb stems from positional roots and onomatopoeic roots. Further derivation in //ok// to form adverbial stems is common. One onomatopoeic root derived in //VC<sub>2</sub>// has been observed to be further derived in //an// to form a positional stem: //hús-VC<sub>2</sub>-an// making a noise like a skyrocket < //hús// noise of a skyrocket. Examples of the derivation of intransitive verb stems with //VC<sub>2</sub>// are: //mól-VC<sub>2</sub>-(ih)// to be well-gathered (all present) < positional root //mól// gathered, //kác'-VC<sub>2</sub>-(ih)// to be sway-backed < positional root //kác'// sway-backed, //kúč'-VC<sub>2</sub>-(ih)// to drink many swallows of a liquid without stopping < onomatopoeic root //kúč'// gulping noise.

//k// derives a single intransitive verb stem from the positional root //ták// dry: //ták-k-(ih)// to dry out.

//púl//, //cém//, //cúx//, //čék'//, //t'úp'//, //xáč//, //xár//, //múc//, //léw//, //lék'//, and //lóx// derive in-

transitive verb stems from the names of the colors, which are adjectival noun roots. The derived verb stems describe color changes. Each of the suffixes occurs with only one or two of the roots. The known inventory of these derivations is:

//čák-púl-(ih)// to become reddish (as in anger or shame) < //čák// red, //čák-cém-(ih)// to be reddish (as a person with acne) < //čák// red, //k'ík'-cúx-(ih)// to become somewhat dark (may not refer to people) < //k'ík'// black, //yá'š-čék'-(ih)// to lighten (as the sky lightens after a storm) < //yá'š// green or blue, //k'ík'-t'úp'-(ih)// to darken (as the sky darkens before a storm) < //k'ík'// black, //yá'š-t'úp'-(ih)// to become sky blue < //yá'š// green or blue, //sák-xáč-(ih)// to become powdery white < //sák// white, //k'án-xáč-(ih)// to ripen or to turn golden < //k'án// yellow, //sák-xár-(ih)// to become pale lead grey < //sák// white, //k'ík'-múc-(ih)// to become purplish blue < //k'ík'// black, //k'ík'-léw-(ih)// to turn black naturally (as a Negro child) < //k'ík'// black, //yá'š-léw-(ih)// to turn greenish (as a sick person) < //yá'š// green or blue, //sák-lék'-(ih)// to become pale < //sák// white, //sák-lóx-(ih)// to become pale < //sák// white.

#### Formation of Noun Stems

//ap'// derives noun stems from transitive verb roots, transitive verb stems derived by //l//, and intransitive verb stems formed by the suffixation of //p'// to positional roots. Further derivation by //il// is common. Examples of these derivations are: //čék-ap'// errand-runner transitive verb



//čék// to send someone on an errand, //č'ák-ap'// axe < transitive verb root //č'ák// to fell trees, //níp'-ap'-il// beloved person < transitive verb root //níp'// to want something, //lék-p'-ap'-il// stacked things < positional root //lék// stacked end out in rows, //ʔúk'-l-ap'// drinking vessel < transitive verb root //ʔúk'// to drink something, //sík'-l-ap'-il// strong man or good work < //sík'-l-ex// to choose something < transitive verb root //sík'// to pick up something.

//up'// derives noun stems from transitive verb roots. //up'// also derives what may be noun stems from positional roots and from positional roots derived in //Vl-x//. The stems derived with //Vl-x-up'// occur as adverbials or as intransitive verb stems. The stems derived in //up'// from positional roots must be further derived in //taN-ex//, forming transitive verb stems. Examples of these derivations are: //xúk-up'// wash trough < transitive verb root //xúk// to scrape something out, //čúk-up'// hiccups < transitive verb root //čúk// to snatch and gobble food on the sly, //wáč-up'-taN-ex// to spread something out to dry < positional root //wáč// very dry, //wáč-Vl-x-up'-(ih)// to make a dry crunching noise < positional root //wáč// very dry.

//um// derives noun stems from transitive and intransitive verb roots, and from verb stems formed from positional roots or nouns by the suffixation of either //t// or //C<sub>1</sub>//. Stems other than those derived from transitive verb roots usually occur in noun compounds, or with the suffix //tak//.

Examples of these derivations are: //páy-um// person who heats something to dry it < transitive verb root //páy// to dry something by heating it, //xóy-um// digger < transitive verb root //xóy// to dig something, //ʔél-um-háʔ// run-off water < intransitive verb root //ʔél// to leave and noun root //háʔ// water, //k'ús-t-um-tak// moldy thing < noun root //k'ús// smell of rotten leaves, //cáy-C<sub>1</sub>-um-p'áh// objects stuck together < positional root //cáy// sticky, //p'úk'-C<sub>1</sub>-um-p'áh// objects locked together < positional root //p'úk'// pressed together and noun root //p'áh// self.

//nak// derives noun stems from verb roots, from transitive verb stems derived with //ex// from transitive verb roots, and from the intransitive verb stems of color change (see pages 90-91). In the case of the latter stems, the intransitive verb clitic //(ih)// is realized as //ih// even though it is not stem-final. The derived noun stems refer to past actors. Examples of these derivations are: //páy-nak// ~ //páy-ex-nak// person who has dried something by heating it < transitive verb root //páy// to dry something by heating it and the derived transitive verb stem //páy-ex// to dry something by heating it, //čám-nak// dead person < intransitive verb root //čám// to die, //sák-xár-ih-nak// pale lead grey object < intransitive verb stem //sák-xár-(ih)// to become pale lead grey < noun root //sák// white.

//ox// derives noun stems from transitive verb roots. The derived noun stems refer to acts. Examples of the derivation are: //xáč'-ox// harvest < transitive verb root //xáč'//

to harvest maize, //líp-ox// act of prying something < transitive verb root //líp// to pry something.

//el// derives noun stems from intransitive verb roots. The derived noun stems refer to acts or the results of acts. Examples of this derivation are: //ʔók'-el// crying session < intransitive verb root //ʔók'// to cry, //kús-el// sadness < //kús// to be sad, //xát-el// crack < //xát// to crack.

//al// derives noun stems from verb roots and stems. Examples of the derivation are: //ʔáw-al// cornfield < transitive verb root //ʔáw// to plant something, //púk-w-al// distribution < intransitive verb stem //púk-w// to distribute < transitive verb root //púk// to distribute something, //šáč-p'-al// crotch < unattested intransitive verb stem \* //šáč-p'// to be forked < positional root //šáč// forked, //ʔél-k'-al-tak// eloped couple < transitive verb stem //ʔél-k'// to steal something.

//ul// derives noun stems from transitive verb roots. Examples of this derivation are: //k'án-ul// bride price < transitive verb root //k'án// to request something, //c'ís-ul// seam < transitive verb root //c'ís// to sew something, //píč-ul// clothing < //píč// to wrap something up.

//il// derives noun stems from transitive verb roots, from intransitive verb stems derived in //p'// from transitive verb roots, and from positional roots. The stems formed from positional roots are further derived in //tak//. Examples of these derivations are: //kúč-il// carrying cloth < transitive verb root //kúč// to carry something, //č'úm-il// hair

ribbon < transitive verb root //č'úm// to twist something,  
 //táN-p'-il// drum < transitive verb root //táN// to strike  
something with the edge of the fist, //ték-p'-il// something  
killed with a knife < transitive verb root //ték// to kill  
something with a knife, //c'íp'-il-tak// lined or striped ob-  
ject < positional root //c'íp'// marked with lines, //xóc-il-  
tak// spotted object < positional root //xóc// marked with  
spots.

//il// also derives possessed stems from numeral stems which appear in ordinal and cyclical expressions. In many cases this //il// is difficult to distinguish from the //il// ~ //al// suffix described below. Note, however, that the //il// allomorph of the //il// ~ //al// suffix occurs only after a preceding vowel //a//. Examples of the derivation of possessed stems with //il// are: //s-čá'p'-il// second < numeral noun stem //čá'p'// two, //y-ʔóš-il// third < //ʔóš// three, //s-láxuN-il// tenth < //láxuN// ten, //s-čá'p'-tak-il// every two < //čá'p'// two, //y-ʔóš-láxuN-il-tak// every thirteen < //ʔóš-láxuN// thirteen < //ʔóš// three and //láxuN// ten. One noun root, //čík'// blood, forms a possessed stem with //il// rather than //il// ~ //al//, and appears possessed as //s-čík'-il// rather than as \*//s-čík'-al//.

//il// ~ //al// derives noun stems from noun roots and stems, including compound nouns. The derived stems indicate an X kind of thing, the X-like parts of something, or an X which belongs to something. These derived stems may be confused with the numerical stems derived in the mono-

morphic //il// suffix described above. Note, however, that the //il// ~ //al// suffix is manifested as //il// only after a preceding vowel //a//, and as //al// elsewhere. Examples of the derivation of stems with //il// ~ //al// are: //pétan-il// in lot-like measures < //pétan// plot of land, //čók'-al// finely ground substance < //čók'// fine powder, //tí'k'ák'-il// something taken from the edge of a fire < //tí'// edge and //k'ák'// fire, //s-kélem-tak-il čón-ap'// the young men of a village < //kélem// young man and //čón-ap'// village, //s-čá'p'-x-ih-al// every two days < //čá'p'-x-ih// two days ago < //čá'p'// two, //s-čá'p'-tak-il k'úh-al// every two days < //čá'p'-tak// two each and //k'úh// day.

//em// derives noun stems from verb roots. Examples of this derivation are: //ʔúk'-em// corn gruel < transitive verb root //ʔúk'// to drink something, //ʔúk'-em// paint < intransitive verb root //ʔúk'// to be painted.

//i-CVC//, reduplication of the root after a connective //i//, derives three noun stems, one of which is based on a positional root, the other two of which are based on otherwise unattested roots. The three noun stems are: //k'ár-i-CVC// noisemaker (of the type which employs a ratcheted gear rotating against a leaf spring) < \*//k'ár//, //rúm-i-CVC// bullroarer < \*//rúm//, //súr-i-CVC// whirly-gig (weather-vane-like constructions of wind-driven propellers and wheels) < positional root //súr// whirling around.

//iN// derives one noun stem from a positional root: //ták-iN// dry < //ták// dry.

//u?// derives noun stems from positional roots. With the exception of the noun stem //péx-u?// chicken with short legs < //péx// low to the ground, these stems occur only in compound noun stems. Examples of the derivation are: //púN-u?-xólom// round-headed person < //púN// small and spherical, //cíw-u?-kámiš// person with a ragged shirt on < //cíw// ragged, //k'ón-u?-pátik// hunchback < //k'ón// curved backed.

//im// derives noun stems from transitive verb stems derived from transitive verb roots with //č//. These noun stems must be further derived with //tak//. Examples of the derivation are: //Ník'-č-im-tak// something all torn up < transitive verb root //Ník'// to tear something across, //t'ín-č-im-tak// something all ripped up < //t'ín// to pull apart fibers.

//eč// derives noun stems from positional roots, and from stems formed by suffixation of //w// or //k'//. The noun stems must be further derived by //tak//. Examples of the derivation are: //p'ál-w-eč-tak// normally-ground corn dough < transitive verb root //p'ál// to grind corn dough the second time, //róN-k'-eč-tak// badly-made object < positional root //róN// unsightly because of large size, //p'él-eč-tak// object marked with numerous longitudinal grooves < positional root //p'él// split lengthwise.

//e?// derives noun stems from numeral noun roots and stems. The suffix //e?// occurs only with numeral stems whose numerical value is less than twenty. Note that several morphophonemic changes occur: //xún// one + //e?// > //xún//,

//čá'p' // two + //e' // > //čá'p' //, and //hó' // five + //e' // > //hóy-e' //. Other examples of the derivation are: //ʔóš-e' // three < //ʔóš // three, //čáN-e' // four < //čáN // four, //hó'-lăxuN-e' // fifteen < //hó'-lăxuN // fifteen.

//iš // ~ //ex // derives noun stems from numeral noun roots and stems. The derived noun stems describe temporal distance into the future. The selection of allomorphs has been described on page 64. Examples of the derivation are: //čá'p'-ex // two days from now < //čá'p' // two, //ʔóš-ex // three days from now < //ʔóš // three, //hóp'-iš // five days from now < //hóp' // five, //wáxšak'-ex // eight days from now < //wáxšak' // eight.

//(i)š // ~ //(e)x // derives noun stems from numeral noun roots and stems. These stems must be further derived by //ih //. The derived stems describe elapsed time in terms of days. The selection of allomorphs has been described on page 64. Examples of the derivation are: //čá'p'-x-ih // two days ago < //čá'p' // two, //ʔóš-x-ih // three days ago < //ʔóš // three, //hóp'-š-ih // five days ago < //hóp' // five, //húkup'-iš-ih // seven days ago < //húkup' // seven, //wáxšak'-ex-ih // eight days ago < //wáxšak' // eight.

//iN // derives noun stems from numeral stems whose numerical value is greater than nineteen. The derived stems describe periods of days. Examples of the derivation are: //xúnk'-iN // twenty days < //xúnk' // twenty, //xún s-čá'-wiNk'-iN // twenty-one days < //xún s-čá'-wiNk' // twenty-one.

//tak// derives noun stems from noun stems, and is obligatory after //im//, //eč//, and stems formed with //il// from positional roots. The suffix //tak// indicates plurality, usually implying an uncountable mass or multitude of features. Examples of the derivation are: //kélem-tak// young men < noun root //kélem// young man, //kús-el-tak// sad persons < noun stem //kús-el// sadness < intransitive verb root //kús// to be sad, //láN-č-im-tak// ripped and patched clothes < transitive verb root //láN// to carry a bundle of disorderly fibers, //c'íp'-il-tak// lined or striped object < positional root //c'íp'// marked with lines.

//ok// derives noun stems from numeral stems already derived with //e?//. The stems indicate that the numerical values are approximate. Examples of the derivation are: //xún-ok// about one < //xún// one, //ʔóš-e?-ok// about three < //ʔóš-e?// three.

#### Formation of Positional Stems

//CVC//, complete reduplication of the root, derives positional stems from positional roots. Examples of the derivation are: //wéc-CVC-an-(ih)// to shimmer < //wéc// shiny inside, //két-CVC-an-ok// walking slowly and weakly < //két// walking slowly and weakly. Note that these stems are further derived in //an// to form intransitive verb or adverbial stems. Note also that this reduplication is distinct from the inflectional reduplication for number which also occurs with positional stems.



//an// derives positional stems from positional roots and positional stems. These stems most commonly occur as stative stems (see below). Examples of the derivation are:  
 //t'éx-an// seated on the floor < //t'éx// seated on the floor,  
 //líN-an// standing < //líN// standing.

#### Formation of Stative Stems

Stative stems consist of the stative root //ʔáy// to be, all nouns, and all positional stems derived in //an// from positional roots.

#### Formation of Adverbial Stems

//ok// derives adverbial stems from intransitive verb stems derived in //n-ax//, //vI-x//, //C<sub>1</sub>-on//, //VC<sub>2</sub>// and //an// from positional roots.

#### Formation of Numeral Classifier Stems

Numeral classifier stems consist of transitive verb roots without derivation, positional roots derived by //aN//, and substantive noun stems which describe containers. Not all of the roots or stems in these categories form numeral classifiers. Examples of the numeral classifiers are: //cáx// jabs with a pointed object < transitive verb root //cáx// to jab something with a pointed object, //čák'// actions of mashing something < transitive verb root //čák'// to mash tobacco for chewing, //čúl-aN// cylinders of rolled leaves or sheets < positional root //čúl// cylindrical roll of leaves or sheets, //kór-aN// curved shapes < positional root //kór// curved,

//ʔásaroN// quantities which can be picked up on a hoe blade  
 < noun stem //ʔásaroN// hoe, //šúʔk// broad, shallow baskets  
of something < noun root //šúʔk// broad, shallow basket.

#### Derivation by Compounding

Noun and verb stems may be formed by the juxtaposition of roots and stems of the same or different classes. These compound stems are discussed below in groups arranged by the inflectional class of the derived stems.

#### Compound Noun Stems

compound noun stems--noun stems which are composed of more than one root--are formed in Chuj by the combination of (1) a substantive, adjective, numeral or specifier noun root or stem with a following substantive noun stem, (2) a positional or transitive verb root with a following substantive noun root or stem, or (3) two or more numeral noun roots or stems. In addition, two known stems appear to combine numeral and positional roots to form a compound noun stem.

These combinations are discussed below in terms of a classification based on that of Conklin (1962:122-123). Unitary lexemes are stems "no segments of which may designate categories which are identical with, or superordinate to, those designated by the forms in question." Unitary lexemes are either simple (unsegmentable) or complex (segmentable). Composite lexemes are stems "one or more segments of which, under specified conditions, may (a) designate the same categories as those designated by the forms in question (abbrevi-

ation), or (b) designate categories superordinate to those designated by the forms in question (generalization)."

Substantive Noun Plus  
Substantive Noun

Compound noun stems formed by two substantive noun roots or stems are head-initial composite lexemes, attribute-initial composite lexemes, or complex unitary lexemes. Examples of head-initial composite lexemes formed from two substantive noun stems are: //tíʔ-k'úʔ// blanket-hole < //tíʔ// edge or lip and //k'úʔ// blanket, //cáʔ-táx// pine sap < //cáʔ// excrement and //táx// pine, //cáʔ-k'ák'// charcoal < //cáʔ// excrement and //k'ák'// fire, //sóʔ-c'úc'// coati nest < //sóʔ// nest and //c'úc'// coati (*Nasua narica*), //xóy-ox-lúʔm// act of digging earth < //xóy-ox// act of digging and //lúʔm// earth, //ʔél-k'-al-ʔíš// woman-theft (a type of marriage by abduction) < //ʔél-k'-al// theft and //ʔíš// woman, //mák'-l-ap'-múč// pole used to strike down birds < //mák'-l-ap'// something used for striking and //múč// bird, //čáw-C<sub>1</sub>-um-p'áh// tangle of fallen trees < otherwise unattested //čáw-C<sub>1</sub>-um// thing standing on many spindly legs < positional root //čáw// standing on many spindly legs and //p'áh// self, //šépel-ʔáluš// Isabela-Alonso (girl named Isabela who is associated with someone named Alonso, and who is called by a compound name to distinguish her from other girls named Isabela) < //šépel// Isabela and //ʔáluš// Alonso, //kátal-ʔántil// Catarina-Andrés (girl's compound name) < //kátal// Catarina and //ʔántil// Andrés, //pát-il-Nál//

corn-storage house < //pát-il// house which belongs to something < //pát// house and //Nál// ear of maize, //xóš-al-té?// tree bark < //xóš-al// bark of something < //xóš// bark and //té?// tree, //wíc-al-čón-ap'// sacred mountain of a village < //wíc-al// mountain which belongs to something < //wíc// mountain and //čón-ap'// village, //čók'-al-?íšim// ground corn dough < //čók'-al// fine powder-like substance < //čók'// fine powder and //?íšim// maize and grains, //?áx-p'á?l// sorcerer < //?áx// master and //p'á?l// witchcraft.

Examples of attribute-initial composite lexemes formed from two substantive nouns are: //c'ú?m-k'é?n// sheet tin < //c'ú?m// leather and //k'é?n// metal, //č'ó?w-kú?k// a kind of squirrel < //č'ó?w// rat and //kú?k// squirrel, //čéx-čán// a mythical snake (the size of a large animal) < //čéx// class of animals (including horse, cow, mule, deer, and other large animals) and //čán// snake, //kúkay-čán// a kind of snake (which has shiny spots on its skin) < //kúkay// firefly and //čán// snake, //?áx-p'á?l-?án// Castilleja arvensis C. and S., Lamourouxia dependens Benth., Lamourouxia interrima Donn.-Sm., and possibly other species--plants which are said to do harm to the cornfield < //?áx-p'á?l// agent of witchcraft and //?án// class of plants, //Náh-k'é?n// shelter cave < //Náh// house and //k'é?n// stone (cognate with Tzeltal /č'en/ cave), //čím-páh// a type of large bag < //čím// 200 ears of maize (a standard measure) and //páh// bag.

Examples of complex unitary lexemes formed from two substantive noun stems are: //tá?N-pátik// poor person <

//táʔN// ash and //pátik// back, //číč-tíʔ// hare-lipped person < //číč// rabbit and //tíʔ// mouth or lip, //c'áʔm-c'áʔm// filthy person < //c'áʔm// horse blanket, //núń-číʔč// grandmother < //núń// mother and //číʔč// aunt, //tóy-um-ʔún-eʔ// opossum (Didelphis marsupialis) < //tóy-um// carrier < transitive verb root //tóy// to carry something in a fold of the shirt or skirt and //ʔún-eʔ// child of female, //k'úš-um-wóton// weasel (Mustela frenata) < //k'úš-um// eater < transitive verb root //k'úš// to eat grain-like foods and //wóton// button, //ʔúk'-um-čúl// a type of primitive fly < //ʔúk'-um// drinker and //čúl// urine, //púc'-uʔ-Níʔ// pug-nosed person < otherwise unattested //púc'-uʔ// pug-nosed person < positional root //púc'// pug-nosed and //Níʔ// nose, //páw-uʔ-náNal// broad-waisted person < otherwise unattested //páw-uʔ// broad-waisted object < positional root //páw// broad and leaf-shaped and //náNal// waist.

Adjective Noun Plus  
Substantive Noun

These compounds are attribute-initial composite lexemes. Examples of the compounds are: //túl-kámiš// short shirt < //túl// short and //kámiš// shirt, //čák-čóx// a type of mountain lion < //čák// red and //čóx// mountain lion, //k'ík'-páčap'// shale < //k'ík'// black and //páčap'// sedimentary rock, //níť-ʔákšah// large steel sewing needle < //níť// large and //ʔákšah// needle, //níť-k'án-al// Venus < //níť// large and //k'án-al// star.

Numeral Noun Plus  
Substantive Noun

This type of compound is rare. The known examples, listed below, include both composite and unitary lexemes: //čá?-xáx// trachea < //čá?// two and //xáx// throat, //hó?-k'án-té?// place name: Ocanté (San Mateo Ixtatán) < //hó?// five and //k'án-té?// Alnus arguta (Schlecht.) Sprach. and possibly other species of birch < //k'án// yellow and //té?// tree, //wáxšak-k'án-Náh// place name: Finca Guaxacaná (Nen-tón) < //wáxšak// eight and //k'án-Náh// yellow house < //k'án// yellow and //Náh// house, //xún-šíp'// widower or divorced man < //xún// one and //šíp'// male (in compound animal names such as //šíp'-páy// male skunk and //šíp'-míston// tomcat, but otherwise //šíp'// male dog), //xún-iš// widow or divorced woman < //xún// one and the otherwise unattested //iš// which is surely related to //?iš// woman.

Specifier Noun Plus  
Substantive Noun

Two compound noun stems appear to be crystalized phrases composed of specifier and substantive, as the stress on the specifier varies. These are: //k'ina-Náp'// ~ //k'ína-Náp'// rain < //k'inál// rains (specifier) and //Náp'// rain, //?áN-k'úl-tak// ~ //?aN-k'úl-tak// brushland < //?aN// class of plants (specifier) and //k'úl-tak// brushland (which otherwise occurs only in compound animal names such as //k'úl-tak-il-čítam// wild pig).

Positional Root Plus  
Substantive Noun

Compound noun stems of this type are attribute-initial composite and unitary complex lexemes. Examples of the composite lexemes are: //kón-té?// arch or bow < //kón// arched and //té?// tree or wooden object, //ʔix-té?// prop < //ʔix// leaning against something and //té?// tree or wooden object, //t'én-tí?// hairless lip or chin < //t'én// bare and //tí?// mouth or lip, //láč-šáNap'// a type of sandal (with flaps resembling ears) < //láč// lying face down and //šáNap'// sandal, //p'él-xóm// a type of large gourd (cut from a //cúh// gourd) < //p'él// split lengthwise and //xóm// gourd bowl (cut from a //cúh// gourd).

Examples of the complex unitary lexemes of this type are: //p'ík-Néh// opossum (*Didelphis marsupialis*) < //p'ík// too thin for its length and //Néh// nose, //p'éc-k'áp'// hand wave < //p'éc// overhanging and //k'áp'// hand, //t'én-xólom// bald person < //t'én// bare and //xólom// head.

Transitive Verb Plus  
Substantive Noun

Compounds of this type are unitary composite lexemes. Examples of the type are: //kól-k'áp'// ring (jewelry) < //kól// to defend and //k'áp'// hand, //čúl-póp// a type of bird (species unidentified) < //čúl// to roll up something and //póp// straw mat, //p'íč'-k'áp'// nosy or meddling person < //p'íč'// to molest a woman by running hands over her body and //k'áp'// hand, //č'iy-ʔéh// canine tooth <

//č'íy// to rip something into strips and //ʔéh// tooth,  
 //xál-téʔ// cage < //xál// to braid something and //téʔ//  
tree or wooden object, //níc-k'úh// a phototropic plant (the  
 species unidentified) < //níc// to move something and //k'úh//  
sun, //cít-k'ák'// sparks which jump from the fire < //cít//  
to shake drops from the fingers and //k'ák'// fire.

Numeral Noun Plus  
 Positional

Two known nouns appear to derive from positional roots,  
 but the analysis is not clear. These nouns are: //ʔóš-t'íl-  
 aN// the three stars of Orion's belt < //ʔóš// three and  
 //t'íl-aN//, but //t'íl-aN// is a numeral classifier stem for  
lines of objects, derived from //t'íl// lined up, and the  
 //-aN// here is unexplained; //xún-kót// andasolo (a type of  
 coatl noted for traveling singly rather than in groups) <  
 //xún// one and //kót//, but //kót// occurs both as a posi-  
 tional root on four legs and as a numeral classifier stem for  
act of eating a whole fowl by one's self.

Numeral Plus Numeral

Chuj numeral stems whose numerical value is above  
 twelve are compound stems. The roots on which these stems  
 are based are: //xún// one, //čáʔp'// ~ //čáʔ// two, //ʔóš//  
three, //čáN// ~ //čóN// four, //hóʔ// ~ //hóy// ~ //hóp'//  
five, //wák// ~ //wák'// six, //húk// ~ //húkup'// seven,  
 //wáxšak// ~ //wáxšak'// eight, //p'áluN// nine, //láxuN//  
ten, //húšluč// ~ //húšluč'// eleven, //laxčaw// twelve,  
 //xúnak// ~ //xúnk'// twenty, and //wínak// ~ //wínk'// score.



The selection of allomorphs has been discussed on pages 62-63.

The Chuj numeral system is vigesimal, built on the distinction of zero and nineteen basic units. Extension of the enumeration system past these basic units is based on cycles of twenty. Unique morphemes exist for the values one through twelve, and twenty (or score). Four hundred, twenty times twenty, is //xúnk'al// ~ //xúnk'al wínak//. All other values are represented by compound stems. In actual practice today, values over 100 are usually cited with Spanish loans, and the values less than 100 are often cited in loans--//síNkuh séntáwuh//, for example, often replaces //hóy-e? séntáwuh// five cents. The highest value presently cited with native Chuj forms is 400, although the numerical system surely extended past that value in pre-Conquest times.

Stems for the numbers thirteen through nineteen are compounds of the roots for the values three through nine and the root //láxuN// ten. These stems are: //ʔóš-láxuN// thirteen, //čáN-láxuN// fourteen, //hóʔ-láxuN// fifteen, //wák-láxuN// sixteen, //húk-láxuN// seventeen, //wáxšak-láxuN// eighteen, and //p'áluN-láxuN// nineteen.

In the construction of numerals whose value is greater than twenty, the value twenty is represented by //wínak// ~ //wíNk'// score (or man). Even multiples of twenty are constructed by prefixing a numeral stem to //wínak// ~ //wíNk'//. Examples of these stems are: //čáʔ-wínak// forty, //ʔóš-wínak// sixty, //čáN-wínak// eighty, //p'áluN-láxuN-wínak// 380.

Numeral stems whose values are between nineteen and four hundred, but not even multiples of twenty, are constructed by the formula //X-e?-s-Y-wĩnak// or //X-e?-y-Y-wĩnak//, where X and Y represent numeral stems whose values are between one and twenty. The numerical values of these constructions are represented by the formula  $(X-20)+Y(20) = (Y-1)20+X$ . The stem twenty-six, for instance, is //wák-e?-s-čá?-wĩnak//, where X=6 and Y=2. The system may be thought of as counts towards a set of cycle markers placed twenty units apart. Twenty-six, then, is six towards the marker "two twenties." Examples of these stems are: //xún-s-čá?-wĩnak// twenty-one, //čá?p'-s-čá?-wĩnak// twenty-two, //ʔóš-e?-s-čá?-wĩnak// twenty-three, //čáN-e?-s-čá?-wĩnak// twenty-four, //hó?-lǎxuN-e?-s-čá?-wĩnak// thirty-five, //wák-lǎxuN-e?-s-čá?-wĩnak// thirty-six, //p'áluN-lǎxuN-e?-s-čá?-wĩnak// thirty-nine, //xún-y-ʔóš-wĩnak// forty-one, //čá?p'-y-ʔóš-wĩnak// forty-two, //ʔóš-e?-y-ʔóš-wĩnak// forty-three, //xún-s-p'áluN-lǎxuN-wĩnak// 361, //p'áluN-lǎxuN-e?-s-p'áluN-lǎxuN-wĩnak// 379.

The informants used in this study were unable to state the cycle marker that would be used in counting from 381 to 399, the hypothetical \*//xún-s-xúnk'al// 381 and so on. The stem //xúnk'al// appears only as the absolute value 400, and not in cycle counts.

In addition to these compound stems composed of numeral roots and stems; a few noun stems indicating cycles are formed by complete or partial reduplication of numeral roots. These are: //xún-xún// every < //xún// one, //čá?p'-čá?p'// every two <

//čá'p' // two, //ʔóš-ʔóš // every three < //ʔóš // three,  
 //čáN-čáN // every four < //čáN // four, //wák-wák // every six  
 < //wák // six, //p'ál-p'áluN // every nine < //p'áluN // nine,  
 and //lák-láxuN // every ten < //láxuN // ten. These stems are  
 found only in the constructions exemplified by the following  
 items: //s-čá'p'-čá'p' k'úh-al // every second day from now on,  
 //y-ʔóš-ʔóš-il k'úh-al // after every third day from now on,  
 //s-p'ál-p'áluN-il k'úh-al // every nine days, //s-lák-láxuN-  
 éx-ih-al // every ten days.

#### Compound Verb Stems

Several types of Chuj verb stems contain more than one root. One type, suffixation of a limited set of intransitive verbs of directional motion, will be discussed as inflection rather than as derivation. This type differs from those listed here in that the directional verb inflection involves a small set of morphemes, and the semantic difference between the stem with and without the directional verb is usually minimal. Four other types of compound verb stems occur. One is causative; another incorporates Spanish infinitives into the Chuj verb system. A third type of compound verb stem, based on the intransitive verbs of directional motion, incorporates adverbial stems into the verb stem. The fourth type of compound verb stem, based on transitive verb roots, incorporates noun stems into the verb stem.

The causative verb stems based on //ʔák' // to do something consist of the verb root //ʔák' //, which optionally is

derived by //an// or //n-aš//--the latter forming passive stems--and a following intransitive verb stem. The intransitive verb stem is further derived in //ok// if the absence of //ok// would result in a pre-junctural consonantal cluster, or if no other phrase follows in the same sentence. The compound stem is inflected by inflecting the first member of the compound. Examples of the derivation are: //ʔák'-xén-w-ok// to cause something to fly < //ʔák'// to do something and //xén-w// to fly < positional root //xén// with spread limbs, //ʔák'-an-k'éʔ-w-an-ok// to cause something to rise (usually referring to the hoeing of a field) < //ʔák'// to do something and //k'éʔ-w-an// to rise < //k'éʔ// to rise, //ʔák'-n-aš-ʔáčan-w-ok// to be caused to bathe < //ʔák'// to do something and //ʔáčan-w// to bathe < unattested positional stem \*//ʔáč-an// wet, which occurs only in the form //ʔáčan-háʔ// wet, compounded with //háʔ// water.

The incorporation of borrowed Spanish infinitives into the Chuj verb system is accomplished through the formation of compound verb stems consisting of the root //ʔák'// to do something, which may optionally be derived in //an//, and the Spanish infinitive. Examples of the derivation are: //ʔák'-an-déspédír// to take one's leave < //ʔák'// to do something and //déspédír// to take leave of someone < Spanish despedir, //ʔák'-gánar// to earn something < //ʔák'// to do something and //gánar// to earn something < Spanish ganar, //ʔák'-an-kónségir// to obtain something < //ʔák'// to do something and //kónségir// to obtain something < Spanish conseguir.

The third type of compound verb stem consists of an intransitive verb stem, usually one of the intransitive verbs of directional motion (see page 62), and a second intransitive verb stem based on a positional root or a noun root, derived in //n-ax//, //V1-x//, //V1-x-up'//, //C<sub>1</sub>-on//, //VC<sub>2</sub>//, //CVC-an//, or //CVC//. Inflection of the compound stems is by inflection of the verb of directional motion, not by inflection of the derived intransitive stem.

Some of the derived intransitive stems may occur either before or after the inflected stem, others occur only before or only after. Likewise, different restrictions occur on the inflection of the inflected stem, depending on what type of derived stem occurs in the compound and whether the derived stem occurs before or after the inflected stem.

Stems derived in //n-ax-(ok)// occur only after the inflected stem. The inflected stem is inflected as an intransitive verb stem, and no restrictions hold on its inflection. The suffix //ok// occurs on the second stem only if there is no following phrase in the same sentence. Examples of this type of compound verb stem are: //p'át-xéN-n-ax-(ok)// to fly < //p'át// to go and //xéN// with spread limbs, //k'éʔ-c'éx-n-ax-(ok)// to cry, choking off cries and then beginning again < //k'éʔ// to rise and the positional root //c'éx// shouting excessively, //ʔél-čék'-n-ax-(ok)// to fall over halfway < //ʔél// to leave and the positional root //čék'// sloped, //k'éʔ-c'ít-n-ax-(ok)// to jump about briskly < //k'éʔ// to rise and the noun root //c'ít// slap with the open hand.

Stems derived by //V1-x-up'// occur only before the inflected stem. The inflected stem may be inflected for tense and person only. If the stem is inflected for tense, it takes intransitive verb person markers (see pages 60-61); if it is not inflected for tense, it takes transitive verb person markers. Examples of this type of compound stem are: //wác'-V1-x-up'...-k'áN-(ih)// to make loud squeaking noises < //wác'// squeaking and //k'áN// to sound, //lít'-V1-x-up'...-ʔék'-(ih)// to walk on tiptoes < //lít'// on tiptoes and //ʔék'// to pass by.

Stems derived in //VC<sub>2</sub>// occur either before or after the inflected stem. If the stem derived in //VC<sub>2</sub>// occurs before the inflected stem, that stem may be inflected only for tense and person. If the stem is also inflected for tense, personal inflection is with intransitive verb person markers; if the stem is inflected only for person, this inflection is with the transitive verb person markers. Before an inflected stem, //VC<sub>2</sub>// must be followed by //ih//.

If the stem derived in //VC<sub>2</sub>// occurs after the inflected stem, it must be followed by //ok//, whether or not another phrase follows in the same sentence. In this case, no restrictions occur on the inflection of the inflected stem. Examples of these compound stems are: //xít'-VC<sub>2</sub>-ih...-p'át-(ih)// to walk in files or lines < //xít'// lined up and //p'át// to go, //nám-VC<sub>2</sub>-ih...ʔék'-(ih)// to move like a cloud < //nám// mist-like and //ʔék'// to pass by, //šék-VC<sub>2</sub>-ih...ʔél-(ih)// to leave with mussed hair < //šék// with hair mussed and //ʔél//

to leave, //p'át-xít'-VC<sub>2</sub>-ok// to walk in files or lines < //p'át// to go and //xít'// lined up, //p'át-mól-VC<sub>2</sub>-ok// to walk together < //p'át// to go and //mól// gathered.

Stems formed by //C<sub>1</sub>-on// occur either before or after the inflected stem. If the stem derived in //C<sub>1</sub>-on// occurs before the inflected stem, that stem may be inflected only for person, by the transitive verb person markers. If the stem derived in //C<sub>1</sub>-on// occurs after the inflected stem, no restrictions on the inflection of that stem occur. After an inflected stem, //C<sub>1</sub>-on// is followed by //ok// if no other phrase follows in the same sentence. Examples of these compounds are: //kót-C<sub>1</sub>-on...-p'át-(ih)// to walk on all fours < //kót// standing on four legs and //p'át// to go, //rém-C<sub>1</sub>-on...-ʔék'-(ih)// to walk like a pot-bellied person < //rém// pot-bellied and //ʔék'// to pass by, //ʔék'-láč-C<sub>1</sub>-on-(ok)// to crawl on one's chest < //ʔék'// to pass by and //láč// lying face down, //xáʔ-šék-C<sub>1</sub>-on-(ok)// to arrive with mussed hair < //xáʔ// to arrive and //šék// with mussed hair.

Stems derived with //CVC// or //CVC-an// occur either before or after the inflected stem. If the stem derived in //CVC// or //CVC-an// precedes the inflected stem, that stem may be inflected only for person, with the intransitive verb person markers. If the stem derived in //CVC// or //CVC-an// follows the inflected stem, no restrictions on the inflection of that stem occur. Stems derived in //CVC-an// are followed by //ok// if no phrase follows in the same sentence. Examples of these compound stems are: //lák'-lāk'...-ʔóč-(ih)// to em-

brace or //ʔóč-lák'-lák'// to embrace < //lák'// near and //ʔóč// to enter, //két-két-an...-p'át-(ih)// or //p'át-két-két-an-(ok)// to walk slowly and weakly < //két// walking slowly and weakly and //p'át// to go.

Stems derived in //Vl-x// occur either before or after the inflected stem. If the stem derived in //Vl-x// precedes the inflected stem, that stem may be inflected for tense and person only, with intransitive verb person markers. If the stem derived in //Vl-x// follows the inflected stem, no restrictions on inflection occur. Before an inflected stem, //Vl-x// is followed by //ih//; after an inflected stem, //Vl-x// is followed by //ok//. Examples of these compound stems are: //két-Vl-x-ih...-p'át-(ih)// or //p'át-két-Vl-x-ok// to be barely walking < //két// walking slowly and weakly and //p'át// to go, //lít'-Vl-x-ih...-ʔék'-(ih)// or //ʔék'-lít'-Vl-x-ok// to walk on tiptoes < //lít'// on tiptoes and //ʔék'// to pass by.

Compound verb stems which incorporate noun stems into the verb stem are composed of a transitive verb root derived with //w-ih// and an unstressed noun stem. The noun stem may not be inflected. The compound verb narrows the meaning of the transitive verb stem to include only action carried out on the object specified by the noun stem. The compound stems are inflected as intransitive verb stems. Examples are: //páy-w-ih-Nál// to dry maize with heat < //páy-w-ih// to dry something out and //Nál// ear of maize, //ʔáw-w-ih-ʔáw-al// to plant maize < //ʔáw// to plant something and //ʔáw-al// cornfield.



Inflection of Stems

## Inflection of Verb Stems

Verb stems may be inflected by affixation for personal subject, personal object, tense-aspect, directional motion, intensity of action, repetition of action, negation, and state of knowledge of the speaker. Most of these inflections are optional; some are obligatory (see Verb Phrases, page 145). Both prefixed and suffixed inflectional affixes occur, and in some cases inflection for a given feature may be carried out by either a prefix or a suffix or both.

Verbal Prefixes

Obligatory inflections tend to occur in positions near the verb stem. For this reason, the verbal prefixes will be presented in the order opposite to that in which they occur in speech. Potentially filled positions are numbered from -1 (nearest to the stem) to -9 (most distant from the stem).

Verbal prefix position -1 is filled by the optional prefix //té//, the presence of which indicates that the verbal action is stronger or more effective than usual. Examples of verb stems inflected with //té// are: //c-hoN-té-k'ún-p'-(ih)// we get very tired < //k'ún-p'-(ih)// to tire, //c-hoN-té-ʔém Nóx-an// we lean over more than usual (in doing a certain kind of work) < //ʔém Nóx-an// to lean over, //∅-té-mák'-n-aš-š-(ih)// he was beaten hard again < //mák'-n-aš-š-(ih)// to be beaten again, //c-ko-té-p'óʔ-ex// we work at it so much < //p'óʔ-ex// to fix something. Note that if a transitive

verb stem beginning in //ʔ// or //h// is inflected both for intensity and for person, the person markers follow //té//:  
 //c-té-y-ʔéč'-haʔ// he pinches it intensively < //ʔéč'// to pinch something.

Verbal prefix position -2 is occupied by the prefixes of personal subject--except as noted above in the discussion of //té// and the transitive verb prefixes. The prefixes of personal subject are //hin// ~ //w// first person singular, //hač// ~ //ha// ~ //h// second person singular, //ø// ~ //s// ~ //y// third person singular or plural, //hoN// ~ //ko// ~ //k// first person plural, and //heš// ~ //he// ~ //hey// second person plural. The selection of allomorphs has been discussed on pages 60, 61, and 65. Examples of the intransitive verb personal subject markers are: //c-hin-p'át-(ih)// I go, //ʔol-hač-p'át-ok// you will go, //ʔiš-ø-p'át-(ih)// he went, //ʔiš-ø-p'át hep'-wíN// they went, //c-hoN-p'át-(ih)// we go, //c-heš-p'át-(ih)// y'all go. Examples of the transitive verb personal subject markers before verb stems beginning in //ʔ// or //h// are: //c-w-ʔúk'-ex// I drink it, //c-h-ʔúk'-ex// you drink it, //c-y-ʔúk'-ex// he drinks it, //c-k-ʔúk'-ex// we drink it, //c-hey-ʔúk'-ex// y'all drink it. Examples of the transitive verb personal subject markers before other stems are: //c-hin-mák'-haʔ// I hit it, //c-ha-mák'-haʔ// you hit it, //c-s-mák'-haʔ// he hits it, //c-ko-mák'-haʔ// we hit it, //c-he-mák'-haʔ// y'all hit it. Note in the examples for verbal prefix position -1 that //té// follows two sets of person markers, but precedes one set of person markers.

Verbal prefix position -3 is attested by only one form: //c-heš-ek'-w-ʔíl-kan-(ih)// I come around to see y'all < //ʔíl-kan-(ih)// to see someone. In this form, the appearance of //ek'// between the subject and object markers //w// and //heš// indicates that the intransitive verbs of directional motion--of which //ek'// is an example--may occur here in the same form as that in which they occur in verbal suffix position +9. No other examples of directional verbs in this position have been noted, however.

Verbal prefix position -4 contains the prefixes which indicate the personal objects of transitive verbs. This position is not filled unless the following verb stem is a transitive stem inflected for personal subject in position -2. The markers of personal object are the same as those which mark intransitive verb subjects. Examples are: //c-hin-s-mák'-haʔ// he hits me, //ʔol-hač-hin-mák'-haʔ// I will hit you, //c-ø-ko-mák'-haʔ// we hit it, //c-heš-w-ʔíl-haʔ// I see y'all, //c-hoN-s-mák'-haʔ// he hits us, and //c-hul-hač-hin-čÓN-kan-ʔel-(ih)// I come to sell you off.

Verbal prefix position -5 contains intransitive verb roots of directional motion (see page 62). The appearance of one of these roots in this position indicates that the action defined by the inflected verb stem is oriented in a particular direction, or that motion in a particular direction is involved in carrying out the action of that verb. The most common directional verbs to appear in position -5 are //hül// coming,

//ék' // passing by, and //p'ät // going. The allomorphs which occur here are the same as those which appear in verbal suffix position +5. Examples are: //c-hül-w-?ák' he-pášyal // I come to give y'all a visit; //c-p'ät-hin-k'úl-ex // I am going away to do it, //?ol-p'ät-ko-ló?-?ëm-(ih) // we will go down there to eat it, //xun hin-wyáxah šit'-w-?ák' t'ay wáríyah // a trip I made to Barillas.

Verbal prefix position -6 contains //ham // interrogative and //hap' // reportative. The first, //ham //, states a request for information. The second, //hap' //, specifies that the information contained in the rest of the verb phrase is hearsay, not witnessed by the speaker. Examples of these inflections are: //c-ham-hač-p'ät-(ih) // are you going?, //ø-ham-hač-p'ät-(ih) // did you go?, //ø-ham-hač-s-mák'-ha? // did he hit you?, //?iš-hap'-ø-s-mák'-ha? // they say he hit it, //wan-hap'-s-p'ät-(ih) // they say he went, //ø-hap'-s-y-?ák'-an čáN-al // they say they have dances, //c-hap'-s-č'óš s-p'áh // they say they show themselves.

Verbal prefix position -7 contains markers of tense and aspect. These are //?ol // future inchoative, //wal // progressive, and //wan-(ok-lax) // progressive; note that verbal prefix position -8 contains other tense-aspect markers. The marker //?ol // specifies futurity of action; //wal // and //wan-(ok-lax) // indicate that the action is or was in progress at some non-future time specified elsewhere in the discourse.

Inflection of intransitive verb stems with //?ol // usually requires the suffix //ok // in verbal suffix position +1

(see the discussion of //ok// in that position for details). Inflection of stems with //wan-(ok-lax)// requires the personal subject inflection to be with the transitive verb person markers; a transitive verb stem inflected with //wan-(ok-lax)// is always suffixed with //an-(ih)//. If inflection for negation is also present, //wan// is followed immediately by //ok-lax//; otherwise, the //ok-lax// is absent. Examples of these inflections are: //ʔol-hoN-p'át-ok// we will go, //ʔol-∅-s-páy-ex// he will dry it with heat, //ʔol-hin-čám-el-(ih)// I will die, //wan-∅-k-ʔáw-an-(ih)// we are planting it, //ma-N-wan-ok-lax-hin-xáʔ-š-(ih)// I am not coming, //wan-ko-lúʔm-aš-(ih)// we are getting dirty, //wal-hoN-lóʔ-C<sub>1</sub>-on-(ih)// we are (were) chatting, //wan-ko-lúʔm-aš-(ih) ʔiš-hoN-y-ʔíl-an-(ih)// while we were getting dirty, he saw us.

Verbal prefix position -8 contains the tense-aspect markers //ʔiš// past inchoative, //c// present inchoative, //š// durative, //∅// punctual, //x// negative past durative, //N// negative future or progressive durative. The prefixes //ʔiš//, //c//, and //∅// occur only if inflection for negative is absent; that is, they occur only in positive expressions. The prefixes //x// and //N// occur only after the negative //ma// in verbal prefix position -9. The prefix //š// occurs in both positive and negative expressions, but is limited in positive expressions to (1) those in which //tah// uncertainty appears in verbal suffix position +1, and (2) inflections of the verb //čih// to say used for direct and indirect quotations.

The negatives of expressions inflected with //ʔiš// or //ø// are usually formed with //ma-x//; those of //c// or //š//, with //ma-š//. Negatives of expressions inflected with //ʔol//, //wan//, and //wal// in verbal prefix position -7 are usually formed with //ma-N-ʔol//; //ma-N-wan-ok-lax//; and //ma-š-wal// or //ma-N// or //ma-x//, respectively. Thus, both //N// and //š// may occur before another tense-aspect marker in verbal prefix position -7 in negative expressions. The combinations //ma-N-wan-ok-lax// and //ma-N-ʔol// are frequent; the combination //ma-š-wal// has been observed only once. Other tense-aspect markers apparently do not occur in verbal prefix position -8 if another tense-aspect marker occurs in verbal prefix position -7. Examples of these tense-aspect markers are: //ʔiš-hin-p'át-(ih)// I went (a while ago), //c-hin-p'át-(ih)// I'm going or I go (now), //š-hin-čih// I said, //š-hač-hin-mák'-tah// it could be that I am going to hit you, //ma-x-hin-p'át-lax// I didn't go, //ma-N-ʔol-hin-p'át-lax// I won't go, //ø-hač-p'át-(ih)// you went, //ma-N-wan-ok-lax-hin-p'át-(ih)// I'm not going, //ma-š-wal-ø-k'ún-p'-(ih)-lax// he doesn't tire.

Verbal prefix position -9 contains the negative prefix //ma//. The occurrence of //ma// in this position requires //lax// at the end of the verb phrase, in verbal suffix position +8, or, if the phrase is inflected with //wan// in verbal prefix position -7, //lax// is required after //wan-ok// (see page 120). Examples of inflection for negation are: //ma-š-hin-p'át-lax// I'm not going, //ma-x-hin-p'át-lax// I didn't go or I wasn't going, //ma-š-hül-heš-w-ʔíl-lax// I'm

not coming to see y'all, //ma-x-hin-p'éy-š-ek'-lax// I didn't go walking around again, //ma-N-ʔol-k-ʔíl-l-ax-lax ko-p'áh//  
we won't see each other, //ma-N-wan-ok-lax-hin-xáʔ-š-(ih)// I wasn't coming.

### Verbal Suffixes

Verbal inflection following the stem involves fewer morphemes than pre-stem inflection, but the co-occurrence restrictions that hold between these morphemes complicate their description. The inflectional suffixes will be discussed in groups arranged according to the positions they occupy in verb phrases. These positions follow the derivational suffixation discussed in Formation of Verb Stems, pages 82-91. The positions are numbered successively from +1 (nearest to the verb stem) to +10 (most distant from the verb stem).

Verbal suffix position +1 contains the suffixes //tah// uncertainty, //ok// doubt, and the verb stem clitics //(ih)// and //hVʔ// ~ //ʔVh// (described on pages 65-66). The clitic //hVʔ// ~ //ʔVh// occurs only after underived transitive verb roots which are otherwise unsuffixed, and the clitic occurs only if no phrase follows in the same sentence. The clitic //(ih)// occurs after intransitive verb stems, derived or underived. However, //(ih)// is realized as //ih// only in certain environments. First, //(ih)// is realized as //ih// after intransitive roots or stems if no phrase follows in the same sentence. This realization of //(ih)// occurs either in verbal suffix position +1 or verbal suffix position +10, whichever is terminal in the stem. Second, //(ih)// is realized as

//ih// in verbal suffix position +1 after an intransitive verb stem derived with a single consonant-- //p'//, //w//, //k//, and so on. This distribution prevents the formation of tri-consonantal clusters that otherwise might occur: //páy-w-ih-Nǎl// to dry maize, for instance, rather than \*//páy-w-Nǎl//. Note that if //ih// occurs in verbal suffix position +1. another instance of //ih// may still occur in verbal suffix position +10 if the stem is further inflected for repetition or directional motion. The suffixes //(ih)// and //ok// doubt have identical distribution with respect to other consonants and following phrases. Where its occurrence is permitted by these restrictions, however, //ok// is obligatory after underived intransitive verb roots or intransitive stems derived from non-verbal roots, if these are inflected for future inchoative (with //ʔol// in verbal prefix position -7). The suffix //ok// may also occur after transitive verb roots derived in //w//; in this case, //ok// indicates doubt. In environments where both //ih// and //ok// may occur, the use of //ok// rather than //ih// indicates doubt.

The suffix //tah// uncertainty occurs with transitive and intransitive verb roots, and with compound verb stems based on the intransitive verbs of directional motion (see page 113). Note that //tah// in compound stems occurs after the inflected, or first, stem rather than after the whole compound stem. Tense-aspect inflection of a stem inflected by //tah// must be with //š// durative in verbal prefix position -8.



Examples of the inflectional suffixes in verbal suffix position +1 follow. Note that each suffix in this and in all other positions is in complementary distribution with other suffixes listed in the same position--only one suffix of each set may occur in any given item. The examples are: //c-hač-hin-mák'-haʔ // I'm hitting you, //c-ø-s-mák' wíN // he hits it, //š-hač-hin-mák'-tah // it could be that I am going to hit you, //c-hin-čám-ih // I die, //ʔol-hin-čám-ok // I will die, //ʔol-hin-čám-el-ih // I will die, //c-ø-ták-k-ih-páš-ih // it dries out again, //c-ø-k'ún-p'-ih wíN // he gets tired, //ʔol-ø-k'ún-p'-ok // he will get tired, //ʔol-s-mól-hoʔ // he will gather it, //ʔol-s-táN-w-ex-hep' // they will wait for it, //ʔol-s-táN-w-ok-hep' // they might wait for it, //ʔol-ø-páy-w-ih-Năl // he will dry maize by heat, //ʔol-ø-páy-w-ok-Năl // he might dry maize by heat, //š-ø-p'át-tah-húm-n-ax-ok // it could be that they will go in a flock, //š-ø-p'át-tah-kot-húm-n-ax-ok // it could be that they will go towards us in a flock.

Verbal suffix position +2 is filled by the imperative suffix //aN//, which forms the imperative of intransitive verb stems. The imperative of transitive verb stems is formed from the uninflected verb stem; transitive verb roots appear as imperatives suffixed with the transitive verb clitic //ʔVh// ~ //hVʔ//, if not also inflected for plural number in verbal suffix position +3. A few verbs form their imperative by replacement of the root. The known examples of these are: //ʔíšik // go! < //p'át// to go, and //lém// come! < //húl// to come. The forms //kóʔN// and //kóy-ek// let's go! (to

singular and plural addressees, respectively) also occur. Compound imperatives are formed by prefixing //ʔíš// go or //ʔúl// come to other imperatives; these have the meanings go do this or come do this. Examples of imperatives are: //mák'-haʔ// hit it!, //lóʔ-ʔoh// eat it!, //páy-ex// dry it with heat!, //cíl-č-it-ex// tear it up!, //čám-aN// die!, //č'áy-n-aš-aN// get wet!, //ʔém-aN k'óx-an// sit down!, //páy-w-aN-Nál// dry maize by heat!, //čóy-p'-aN// relax! (become loose!), //lóʔ-ʔém-ih// eat it down there!, //páy-ex-ʔél-ih// extract it by heating!, //wáy-aN-kán-ʔém-ih// sleep down there!, //mún-l-ax-aN-kán-ʔém-ih// stay working down there!, //ʔíš-lóʔ-ʔém-ih// go eat it down there!, //ʔíš-lúʔm-ex ha-p'áh// go dirty yourself!, //ʔúl-Nús-š-ih// come burn it again!.

Verbal suffix position +3 is filled by the imperative plural marker //ek//, which forms plural imperatives from imperatives based on both transitive and intransitive stems. Note that the occurrence of //ek// prevents the occurrence of the transitive verb clitics. Examples of plural imperatives are: //míl-ek// y'all kill it!, //čám-aN-ek// y'all die!, //púk-aš-aN-ek// y'all scatter! (be divided!), //páy-w-aN-ek-Nál// y'all dry maize by heating!, //páy-ex-ek-ʔél-ih// y'all extract it by heating!, //mún-l-ax-aN-ek-kán-ih// y'all work here!, //ʔíš-lóʔ-ek-ʔém-ih// y'all go eat it down there!, //ʔúl-Nús-ek-š-ih// y'all come burn it again!.

Verbal suffix position +4 is filled by the suffixes of repetition, //(i)š// and //páš//, which indicate a single rep-

etition of the verbal action. The selection of allomorphs of //(i)š// is described on pages 66-67. Either //(i)š// or //páš// may occur with either transitive or intransitive verb stems, but //(i)š// usually occurs with transitive stems, and //páš// usually occurs with intransitive stems. Examples of the two suffixes are: //ʔél-š-ih// to go out again, //ʔél-iš-(ih)// to go out again, //ʔél-iš-tah// to go out towards the speaker again, //p'éy-š-ěk'-(ih)// to walk around again, //k'éš-an-š-ih// to change something again, //k'úm-ex-páš-(ih)// to chat again, //ʔáv-ex-páš-(ih)// to plant something again, //ták-k-ih-páš-(ih)// to dry out again.

Verbal suffix position +5 contains inflection for directional motion, as does verbal suffix position +6. The two sets of suffixes differ slightly in shape (see page 62) and in effect of the meaning of the stem. The suffixes which occur in verbal suffix position +5 tend to specify a particular type of action, while those in verbal suffix position +6 tend to specify direction of motion in carrying out an action. The suffixes of directional motion which occur in verbal suffix position +5 are //ek'// around or to the side, //em// down, //el// out, //uč// in, //kan// stable, //kut// nearing, //p'at// leaving, //k'eʔ// rising, //k'oč// arriving, and //hul// coming. Examples of these inflections follow. Note that inflection for directional motion forms a stem of the same class as the uninflected stem as far as personal inflection is concerned, but the stems are followed by the intransitive clitic //(ih)// in verbal suffix position +10.

Examples of inflection with suffixes of directional motion in verbal suffix position +5 are: //níc-ek'-(ih)// to move something to the side < //níc// to move something, //čá?-ek'-(ih)// to reach out and receive something < //čá?// to receive something, //tén-em-(ih)// to pound something into the ground < //tén// to pound on something, //mák'-el-(ih)// to extract something by beating < //mák'// to strike something, //níc-uč-(ih)// to move something flush against something else, //wáy-kan-?ém-(ih)// to stay sleeping down somewhere < //wáy// to sleep, //xá?-kan-(ih)// to come to stay somewhere < //xá?// to come, //níc-kut-(ih)// to move something towards a goal, //čá?-p'at-(ih)// to pass something along, //p'ó?-k'e?-(ih)// to erect something < //p'ó?// to fix something, //níc-k'e?-tah// to move something upwards towards the speaker, //k'é?-k'oč-(ih)// to come up to a mark < //k'é?// to rise, //?él-hul-(ih)// to come out (as a plant sprouts) < //?él// to come out or to leave.

The suffixes of directional motion which occur in verbal suffix position +6 are //?ék'// around or to the side, //?ém// down, //?el// out, //?óč// in, //kót// nearing, //p'át// leaving, //k'é?// rising; the suffixes //kán// stable, //k'óč// arriving, and //húl// coming are not attested in this position, but may occur. Examples of inflection with these suffixes in verbal suffix position +6 are: //púk-an-?ék'-(ih)// to distribute something around in a group < //púk// to distribute something, //páy-ex-?él-(ih)// to extract something by heating < //páy-ex// to dry something by

heating, //k'án-p'-ih-ʔél-(ih)// to mature (maize) < //k'án-p'-(ih)// to become yellow, //cép-an-ʔél-(ih)// to take out lumber < //cép// to chop something with an axe, //ʔáv-an-ʔóč-(ih)// to plant something in holes < //ʔáv// to plant something, //ʔák'-an-ʔém-(ih)// to work something downwards < //ʔák'// to do something, //kúč-an-kót-(ih)// to carry something towards a goal < //kúč// to carry something, //yám-uč-p'át-(ih)// to go start a phase of work < //yám// to grasp something, //t'ók-an-k'éʔ-(ih)// to turn over earth < //t'ók// to hoe the earth, //léč-č-ax-k'éʔ-tah// to be ladled out of something up towards the speaker < //léč// to ladle out a liquid.

Verbal suffix position +7 contains the suffix //tah//, which indicates motion towards the speaker. This suffix occurs only after an immediately preceding directional root, either as the main verb of a verb stem or as inflection for directional motion. Examples of this inflection are: //ʔél-tah// to come out towards the speaker, //ʔél-iš-tah// to come out again towards the speaker, //ʔík'-k'éʔ-tah// to transport something upwards towards the speaker, //ʔél-tah-húm-n-ax-ok// to leave somewhere in a flock, moving towards the speaker.

Verbal suffix position +8 contains the negative suffix //lax//, which occurs only after //ma// in verbal prefix position -9. Examples of this inflection are: //ma-š-ko-náʔ-el-tah-lax// we don't think it out < //náʔ-el-tah// to think something out, //ma-x-hin-p'át-lax// I didn't go < //p'át// to go, //ma-x-hin-xáʔ-š-kán-lax// I didn't come back again to stay <

//xáʔ-š-kan-(ih)// to come back again to stay, //ma-N-ʔol-hin-p'éy-ek'-lax// I won't walk around < //p'éy-ek'-(ih)// to walk around.

Verbal suffix position +9 contains the suffix //hep'//, which marks the plural of third person subjects. Note that this is not an obligatory suffix even if the third person subject is plural; the suffix is optional, and plural need not be marked in the verb phrase. Examples of the inflection are: //ʔiš-ø-p'át-hep'// they went, //ʔol-s-táN-w-ex-hep'// they will wait, //c-ø-táx-n-ih-hep'// they are playing, //ʔol-y-ʔáw-ex-páš-hep'// they will plant it again, //ma-x-ø-lóʔ-C<sub>1</sub>-on-lax-hep'// they didn't chat.

Verbal suffix position +10 contains the intransitive verb clitic //(ih)//, the distribution of which was discussed briefly on pages 122-123. The suffix //ih// occurs only if there is no following phrase in the same sentence, and only if the preceding morpheme is either an intransitive verb root (either as main verb root or as inflection) or inflection for repetition, or under the conditions described on pages 122-123. In verbal suffix position +10, //ih// does not occur if either verbal suffix position +7, +8, or +9 is filled. Examples of the suffix //ih// are: //c-ø-p'át-ih// he goes, //c-ø-p'át-š-ih// he goes again, //c-s-níc-păt-ih// he moves it along.

#### Order of Verbal Affixes

The verbal affixes occur in the orders indicated by the numbered positions in which they have been listed above. Prefixes in position -9 precede prefixes from position -9, and so

on. Suffixes from position +1 precede suffixes from position +2, and so on. Only one affix from a given position may occur in any single verb phrase. Figure 6 shows the verbal prefixes in their relative positions; Figure 7 shows the verbal suffixes, excluding derivational suffixes, in their relative positions.

#### Inflection of Noun Stems

Noun stems may be inflected for person and for number. The inflection of substantives and adjectives, specifiers, and numerals differs slightly. Since noun stem inflection is less complex than that of verb stems, involving fewer inflectional positions, the affixes will be discussed below according to the inflectional class of the stem rather than the relative order of the affixes.

#### Inflection of Substantives and Adjectives

Substantive and adjective noun stems may be inflected for person and for number. Personal inflection indicates the possessor of the object or feature specified by the noun stem. Inflection for number indicates singularity or plurality of either the possessor or the object or feature itself.

Inflection of substantives and adjectives for person is identical to the inflection of transitive verb stems for personal subjects (see page 117). The inventory of person markers is the same as that for transitive verb subject markers, and the same distributional restrictions occur with respect to the initial consonant of the stem. The selection of allomorphs of these person markers is discussed on page 65.

<u>Position</u>	<u>Function and Inventory of Morphs</u>
-9	negative: ma
-8	tense-aspect: ?iš, c, š, Ø, x, N
-7	tense-aspect: ?ol, wal, wan(-ok-lax)
-6	state of knowledge: ham, hap'
-5	directional motion: ek', em, el, uč, kan, kut, p'at, k'e?, k'oč, hul, šit'
-4	objects: hin, hač, Ø, hoN, heš
-3	directional motion: ek' (and possibly others)
-2	subject: hin, hač, Ø, hoN, heš, ha, s, ko, he, w, h, y, k, hey
-1	intensive: té
0	root or stem

Fig. 6--Verbal inflectional prefixes



<u>Position</u>	<u>Function and Inventory of Morphs</u>
+1	state of knowledge: tah, ok clitics: hV? ~ ?Vh, (ih)
+2	imperative: aN
+3	plural of imperative: ek
+4	repetition: (i)š, páš
+5	directional motion: ek', em, el, uč, kan, kut, p'at, k'e?, k'oč, hul
+6	directional motion: ?ék', ?ém, ?él, ?óč, (kán), kót, p'át, k'é?, (k'óč), (húl)
+7	motion toward speaker: tah
+8	negative: lax
+9	plural of third person: hep'
+10	clitic: (ih)

Fig. 7--Verbal inflectional suffixes

Note that adjectival noun roots inflected for person are also derived with //il// ~ //al//, so that these stems are not, strictly speaking, adjectival stems, but rather substantive noun stems. Examples of the personal inflection of noun stems are: //hin-xólom// my head, //w-ʔók// my foot, //w-híkap'// my sand, //ha-p'íh// your name, //h-ʔíp// your strength, //h-háp'-il-al// your age, //s-méšah// his table, //s-k'án-il// its yellow parts, //y-ʔím// her breast, //y-hów-al// his fight, //ko-čítam// our pig, //k-ʔíšim// our maize, //k-húʔm// our paper, //he-túmat// y'all's tomato, //hey-ʔítax// y'all's greens, //hey-híʔh// y'all's young maize sprout.

The plurality of the possessor of a noun stem inflected for possession by a third person subject is optionally expressed by the suffixation of //hep'// to the noun stem. Alternatively, the plurality of the possessor may be expressed by pluralizing the phrase which specifies that possessor. Examples of the pluralization of possessed noun stems are: //s-pát-hep'// their house, //s-čéx-hep'// their animal, //s-pát hep'-wíN// the house of the men, //s-čéx hep'-ʔíš// the animal of the women. The suffixation of //hep'// to noun stems not associated with a specifier--body parts, for example--is ambiguous, as this construction may also indicate the plurality of the possessed stem rather than that of the possessor. Examples are: //hin-k'áp'-hep'// my hands, //s-k'áp'-hep'// his hands or their hands.

Inflection of Specifiers

Specifier nouns are inflected for plurality only; they may not be inflected for personal possession. Inflection for plurality is by prefixation of //hep'//. Note that where the specifier is the first member of a noun phrase the pluralization of the specifier in effect pluralizes the noun phrase. Examples are: //hep'-wíN// they (male animate beings), //hep'-nók'// they (animals), //hep'-nok' hin-čéx// my animals, //hep'-?iš y-?íscil// their wives or his wives.

Inflection of Numerals

Noun stems derived from numeral noun roots may be inflected for person, but this inflection differs greatly from that of other noun stems. The inflection must be for third person singular, and the meaning of the stem concerns not personal possession but cyclical occurrence. Thus, stems derived from numeral roots with //il// are inflected with //s// ~ //y//, third person, to form ordinal numbers. Stems derived from numeral roots and stems with //(i)š// ~ //(e)x// and //ih// are further suffixed in //il// ~ //al// and inflected for third person to form items which denominate cycles of days. Other stems, derived from numeral roots with //tak// and //il//, are also inflected with the third person prefix to form the names of cycles of days. Examples of these inflections are: //s-čá?p'-il// second, //y-hó?-il// fifth, //s-xún s-čá?-wínâk-il// twenty-first, //s-čá?p'-x-ih-al// every two days, //y-hóp'-š-ih-al// every five days, //s-xún s-čá?-wíNk'-êx-ih-al// every twenty-one days, //s-čá?p'-tak-il

k'úh-al // every two days, //s-wáxšak-tâk-il k'úh-al // every eight days, //y-ʔóš-lăxuN-il-tâk k'úh-al // every thirteen days, //s-xúnak-il-tâk k'úh-al // every twenty days, //s-čáʔp'-čăʔp' k'úh-al // every second day from now on, //s-čáʔp'-čăʔp'-il k'úh-al // after every second day from now on, //s-p'ál-p'áluN-il k'úh-al // every nine days, //s-xún-xún s-čáʔ-wĭnk'-éx-ih-al // every twenty-one days.

#### Inflection of Positional Stems

The inflection both of positional stems and of one type of noun stem derived from positional roots will be discussed in this section, as these noun stems form a special sub-class of noun stems. Except where they occur as stative stems, positional stems may be inflected only for number. The inflection for number of these stems, and for one type of noun stem derived from positional roots (other noun stems derived from positional roots being identical in inflection to other substantive noun stems) is by reduplication, suffixation, or replacement of a singular suffix.

The two types of positionals, distributive and non-distributive, differ slightly in their semantics. The plurals formed from the two types, while formally identical, result in syntactically distinct phrases. In general, positionals deal with different aggregations of objects and with features of shape, texture, and consistency of objects. The features specified by distributive positionals are such that any given object may have only one such feature. That is, for instance, an object may be spherical, but it cannot be spherical more

than once. The pluralization of distributive positionals thus implies a plurality of objects which carry the specified features. On the other hand, the features specified by non-distributive positionals are such that a given object may have more than one feature. An object may be dented once, for instance, or it may be dented many times. The pluralization of non-distributive positionals thus does not necessarily imply a plurality of objects carrying the features specified. In fact, there are two plurals for both kinds of positionals. One plural specifies a plurality of objects, each of which is singly characterized by the specified feature. The other plural specifies a plurality of features, which may either be distributed across many objects, or concentrated on a single object. The distinction between the two types of positionals is based largely on the fact that for distributive positionals, the two plurals are semantically identical; for non-distributive positionals they are distinct.

The noun stems derived from positional roots by //u?// form their plurals by replacing //u?// with //xap'//. These stems occur almost exclusively in compound stems (see pages 97 and 104); the plural expressed by //xap'// in these compounds is plurality of the objects showing the features specified by the positional root. Thus, //púc'-u?-Ní?// pug-nosed (person) is matched by a plural //púc'-xap'-Ní?// pug-nosed (persons), since //Ní?// nose describes an object which is distributed one to a person. However, the compound stem //léw-xap'-?ók// bow-legged (person) has no parallel form \*//léw-u?-?ók//, since the

minimal number of legs required to form bowlegs is plural. The positional roots found in these compounds are thus distributive positionals.

The positional stems formed with //an//, and the compound forms with reduplication of these stems, are singular. That is, they refer to singular objects and singular features: //čóy-an// loose (object), //t'éx-an// sitting on floor (a single object), //pác-an pác-an// wooly (object), //t'ín-an t'ín-an// narrow-waisted (object).

Plurality of objects described is expressed by reduplication of the positional root: //pák-an pák-an hú'm// the single piece of paper is folded once, //pák-pák hú'm// the several papers are each folded once; //póc'-an póc'-an y-ʔáx-(ih)// the single object is dented once, //póc'-póc' y-ʔáx-(ih)// the several objects are each dented once; //típ'-an típ'-an y-ʔáx-(ih) hú'm// the single piece of paper is a multi-ply cylinder, //típ'-típ' y-ʔáx-(ih) hú'm// the several pieces of paper each form a multi-ply cylinder; //píl-an píl-an y-ʔáx-(ih)// the single object is small and spherical, //píl-píl y-ʔáx-(ih)// the several objects are each small and spherical.

Plurality of features is expressed by suffixing the positional root with //kiš-tak//. If the root is a distributive positional, plurality of objects is also implied. If the root is a non-distributive positional, the objects may either be plural objects each of which carries a single feature, or a single object which carries multiple features: //pák-kiš-tak

húʔm // the single piece of paper is folded several times or the several pieces of paper are folded several times each,  
 //póc'-kiš-tak // it is dented several times or they are dented several times each, //típ'-kiš-tak // they each form a multiply cylinder, //píl-kiš-tak // they are each small and spherical.

#### Inflection of Stative Stems

It is convenient to recognize two types of stative stems which have in common inflection for person by suffixation. The first type of stative stem consists of the stative root //ʔáy//, either underived or derived in //an//. The second type of stative stem includes all other stative stems (see page 100). The stative root //ʔáy// is more fully inflected than stems of the second type, but where the inflection of the two types overlaps it is identical.

#### Stative Prefixes

Stative prefix position -3 contains the negative //ma//. Inflection with //ma// prohibits inflection for features other than person. Three forms of stative negatives occur: //ma-ʔáy//, //ma-N-ôk...lax//, and //mâ-lax//. The negative //ma-ʔáy// is inflected only for third person subjects, with //ø//. The frame //ma-N-ôk...lax// is inflected for personal subjects other than third person, and for third person subjects as well. The negative stative //mâ-lax// is inflected only for third person subjects. Examples of these inflections are: //ma-ʔáy-ø// there is none or no, //ma-N-ôk-oN-lax// it is not us, //mâ-lax-ø// there is none, //tah toh ma-ʔáy-ø ʔaN ʔáN// if there

is no liquor, //mâ-lax ʔaN ʔáN// there is no liquor.

Stative prefix position -2 contains the prefix //té// intensive. This affix occurs with both types of stative stems. Examples of this inflection are: //té-ʔáy-∅ y-ʔíp wíN// great is his strength, //té-k'áč-an-∅// it is very clear (weather) < //k'áč-an// clear, //té-wínak-oN// we are very much men < //wínak// man.

Stative prefix position -1 contains personal inflection of the stative stem, and occurs only with the second type of stative stem; this inflection has only been attested in the following forms: //h-ʔák'-uč-nak-∅// it is a thing thrown by you, //h-ʔák'-uč-nak-in// I am (a thing) thrown by you < \*//h-ʔák'-uč-nak// a thing thrown by you < //ʔák'-uč-nak// a thing thrown by someone < //ʔák'-uč-(ih)// to throw something.

#### Stative Suffixes

Stative suffix position +1 contains the suffix //an//, which apparently occurs only with the stative root //ʔáy//, and not with other statives (except as part of the stative stem). Examples of this inflection are: //ʔáy-an-∅ tom wák-eʔ ʔúx-wal néʔik// it has perhaps been some eight months now, //ʔáy-an-∅ tom hap' xún-ok s-čáʔp'-il ʔúx// it was, they say, perhaps one or two months later.

Stative suffix position +2 contains the markers of personal subjects. These markers are identical to the markers of intransitive verb subjects except that there is no evidence for an initial //h// on the suffixes. The suffixes are //in//



first person singular, //ač// second person singular, //ø// third person singular or plural, //oN// first person plural, //eš// second person plural. The function of these suffixes is the same as that of subject specification for verbs. Examples of the inflections are: //níp'-ap'-il-in// I am a beloved person, //k'éʔ-ok-in líN-an// I am standing up, //p'at-ok-in k'óx-an// I go over to sit down, //ʔók'-in// I cried, //téN-an téN-an-in// I am short and stupid, //čám-nak-ač// you are a dead person, //pús-uʔ-Níʔ-ač// you are a person with an inflated nose, //sík'-p'-il-ač-ʔél-(ih)// you are chosen, //ʔáy-ø wíN ʔánimah c-ø-mún-l-ax-(ih) t'ah s-wáč'-k'áp'// there are men who work with their right hand, //ʔáy-oN máč-oN xél-an ko-mún-l-ax-(ih)// there are those of us who work quickly, //k'óx-an-oN// we are seated, //ʔáy-eš-ham-ʔék'-(ih)// are y'all around?, //ʔáy-oN-ʔék'-(ih)// we are around.

Stative suffix position +3 contains the suffixes //ham// interrogative and //hap'// reportative (compare verbal prefix position -6, page 119). These suffixes apparently occur only with the stative root //ʔáy// and not with other types of stative stems. Examples are: //ʔáy-ø-ham k'ěʔn túmin// is there money?, //ʔáy-eš-ham-ʔék'-(ih)// are y'all around?, //ʔáy-ø-hap'-ʔék'-(ih) líN-an xun wíN// they say there was a man standing around.

Stative suffix position +4 contains the suffix //páš// single repetition (compare verbal suffix position +4, pages 125-126). This suffix apparently occurs only with the stative root //ʔáy// and not with other types of stative stems. Ex-

amples of this inflection are: //ʔáy-Ø-páš wɪN ʔáɪmah//  
there are also men, //ʔáy-Ø-páš nɔk' nók'// there are also  
 animals.

Stative suffix position +5 contains inflection for directional motion, as does stative suffix position +6. The suffixes which occur in stative suffix position +5 are the same as those which occur in verbal suffix position +5 (see page 127). Examples of this directional inflection are:  
 //ʔáy-Ø-uč-(ih)// it is inside, //ʔáy-Ø-ek'-(ih)// it is  
 around, //ʔáy-eš-ham-ek'-(ih)// are y'all around?, //ʔáy-Ø-  
 em-k'óč-(ih)// it is down there facing upwards.

Stative suffix position +6 contains inflection for directional motion, as does stative suffix position +5. The suffixes which occur in stative suffix position +6 are the same as those which occur in verbal suffix position +6 (see pages 127-128). Examples of this inflection are: //ʔáy-Ø-  
 uč-k'óč-(ih)// it is inside, facing out or it is inside (some-  
 where) and on this side of something, //ʔáy-Ø-kan-ʔék'-(ih)//  
it remains there, //ʔáy-Ø-kan-ʔóč-(ih)// it remains inside,  
 //sík'-p'-il-ač-ʔél-(ih)// you are chosen (picked out).

Stative suffix position +7 contains the negative suffix //lax//. This affix occurs in the negative forms //má-  
 lax// and //ma-N-ɔk...lax//, and after stative stems derived from intransitive verb roots. With the latter, the use of //lax// implies that the action should have taken place, but did not. Examples are: //ʔém-ok-in-lax k'óx-an// I should

have sat down, but I didn't, //ʔém-ok-ač-lax k'óx-an// you should have sat down, but you didn't. Compare with these forms the stative and verb phrases //k'óx-an-in-ʔém-(ih)// I am seated and //c-hin-ʔém k'óx-an// I sit down.

Stative suffix position +8 contains the suffix //hep'//, which marks the plural of a third person subject. This affix, however, has only been observed in constructions where it is not clear that the //hep'// is in fact a stative suffix. Following //ʔáy//, for instance, //hep'// has only been observed to occur if a specifier noun follows: //ʔáy-ø-hep' wín// there are those men, which may also be analyzed as //ʔáy-ø hep'-wín//, where the //hep'// is the plural inflection of //wín// male animate beings. Following nouns and noun phrases, however, //hep'// occurs in what appear to be unambiguous constructions: //k'éš-aN k'áp'-ø-hep'// they are left-handed //k'éš-aN k'áp'// left hand or left-handed person. In the absence of conflicting data, //hep'// is considered here to be a stative suffix, and its position relative to other suffixes is postulated by analogy with verbal suffix positions.

Stative suffix position +9 contains the intransitive verb clitic //(ih)// which occurs only after a preceding intransitive verb root. As stative inflection, this clitic occurs after a preceding inflection for repetition with //páš// or for directional motion with one of the intransitive verb roots described on page 141. The clitic //(ih)// does not occur as //ih// if another phrase follows in the same sentence.

Order of Stative Affixes

Stative stems are inflected for no features for which verbal stems may not be inflected. The two inventories of inflectional affixes are similar. The order of the affixes, however, differs significantly. Inflection for personal subject, reportative, and interrogative is prefixed to verbal stems but suffixed to stative stems. On the other hand, inflection for repetition, directional motion, and negation is similar for both sets of stems. The order of the stative affixes with respect to the stem and with respect to each other is charted in Figure 8.

<u>Position</u>	<u>Function and Inventory of Morphs</u>
-3	negative: ma
-2	intensive: té
-1	possessor: hin, ha, s, ko, he, w, h, y, k, hey
0	root or stem
+1	function unclear: an
+2	subject: in, ač, ∅, oN, eš
+3	state of knowledge: ham, hap'
+4	repetition: páš
+5	directional motion: ek', em, el, uč, kan, kut, p'at, k'e?, k'oč, hul
+6	directional motion: ?ék', ?ém, ?él, ?óč, (kán), kót, p'át, k'é?, (k'óč), (húl)
+7	negative: lax
+8	plural of third person: hep'
+9	clitic: (ih)

Fig. 8--Stative inflectional affixes

## CHAPTER III

### PHRASE AND SENTENCE STRUCTURE

The formation and inflection of stems has been discussed in the previous chapter. In the present chapter, the composition of verb, stative, particle, and noun phrases will be outlined, and the construction of sentences from these phrases will be discussed.

#### Phrase Structure

Four types of phrases are recognized here: verb phrases, stative phrases, particle phrases, and noun phrases. The structures of verb, stative, and particle phrases are relatively simple; the structure of noun phrases is relatively complex.

#### Verb Phrases

The verb phrase consists of an inflected verb stem. Minimal inflection of a stem is inflection for personal subject; that is, inflection for personal subject is obligatory and all other inflections are optional. However, if a verb stem is inflected for any feature other than personal subject, it must also be inflected for tense-aspect. Examples of verb phrases may be found in the discussion of verbal affixes, pages 116-130.

### Stative Phrases

The stative phrase consists of an inflected stative stem. Minimal inflection of a stative stem is inflection for personal subject. All other inflection is optional. Examples of stative stems are found in the discussion of stative affixes, pages 138-142.

### Particle Phrases

Particle phrases consist of clusters of particles. Phrases which include particles, but which include other root types as well, are discussed as noun phrases; if other root types occur in the phrase, the particles do not function as the head of the construction. Particle phrases have no clear head-attribute structure. These phrases are difficult to gloss out of sentence context, just as it is often impossible to gloss individual particles. Examples of particle phrases are: //há?-Nex-há?// just the same or just like that, composed of //há?// demonstrative and //Nex// only; //tah-toh// if, composed of //tah// (meaning unclear) and //toh// still or yet; //toh-Nex// only, composed of //toh// still and //Nex// only; //ma-toh// but if, composed of //ma// negative and //toh// still or yet. Other examples of particle phrases are found in the texts in Appendix D.

### Noun Phrases

The noun phrase consists minimally of an uninflected noun stem, which may in turn be an underived noun root. In most cases the uninflected stem is one of the set of speci-

fier nouns, and may never be an uninflected numeral root. The maximum complexity of noun phrases is represented by noun phrases which are or contain embedded sentences; these sentences may in turn contain other noun phrases with embedded sentences. The major types of noun phrases are discussed below.

#### Simple Noun Phrases

Simple noun phrases consist of a single noun stem, which may or may not be inflected. Examples of simple noun phrases are found in the discussion of the inflection of noun stems, pages 130-134.

#### Specifier Noun Phrases

Any noun which is related to a specifier--any one of the members of a lexical class whose taxon is a specifier--may be preceded by that specifier to form a specifier noun phrase. If the noun stem is inflected by prefixes, those prefixes follow the specifier. Similarly, any noun phrase which does not already begin in a specifier, whose head or referent is a noun related to a specifier, may be preceded by a specifier noun root to form a specifier noun phrase. Likewise, an embedded sentence which does not already begin in a specifier, whose referent is a noun related to a specifier, may be preceded by a specifier root to form a specifier phrase. The specifier root may also be inflected for plural (see page 134). Examples of specifier noun phrases are:

//nøk' čítam// pig, composed of the specifier //nøk'// animal



and the noun (phrase) //čítam// pig; //nők' hin-čítam// my pig, composed of the specifier //nők'// animal and the noun phrase //hin-čítam// my pig; //nep'-nők' hin-čítam// my pigs, composed of the pluralized specifier //nők'// animal and the noun phrase //hin-čítam// my pig; //nők' s-c'ú?m-al k'é?n// the scabbard for the knife, composed of the specifier //nők'// animal and the noun phrase //s-c'ú?m-al k'é?n// scabbard for a knife; //nők' s-c'ú?m-al s-k'é?n wĪN y-?úk'tak s-mám wĪN// his father's brother's knife's scabbard, composed of the specifier //nők'// animal and the noun phrase //s-c'ú?m-al s-k'é?n wĪN y-?úk'tak s-mám wĪN// his father's brother's knife's scabbard, which in turn contains the specifier noun phrase //wĪN y-?úk'tak s-mám wĪN//, composed of the specifier //wĪN// male animate being and the noun phrase //y-?úk'tak s-mám wĪN// his father's brother; //wĪN c-Ø-mún-l-ax-(ih) t'ah s-k'éš-an// men who work with their left hands, composed of the specifier //wĪN// male animate being and the embedded sentence (here, a noun phrase) //c-Ø-mún-l-ax-(ih) t'ah s-k'éš-an// he (or they) work(s) with the left hand.

Note that the specifiers in these phrases always occur unstressed.

#### Possessive Noun Phrases

A noun stem inflected for third person possession may be followed by a noun phrase which makes explicit the possessor; this construction is a possessive noun phrase. The noun phrase which makes explicit the possessor may in turn be a

possessive noun phrase. However, the latter noun phrase may not have as its explicit possessor another possessive noun phrase. That is, while it is grammatical to form the possessive noun phrase //s-xólom s-péne*k* wíN // his knee (where //wíN // male animate being makes explicit the possessor in the possessive noun phrase //s-péne*k* wíN // his leg, and this phrase in turn makes explicit the possessor of //xólom // head), the phrase \*//s-xólom s-péne*k* s-mám wíN // his father's knee is not grammatical. Chains of more than two noun phrases in successive possessive relationships may be formed only by enclosing some of the possessive noun phrases within specifier noun phrases. For example, use of the phrase //wíN s-mám wíN // his father (a specifier noun phrase) in place of the possessive noun phrase //s-mám wíN // his father makes possible the construction of the phrase //s-xólom s-péne*k* wíN s-mám wíN // his father's knee. The specifier noun phrase may likewise enclose two, but not three, successive possessive noun phrases: //s-xólom s-péne*k* wíN y-ʔúk'tak s-mám wíN // his father's brother's knee, literally, the head of the leg of the male animate being (who is) the brother of the father of the male animate being. Other examples of possessive noun phrases are: //s-c'úʔm-al k'éʔn // the knife's scabbard (literally, the leather parts of the metal object), //s-c'úʔm-al hin-k'éʔn // my knife's scabbard, //s-xólom hin-péne*k* // my knee (literally, the head of my leg), //s-yémpuh-al k-ʔák'-an-ʔóč k-ʔáw-al // the time we work in our cornfield (where the phrase which makes explicit the possessor of //s-yémpuh-al //

its time is an embedded sentence, //k-ʔák'-an-ʔóč k-ʔáw-al//  
we work in our cornfield).

#### Enumerative Noun Phrases

Two types of noun phrases involve numeral roots and stems. The first is composed of a numeral root or compound numeral stem and a numeral classifier stem. The numeral stem is optionally suffixed by //tak// distributive or followed by one of the items //kótak// small, //níw-an// large (singular), or //níw-ak// large (plural). Examples of this type of enumerative noun phrases are: //wák p'éč// six handfuls, composed of //wák// six and //p'éč// handful; //wák-tak p'éč// six handfuls each; //čáʔ kótak pác-aN// two small fiber bundles, composed of //čáʔ// two, //kótak// small, and //pác-aN// fiber bundles; //xún níw-an pác-aN// one large fiber bundle; //čáʔ níw-ak pác-aN// two large fiber bundles; //čáʔ pác-aN// two fiber bundles.

The second type of enumerative noun phrase is composed of a noun stem derived from a numeral root or stem by the suffixation of //eʔ// (see pages 97-98), and a following noun which is one of a set of measures. The stem derived in //eʔ// may optionally be suffixed with //ok// approximately (see page 99), with particles, especially //Nex// only, //šoh// already, and //toh// still, or with both //ok// and a single particle. The nouns in the set of measures which occur in these enumerative noun phrases are generally borrowed from Spanish. Examples of this type of enumerative noun phrase

are: //wák-e? kíntal// six hundredweights, composed of //wák-e?// six and //kíntal// hundredweight Spanish quintal; //wák-e?-ok kíntal// about six hundredweights; //wák-e?-ok-Nex kíntal// only about six hundredweights; //ʔóš-e? p'arah// three varas, composed of //ʔóš-e?// three and //p'arah// vara Spanish vara; //čá?p' k'óx-n-up'-al// two resting places (measures of long-distance travel), composed of //čá?p'// two and //k'óx-n-up'-al// resting place.

#### Quantitative Noun Phrases

A quantitative noun phrase is composed of an enumerative noun phrase or a noun phrase which expresses quantity, and a following noun phrase which makes explicit that which is being quantified. Optionally, particles may precede the quantified noun--as suffixes to the enumerative noun phrase or its equivalent. The noun phrases which express quantity include noun stems derived in //e?// from numeral roots and stems; common nouns of quantity are //xún// one, //xáp'-ok// a little, //xáp'-xáp'// a few, //y-ʔún-e?// small, //kótak// small, //y-ʔéč-el// sufficient, //níw-an// large, //más-an-il// all, //cíxtum// many, //xán-tak// many or how many?, and //ma-N-xán-tak// many.

Examples of quantitative noun phrases which include enumerative noun phrases are: //wák-e? kíntal tút// six hundredweights of beans, composed of the enumerative noun phrase //wák-e? kíntal// six hundredweights and the simple noun phrase //tút// beans; //wák-e? kíntal ʔǎN ko-tút// six hun-

dredweights of our beans, composed of //wák-eʔ kíntal// six hundredweights and the specifier noun phrase //ʔǎN ko-tút// our beans; //wák-tak p'ěč ʔǎN s-tút hep'-wíN// six handfuls each of their beans, composed of the enumerative noun phrase //wák-tak p'ěč// six handfuls each and the specifier noun phrase //ʔǎN s-tút hep'-wíN// their beans; //wák wáʔN wíN c-ø-mún-l-ax-(ih) t'ah s-k'ěš-an// six men who work with their left hands, composed of the enumerative noun phrase //wák wáʔN// six animate beings and the specifier noun phrase //wíN c-ø-mún-l-ax-(ih) t'ah s-k'ěš-an// men who work with their left hands.

Examples of quantitative noun phrases which contain noun phrases expressing quantity are: //xán-tak ʔánimah// many people or how many people?, //xún wíN ʔánimah// one man, //más-an-il yémpuh// all the time, //xáp'-xǎp' hin-k'áh-el// a few of my things, //ma-N-xán-tak síʔk-al// much coldness, //xún-šoh wíN// another man, //xún-Nex wíN// only one man.

#### Demonstrative Noun Phrases

Demonstrative noun phrases consist of a noun phrase, usually a specifier noun phrase, followed by either of the nouns //číʔ// there or //tík// here, which indicate relative distance or proximity. Examples of demonstrative noun phrases are: //wíN chíʔ// that man, //wíN tík// this man, //hep'-ʔíš ʔíš tík// these women, //ʔíšim w-ʔáw-al tík// this cornfield of mine, //lǔʔm xáč'-p'-en chíʔ// that harvested land, //hep'-wíN c-ø-léč-an-k'ěʔ-tah chíʔ// those men who dip out the liquid up towards us.

Particle Noun Phrases

Any noun phrase other than an embedded sentence may be either preceded or followed, or both precede and followed, by one or more particles. The suffixation of particles has been mentioned briefly in the discussion of enumerative and quantitative noun phrases. Particles which are commonly prefixed to noun phrases are //háʔ// demonstrative, //t'ah// ~ //t'ay// locative, //té// intensive, and //más// comparative. Particles which are commonly suffixed to noun phrases are //šoh// already, //toh// still, and //Nex// only. Examples of the prefixation and suffixation of particles to noun phrases are: //más wáč'// better, //wáč' šoh// already well, //té wáč'// very well, //té púral// with much difficulty, //háʔ táʔ// in that place, //háʔ hín tík// I, //ʔíč Nex táʔ// in this way alone, //t'ah píNkah// in, to, or from the plantations, //t'ah xún šoh k'úh tík// on this other day, //t'ay hín// to me, //t'ah tík// here, //háʔ xún s-lóʔ-C<sub>1</sub>-on-el wíN y-ʔét' xún wíN y-ʔámíguh wan-c-ø-xáʔ-š-(ih) t'ah píNkah// a conversation of a man with a friend who is coming back from the plantations.

Embedded Sentences

A common feature of Chuj syntax is the occurrence of embedded sentences as noun phrases. These sentences differ only in simplicity from independent sentences; they are not preceded by particle phrases or conjunctions, but begin with the topic phrase or a later phrase (see Sentence Structure).

But while embedded sentences have the same structure as independent sentences--they may be described in terms of the same sequences of sentence constituents--they are not always identical to independent sentences. The subject of an embedded sentence occurs in the topic phrase position rather than in the subject phrase position which follows the verb or stative phrase. This is the normal order of phrases in an independent interrogative sentence which employs the question words //tás // what?, //máč // who?, //p'áx-ti'1 // ~ //ʔáx-ti'1 // where?, and so on. However, it is not the normal order of phrases in an independent declarative sentence. An independent sentence //c-∅-mún-l-ax-(ih) wĪN ʔánimah t'ah s-wáč'-k'áp' // a man works with his right hand will occur as an embedded sentence //wĪN ʔánimah c-∅-mún-l-ax-(ih) t'ah s-wáč'-k'áp' //, with the subject phrase //wĪN ʔánimah // a man in the topic phrase position.

Similarly, phrases which in independent sentences would appear affixed with particles occur without these particles in embedded sentences: //t'ah xún yémpuh c-∅-kót-(ih) yáp'-il t'ay hÓN // in one period sickness comes to us appears as the embedded sentence //xún yémpuh c-∅-kót yáp'-il t'ay hÓN // a period in which sickness comes to us.

Many embedded sentences begin in a noun phrase which is preceded by a specifier noun: //wĪN ʔánimah c-∅-mún-l-ax-(ih) // men who work. In these phrases the specifier noun is best analyzed not as part of the embedded sentence, but as a specifier noun which forms, together with the embedded sentence

noun phrase, a specifier phrase. That is, the immediate constituents of the example above are //wɪN// male animate being and //ʔáɪmáh c-ø-mún-l-ax-(ih)// man who works. This analysis is reinforced by the occurrence of embedded sentences which do not begin in a noun phrase but which are preceded by a specifier noun (unstressed, showing that it introduces a specifier phrase): //wɪN c-ø-mún-l-ax-(ih)// man who works, the immediate constituents of which are //wɪN// male animate being and //c-ø-mún-l-ax-(ih)// he works.

The examples of embedded sentence noun phrases which follow are arranged by the sentence phrase positions in which they occur: topic, pre-posed adverbial, direct object, subject, or post-posed adverbial phrase positions. These positions are discussed in Sentence Structure; all are positions which may be filled by other types of noun phrases. Note that embedded sentences occur in the topic phrase position only as part of specifier noun phrases. In the examples which follow, a gloss of the entire sentence will be given first, followed by the identification of the embedded sentence and its glosses as an independent sentence and as an embedded sentence.

Examples of embedded sentences in the topic phrase position, as parts of specifier phrases, are: //háʔ šoh wɪN ʔáy-ø-em-k'óč číʔ c-ø-čáʔ-an lúʔm// the other man down there on top receives the earthen pot, containing the embedded sentence //ʔáy-ø-em-k'óč-(ih)// he is down somewhere on top of something which is part of the specifier noun phrase //wɪN ʔáy-ø-em-k'óč číʔ// man down there on top; //háʔ hep'-wɪN



c-∅-léč-an-k'é?-tah čí? c-∅-sék-an-?ém t'ah y-?ól č'úp' //  
the men there who dip up the liquid empty it into the bottom  
of a pot, containing the embedded sentence //c-∅-léč-an-k'é?-  
 tah// he dips up liquid towards us, which is part of the  
 specifier noun phrase //hep'-wíN c-∅-léč-an-k'é?-tah čí? //  
the men there who dip up liquid towards us.

Examples of embedded sentence noun phrases in the pre-  
 posed adverbial phrase position are: //há? c-hoN-mún-l-ax-ih  
 c-ko-mán k-?ét-p'éy-um// when we work we hire our helpers,  
 containing the embedded sentence //c-hoN-mún-l-ax-ih// we  
work, glossed here as when we work; //wal-k-?áw-an-ih ko-  
 lú?m-aš-(ih)// while we were planting we got dirty, contain-  
 ing the embedded sentence //wal-k-?áw-an-ih// we were plant-  
ing, glossed while we were planting; //wal-c-∅-p'át-ih ?iš-∅-  
 y-?íl-an xún wíN// having just gone, a man saw it, containing  
 the embedded sentence //wal-c-∅-p'át-ih// he has just gone,  
 glossed here as having just gone.

Examples of embedded sentence noun phrases in the sub-  
 ject phrase position are: //yáh-∅ ?iš-hin-šit'-ek' y-ú?x Náp'  
 t'ah kécal// my trip was painful because of the rain at Que-  
tzal, containing the embedded sentence //?iš-hin-šit'-ek'-  
 (ih)// I went wandering and returned, glossed here as my  
trip; //yáh-∅ c-∅-wá? tē? k'í?š// it is painful (when) thorns  
bite or the bite of thorns is painful, containing the embedded  
 sentence //c-∅-wá? tē? k'í?š// thorns bite, glossed here as  
the bite of thorns; //yáh-∅ c-hoN-?ék'-(ih)// our travel is

painful, containing the embedded sentence //c-hoN-ʔék'-(ih)// we travel, glossed here as our travel; //níw-an-tak c-∅-p'át-hám-n-ax ko-cép-an-ʔél-tah// our lumbering goes well, containing the embedded sentence //ko-cép-an-ʔél-tah// we cut out trees towards us, glossed here as our lumbering; //tom ʔáy-∅ ha-čón xún// is there something you sell?, containing the embedded sentence //ha-čón-(hoʔ)// you sell it, glossed here as something you sell; //ʔáy-∅ p'áx c-∅-mún-l-ax wíN// there is a place where he works, containing the embedded sentence //p'áx c-∅-mún-l-ax wíN// where does he work?, glossed here as a place where he works; //má-lax p'áx-tiʔl c-hin-s-mák' wíN// there is no time when he hits me, containing the embedded sentence //p'áx-tiʔl c-hin-s-mák' wíN// when does he hit me?, glossed here as time when he hits me; //ʔáy-∅ p'áx ʔol-∅-ʔíl-č-ax ko-túmin// there is someplace we can find money, containing the embedded sentence //p'áx ʔol-∅-ʔíl-č-ax ko-túmin// where is our money found?, glossed here as someplace we can find money.

Examples of embedded sentence noun phrases in the object phrase position are: //háʔ Nex číʔ c-k-ʔíl ko-k'úl-ex más-an-il yémpuh// thus we find (see) something to do all the time, containing the embedded sentence //ko-k'úl-ex// we do something, glosses here as something to do; //ko-kyéreh wáč' c-hoN-wáʔ-(ih)// we want to eat well, containing the embedded sentence //wáč' c-hoN-wáʔ-(ih)// we eat well, glossed here as to eat well; //ʔiš-hin-náʔ-el-tah ʔiš-hin-p'át t'ah wáriyah// I thought about going to Barillas, containing the embedded

sentence //ʔiš-hin-p'át t'ah wáriyah// I went to Barillas, glossed here as going to Barillas; //ʔol-w-ʔál-haʔ čáx-tiʔl c-ko-p'óʔ ko-mún-l-ax-el// I will tell how we do our work, containing the embedded sentence //čáx-tiʔl c-ko-p'óʔ ko-mún-l-ax-el// how do we do our work?, glossed here as how we do our work; //ko-sáy-an tás ko-k'úl-ex// we look for something to do, containing the embedded sentence //tás ko-k'úl-ex// what do we do?, glossed here as something to do; //ko-pénsár čáx-tiʔl c-k-ʔút-ex ko-p'áh// we think about how to take care of ourselves, containing the embedded sentence //čáx-tiʔl c-k-ʔút-ex ko-p'áh// how do we take care of ourselves?, glossed here as how to take care of ourselves.

Examples of embedded sentence noun phrases in the post-posed adverbial phrase position are: //ma-š-y-ʔál-ax ko-k'éš-an xún šoh ko-k'áp' ko-mún-l-ax-(ih)// we cannot change to another hand while we are working, containing the embedded sentence //ko-mún-l-ax-(ih)// we work, glossed here as while we are working; //c-hoN-mún-l-ax c-ø-ʔék' k'úh// we work all day, containing the embedded sentence //c-ø-ʔék' k'úh// the day passes, glossed here as all day; //hin-té-k'ún-p'-ih hin-p'éy-ʔék'-(ih)// I get very tired when I travel, containing the embedded sentence //hin-p'éy-ʔék'-(ih)// I travel, glossed here as when I travel.

Note that an embedded sentence noun phrase may consist of a sentence which has in turn other embedded sentence noun phrases: //ko-pénsár tás c-k-ʔút-ex ko-sáy-an xáp'-ok tás ko-číʔ-ʔah// we think about what to do to seek a little

something to eat, containing the embedded sentences //tás ko-číʔ-ʔah// something to eat, //ko-sáy-an xáp'-ok táš ko-číʔ-ʔah// we seek a little something to eat, and //tás c-k-ʔút-ex ko-sáy-an xáp'-ok táš ko-číʔ-ʔah// what to do to seek a little something to eat; //ʔol-w-ʔál-haʔ čáx-tiʔl c-k-ʔút-ex ko-p'óʔ-an-(ih)// I will tell how we do our deeds, containing the embedded sentences //ko-p'óʔ-an-(ih)// our deeds, and //c-k-ʔút-ex ko-p'óʔ-an-(ih)// we do our deeds; //ʔáy-∅ xáp'-ok táš p'at-hin-k'úl-ok-páš t'ah p'áx ʔáy-oN// there is a little something which I go to do again where we are (in our village), containing the embedded sentences //p'áx ʔáy-oN// where we are (in our village), //tás p'at-hin-k'úl-ok-páš t'ah p'áx ʔáy-oN// something I go to do again in our village.

#### Sentence Structure

Most types of Chuj sentences may be described in terms of a single series of eight potentially filled phrase positions. These are the introductory, topic, pre-posed adverbial, main (verb or stative), object, subject, post-posed adverbial, and clitic phrase positions. All sentences which include either a verb phrase or a stative phrase may be described in terms of this series of phrase positions. Other, minor, types of sentences include those composed of a single phrase which is neither a verb phrase nor a stative phrase. For example, the exclamations //híʔ// yes, //kéh// you!, //šáw// boo!, the onomatopoeic imitations of animal cries and sounds, calls to animals, and, in discourse, noun phrases, may all be considered minor

sentence types. No attempt to describe these minor sentence types will be made here.

The types of phrases which may occur in each of the eight phrase positions of the major sentence type are discussed below, in the order in which the phrase positions occur in sentences. Note that a single phrase position may be filled by two or more phrases; these are usually phrases in apposition, but may also be semantically unrelated to each other. In appositive phrases, the first phrase is usually longer and gives a more detailed description of the referent than the second phrase. For example, in the two appositive noun phrases //há? šoh wÍN ?áy-ø-em-k'óč čí? xun ≠ há? šoh wÍN // <sup>1</sup> that other man who is down there on top--that man the first noun phrase contains an embedded sentence describing the referent in detail, and the following phrase contains only a specifier noun, //wÍN // male animate being.

#### Introductory Phrase Position

The introductory phrase position is filled by particle phrases or noun phrases, including a large number of forms borrowed from Spanish, most of which occur only in this position. A major function of this phrase position is the link-

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<sup>1</sup>In this section, the phrase positions, or two phrases occurring in the same phrase position, will be separated by the mark //≠//. This symbol has no regular phonological representation. While open juncture usually occurs between phrases, no systematic study of obligatory or optional open junctures within sentences has been made. Thus, it is not possible here to indicate obligatory junctures, although some occurrences of open and close juncture are surely obligatory.

ing of sentences; that is, the introductory phrase often serves as a sentence conjunction.

Phrases which commonly occur as the introductory phrase are the Spanish loans //péroh// but < Spanish pero, //pórkeh// because < Spanish porque, //pór 'ésoh// so or for this reason < Spanish por eso, //kéh// that (as a subordinating conjunction) < Spanish que, //kómoh// as or since < Spanish como, //íh// and < Spanish y, //éh// and < Spanish y, //éntónseh// then < Spanish entonces, //ántónseh// then < Spanish entonces, //bwénoh// well < Spanish bueno, //yákeh// since or while < Spanish ya que; the particle phrases //táh// if, //táh toh// if, //šál// and, //hók šoh// and, //má toh// but or or, //wáya?// also, //wáč' čom// even though, //yos// and; and the noun phrase //y-ú'x čí?// for this reason.

Examples of introductory phrases are: //péroh ≠ táh toh ≠ há? lŭ'm k'úl-tak pátan ≠ c-ø-k-'ák'-ha?// but if we are working brush land to be cleared, //pór 'ésoh ≠ 'álguh ton ≠ c-heš-ló?-C<sub>1</sub>-on-ih// so y'all chat a little, //iš-w-'ál-an-ih ≠ kéh ≠ há? hin tík ≠ tóh Nex ≠ c-hin-p'éy-ek'-ih// I say that I am just wandering around, //íh ≠ há? t'ah pékataš čí? ≠ 'áy-ø ≠ xún caN tš? k'óx-n-up' č'úp'// and in the past there were some wooden racks for pots, //éh ≠ táh toh ≠ 'áy-ø ≠ k'ína-Náp' ≠ xún// and if there is rain, //éntónseh ≠ há? k'ě'n ko-lúk ≠ c-ø-ko-sáy-ha?// then we look for our brush hook, //bwénoh ≠ pór 'éxémploh ≠ iš-ø-w-'íl ≠ xún wíN// well, for example, I saw a man, //šál xún ≠ tóh ≠ 'áy-ø ≠ p'áx p'at-w-'ák' xún šoh hin-čék-ap'-il// also, there is still somewhere

I (have to) go to do an errand, //y-ʔúʔx číʔ ≠ háʔ c-hoN-mún-l-ax-ih ≠ c-ko-mán ≠ k-ʔét-p'éy-um// for this reason, when we work we hire our helpers.

#### Topic Phrase Position

The topic phrase position is filled by a noun phrase which spells out in some detail the nature of a topic to which reference is made in a latter phrase position in the sentence. The topic phrase, for example, may be a complex noun phrase including an embedded sentence noun phrase which furnishes details about the subject of the independent sentence; the subject of this independent sentence may be indicated only by an affix in the verb phrase.

Topic phrases may be related to subject or object affixes in the following verb or stative main phrase, or to noun phrases in the subject or object phrase positions. Less frequently, topic phrases may be related to other phrases in the sentence. Two topic phrases which do not have the same referent may occur in the same topic phrase position.

Examples of topic phrases are found below. In each example the topic phrase is identified and glossed, and the related phrase or affix which occurs later in the sentence and which has the same referent as the topic phrase is also identified and glossed. Examples of topic phrases and related subject phrases are: //háʔ wín číʔ ≠ ma-š-wal-∅-k'ún-p'-ih-lax// that man doesn't get tired, containing the topic phrase //háʔ wín číʔ// that man there, related to the subject prefix //∅//

in the verb phrase; //péroh ≠ táh toh ≠ há? xún wĪN ?ánimah ≠ há? Nex t'ay s-wáč' wĪN ≠ c-∅-mún-l-ax-ih// but if a man works only with his right hand, containing the topic phrase //há? xún wĪN ?ánimah// a man, related to the subject prefix //∅// in the verb phrase; //?íh ≠ lów-ox ≠ mók lów-ox čí? ≠ y-?éč-el-∅ šoh wal// and the second clearing of a field--that awful second clearing--it is already sufficient, containing the topic phrases (in apposition) //lów-ox// second clearing of a field and //mók lów-ox čí?// that awful second clearing, related to the subject suffix //∅// of the stative phrase; //péroh ≠ hep'-?íš ?íš ≠ más kónténtoh-∅ ≠ hep'-?íš// but the women are more content, containing the topic phrase //hep'-?íš ?íš// the women, related to the subject suffix //∅// in the stative phrase, and to the subject phrase //hep'-?íš// female animate beings; //?íh ≠ déspwés ≠ há? šoh hep'-?íš y-?áx-al y-?íscil hep'-wĪN ≠ má-lax ≠ tás s-wá? hep'-?íš// and later those women who are the wives of the men don't have anything to eat, containing the topic phrase //há? šoh hep'-?íš y-?áx-al y-?íscil hep'-wĪN// those women who are the wives of the men, related to the subject of the embedded sentence noun phrase which is in turn the subject of the stative main phrase, //hep'-?íš// female animate beings; //pórkeh ≠ xán-tak hep'-wĪN ?ánimah ≠ tóh Nex ≠ c-∅-p'éy-ěk'-ih// because many men just wander around, containing the topic phrase //xán-tak hep'-wĪN ?ánimah// many men, related to the subject prefix //∅// of the verb phrase; //há? šoh wĪN c-∅-sék-an-páš t'ay s-tí? čí? xún ≠ há? šoh wĪN ≠ c-∅-k'é?-č-an-?él-tah// that man who empties them again there



at the edge, he brings them up, containing the topic phrases (in apposition) //há? šoh wĪN c-∅-sék-an-páš t'ay s-tí? čí? xún// that man who empties them again there at the edge and //há? šoh wĪN// that man, related to the subject prefix //∅// of the verb phrase.

Examples of topic phrases related to objects and object phrases are: //há? k'ě?n k-?ásaron ≠ ∅-ko-p'ó?-ůč ≠ y-?ók k'ě?n// we put an edge on our hoes, containing the topic phrase //há? k'ě?n k-?ásaron// our hoes, related to the object prefix //∅// of the verb phrase and to the specifier noun //k'ě?n//, the possessor of //y-?ók// its foot and part of the object phrase //y-?ók k'ě?n// the foot of the metal object (the blade of the hoe); //?íh ≠ há? ko-k'áh-tak k'ápak ≠ c-∅-k-?ák'-ůč-ih// and we put on our old clothes, containing the topic phrase //há? ko-k'áh-tak k'ápak// our old clothes, related to the object affix //∅// of the verb phrase; //ma-N-xán-tak hep'-wĪN ?áanimah ≠ ?iš-∅-hin-čá?-?ah// how many men I found!, containing the topic phrase //ma-N-xán-tak hep'-wĪN ?áanimah// how many men!, related to the object prefix //∅// in the verb phrase.

Examples of two topic phrases without the same referent but in the same sentence are rare. Two observed examples are: //há? tik né?ik ≠ há? šoh hep'-?iš ≠ c-∅-s-kúč-an ≠ ?ác'am// today, the women carry the salt and //y-?ú?x čí? ≠ há? hep'-wĪN c-∅-léč-an-k'ě?-tah xún ≠ séntáwuh ≠ c-∅-ko-túp ≠ xún-xun č'úp'// so, to those men who dip up the liquid (salt), we pay one cent (for) each pot. The first example contains the topic

phrases //háʔ tik néʔik// today and //háʔ šoh hep'-ʔíš// the female animate beings. The phrase today normally would appear in the pre-posed adverbial position, not in the topic phrase position. This sentence, however, occurs in the context of a discussion of changing practices in the salt mines, following a series of sentences which may be glossed in the past, the pots were large, but today it's not that way; it has changed. The abnormal appearance of the adverbial in the topic phrase position is apparently for purposes of emphasis.

The second example contains the topic phrases //háʔ hep'-wɪN c-∅-léč-an-k'éʔ-tah xún// those men who dip up the liquid (salt) and //séntáwuh// cent. Both phrases are direct objects of the verb phrase //c-∅-ko-túp// we pay someone or we pay something, although in English the first phrase must be glossed as an indirect object.

#### Pre-posed Adverbial Phrase Position

The pre-posed adverbial phrase position is filled by a particle phrase or a noun phrase. Noun phrases which occur in this position are usually either embedded sentence noun phrases prefixed by //háʔ//, or locative noun phrases prefixed by //t'ah// ~ //t'ay//.

Examples of phrases in the pre-posed adverbial phrase position are: //háʔ hin tík ≠ tóh Nex ≠ c-hin-p'éy-ek'-ih// me, I am just wandering around, containing the pre-posed adverbial phrase //tóh Nex// only; //ʔéntónseh ≠ más Nex ≠ c-∅-p'át ≠ t'ah k-ʔíp'-aN// then we have more trouble, literally,

then more it goes on top of us, containing the adverbial phrase //más Nex// more; //há? Nex há? ≠ ø-k-?ék' ≠ čí?// only thus do we pass it, containing the adverbial phrase //há? Nex há?// only thus; //?éntónseh ≠ ?íč Nex tá? ≠ c-ø-láx-w-el ≠ k'ě?n túmin// then just like that the money runs out, containing the adverbial phrase //?íč Nex tá?// just like that; //péroh ≠ táh toh ≠ há? xún wĪN ?ánimah ≠ há? Nex t'ah s-k'ěš-aN wĪN ≠ c-ø-mún-l-ax-ih// but if a man works only with his left hand, containing the adverbial phrase //há? Nex t'ah s-k'ěš-aN wĪN// only with his left hand; //há? t'ah s-pátik lŭ?m pĪNkah ≠ há? tá? ≠ ?iš-ø-píc-w-ih ≠ wĪN// in plantation country, there he grew up, containing the adverbial phrases (in apposition) //há? t'ah s-pátik lŭ?m pĪNkah// in plantation country (literally, on the back of the plantation) and //há? tá?// there; //šal ≠ ?ác'am s-náN-al čí? xún ≠ há? toh t'ah s-čáN-láxuN-êx-ih-al ≠ c-ø-?él ≠ ?ác'am// and (from) the middle mine there, every fourteen days the salt comes out, containing the adverbial phrase //há? toh t'ah s-čáN-láxuN-êx-ih-al// every fourteen days.

#### Main Phrase Position

The main phrase position is filled by either a verb phrase or a stative phrase. These phrases have been discussed on pages 145-146. Examples of verb and stative phrases are found in the examples illustrating other phrase positions in the sentence; each of these examples contains a main phrase.

## Object Phrase Position

The object phrase position is filled by a noun phrase or by a series of noun phrases in apposition. This phrase position is filled only after a transitive verb phrase in the main phrase position. Examples of object phrases are: //c-ø-s-kúč-an ≠ lúʔm ≠ hep'-wíN // they carry the earthen object, containing the object phrase //lúʔm // earthen object; //ʔol-ø-ko-t'ók-an-k'éʔ ≠ lǔʔm ko-lúʔm // we will turn our land, containing the object phrase //lǔʔm ko-lúʔm // our land; //c-ø-y-ʔák'-an-k'éʔ-tah ≠ lúʔm ≠ wíN ≠ t'ah ʔáy-ø-em-k'óč číʔ ≠ t'ay p'áp'el-al číʔ // he hands the earthen object up towards us to the man down there who is on top--to the first man, containing the object phrase //lúʔm // earthen object; //t'ah xún k'úh tík ≠ ʔol-ø-w-ʔál-haʔ ≠ čáx-tiʔl c-ø-k-ʔút-ex c-ø-k'éʔ-tah ʔác'am ʔác'am ≠ čáx-tiʔl y-ʔáx ʔác'am t'ay hin-čón-ap' // on this day I will tell how we bring up the salt--how the salt is in my village, containing the object phrases (in apposition) //čáx-tiʔl c-ø-k-ʔút-ex c-ø-k'éʔ-tah ʔác'am ʔác'am // how we make the salt rise and //čáx-tiʔl y-ʔáx ʔác'am t'ay hin-čón-ap' // how the salt is in my village.

## Subject Phrase Position

The subject phrase position is filled by a noun phrase. This phrase position may be filled after either a verb or a stative phrase in the main phrase position, but it must agree in person with the subject of the main phrase. Examples of subject phrases are: //táh toh ≠ má-lax ≠ k'ěʔn ko-lúk // if

we have no brush hook, containing the subject phrase //k'ěʔn ko-lúk// brush hook; //háʔ táʔ ≠ ʔiš-ø-píc-w-ih ≠ wíN// there he grew up, containing the subject phrase //wíN// male animate being; //ʔáy-oN ≠ máč-oN k'ún Nex ko-mún-l-ax-ih// there are those of us who work slowly, containing the subject phrase //máč-oN k'ún Nex ko-mún-l-ax-ih// those of us who work slowly; //y-ʔúʔx číʔ ≠ c-ø-k'áʔ ≠ s-sát lúʔm// for this reason the face of the earth rots, containing the subject phrase //s-sát lúʔm// the face of the earth; //ʔol-ø-ʔóč ≠ s-yémpuh-al k-ʔák'-an-ʔóč k-ʔáw-al// the time comes when we go in to work our cornfield, containing the subject phrase //s-yémpuh-al k-ʔák'-an-ʔóč k-ʔáw-al// the time we go in to work our cornfield.

#### Post-posed Adverbial Phrase Position

The post-posed adverbial phrase position is filled by a noun phrase or a series of noun phrases, usually in apposition. Two phrases not in apposition may occur in the same post-posed adverbial position; combinations of one adverbial of time and one of place, and of two adverbials of place, have been observed. In general, adverbials of time follow adverbials of place if both occur in the same post-posed adverbial phrase position. Noun phrases which occur in the post-posed adverbial phrase position are frequently prefixed with //t'ah// locative. Embedded sentence noun phrases occurring in this position are frequently based on a main phrase with //ʔét'// to accompany; these sentences are glossed with with. Examples

of post-posed adverbial phrases are: //c-ø-yám-č-ax ≠ nók' ≠ k-ʔúʔx// the animals are caught by us, containing the adverbial phrase //k-ʔúʔx// (on) our account or by us; //y-ʔúʔx číʔ ≠ háʔ táʔ ≠ c-ø-y-ʔák'-pénsar ≠ hep'-ʔíš ≠ k-ʔúʔx// for this reason the women think about us, containing the adverbial phrase //k-ʔúʔx// (on) our account or about us; //ʔéntónseh ≠ kónténtoh-ø ≠ hep'-ʔíš ≠ k-ʔét'-ok// then the women are content with us, containing the adverbial phrase //k-ʔét'-ok// with us; //ʔíš-y-ʔák'-an-déspédír ≠ wín ≠ t'ay hín// he bid me farewell, containing the adverbial phrase //t'ay hín// to me; //c-hoN-kót-š-ih ≠ xún-el šoh ≠ t'ah lów-ox// we arrive once again at the clearing of the fields, containing the adverbial phrases (not in apposition) //xún-el šoh// once again and //t'ah lów-ox// at the clearing of the fields; //ʔáy-oN-ʔóč ≠ t'ah s-pátik ʔíšim ≠ k-ʔíl-an más-an-il yémpuh// we are in on top of the maize watching all the time, containing the adverbial phrases (not in apposition) //t'ah s-pátik ʔíšim// on the back of the maize and //k-ʔíl-an más-an-il yémpuh// we watch all the time; //c-ø-p'át ≠ wín ≠ čón-ap'// he goes to town, containing the adverbial phrase //čón-ap'// village; //c-ø-y-ʔák'-an-k'éʔ-tah ≠ lúʔm ≠ wín ≠ t'ah wín ʔáy-ø-p'át t'ah s-pátik číʔ ≠ t'ay s-čáʔp'-il// he hands up the earthen pot to the man who is there up above him--to the second man, containing the adverbial phrases (in apposition) //t'ah wín ʔáy-ø-p'át t'ah s-pátik číʔ// to the man who is there up above him and //t'ay s-čáʔp'-il// to the second (man).

## Phrase and Sentence Clitic Positions

Two clitics occur other than the verb phrase clitics described in Verbal Suffixes, pages 122-123 and 129. These are the phrase clitic //xún// and the sentence clitic //p'ih-an//.

The phrase clitic //xún// apparently may occur at the end of any phrase, but its occurrence is most frequent at the end of embedded sentences or at the end of sentences which are independent but which are linked to following sentences by conjunctions. Examples of //xún// as a phrase clitic are:

//šál ≠ tah ≠ má-ʔáy-∅ ≠ xún ≠ c-ko-náʔ-el-tah// and if not, we think, in which //xún// is terminal in the sentence //šál ≠ tah ≠ má-ʔáy-∅ ≠ xún// and if not; //šál ≠ táh toh ≠ c-k-ʔák' ≠ y-ʔís-al ʔát-il ≠ xún ≠ tóh Nex ≠ ʔáy-oN-ʔék'-ih// and if we loaf, (if we) just wander around, in which //xún// is terminal in the sentence //šál ≠ táh toh ≠ c-k-ʔák' ≠ y-ʔís-al ʔát-il ≠ xún// and if we loaf; //šál ≠ táh toh ≠ ma-š-ko-náʔ-el-tah-lax ≠ xún ≠ ʔáwaʔ ≠ táh toh ≠ háʔ Nex háʔ ≠ t'ay píNkah ≠ c-hoN-p'át-ih// and if we don't think it out, and if we just go to the plantations, in which //xún// is terminal in the sentence //šál ≠ táh toh ≠ ma-š-ko-náʔ-el-tah-lax ≠ xún// and if we don't think it out; //šál xún ≠ toh ≠ ʔáy-∅ ≠ p'áx p'at-w-ʔák' xún šoh hin-ček-ap'-il// and, there is still a place where I (must) go to do an errand, in which //xún// is terminal in the introductory phrase //šál xún// and; //háʔ šoh wíN c-∅-s-sék-an-páš t'ay s-tíʔ číʔ xún ≠ háʔ šoh wíN ≠ c-∅-k'éʔ-č-an-ʔél-tah// that man there who empties them out again

at the edge, that man brings them up, in which //xún// is terminal to the first topic phrase (of two topic phrases in apposition) //háʔ šoh wɪN c-∅-s-sék-an-páš t'ay s-tíʔ číʔ xún// that man who empties them out again at the edge; //ʔéh ≠ táh toh ≠ té-k'éʔn-∅ ≠ lúʔm ≠ xún ≠ ʔáy-∅ ≠ s-k'éʔn-al s-sát lúʔm ≠ ma-š-y-ʔál-ax ≠ ko-píl-an y-ʔíp// and if the land is very rocky, (if) there are stones on the face of the earth, we can't make haste, in which //xún// is terminal to the sentence //táh toh ≠ té-k'éʔn-∅ ≠ lúʔm ≠ xún// if the land is very rocky.

The sentence clitic //p'íhan// occurs only if the preceding sentence is terminal--that is, if it is neither an embedded sentence nor a sentence followed by a linked independent sentence. The use of //p'íhan// is optional, and the circumstances of its use are not yet fully understood. Examples of the sentence clitic //p'íhan// are: //yós ≠ ʔol-ko-cík-an-páš ≠ lúʔm ≠ ∅-ʔóč ≠ ʔíšim k-ʔáw-al ≠ p'íhan// and we turn the earth again; the cornfield (season) enters; //t'ah xún k'úh ≠ c-∅-ko-cól ≠ k'ák' ≠ t'ah s-tíʔ-tak lúʔm ≠ ∅-čáʔ-an ≠ s-k'ák'-al ≠ lúʔm ≠ c-∅-c'áʔ-p'át ≠ lúʔm ≠ p'íhan// one day later, we make lines of fire at the edges of the land, the land takes fire, the land burns up; //y-ʔúʔx číʔ ≠ wáč' xáy-eʔ Nex wal k'úh ≠ c-y-ʔík' ≠ lúʔm ≠ c-∅-ʔél ≠ lúʔm ≠ p'íhan// for this reason, the land takes a few days only, the land leaves (is finished).



Style in the Elaboration of Phrases

Sentences with stative phrases as main phrases and sentences with verb phrases as main phrases may both be described in terms of the same sequences of phrase positions. There are, however, marked differences in the normal (or most frequent) elaborations of the phrases which occur in some phrase positions.

In sentences with verb phrases in the main phrase position, structurally complex subjects--those with embedded sentences, for example--tend to occur in the topic phrase position, and the subject phrase position is usually filled by a simple construction, often a specifier noun. Direct objects and adverbials tend to follow the main phrase rather than preceding the verb phrase in the topic and pre-posed adverbial positions.

In sentences with stative phrases in the main phrase position, structurally complex subjects tend to occur in the subject phrase position rather than in the topic phrase position. In general, the phrases preceding the stative phrase are fewer and less complex than those which follow the stative phrase.

APPENDIX A

LIST OF CVCCVC NOUNS

A list follows of all known examples of Chuj noun roots of shape //CVCCVC//. The items in this and the remaining appendices are arranged according to the articulatory position of their consonants and vowels: //p t c č k ʔ p' t' c' č' k' b d g s š x h m n N w y l r i e a o u//.

The known //CVCCVC// noun roots, with glosses and possible analyses or partial analyses, are:

- //pínpin// a species of bird, possibly an imitation of the song of the species, which is also //pínpin//;
- //pétlan móntak// a snake (probably mythological, as it is said to be over three feet in diameter and of a huge length);
- //páNweš// an agave species (which is a source of fiber);
- //póskon// lung, possibly related to the positional root //pós// inflated;
- //pólpoʔ// the vine Oreopanax capitatus (Jacq.) Dcne. and Planch. (and possibly other species);
- //títkan// a species of bird (a woodpecker), possibly derived from the song of the species, which is //tít//;
- //tókčik č'áN// a vine (probably Plantago alismatifolia Pil-

- ger and possibly other related species), identical to  
 //sók'čik č'áN//;
- //tón-ton// screech owl, probably an imitation of the song of  
 the species;
- //túktuk// a bird species, probably an imitation of the song  
 of the species, which is //túk túk//;
- //cíxtum// many
- //cíxp'oy// a bird species (possibly a grackle);
- //čínčiw// a bird species;
- //čákpan// rainbow, probably related to //čák// red;
- //čánp'al// cramp, possibly derived from an unattested root  
 \* //čán// plus the suffixes //p'-al//;
- //čókčok// a bird species, probably an imitation of the song  
 of the species;
- //kístal// naive;
- //kíškap'// earthquake;
- //kúšmak// a tree species (known in local Spanish as palo  
 mosqueta);
- //'íčmil// husband, probably derived from //'íčam// old man;
- //'íscil// wife, possibly related to //'ísil// daughter and  
 to //'íš// woman;
- //'íšta?// toy, probably related to //'íš-t-ex// to play with  
 something;
- //'íntam// iguana;
- //'ílyah// harm, possibly related to //yáh// painful;
- //'ák'lik// grassland;
- //'áxco?// male bird, probably related to //'áx// master;

- //ʔónkoy // turtle;
- //ʔúswaʔ // a maize type, possibly related to //wáʔ // to eat;
- //ʔúlyaš // a soft crab or crawfish, possibly derived from  
//ʔúl // to dissolve and //yáʔš // provender;
- //p'ákman // the tree species Drimys granadensis L.f. (and  
possibly other related species);
- //p'álp'ec // load wrapped in cloth;
- //c'óxc'op' // a tree species;
- //č'íčxox // Río Chechjoj, San Mateo Ixtatán, possibly related  
to //xóx // crow;
- //č'íxč'il p'ák // a bird species;
- //č'éxkuʔ // pine cone;
- //(k'án) č'áxč'ap' // a bird species;
- //č'óp'kan // the tree species Vaccinium breedlovei L. Wms.,  
Cavendishia guatemalensis Loes., and possibly other  
related species;
- //k'ínwaʔ // Quingúa, Nentón;
- //k'áškapil // broken shards, possibly related to //k'ášep //  
half or other side;
- //k'ánkin // Canquintic, Nentón, possibly related to //k'án //  
yellow;
- //čák k'óxyem // a type of bean;
- //sáNka péč // nighthawk, derived from \*//sáNka // and //péč //  
duck;
- //sók'čik č'án // see //tókčik' č'án //;
- //xónkin // small land frog;
- //xólxoweš // a bird species;

- //hóstok // black vulture;
- //húšluč // eleven;
- //máš?ey // the tree species Turpinia parvifoliola L. Wms. and  
possibly other related species;
- //námnam // butterfly or moth, probably related to the posi-  
tional root //nám // softly;
- //waxšak // eight;
- //wóxtin // or //wóxte p'á?c' // howler monkey;
- //yóčtap' // the tree species Symplocos vatteri Standl. and  
Steyerm. and possibly other related species;
- //yóktíl // an edible mushroom;
- //laxčaw // twelve, probably related to //laxuN // ten and  
//čá?p' // two;
- //láNp'at // divinatory day name.

APPENDIX B

LIST OF CV?VC ROOTS

A list follows of all known Chuj roots which have the phonemic shape CV?VC; that is, those which have the morpho-phonemic shapes //CV?VC//, //CV?C//, and //CV?(V)C// are listed here. These items are listed in three sets: (1) roots known to be phonemically CV?VC even in non-final position, written //CV?VC//, (2) roots known to be phonemically CV?VC in final position and CVC elsewhere, written //CV?C//, and (3) roots which appear as CV?VC phonemically but which have not been attested in non-final position, written //CV?(V)C//.

//CV?VC//

//cé?el// roof corner;

//čí?ič// aunt, sibling's daughter, or moon;

//čá?ap// nance;

//hí?ih// sprouting ear of maize;

//mé?em// speechless person;

//má?ač'// the oak species Quercus acatenangensis Trel. and possibly other related species;

//yó?op// buttocks.

//CV?C//

//pé?č// chalice-shaped clay cup;

//pó?c// weakness;

- //tá'N // ash or lime;
- //tó'm // a plant which is mashed and thrown into rivers to  
stun fish;
- //čé'w // frost;
- //čá'p' // two;
- //čá'N // tall or sky;
- //kú'k // squirrel;
- //p'í'š // accidentally burned brushland that is later cleared  
and planted;
- //p'á'w // hot-country cornfield;
- //p'á'l // witchcraft by direct physical harm;
- //p'ú'k // a type of mushroom;
- //p'ú'x // maize grains boiled without lime;
- //c'á'm // horse blanket;
- //c'ú'm // leather or skin;
- //č'é'm // cry-baby;
- //č'á'k // horn;
- //č'ó'w // rat;
- //k'í'č // dislocation of joint;
- //k'í'š // thorn;
- //k'é'n // stone;
- //k'á'w // bridge;
- //k'ó'l // belly, the center of the emotions;
- //k'ú'n // soft or sensitive part of the body;
- //k'ú'l // habit-forming node in the stomach;
- //sí'k // cold;
- //sá'm // comal (clay griddle);

//sáʔl // illness which causes baldness;  
 //šíʔl // leaves or hair;  
 //šéʔn // long-legged mosquito;  
 //šúʔk // broad, shallow basket;  
 //xáʔk // smoky object;  
 //xáʔt // ritual;  
 //xúʔn // one;  
 //hóʔš // achiote (a plant species, probably Bixa orellana L.);  
 //húʔm // paper;  
 //míʔk // dust mote;  
 //móʔč // basket, rib cage, or side of body;  
 //wíʔl // dead limb in a live tree;  
 //wáʔN // numeral classifier for animate beings;  
 //yáʔš // green or provender;  
 //yáʔl // trap or snare  
 //lúʔm // earth.

## //CVʔ(V)C //

//péʔ(e)t // Pet, Santa Eulalia;  
 //péʔ(e)c // child of walking age who cannot yet walk;  
 //páʔ(a)c' // a plant species;  
 //póʔ(o)š // a plant species;  
 //póʔ(o)n // persimmon;  
 //téʔ(e)l // height;  
 //(čák) číʔ(i)n // a maize type;  
 //čóʔ(o)n // crawfish;  
 //kéʔ(e)k // speechless person;



- //k'ó?(o)n // pocket gopher;
- //?á?(a)l // soft spot in the top of a baby's head;
- //p'é?(e)n // divinatory day name;
- //p'á?(a)c' // divinatory day name;
- //(š)p'ú?(u)l // Gracias a Dios, Nentón;
- //č'í?(i)k // shock of hair;
- //č'á?(a)k // smallpox;
- //k'á?(a)w // a type of bird, probably a grackle;
- //k'ó?(o)č // tree-trunk ladder;
- //sú?(u)n // sunflower;
- //šá?(a)š // a plant species;
- //há?(a)s // zapote colorado, a plant of the family Sapotaceae,  
probably Lucuma mammosa or Calocarpum mammosum;
- //há?(a)y // housefly;
- //hó?(o)č // food carried on a trip;
- //xó?(o)m // name of a cultivated area in San Mateo Ixtatán;
- //mú?(u)k // a bird species;
- //wá?(a)š // fox.

APPENDIX C

LIST OF OTHER NATIVE CVCVC ROOTS

A list follows of all known native Chuj //CVCVC// roots other than //CVxVC// and //CV?VC// roots.

- //pícik' // chicken craw;
- //pícin // a small green lizard;
- //píči? // posol (maize boiled in a lime solution, rinsed, boiled again, ground twice and packed into balls);
- //pínin // a beetle which emits a stinking fluid;
- //píloš // clay flute;
- //pétet // spindle whorl;
- //pétek té? // a vine;
- //péčak // prickly pear;
- //péke? // a large frog;
- //pátik // back;
- //pátiš // a small green lizard;
- //páatak // guayaba (guava);
- //pácap' // roof beam;
- //páčap' // schist;
- //(k'án) pák'ak' // a bird species;
- //pák'ul // cheek;
- //páyiš // a bird species;
- //páyu? // scarf, possibly borrowed from Spanish pañó;

- //pókok // dust or powder;
- //póč'ič' // dimple;
- //púk'um // gums (of the teeth);
- //púlup' // lime kiln;
- //tíyoš // twins;
- //téc'i? // an insect;
- //téwa? // a maize type, possibly related to //té// intensive  
or //te? // class of plants and //wá? // to eat;
- //tának // the plant species Phytolacca rivinoides Kunth and  
Bouché, Phytolacca icosandra L., and possibly other  
related species;
- //táwuk // turkey gobble;
- //tóšin // moth or wooly caterpillar (gusano peludo);
- //(čák) tóšop' // red ant;
- //túsus // a plant species (flor de muerto);
- //túyil // a bird species;
- //cíkap // juniper (Cupressus lusitanica Miller and possibly  
other related species);
- //címin // tapir (Tapirella bairdii Gill);
- //cíni? // the plant species Tradescantia guatemalensis C. B.  
Clarke (and possibly other related species);
- //cíyap // rain cape made of palm leaf;
- //cókoy // a small wooly black caterpillar (coconox);
- //cóyol // a cucurbit species, probably Schium edule (güisquil);
- //cólin // dragonfly;
- //cúp'ex // an insect;
- //čítam // pig;

- //čičim// old woman or hen, probably related to //čič'č//  aunt;
- //čikin// ear;
- //čini// a maize type;
- //činaš// divinatory day name;
- //čilap'// bird-hunting shelter;
- //čenen// Chenén, San Mateo Ixtatán;
- //čáp'in// spider monkey or divinatory day name;
- //čák'ip'// beeswax;
- //čáwis k'ák'// the tree species Gaultheria odorata Willd.,  
Vaccinium matudae Lundell (and possibly other related  
species);
- //čáwok// divinatory day name;
- //p'ánuk' čáwok// a plant species;
- //čóčol// a plant species;
- //čónes// an edible species of Chamaedorea (pacaya);
- //čóyop'// a bird species;
- //čúčex// a snake;
- //čúkup'// hiccups;
- //čúlup'// a plant species, probably Sapotaceae (zapotillo);
- //kélem// young man;
- //kápum// castrated horse;
- //káč'ič'// tree sap chewed like gum (chapuc);
- //kókon// a maize disease resembling corn smut;
- //kóp'es// young girl;
- //kóyol// a palm species, probably Acronomia mexicana, possibly  
borrowed from local Spanish coyol, in turn a borrowing  
from Aztec coyolli;

- //kúkay // lightning bug;
- //kúšin // the tree species known locally as chalum;
- //kúlič // an edible mushroom;
- //ʔípum // ant lion;
- //ʔítax // greens;
- //ʔíkah // sweatbath;
- //ʔíp'ač // armadillo;
- //ʔísis // immature maize;
- //ʔísim // spike of a male turkey, stalactite, or onion roots;
- //ʔísil // daughter (of a male);
- //ʔíšim // maize;
- //ʔínup // ceiba tree;
- //ʔíNat // seed;
- //ʔéčen // wound, break in skin;
- //ʔélap' // divinatory day name;
- //ʔápak' // nerve, or a palm used in weaving mats;
- //ʔátut // scabbard (only attested in the possessed form //y-  
ʔátut // its scabbard;
- //ʔáciʔ // the plant species Miconia glaverrima (Schlecht.)  
Naud., Miconia cf. alpestris Cogn. ex Donn. Sm. (and  
possibly other related species);
- //ʔáp'iš // summons or news, possibly borrowed from Spanish  
aviso, or related to Chuj //ʔáp'-ih // to sense;
- //ʔáp'ak // divinatory day name;
- //ʔát'is // sneeze;
- //ʔác'am // salt;

//ʔák'en// the clearing of land to be planted, possibly related to //ʔák'// to do and //k'éʔn// stone or metal (specifier noun for items including tools);

//ʔák'ač// turkey;

//ʔásiʔ// lower arm;

//ʔásun// cloud;

//ʔáxan// ear of mature maize;

//ʔáxaw// divinatory day name, possibly related to //ʔáx// master and //ʔáw-al// cornfield;

//ʔámak'// patio;

//ʔánap'// sister (of male);

//ʔáyin// alligator or crocodile;

//ʔálip'// son's wife (of male);

//ʔókes// coyote;

//ʔók'oč// flat stones with water-catching depressions;

//ʔóxop'// material coughed up;

//ʔómon tút// a type of bean;

//ʔúcin// term of respectful address to a younger man;

//ʔúkun// an edible mushroom;

//ʔúkun// a plant species;

//ʔúmum// a bird species (probably either tern or seagull);

//ʔúnin// son (of male), probably derived from \*//ʔún// son and a suffix (see //ʔúneʔ//);

//ʔúneʔ// son (of female), probably derived from \*//ʔún// son and a suffix (see //ʔúnin//);

//p'ík'ič// wet, churned up mud;

//p'ílil// Vilil, Nentón;

- //p'ák'eč // fat;
- //p'ánuk' čáwok // a plant species;
- //p'áluč // brother-in-law (of male);
- //p'áluN // nine;
- //p'áyal // a vine;
- //p'ólop' č'ó'w // an illness;
- //c'íkin ?ítax // a wild green;
- //c'ácuh // El Matasano, San Mateo Ixtatán;
- //c'ólox // the plant species Dahlia lehmannii Hieron. and possibly other related species;
- //c'únun // hummingbird;
- //č'ípal // soap root;
- //č'íyok // a bird species, possibly guinea hen (guachoco);
- //č'ílon // a bird species, or the name of a salt mine in San Mateo Ixtatán;
- //č'áp'in // a plant species;
- //č'áyik // the plant species Viburnum hartwegii Benth. and possibly other related species;
- //č'álip' // a tree species;
- //č'ólol // a bird species, possibly House wren;
- //č'úpak' té' // castor bean (Ricinus communis L.) and possibly other related species;
- //č'účox // corn tassel or a wasp (probably a Polistes species);
- //k'ísis // a tree species;
- //k'íšin // warm;
- //k'ílim // toasted maize grains;
- //k'ílix // tickling sensation, armpit, or an illness which

causes itching boils all over the body;

//k'éweš // a tree species, probably Anona glabra Linn. or Anona squamosa L., known locally as anona;

//k'ácic // firewood;

//k'ákap // landslide;

//k'ášep // half, or the other side;

//k'áNac // wood block, probably related to //k'áN-(ul) // wedge;

//k'áyil // a plant species;

//k'ála(h) páh // a net bag;

//k'álap' // tamal of ground beans;

//k'ókoč // walking cane;

//k'ók'on // toad;

//k'ólol // an oak species (palo negro);

//k'óšoš // toasted and dried tortilla;

//k'ómiš // chicken without a tail;

//k'úmax // salt-less or tasteless food;

//síp'ak // soot or gunpowder;

//sísim // a plant species;

//sílon // a bird species;

//séwep' // a plant species;

//séyup' // liver;

//sánič // ant;

//sók'om // mud;

//sólok // the plant species Clematis dioica L. and possibly other related species;

//k'ík' súp'en čán // a poisonous snake;

//súc'ul // a small stingless honey-producing insect;



- //čák súlup' ʔán// the plant species Oenothera rosea L'Her  
ex Ait. and possibly other related species;
- //šípiš ʔáxaw// a black- and white-banded snake;
- //šínex// a bird species, possibly the kingbird;
- //šék'el// the plant species Oreopanax xalapensis (HBK.)  
Dcne. and Planch. and possibly other related species;
- //šútít// the plant species Datura candida (Pers.) Pasq. and  
possibly other related species;
- //šúkún// the plant species Prunus compacta L. Wms. and pos-  
sibly other related species;
- //šúlem// turkey vulture (red-headed);
- //xólom// head;
- //xúnak// twenty;
- //híkáp'// sand;
- //hímoš// divinatory day name;
- //hálaw// Nelson paca, Cuniculus paca nelsoni, known locally  
as tepescuintle;
- //hókoš// an edible mushroom;
- //hónon// bumblebee;
- //húkúp'// seven;
- //míšín// water for morning face-washing;
- //mékiš// berry (in general);
- //mélem// river bed;
- //mápúk'// hornless ram;
- //máp'al// the plant species Bidens triplinervia var. mollis  
(Poepp. and Endl.) Sherff and possibly other related  
species;

- //mókoč // a poisonous snake (resembling a diamond-backed rattlesnake, but without rattles);
- //móšon // a plant species (whose leaves are used to wrap tamales);
- //mómon // a plant species;
- //mólum // a bird species;
- //mítuk'-tak // kinky;
- //múkuk // cloth bag for grain;
- //múkun // a plant species, probably Cucurbita pepo, known locally as ayote;
- //míšuk // navel or umbilical cord;
- //múlak' // tadpole;
- //múluh // divinatory day name;
- //níwit // gravely ill person;
- //náp'ah // pure;
- //námiš // moth or butterfly, probably related to the positional root //nám// softly (see also //námnam// in Appendix A);
- //nánam // tame or easily handled;
- //náyip' // the plant species Coriaria thymifolia Humb. and Bonpl. and possibly other related species;
- //wíkil // a plant which survives after a harvest and is still productive at the next planting of the field;
- //wáyo? // kinkajou, Potos flavus campechensis, known locally as mico león;
- //wále? // cane or cornstalk;
- //wótiš // bird's crest of feathers;

//wówi? // Cerro Bobí, San Mateo Ixtatán;

//yókeč // the three stones of a household cooking fire;

//lólis // vagina;

//lúkum // worm (earthworm or intestinal parasite);

//rétet // woodpecker.

## APPENDIX D

### TEXTS

The texts which follow illustrate Chuj phonology, morphology, and syntax. All texts were first recorded in conversational situations, then transcribed, analyzed, and translated. As is to be expected in casual speech, the texts include hesitations and mistakes; these are ignored in the morphophonemic, phrase structure, and sentence structure analyses, but are included in the phonetic or phonemic analyses.

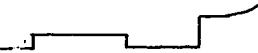
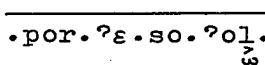
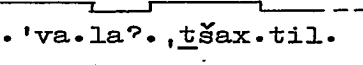
The first text is the initial section of a long description of maize-farming techniques. A phonetic transcription of the text (Ph) is accompanied by an interlinear phonemic transcription (P) and an English translation (E). Paralinguistic junctures of all types are marked with the symbol /#/ in the phonemic transcription.

The second text is the complete text of a reported conversation between the major informant and another native of San Mateo Ixtatán, meeting in Huehuetenango. The text is given in phonemic transcription (P) with interlinear morphophonemic analysis (MP), identification of root classes (R), phrase structure (PS), sentence structure (SS), rough glosses of morphs (G), and English translation (E). The root classes distinguished are substantive noun (s), adjectival noun (a),

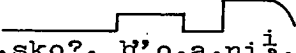
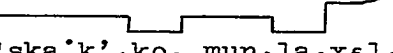
numeral noun (n), specifier noun (sp), intransitive verb (iv), transitive verb (tv), positional (pos), stative (st), and particle (p). The phrases marked are noun phrase (NP), verb phrase (VP), stative phrase (SP), and particle phrase (PP). In the analyses of sentence structure, these phrases are marked according to their sentence function as introductory phrases (Intro), topic phrases (Topic), pre-posed adverbial phrases (Pre-Adv), main phrases (Main), object phrases (Obj), subject phrases (Subj), post-posed adverbial phrases (Post-Adv), and sentence clitic (Clitic). Sentences are marked S; the structures of embedded sentences are analyzed in the same format as the enclosing sentences. Lines connect related elements in the different levels of analysis. Where morphs have no appropriate gloss (as in the case of most suffixes) an asterisk appears in the gloss. Lines of dashes connect linked sentences.

The third and fourth texts are the initial fragments of longer texts. The third text is the beginning of an autobiography of the major informant. The fourth text is the first of a series of coyote-rabbit stories related by a speaker from Patalcal (/pát ʔáلكál/), a Chuj-speaking hamlet located about ten kilometers northwest of San Mateo Ixtatán, in the municipio of San Mateo Ixtatán. The third and fourth texts are presented in a format similar to that used in the presentation of the second text, but without the internal analysis of embedded sentences, which are marked simply as noun phrases, and without structural trees.

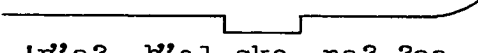
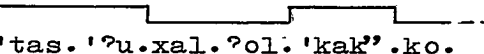


Ph  . 'mun.la<sup>^</sup>.xəl.  .por.ʔε.so.ʔol.  . 'va.laʔ. tšax.til.

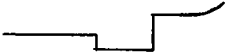
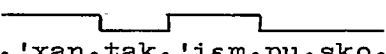
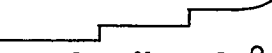
P múnlaxél #<sup>13</sup>↑ por ʔeso ʔol wálaʔ čáxtil  
E work. So I'll tell how

Ph  .,sku.tex.  .skoʔ.,b'o.a.ni<sub>2</sub><sup>i</sup>.  . 'ska'k'.ko.,mun.la.xəl.

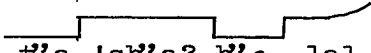
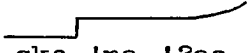
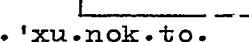
P skútex sko p'óanih #<sup>13</sup>↓ skák' ko múnlaxel #<sup>13</sup>↑  
E we do (it) we fix (it). In order to do our work,

Ph  . 'p'aʔ.,b'el.sko.,naʔ.ʔaa<sub>2</sub>.  . 'tas.'ʔu.xal.ʔol.'kák'.ko.


P p'áp'el sko náʔah #<sup>22</sup>↑ tás ʔúxal ʔol kák' ko  
E first we think what month we do our

Ph  .,mun.la.,xəl.  . 'xan.tak.'iəm.pu.sko.  .skoʔ.,p'o.,ʔo<sub>2</sub><sup>o</sup>.


P múnlaxel #<sup>13</sup>↑ xántak yémpu (sko)≠ sko p'óʔóh #<sup>23</sup>↑  
E work-- which season we do (it).

Ph  .t'a.'sb'aʔ.b'ε.,lal.  .sko.'na.'ʔaa<sub>2</sub>.  . 'xu.nok.to.

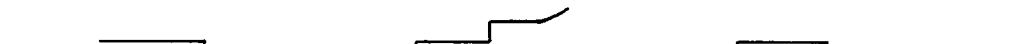
P t'a sp'áp'elál #<sup>12</sup>↑ sko náʔah #<sup>22</sup>↑ xúnok to  
E First, we think yet one

Ph  .,ʔux.<sup>x</sup>. .ʔol.,ʔotš.ʔi.šim.'ka.val. .,tšaʔ.ʔ'ok.to.

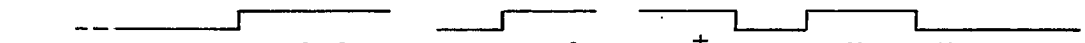
P ʔux #<sup>12</sup>↑ ʔol ʔóč ʔišim káwal #<sup>23</sup>→ čáp'ok to  
E month will enter our cornfield, yet two

Ph  .,ʔux.ʔol.'ʔotš.ʔi.šim.,ka.val.,ios. .ʔol.ko.


P ʔux ʔol ʔóč ʔišim káwal #<sup>23</sup>→ yos ʔol ko  
E months will enter our cornfield and we will

Ph  .,t'ókán.k'ε.lum.,lu.ʔum. .ʔol.ko.'t'ókán.k'ε.

P t'ókán k'e lum lúʔum #<sup>23</sup>↑ ʔol ko t'ókán k'e  
E turn up the land. We will turn up

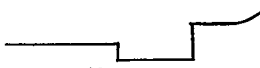

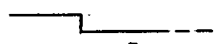
Ph  .lum.ko.,lu.ʔum. .ta.,to'. .,a<sup>+</sup>a.lum.'t'ók.p'il.ʔol.

P lum ko lúʔum #<sup>22</sup>→ ta tó há lum t'ók'p'il ʔol  
E our land, if turned earth we will

Ph  .ka'.k'aʔ. .lum.,xat'š'.ʔ'en. .ʔe'.ta.to. .'aa.lum.

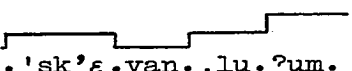
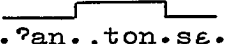
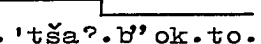
P kak'áʔ #<sup>13</sup>↑ lum xáč'p'én #<sup>23</sup>↑ ʔe tato há lum  
E do, harvested land, and if the land



Ph  . 'ʔak' .lik .xun.  . 'tʃ'ok .b'il .,lu .ʔum.  . ,pu .ral. ---

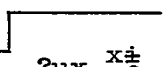
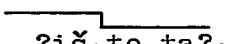
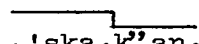
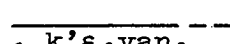
P ʔák'lik xun #<sup>13</sup>↑ t'ók'p'il lú'um #<sup>22</sup>→ púral

E (is) grassland, turned earth, with difficulty

Ph  . 'sk'ε .van .,lu .ʔum.  . ʔan .,ton .se.  . 'tʃaʔ .b'ok .to. ---

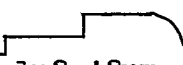
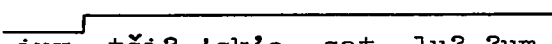
P sk'éwan lú'um #<sup>23</sup>→ ʔantónse čáp'ok to

E the land rises, then yet two

Ph  . ,ʔux .xε.  . ,ʔiš .to .taʔ.  . 'ska .k'an.  . ,k'ε .van. ---

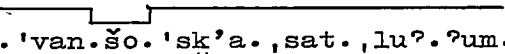

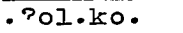
P ʔúx #<sup>13</sup>→ ʔíštotaʔ skák'an k'éwan

E months, thus we make rise

Ph  . luʔ . 'ʔum.  . iux .,tʃiʔ . 'sk'a .,sat .,luʔ .ʔum. ---



P luʔúm #<sup>23</sup>↓ yux číʔ sk'á sát lú'um #<sup>22</sup>→

E the land. So the surface rots,


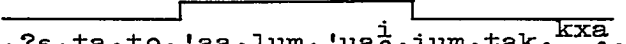
Ph  . 'van .šo . 'sk'a .,sat .,luʔ .ʔum.  . ,ios.  . ʔol .ko. ---

P wán šo sk'á sát lú'um #<sup>22</sup>→ yós ≠ ʔol ko

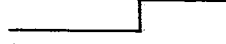
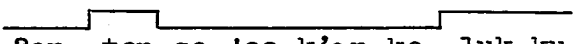
E already the surface rots, and we will

Ph  . 'tsi.kam.paš.,luʔ.um.  .ʔol.'ʔotš.ʔi.šim.,ka.val.


P cíkampaš lúʔum #<sup>22</sup> ↑ ʔol ʔóč ʔišim káwal  
E turn the land again, will enter our cornfield

Ph  .p'i.,an.  .ʔe.ta.to.'aa.lum.'ua<sup>i</sup>.ium.tak.<sup>kxə</sup>.

P p'ían #<sup>13</sup> ↓ ʔe tato há lum wáyumtak ≠  
E (clitic). And if (it is) fallow land

Ph  . 'skaʔk'.xun.  .ʔen.,ton.se.'aa.k'ɛn.ko.,luk.ky.

P skák' xun #<sup>23</sup> → ʔentónse há k'en ko lúk ≠  
E we do, then our brush hook

Ph  .sko.,sa.'iaʔ.ʔa.

P sko sáyáʔ #<sup>23</sup> ↓  
E we seek (it).

2. Conversation

## English Translation

Well, for example: I saw a man, a fellow townsman, in the market. I chatted with him. He asked me why I was here. I said:

"Me, I'm just wandering around." Then I asked him, "You, what are you here for? Where are you going?" He said to me,

"Me, I'm returning from the plantations."

"Who are you with?" I said to him.

"Nobody. Just me. Me alone and two of my sons."

"Did you come back well? No illness took you?" I said to him. He said to me,

"Me, I return well. Thank you for asking if I returned well." I asked him,

"Will you return (to the village) today?"

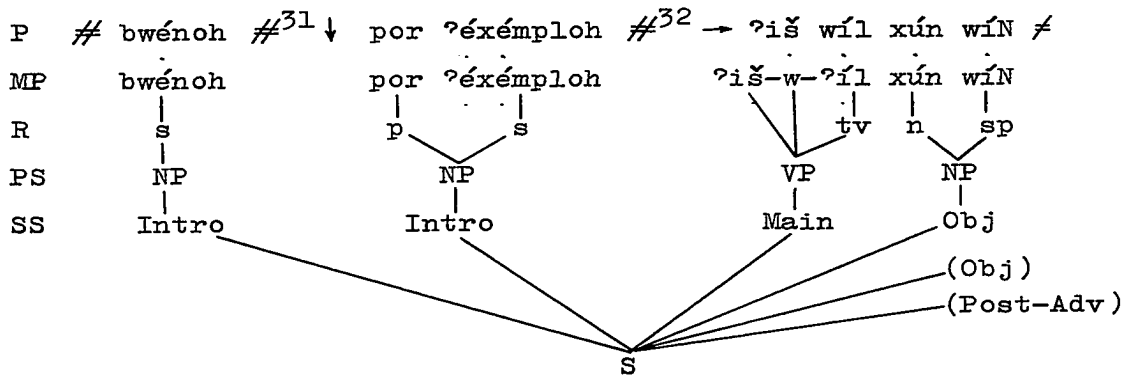
"No," he said. "I will still wander around here a bit. Tomorrow I return (to the village), because I will be buying a few things here," he said to me. "Well, and you, when will you return?" he said to me.

"Perhaps tomorrow I will return," I said. Then, as we chatted, he took leave of me, and he left.

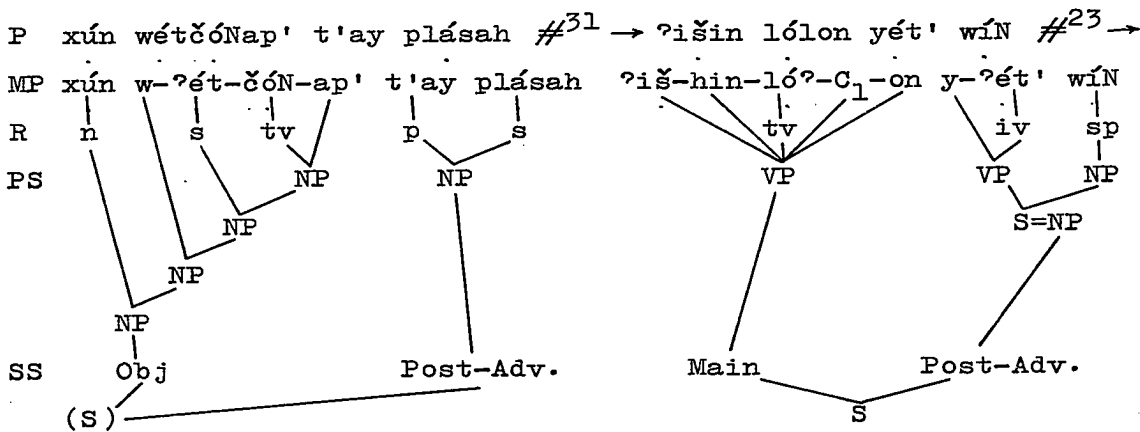
"Of course we will see each other about noon, if we go tomorrow," he said to me.

Good.

Analysis

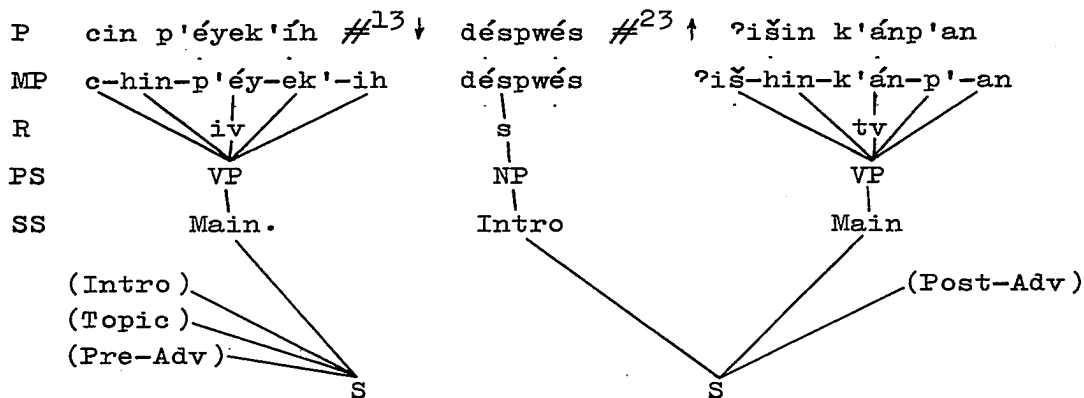


G well for example past-I-see one male  
 E Well, for example, I saw a man,

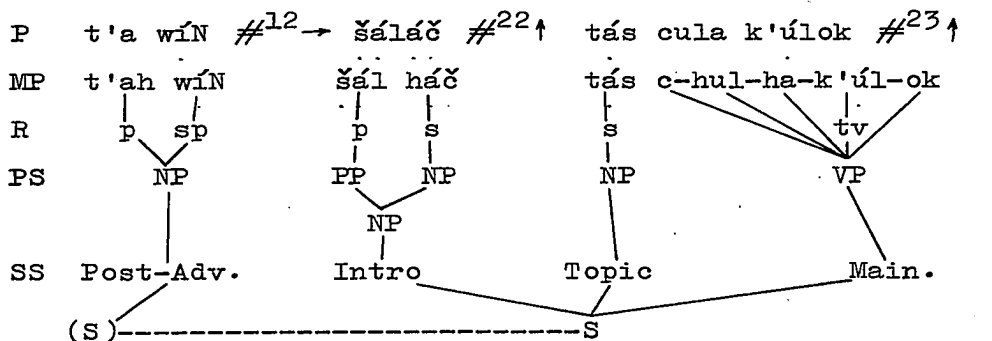


G one my-with-town in plaza past-I-chat he-with male  
 E a fellow townsman, in the market. I chatted with him.

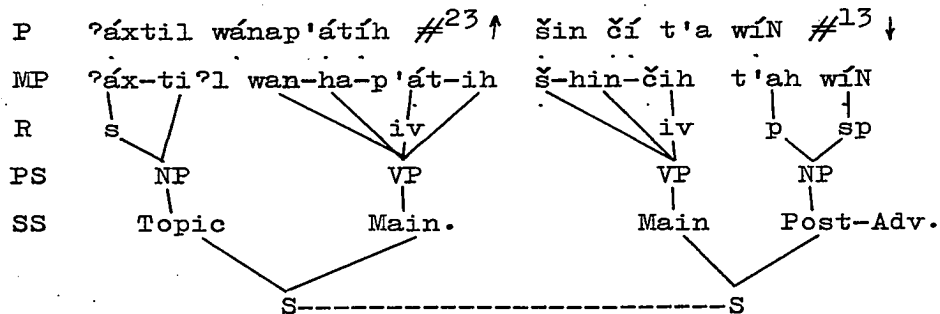




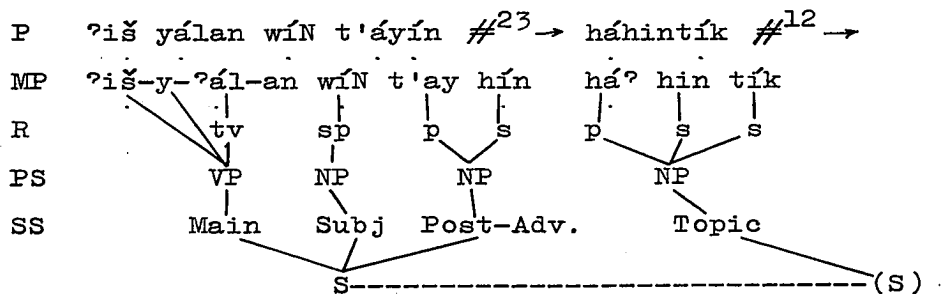
G present-I-walk-wander-\* later past-I-ask-\*-\*  
 E wandering around. Then I asked



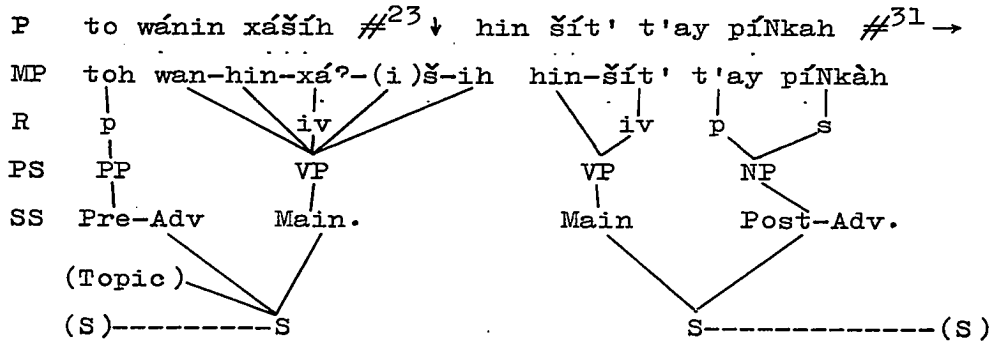
G to male and you what present-come-you-do-\*  
 E him, "And you, what do you come to do?"



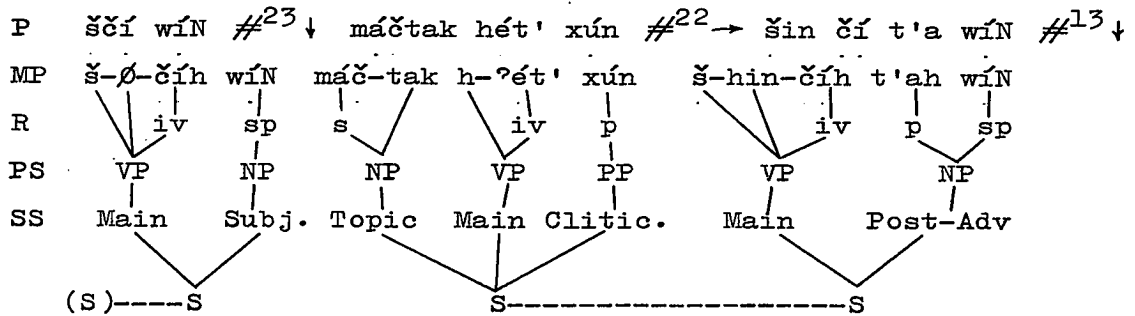
G where-\* progressive-you-go-\* durative-I-say to male  
 E Where are you going?                    I say to him.



G past-he-say-\* male to I \* I here  
 E He said                                    to me, "Me,

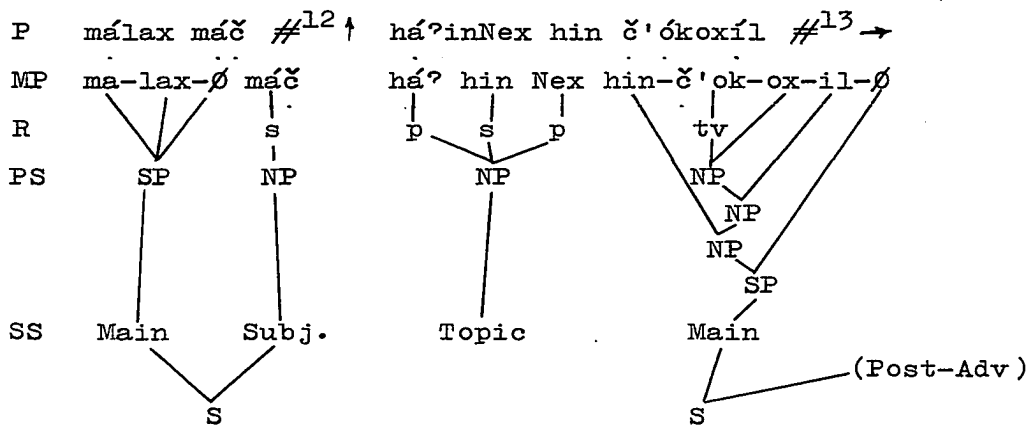


G still-progressive-I-come-again-\* I-return-from-plantation  
 E I'm returning again. I went to the plantations and back,"

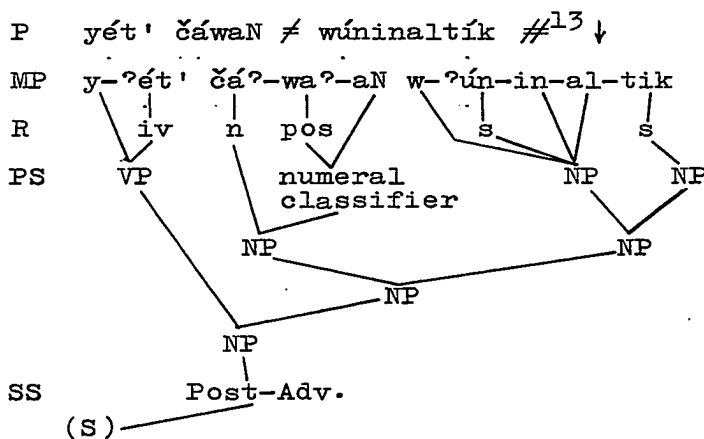


G durative-he-say male durative-I-say to male  
 who-plural you-accompany \*  
 E he said. "Who-all are you with?" I say to him.

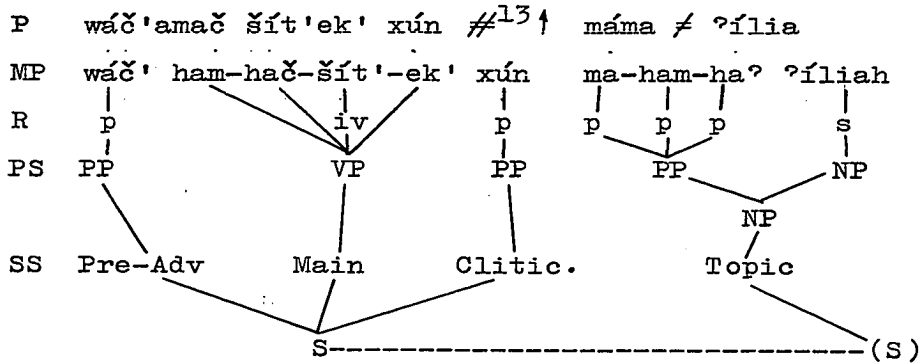




G negative who \* I only my-alone--\*-is  
 E "There is nobody. Just me alone

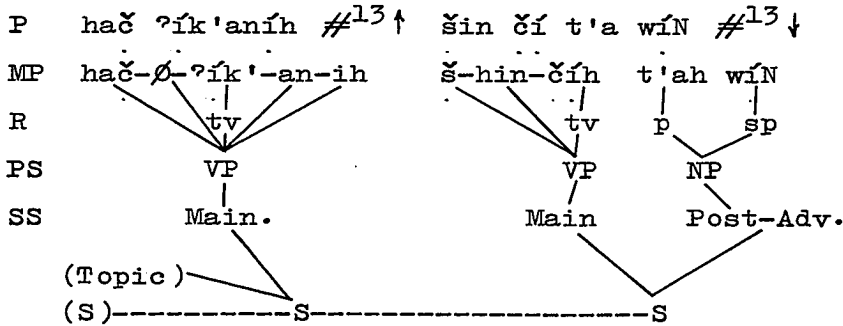


G he-accompany two-beings my-son--\* here  
 E with two of my sons."



G well interrogative-you-return-wander \*  
 negative-interrogative-\* illness

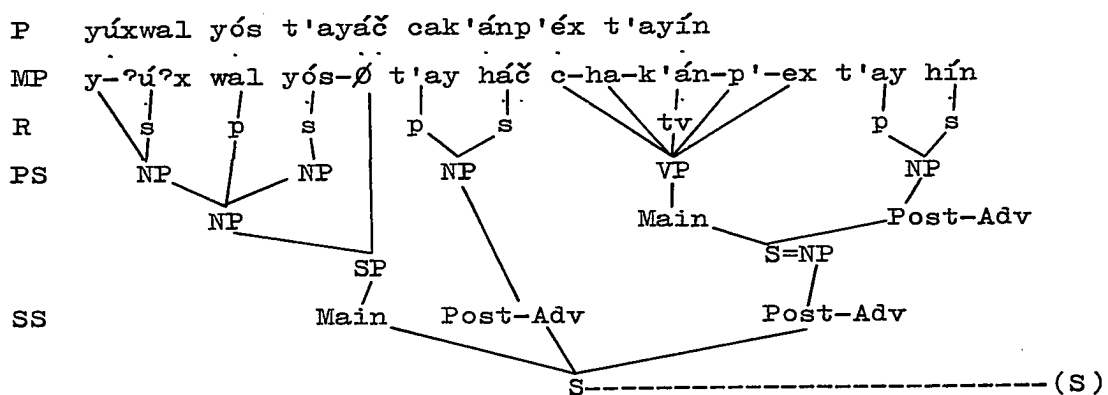
E "Did you return well? No illness



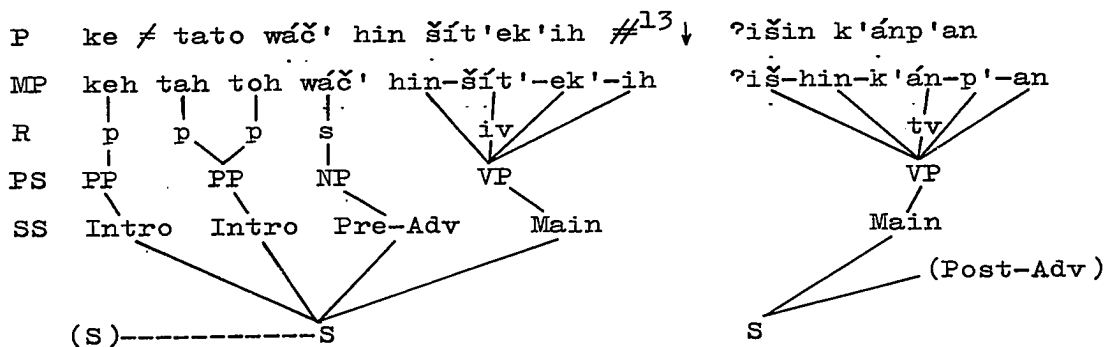
G you-it-grab-\*-\* durative-I-say to male

E took you?" I say to him.

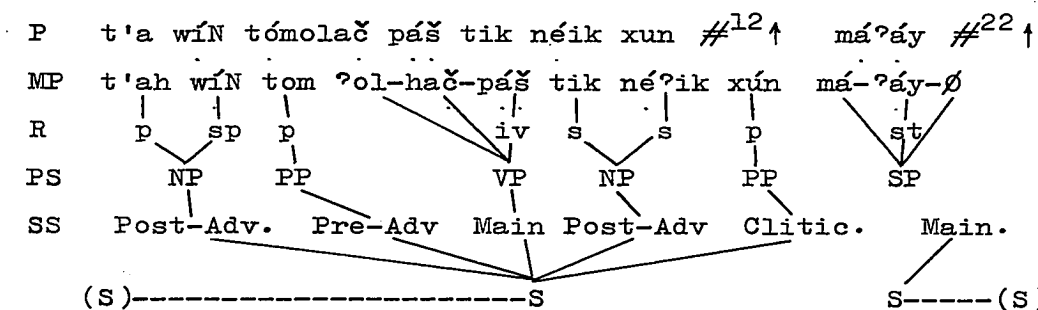




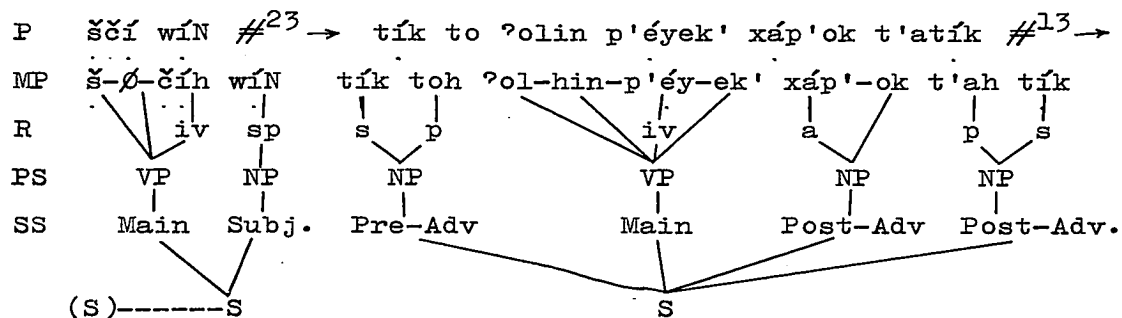
G his-cause \* God is to you present-you-ask-\*-\* to I  
 E thank you for asking me



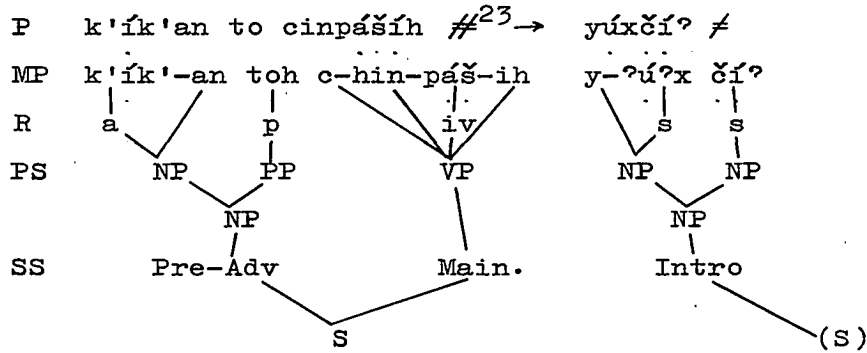
G that if yet good I-return-wander-\* past-I-ask-\*-\*  
 E if I returned well." I asked



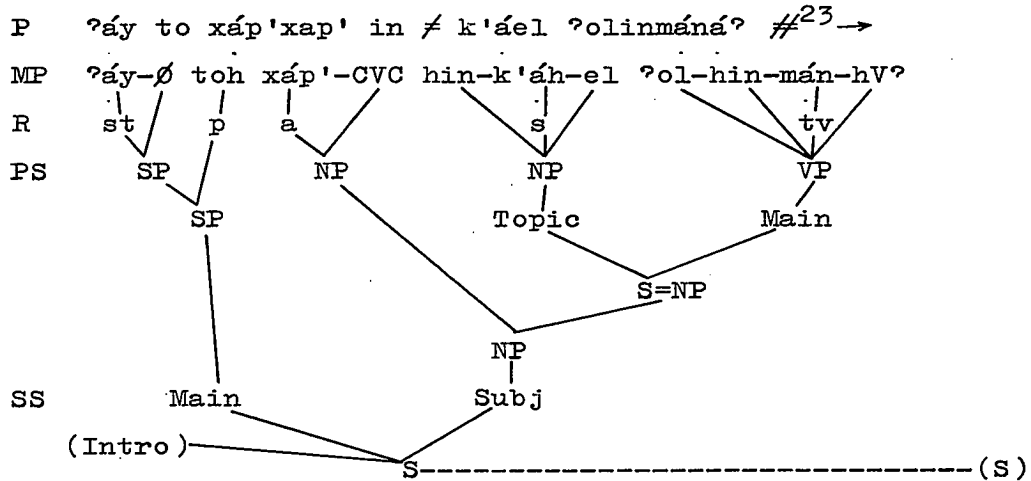
G to male perhaps future-you-return here now \* negative-be-it  
 E him, "Will you return today?" "No,"



G durative-he-say male here still future-I-walk-wander  
 little-\* to here  
 E he said. "I will still wander around a bit here."

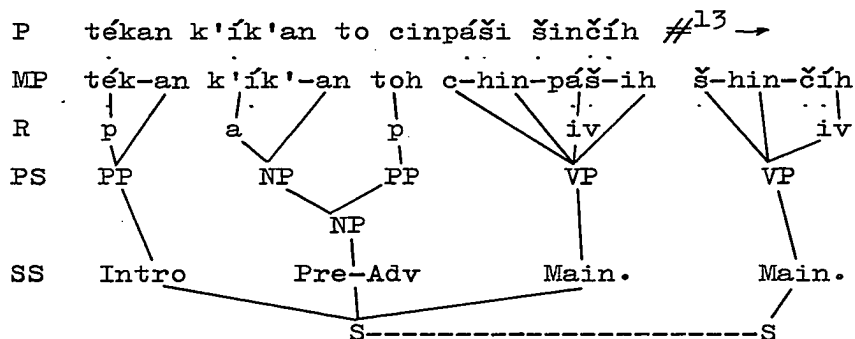


G black-\* still present-I-return its-cause that  
 E Tomorrow I return, because



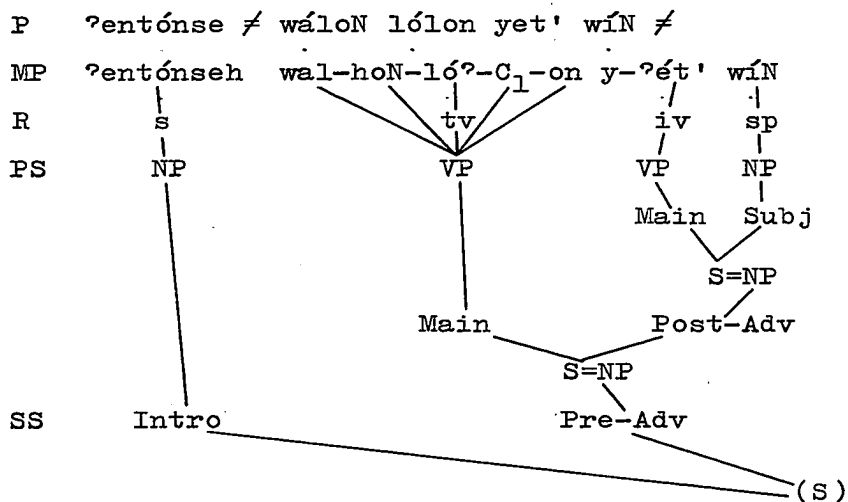
G be-it still little-plural my-thing-\* future-I-buy-\*  
 E there are still some things for me to buy."





G perhaps-\* black-\* still present-I-return durative-I-say

E "Perhaps tomorrow I return," I said.



G then progressive-we-chat-\*-\* he-accompany male

E Then, as we chatted (I with him),







3. Autobiography

## English Translation

My father and mother died. My brothers and I were orphans. We (I and my older brothers) divided them (my younger siblings) among us. Two stayed with each of us. We looked for food for them, because we already knew how to find money. We already knew how to find food.

## Analysis

P	háʔintík # <sup>13</sup> ↑	ʔiš čám wiNin	mám yét'	ʔišin nún # <sup>13</sup> →
MP	<u>háʔ hin tík</u>	<u>ʔiš-Ø-čám</u>	<u>wiN hin-mám</u>	<u>y-ʔét' ʔiš hin-nún</u>
PS	NP	VP	NP	NP
SS	Topic	Main	Subj	Post-Adv.
G	* I here	past-he-die	male my-Fa	he-accompany female my-Mo
E	I	he died	my father	with my mother
P	hoNkán mep'aʔil # <sup>13</sup> →	yét' hep' wiN	wúk'ták # <sup>23</sup> →	
MP	<u>hoN-kán mep'aʔ-il</u>	<u>y-ʔét' hep'-wiN</u>	<u>w-ʔúk'-tak</u>	
PS	VP	NP	NP	
SS	Main	Subj	Post-Adv.	
G	we-stay orphan-like	he-accompany plural-male	my-Bro	
E	we were left orphans	with my	brothers	

P ?iš kopúkanek' hep' wíN t'a ko pátík #<sup>22</sup>→  
 MP ?iš-ko-púk-an-ek' hep'-wíN t'ah ko-pátík  
 PS VP NP NP  
 SS Main Obj Post-Adv.  
 G past-we-divide-\*--around plural-male to our-back  
 E we distributed them on our backs

P čáatak waN hep' wíN ?iš ?áx kət'ók #<sup>23</sup>↓  
 MP čá?-tak wa?-aN hep'-wíN ?iš-Ø-?áx k-?ét'-ok  
 PS NP VP NP  
 SS Topic Main Post-Adv.  
 G two-plural beings-\* plural-male past-he-stay we-accompany-\*  
 E two by two they stayed with us

P ?iško sáyan yól ko k'ó?ol yét'ep' wíN #<sup>12</sup>→  
 MP ?iš-ko-sáy-an y-?ól ko-k'ó?ol y-?ét' hep'-wíN  
 PS VP NP NP  
 SS Main Obj Post-Adv.  
 G past-we-seek-\* its-center our-belly he-accompany plural-male  
 E we sought the filling of our bellies with them

P porke há?oNtík #<sup>12</sup>↑ síempre kóxtak šo  
 MP porkeh há? hoN tík siempreh k-?óx-tak-Ø šoh  
 PS PP NP PP SP (NP.)  
 SS Intro Topic Pre-Adv Main (Obj)  
 G because \* we here always our-knowledge-\*--be already  
 E because we of course already know

P čáxtil sko sáy xáp'ok ko túmín #<sup>23</sup>↑

MP čáx-ti'ʔl c-ko-sáy xáp'-ok ko-túmin

PS NP

SS Obj.

G how-\* present-we-seek little-\* our-money

E how we seek a little of our money

P siempre kóxtakšo čáxtil sko sáy xáp'ok ko ≠

MP siempreh k-ʔóx-tak-∅ šoh čáx-ti'ʔl c-ko-sáy xáp'-ok

PS PP SP NP (continues on next line)

SS Pre-Adv Main Obj.

G always our-knowledge-be already how-\* present we-seek little-\*

E of course we already know how we seek a little

P yól ko k'óʔól #<sup>23</sup>↑

MP y-ʔól ko-k'óʔól

PS (termination of the NP in the preceding line)

SS (part of Obj)

G its-center our-bellies

E the filling of our bellies

4. Coyote and Rabbit

## English Translation

Well, there is a story. There is a story which comes from our ancestors. They say some of our ancestors a long time ago did this.

They say there was a ram. There was an old ram. He was walking alone on a road. The ram met a coyote. Late in the day, they say a coyote met the ram.

"You, ram! I ask you, have you seen my friend the rabbit anywhere? I have a date with him. A date to meet him by a shelter cave," the coyote said to the sheep, they say.

Well. Then, they say, the ram said to the coyote:

"I saw him. He is on top of that mountain, on that ridge. He is there at the foot of a big pine tree. He is there where there is a big boulder. He is waiting for your arrival."

Well.

"Well, I'll go see him."

The sheep left. Then the coyote took the trail. He arrived at the place where the rabbit was standing. Then, they say, he saw the rabbit. The coyote arrived. Then he cried out to the rabbit there. He (the rabbit) was standing leaning on a big boulder. The clouds were swirling thickly. The clouds were swirling thickly about the surface of the rock, so that the stone appeared to move forward. Both hands

of the rabbit leaned on the rock, propping it up, they say. The animal was like a support for the rock. Yes, the coyote thought the rock was falling over on top of them.

Well.

"What are you doing there, rabbit?" the coyote said. The coyote drew near the rabbit.

"Nothing. Come here. Please come stay here. Grab this rock. The thing is, the rock is falling over. But, here, you are big. You are strong. You are tall. You can handle it. Grab hold here. I'll go look for a couple of props. Then we'll put the props here so this rock doesn't fall over," the rabbit said to the coyote.

"O.K.," the coyote said. The coyote stayed there propping up the rock. He stayed pushing against the boulder. The clouds came swirling thickly about.

Later, about an hour after the rabbit left, the coyote stood up straight. He leaped out from under the boulder. He thought the boulder would fall down! The coyote thought that, but the boulder didn't fall. The stone just stood there. Nothing happened to the stone.

Well.

"Maybe he's just screwing me. Maybe this rabbit is just screwing me. Maybe I'll finish him. Maybe I'll kill him. If I find him, I'll eat him!" the coyote said, and he went away again.





P ?áyap' nok' č'ák kálnel #<sup>23</sup>↑

MP ?áy-∅-hap' nok' č'ák kálnel

PS SP NP

SS Main Subj.

G be-he-reportative animal horn sheep

E they say there was a male sheep

P ?áy wanok mám č'ak kálnel #<sup>23</sup>→

MP ?áy-∅ wan-ok mám č'ak kálnel

PS SP NP

SS Main Subj.

G be-he \*-\* old horn sheep

E there was an old male sheep

P šč'ókox nok' sp'éy t'a xun p'é čí? #<sup>23</sup>→

MP s-č'ók-ox nok' c-∅-p'éy t'ah xun p'éh čí?

PS NP VP NP

SS Pre-Adv Main Post-Adv.

G his-alone-\* animal present-he-walk on one road there

E the animal alone he walks on a road there

P čáanʔel sp'á nok' č'ák kálnel číʔ  
 MP čáʔ-an-ø-ʔel s-p'áh nok' čak kálnel číʔ  
 PS SP NP (continues on next line)  
 SS Main Subj  
 G found-\*-it-leave his-self animal horn sheep there  
 E it was found the selves of that male sheep

P xun xun xun xun ≠ ʔókés #<sup>23</sup>↑  
 MP (xun xun xun) xun ʔókés  
 PS NP (concluded)  
 SS Subj.  
 G one coyote  
 E (and) a coyote

P ʔantónse t'a yémšo k'úhalil #<sup>13</sup>→  
 MP ʔantónseh t'ah y-ʔém šoh k'úh-al-il  
 PS NP NP  
 SS Intro Pre-Adv  
 G then in it-fall already sun-\*-\*  
 E then when the sun was already low

P čáanap'ʔél sp'á xun ʔókes číʔ  
 MP čáʔ-an-∅-hap'-'ʔél s-p'áh xun ʔókes číʔ  
 PS SP NP (continues on next line)  
 SS Main Subj  
 G found-\*it-reportative-leave his-self one coyote there  
 E they say it was found the selves of a coyote

P yet' xun č'ák kálnel číʔ #<sup>13</sup> †  
 MP y-ʔet' xun č'ák kálnel číʔ  
 PS NP (concluded)  
 SS Subj.  
 G he-accompany one horn sheep there  
 E with a male sheep

P šál tiknéʔik ke č'ák kálnel  
 MP šál tik néʔik keh č'ák kálnel  
 PS NP NP  
 SS Intro Topic  
 G and here now you horn sheep  
 E now you male sheep

P to cin k'ánp'ex t'áyač #<sup>23</sup>→

MP toh c-hin-k'án-p'-ex t'ay hač

PS VP NP

SS Main Post-Adv.

G still present-I-ask-\*-\* to you

E I ask you

P máma p'áx ?iš híl wiN wámigu wiN wiN kónéxoh #<sup>21</sup>↓

MP ma-ham ha? p'áx ?iš-Ø-h-?íl wiN w-?ámiguh wiN wiN kónéxoh

PS SP NP

SS Main Subj.

G negative-interrogative \*

where past-it-you-see male my-friend male rabbit

E is there where you see my friend the rabbit

P to ?áy xánik' xunin táráte yét' wíN #<sup>12</sup>→

MP toh ?áy-Ø xán-ik' xun hin-táráteh y-?ét' wíN

PS PP SP NP

SS Pre-Adv Main Subj

G still be-it when-\* one my-date he-accompany male

E still there is my date with him

P to táráte swílin p'a yet' wíN  
 MP toh táráteh c-∅-w-ʔíl hin-p'ah y-ʔét' wíN  
 PS NP (continues on next line)  
 SS Subj.  
 G still date present-it-I-see my-self he-accompany male  
 E a date for me to meet him

P t'a p'áxay xun k'en ≠ xun k'en Nák'éʔén #<sup>23</sup> ↓  
 MP t'ah p'áx ʔay-∅ xun k'eʔn xun k'eʔn Náh k'éʔn  
 PS NP (concluded)  
 SS Subj.  
 G to where be-it one stone house stone  
 E where there is a shelter cave

P čáp' nok' ≠ kón nok' ʔókes číʔ  
 MP ∅-čáh-hap' nok' kón(éxoh) nok' ʔókes číʔ  
 PS VP NP  
 SS Main Subj  
 G he-say-reportative animal coyote there  
 E they say he said that coyote

P t'a t'a nok' t'a nok' nok' kálnél #<sup>23</sup>↓

MP t'ah t'ah nok' t'ah(nok')nok' kálnel

PS NP

SS Post-Adv.

G to animal sheep

E to the sheep

P bwénoh #<sup>21</sup>↓ hašop' yálan

MP bwénoh haʔ šoh hap'-y-ʔál-an

PS PP PP VP

SS S. Pre-Adv Main

G good \* already reportative-he-say-\*

E well then they say he said

P nok' nok' č'ák kálnel čiʔ t'a nok' ʔókes či xún #<sup>12</sup>→

MP nok' nok' č'ák kálnel čiʔ t'ah nok' ʔókes čiʔ xun

PS NP NP

SS Subj Post-Adv

G animal horn sheep there to animal coyote there \*

E that male sheep to that coyote

P	t'a nok' kóyóte čí? # <sup>13</sup> ↓	ʔiš wíl wíN
MP	<u>t'ah nok' kóyóteh čí?</u>	<u>ʔiš-∅-w-ʔíl wíN</u>
PS	NP	VP NP
SS	Post-Adv.	Main Obj
G	to animal coyote there	past-it-I-see male
E	to that coyote	I saw him

P	há? tik ʔáykanʔek' wíN
MP	<u>há? tik ʔáy-∅-kan-ʔek' wíN</u>
PS	NP SP NP
SS	Pre-Adv Main Subj
G	* here be-he-stay-around male
E	here he is

P	t'a xólom lum wíc čí? # <sup>23</sup> ↑	t'a cálan čí?
MP	<u>t'ah xólom lu?m wíc čí?</u>	<u>t'ah cálan-∅ čí?</u>
PS	NP	NP
SS	Post-Adv	Post-Adv.
G	to head earth mountain there	to ridged-* there
E	on top of that mountain	on that ridge

P háta? ?áy wín #<sup>23</sup>↓ t'a yíč xun te níwan táx #<sup>13</sup>→  
 MP há? ta? ?áy-Ø wín t'ah y-?íč xun te? níw-an táx  
 PS NP SP NP NP  
 SS Pre-Adv Main Subj Post-Adv.  
 G \* there be-he male to its-base one wooden large-\* pine  
 E there is he at the foot of a large pine tree

P háta? ?ayek' wín  
 MP há? ta? ?áy-Ø-ek' wín  
 PS NP SP NP  
 SS Pre-Adv Main Subj  
 G \* there be-he-around male  
 E there he is

P t'a p'áxay xun k'en ténam čí? #<sup>13</sup>↓  
 MP t'ah p'áx ?áy-Ø xun k'e'n ténam čí?  
 PS NP  
 SS Post-Adv.  
 G to where be-it one stone boulder there  
 E where there is a boulder



P táNwap'il ha k'óčih #<sup>23</sup>↑  
 MP táN-w-ap'-il-∅ ha-k'óč-ih  
 PS            SP            NP  
 SS            Main            Post-Adv.  
 G wait-\*--\*--he you-arrive-\*  
 E he is awaiting your arrival

P ščáp' nok' nok' kálnel čí?  
 MP c-∅-čih-hap' nok' (nok')kálnel čí?  
 PS            VP            NP  
 SS            Main            Subj  
 G present-he-say-reportative animal sheep there  
 E they say he said that sheep

P	t'a t'a nok' kóyóte čí? # <sup>13</sup> ↓	bwénoh # <sup>21</sup> ↓
MP	t'ah <u>t'ah nok' kóyóteh čí?</u>	bwénoh
PS	NP	PP
SS	Post-Adv.	S.
G	to animal coyote there	good
E	to that coyote	well

P he p'át wíl wíN ?án čí? #<sup>23</sup>↑  
 MP heh p'át-Ø-w-?íl wíN ?án čí?  
 PS PP VP NP PP?  
 SS Intro Main Obj Clitic?  
 G yes go-it-I-see male \* there  
 E well I go to see him there

P p'át kan xun č'ák kálnel čí? #<sup>12</sup>→  
 MP Ø-p'át-kan xun č'ák kálnel čí?  
 PS VP NP  
 SS Main Subj.  
 G he-go-stay one horn sheep there  
 E he left that sheep

P ?entónse ščá?ankan p'e nok' ?ókes #<sup>22</sup>→  
 MP ?entónseh s-čá?-an-kan p'eh nok' ?ókes  
 PS PP VP NP NP  
 SS Pre-Adv Main Obj Subj.  
 G then he-find-\*-stay road animal coyote  
 E then the coyote took the road

P p'at nók' k'óč nók' t'a p'áxtil  
 MP ∅-p'at nók' ∅-k'óč nók' t'ah p'áx-ti?l  
 PS VP NP VP NP NP (continues on next line)  
 SS Main Subj. Main Subj Post-Adv  
 G he-go animal he-arrive animal to where-\*  
 E he left he arrived at where

P ?áyek' wiN kónéxo čí? #<sup>13</sup>↓  
 MP ?áy-∅-ek' wiN kónéxoh čí?  
 PS NP (concluded)  
 SS Post-Adv.  
 G be-he-around male rabbit there  
 E was the rabbit

P hášop' yílan wiN wiN kónéxo xún #<sup>12</sup>→  
 MP ha? šoh hap'-∅-y-?íl-an wiN wiN kónéxoh xún  
 PS PP VP NP PP  
 SS Pre-Adv Main Obj Clitic.  
 G \*-already reportative-it-he-see-\* male rabbit \*  
 E then they say he saw the rabbit

P to k'óč k'óč wiN kóyoteh #<sup>21</sup>→

MP toh k'óč Ø-k'óč wiN kóyoteh

PS PP VP NP

SS Pre-Adv Main Subj.

G still he-arrive male coyote

E the coyote arrived

P ?antonse sk'ánp'an yáwaxap' p'át

MP ?antonseh s-k'án-p'-an y-?áw-ax-hap'-p'at

PS PP VP VP

SS Intro Main. Main

G then he-ask-\*-\* he-cry-\*-reportative-go

E then he asked him he cried out to

P wiN hášo wiN kónéxo či xún #<sup>13</sup>↑

MP wiN ha? šoh wiN kónéxoh či? xún

PS NP PP

SS Obj Clitic.

G \* already male rabbit there \*

E that rabbit there

P ček'anoč wíN t'a xun ?íčam ténam čí? #<sup>13</sup>↓  
 MP ček'-an-?oč-∅ wíN t'ah xun ?íčam ténam čí?  
 PS SP NP NP  
 SS Main Subj Post-Adv.  
 G leaning-\* -enter-he male on one large boulder there  
 E he was leaning on a large boulder there

P to láNan sp'át ?ásún #<sup>23</sup>↑  
 MP toh láN-an c-∅-p'át ?ásun  
 PS PP VP NP  
 SS Pre-Adv Main Subj.  
 G still swirling-\* present-he-go cloud  
 E still went swirling clouds

P to láNan sp'át ?ásun t'a spátik k'en  
 MP toh láN-an c-∅-p'át ?ásun t'ah s-pátik k'e?n  
 PS PP VP NP NP  
 SS Pre-Adv Main Subj Post-Adv.  
 G still swirling-\* present-he-go cloud to its-back stone  
 E still went swirling clouds over the stone

P yuxčíʔ to skótkan k'éʔén #<sup>23</sup>↑

MP y-ʔúʔx číʔ toh c-∅-kót-kan k'éʔn

PS NP PP VP NP

SS Intro Pre-Adv Main Subj.

G its-cause there still present-it-near-stay stone

E so that as if it moved forward stone

P ʔantónse ʔíxanʔoč xun xun láʔan čáp'il hap'

MP ʔantónseh ʔíx-an-∅-oč xun xun láʔ-an-∅ čáʔp'-il-hap'

PS NP SP SP NP (continues)

SS Intro Main Main Subj

G then leaning-\*it-enter propping-\*it two\*-reportative

E then against it propping it both they say

P sk'áp' xun kónéxo číʔ #<sup>12</sup>→ láʔan yámxinak

MP s-k'áp' xun kónéxoh číʔ láʔ-an yám-x-ih-nak-∅

PS NP (concluded) NP SP

SS Subj. Pre-Adv Main

G his-hand one rabbit there propped-\*it hold-passive-\*-\*it

E the hands of the rabbit it was held propped up

P xun k'é'en čí? #<sup>12</sup>→ 'áyuč nok' yóyalok k'é'éen #<sup>23</sup>↓  
 MP xun k'é'n čí? 'áy-Ø-uč nok' y-'óy-al-ok k'é'n  
 PS NP SP NP NP  
 SS Subj. Main Subj Post-Adv.  
 G one stone there be-it-enter animal its-prop-\*-\* stone  
 E that stone the animal was like a prop for the stone

P hi? to wán skótan yíp'aN sná'anih #<sup>13</sup>↓  
 MP hi? toh wan-c-Ø-kót-an y-'íp'-aN s-ná'-an-ih  
 PS PP NP VP  
 SS Intro Topic Main.  
 G yes if progressive-present-it-near-\* his-top-\* he-think-\*-\*  
 E yes as if it was falling over on top of him he thought

P wénoh #<sup>31</sup>↓ tás cak'úlex či? kónéxoh #<sup>21</sup>→  
 MP wénoh tás c-ha-k'úl-ex či? kónéxoh  
 PS PP NP  
 SS S. Topic  
 G good what-present-you-do-\* there rabbit  
 E well what are you doing there, rabbit

- P ščáp' nok' kóyóte čí? #<sup>12</sup>→  
 MP š-Ø-čih-hap' nok' kóyóteh čí?  
 PS VP NP  
 SS Main Subj.  
 G durative-he-say-reportative animal coyote there  
 E they say he said the coyote
- P sk'óč nok' kóyote t'a nok' kónéxoh #<sup>21</sup>↓  
 MP c-Ø-k'óč nok' kóyoteh t'ah nok' kónéxoh  
 PS VP NP NP  
 SS Main Subj Post-Adv.  
 G present-he-arrive animal coyote to animal rabbit  
 E he drew near the coyote to the rabbit
- P má lax kótan ?ák' páwor ?óčan kan t'atik #<sup>13</sup>↑  
 MP ma-lax kót-an ?ák' páwor ?óč-an-kan t'ah tik  
 PS SP VP VP VP  
 SS Main. Main. Main. Main.  
 G negative-\* come-imperative do favor enter-imperative-stay  
 E nothing come here! please come stay here



P yámkan xun k'éʔen tík #<sup>12</sup>↑

MP yám-kan xun k'éʔn tík

PS VP NP

SS Main Obj.

G hold-stay one stone here

E stay holding this rock!

P to číʔ ʔíxan skót k'éʔen #<sup>23</sup>→

MP toh číʔ ʔíx-an c-ø-kót k'éʔn

PS NP VP NP

SS Intro Main Subj.

G still there leaning-\* present-it-arrive stone

E still it leans over towards us stone

P péro tík níwan háč ʔay híp #<sup>13</sup>→

MP péroh tík níw-an-áč ʔáy-ø h-ʔíp

PS PP NP SP SP NP

SS Intro Pre-Adv Main. Main Subj.

G but here big-\*—you be-it your-strength

E but here you are big you have strength

P ?íčamom ha té?él #<sup>23</sup>↑ ?á ?ol hák' yét'ok #<sup>23</sup>→  
 MP ?íčam-om-Ø ha-té?-el ?áh ?ol-h-?ák' y-?ét'-ok  
 PS SP NP PP VP NP  
 SS Main Subj. Intro Main Post-Adv.  
 G big\*-it your-height-\* \* future-you-do it-accompany-\*  
 E you are tall ah you will handle it

P tik yámkaníh #<sup>12</sup>→ p'atin sáy sáy čáp'ok kóy #<sup>13</sup>↑  
 MP tik yám-kan-ih p'at-hin-sáy sáy čá?p'-ok k-?óy  
 PS NP VP VP NP  
 SS Pre-Adv Main. Main Obj.  
 G here hold-stay-\* go-I-seek two-about our-props  
 E hold on here! I go to seek a couple of props

P to ká te ?óy kák'kanoč t'atik  
 MP toh káh te? ?óy k-?ák'-kan-oč t'ah tik  
 PS PP NP VP NP  
 SS Intro Topic Main Post-Adv  
 G still \* wooden prop we-do-stay-enter to here  
 E then a wooden prop we leave in here

P yík maNʔol lánčax xun k'éʔen tík #<sup>12</sup>→

MP y-ʔík ma-N-ʔol-∅-lán-č-ax xun k'éʔn tík

PS NP

SS Post-Adv.

G its-domain negative-negative-future-it-fall-passive-  
one stone here

E so that it will not fall over this stone

P ščáp' nok' kónéxo čiʔ t'a nok' kóyóte čiʔ #<sup>13</sup>↓

MP c-∅-čih-hap' nok' kónéxoh čiʔ t'ah nok' kóyóteh čiʔ

PS VP NP NP

SS Main Subj Post-Adv.

G present-he-say-reportative animal rabbit there  
to animal coyote there

E they say he said that rabbit to that coyote

P stá wyén ščáp' nok' kóyóte čiʔ

MP está bién c-∅-čih-hap' nok' kóyóteh čiʔ

PS NP VP NP

SS Topic Main Subj.

G it is good present-he-say-reportative animal coyote there

E alright they say he said that coyote

- P yóčkan ?íxan nok' kóyóte čí? #<sup>13</sup>↓  
 MP y-?óč-kan ?íx-an nok' kóyóteh čí?  
 PS VP NP  
 SS Main Subj.  
 G he-enter-stay leaning-\* animal coyote there  
 E he stayed leaning up against it that coyote
- P hí yóčkan wéc'wec' t'a xun ténam čí? #<sup>13</sup>↑  
 MP hí? y-?óč-kan wéc'-CVC t'ah xun ténam čí?  
 PS PP VP NP  
 SS Intro Main Post-Adv.  
 G yes he-enter-stay pushing-\* on one boulder there  
 E yes he stayed pushing against that boulder
- P láNan sp'éy ?ásun #<sup>23</sup>→ ké te k'ítaščí? #<sup>12</sup>→  
 MP láN-an c-Ø-p'éy ?ásun kéh teh k'ít-aš čí?  
 PS VP NP NP  
 SS Main Subj. Pre-Adv  
 G swirling-\* present-it-walk cloud that \* late-\* there  
 E the clouds swirled about a while later

- P ?áyšom xúnok ?óra sp'át nok' nok' kónéxo čí? #<sup>13</sup>↓  
 MP ?áy-ø-šoh-ham xún-ok ?órah c-ø-p'át nok' nok' kónéxoh čí?  
 PS NP  
 SS Pre-Adv  
 G be-it-already-interrogative one-about hour present-he-go  
 animal rabbit there  
 E it was already about an hour (since) the rabbit left
- P ték'p'aN ték'tek' wal ?áx wiN wiN kóyóte čí? #<sup>12</sup>→  
 MP ték'-p'-aN ték'-CVC wal-ø-?áx wiN(wiN)kóyóteh čí?  
 PS VP NP  
 SS Main Subj.  
 G straight-\* progressive-he-be male coyote there  
 E he stood up straight that coyote
- P yél Nílnax wíN t'a yálan k'en ténam #<sup>21</sup>→  
 MP y-?él Nil-n-ax wíN t'ah y-?ál-aN k'e'n ténam  
 PS VP NP NP  
 SS Main Subj Post-Adv.  
 G he-leave leaping-\*-\* male to its-beneath-\* stone boulder  
 E leaped out he from beneath the boulder

P snáʔani yémkan náynax xun ténam číʔ #<sup>11</sup>→  
 MP s-náʔ-an-ih y-ʔém-kan náy-n-ax xun ténam číʔ

PS VP NP

SS Main Obj.

G he-think-\*-\* it-lower-stay melting-\*-\* one boulder there

E he thought it falls slowly that boulder

P snáʔan wiN wiN kóyóte číʔ #<sup>12</sup>→

MP s-náʔ-an wiN wiN kóyóteh číʔ

PS VP NP

SS Main Subj.

G he-think-\* male coyote there

E he thought that coyote

P tik ni málax k'en ténam číʔ télwih #<sup>23</sup>→

MP tik nih má-lax k'eʔn ténam číʔ Ø-tél-w-ih

PS PP SP NP

SS Pre-Adv Main Subj.

G here \* negative-negative stone boulder there it-fall-\*-\*

E but there was no boulder it falls

P háNexa? yáx k'é?én #<sup>23</sup>→ hí má-lax ?ík'an k'én #<sup>13</sup>↓  
 MP há? Nex ha? y-?áx k'é?n hí? má-lax ?ík'-an k'é?n  
 PS PP VP NP PP SP NP NP  
 SS Pre-Adv Main Subj. Intro Main Subj Post-Adv.  
 G \* only \* it-be stone yes negative-negative carry-\* stone  
 E the same was the stone yes there was no motion of stone

P wénoh #<sup>31</sup>↓ tóp'an tónex cin yák' xóder wiN ≠  
 MP wénoh tóp'-an toh Nex c-hin-y-?ák'-xóder wiN  
 PS PP PP PP VP NP  
 SS S. Intro Pre-Adv Main Subj.  
 G good maybe-\* still only present-me-he-do-screw male  
 E well maybe just he is screwing me

P tóp'an tónex cin yák' xóder wiN kónéxo tík #<sup>13</sup>↓  
 MP top'-an toh Nex c-hin-y-?ák'-xóder wiN kónéxoh tík  
 PS PP PP VP NP  
 SS Intro Pre-Adv Main Subj.  
 G maybe-\* still only present-me-he-do-screw male rabbit here  
 E maybe just is screwing me this rabbit

P ták ʔolin láxelih #<sup>13</sup>→

MP ták ʔol-∅-hin-láx-el-ih

PS PP VP

SS Pre-Adv Main.

G maybe future-him-I-finish-leave-\*

E maybe I will finish him

P ták tékan tó ʔol ʔolin míláʔ #<sup>23</sup>↑

MP ták ték-an tóh ʔol ʔol-∅-hin-míl-hVʔ

PS PP PP VP

SS Pre-Adv Pre-Adv Main

G maybe perhaps-\* still future-him-I-kill-\*

E maybe perhaps I will kill him

P tó ʔolin sáy hin k'ólók #<sup>23</sup>↑

MP tóh ʔol-∅-hin-sáy ∅-hin-k'ól-ok

PS PP VP VP

SS Intro Main. Main.

G if future-him-I-find him-I-eat-\*

E if I find him I will eat him



P ščáp' wiN kóyote či? #<sup>12</sup>→

MP c-Ø-čih-hap' wiN kóyoteh či?

PS VP NP

SS Main Subj.

G present-he-say-reportative male coyote there

E they say he said that coyote

P p'átči wíN #<sup>23</sup>↓

MP Ø-p'át-(i)š-ih wíN

PS VP NP

SS Main Subj.

G he-go-again male

E he left again

APPENDIX E

GLOSSES OF EXAMPLES IN CHAPTER I

In Chapter I a number of Chuj words were cited without English translations, as the meanings of these items were not pertinent to the discussion of their phonemic shapes. These words, with English glosses, follow in the order in which they appear in Chapter I:

<u>Page</u>	<u>Phonemic form cited</u>	<u>English gloss</u>
12	níp	woman's blouse
13	tápsím	person with dirty nose
	pít	hard to deal with
	tépan	church
	pát	house
	pát	house
	rétet	woodpecker
14	pát ?áلكál	the hamlet Patalcal
	pátnaxih	to clear land
	tón	necklace
	pítan ?ék'ih	lying around
	pác	puff of fiber
	pé?ec	mature child who cannot walk
	wíc	mountain
15	pícwih	to awaken

<u>Page</u>	<u>Phonemic form</u>	<u>English gloss</u>
15	pícwih	to awaken
	címín	tapir
	pícík'	giblet
	pácáp'	roof beam
	péč	duck
	p'álúč	brother-in-law
16	píčpilk'oy	somersault
	čič	rabbit
	píčúl	clothes
	čák	red
	čák	red
	c'ák	stones used in the construction of bird-hunting shelters
17	péktí?	long ago
	pát ?álkál	the hamlet Patalcal
	péké?	large type of frog
	k'amkištak	unevenly done work
	mékíš	berry
	péktí?	long ago
	há?	water
18	?ol wála? čáxtil	I'll tell how
	tí?ič'	chigger bite
	pítan ?ék'ih	lying around
	?íším	maize
	pácáp'	roof beam
	k'áp'	arm

<u>Page</u>	<u>Phonemic form</u>	<u>English gloss</u>
18	lép'	a skin disease
19	túp'téx	to sic dogs on something
	típ'an típ'an	cylindric
19	p'út'an	full
	p'út'an	full
	t'út'	flatus which makes little noise
	t'út'	flatus which makes little noise
20	yét'tál	his sitting place
	ʔiś wét'ših	I brought it again
	t'íw	eagle
	p'út'an	full
	ʔóc'	act of pushing in soft surface
	cin píč'čamók	I pinch it to death
21	c'ak	stones used in the construction of bird-hunting shelters
	péc'an	squatting
	ʔič'	chigger
	tí'ič'	chigger bite
	xáč'p'én	harvested land
	te wáč' yáx wiN	he is very good (to him)
22	č'al	thread
	píč'an ʔék'ih	lying on its side
	pák'	act of bouncing a ball on the hand
	pícík'	giblet
23	spák'p'éx	he leaves it leaning
	pák'xap'	lying face up

<u>Page</u>	<u>Phonemic form</u>	<u>English gloss</u>
23	píčpilk'óy	somersault
	spák'íh	it grows wild
	bárumbah	a plant name
	bárumbah	a plant name
	bwénoh	good
	déspwés	later
	dyés	ten
	gól	ball
	gól	ball
	sán gráwyél	San Gabriel
	fórmah	shape
25	?ís	potato
	déspwés	later
	písmuč	plant from which blowguns are made
	písmuč	plant from which blowguns are made
	spíštéx	he calls (the dog)
26	sóxóy	corn shucks
	p'áš	quartz
	mékiš	berry
	spíštéx	he calls (the dog)
	píštéx	to call dogs
	k'ámkišták	unevenly done work
27	šák	sandstone
	páx	acid-tasting
	sp'ák'p'éx	he leaves it leaning
	túp'téx	he sics the dog

<u>Page</u>	<u>Phonemic form</u>	<u>English gloss</u>
28	páxk'uc	corn shuck toy
	pátnaxíh	to clear land
	pák'xáp'	lying face up
	xáč'p'én	harvested land
	sp'áNp'íh	it keeps its head high
	p'aráh	<u>vara</u> ; linear measure about 33 inches long
	barúmbah	a plant name
	p'íhíhíh	stretchy
	p'íp'il	stretched
	cin p'í ?aN č'ál	I stretch thread
29	há?	water
	p'íhéx	to serve as a name
	p'íhíhíh	stretchy
	?íším	maize
	lém	come!
	písmuč	plant from which blowguns are made
	páman pámán	in large sections
	mékíš	berry
30	páman pámán	in large sections
	xáč'p'én	harvested land
	níp	woman's blouse
	k'inaNáp'	rainstorm
	Ní?	nose
	Néh	tail
	Náh	house

<u>Page</u>	<u>Phonemic form</u>	<u>English gloss</u>
30	Nólóp'	egg
	sko Núsúʔ	we burn it
	máNyah	trouble
	tón	necklace
	p'áNp'íh	to keep one's head high
31	pwés	well (conjunction)
	déspwés	later
	t'íw	eagle
	p'áʔáw	hot-country cornfield
	sk'éwčítéx	he breaks it in half
	k'éwewíh	easily split into rails
	nok' šíwaláw	male Nelson paca ( <u>tepescuintle</u> ; <u>Cuniculus paca nelsoni</u> )
32	sóxóy	corn shuck
	páy	skunk
	sp'áyp'íh	it becomes a viscous liquid
	yét'tál	his sitting place
	yáp'íl	his illness
	ʔál	heavy
	p'élp'ump'áh	split into large sections
33	lém	come!
	lép'	a skin disease
	p'álúč	brother-in-law
	p'úr	the sound of a bottle filling under water
	rétét	woodpecker

<u>Page</u>	<u>Phonemic form</u>	<u>English gloss</u>
33	rétét	woodpecker
	sp'írp'atíh	he swallows it
	fórmah	form
	p'árah	<u>vara</u> ; a linear measure about 33 inches long



## APPENDIX F

### DERIVATIONAL AND INFLECTIONAL AFFIXES

The list which follows contains, in morphophonemic transcription, all the derivational and inflectional affixes which have been discussed in the text. Each affix is followed by a brief description, page references to the principal sections in which the affix is described or mentioned peripherally, and references to related affixes. The entries in this index are arranged according to the following order of vowels and consonants: V, C, Ø, a, e, i, o, u, ʔ, b, c, c', č, č', d, f, g, h, k, k', l, m, n, N, p, p', r, s, š, t, t', w, x, y.

#### Affix    References

- VC<sub>2</sub>    intransitive verb stem formant, 90; in adverbial stems, 100; in compound verb stems, 112, 113.
- Vl    verb stem formant, 84; with //x//, 90, 100; with //up'//, 92; in compound verb stems, 112; in adverbial stems, 113, 115.
- C<sub>1</sub>    verb stem formant, 84; with //um//, 92; with //on//, 100, 112, 114.
- CVC    positional stem formant, 99; with //an//, 89; in compound verb stems, 112, 114; as plural, 137.

- ∅ verbal and stative inflection (third person); as subject of intransitive verbs (position -2), 117; as object of transitive verbs (position -4); 118; as subject of statives (position +2), 139; selection of allomorphs, 60-61. See also //s// and //y//.
- ∅ verbal inflection (punctual, position -8), 120.
- ač stative inflection (second person singular subject, position +2), 139; selection of allomorphs, 60-61; relation to //háč//, 61. See also //hač//, //ha// and //h//.
- al noun stem formant, 94; with //p'//, 87; with //w//, 88; with //k'//, 94; See also //il// ~ //al//, 95.
- an positional stem formant (stative), 100; with //k'//, 83; with //VC<sub>2</sub>//, 90; with //CVC//, 99; in compound verb stems with //CVC//, 112, 114; with reduplication of stem, 137.
- an intransitive verb stem formant, 89; with //l//, 85; with //p'//, 87; in compound verb stems based on //ʔák'//, 110; with progressive //wan//, 120; with //ʔáy//, 138, 139; with //CVC//, 99.
- aN verbal inflection (imperative, position +2), 124.
- aN numeral classifier stem formant, 110.
- ap' noun stem formant (instrument?), 91; with //l//, 85; with //p'//, 87; with //ax//, 88; with //il//, 91.
- aš intransitive verb stem formant (passive?), 89; with //n//, 83; in compound verb stems with //n//, 111.

- ax intransitive verb stem formant, 88; with //č//, 82; with //č-it//, 82; with //k'//, 83; with //m//, 83; with //n//, 83; with //t//, 84; with //l//, 85; with //w//, 88; in adverbial stems with //n//, 100, 112.
- ax ~ x intransitive verb stem formant (passive), 89.
- e<sup>?</sup> noun stem formant, 97; morphophonemics of numeral roots with //e<sup>?</sup>//, 62; with //ok//, 99; in compound numeral stems, 109; in enumerative noun phrases, 150; in quantitative noun phrases, 151.
- eč noun stem formant (object characterized by certain features?), 97; with //tak//, 99; with //w//, 97; with //k'//, 97.
- ek verbal inflection (plural of imperative, position +3), 125.
- ek' verbal and stative inflection for directional motion (passing by or wandering aimlessly); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //<sup>?</sup>ék'//, 61-62. See also //<sup>?</sup>ék'//.
- el verbal and stative inflection for directional motion (leaving or going out or away); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //<sup>?</sup>él//, 61-62. See also //<sup>?</sup>él//.
- el noun stem formant (acts or results of acts), 94.
- em verbal and stative inflection for directional motion (going down); as verbal inflection (positions -3, -5,

- +5), 118-119, 126; as stative inflection (position +5), 141; relation to //ʔém//, 61-62. See also //ʔém//.
- em noun stem formant (object used in certain action?), 96.
- en noun stem formant with //p'// (object which has been subjected to a certain action?), 87.
- eš stative inflection (second person plural subject, position +2), 139; selection of allomorphs, 60-61; relation to //héš//, 61. See also //heš//, //hey// and //he//.
- ex transitive verb stem formant, 86; with //c-it//, 82; with //č-it//, 82; with //m-it//, 83; with //t//, 84; with //l-it//, 85; with //it//, 85; with //taN//, 86; with //p'//, 87; with //p'-it//, 97; with //w//, 88; with transitive verb roots, 73; with //nak//, 93.
- i noun stem formant with //CVC// (object making a certain noise or motion), 96.
- ih intransitive verb clitic (position +10), 129; opposition with //ok// and //tah// (position +1), 122-123; with underived intransitive verb roots, 73; with derived intransitive verb stems, 82-93, 99; with //(i)š// ~ //(e)x//, 98; in compound verb stems, 113, 115; with directional inflection, 126; with stative inflection (position +9), 142.
- il noun stem formant (object used for or subjected to a certain action, or characterized by certain features), 94, 95; with //p'//, 87; with //tak//, 99; ordinal

- numbers, 134. See also //il// ~ //al//, 95.
- il ~ al        noun stem formant (certain kinds or parts of things; generalizer), 95; with adjectival noun roots, 133; cycles of days, 134.
- im            noun stem formant, 97; with //č//, 82; with //tak//, 99.
- in            stative inflection (first person singular subject, position +2), 139; selection of allomorphs, 60-61. See also //hin// and //w//.
- iN            noun stem formant, 96; with numeral stems to form periods of days, 63, 64, 98.
- (i)š        verbal inflection (repetition, position +4), 125; selection of allomorphs, 66. See also //páš//.
- (i)š ~ (e)x    noun stem formant (elapsed time), 98; morphophonemics of numeral roots with //(i)š// ~ //(e)x//, 63; selection of allomorphs, 64; relation to //iš// ~ //ex//, 65; cycles of days, 134.
- iš ~ ex       noun stem formant (temporal distance into the future), 98; morphophonemics with numeral roots, 63; selection of allomorphs, 64; relation to //(i)š// ~ //(e)x//, 65.
- it            transitive verb stem formant (causative), 85; with //c//, 82; with //č//, 82; with //m//, 83; with //l//, 85; with //ex//, 86; with //p'//, 87; with //ax//, 82.
- ok            noun stem formant (approximate value), 99, 150.
- ok            verbal inflection (doubt, position +1), 122-123; with future //ʔol//, 119; negative //ma-N-wân-ok-lax//, 121.

- ok adverbial stem formant, 100; with //ax//, 88; with //Vl-x//, 90; in compound verb stems, 111-115; with stative stems, 138, 140.
- on intransitive verb stem formant with //C<sub>1</sub>//, 84; in adverbial stems, 100; in compound verb stems, 112, 114.
- oN stative inflection (first person plural subject, position +2), 139; selection of allomorphs, 60-61; relation to //hóN//, 61. See also //hoN//, //ko// and //k//.
- ox noun stem formant (acts), 93.
- u? noun stem formant (object characterized by certain features), 97; replaced by //xap'//, 136.
- uč verbal and stative inflection for directional motion (entering or moving against); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //ʔóč//, 61-62. See also //ʔóč//.
- ul noun stem formant (object used for certain action?), 94.
- um noun stem formant (actor), 92; with //C<sub>1</sub>//, 84; with //t//, 92.
- up' noun stem formant (result of certain action?), 92; with //Vl//, 84; with //taN//, 86; in compound verb stems with //Vl-x//, 112, 113.
- ʔék' verbal and stative inflection for directional motion (passing by or moving aimlessly); as verbal inflection

- (position +6), 127; as stative inflection (position +6), 141. See also //ek'//.
- ?é1 verbal and stative inflection for directional motion (leaving or going out or away); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //el//.
- ?ém verbal and stative inflection for directional motion (going down); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //em//.
- ?iš verbal inflection (past inchoative, position -8), 120; with negative, 121.
- ?óč verbal and stative inflection for directional motion (entering or moving against); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //uč//.
- ?ol verbal inflection (future inchoative, position -7), 119; with negative, 121.
- c verb stem formant (repetitive action), 82; with //it//, 85.
- c verbal inflection (present inchoative, position -8), 120; with negative, 121.
- cém intransitive verb stem formant (color change), 90.
- cúx intransitive verb stem formant (color change), 90.
- č verb stem formant (completeness of action), 82; with //it//, 85; with //ax//, 88; with //im//, 97; with //ih//, 123.

- čam verbal inflection (?) indicating serious action; examples, 85.
- ček' intransitive verb stem formant (color change), 90.
- h verbal, nominal, and stative inflection (second person singular); as subject of transitive verbs (position -2), 117; as possessor of nouns, 133; selection of allomorphs, 60-61, 65; as possessor of stative stems (position -1), 139. See also //hač//, //ha// and //ač//.
- hV? ~ ?Vh transitive verb clitic (position +1), 122; selection of allomorphs, 65-66; with underived transitive verb roots, 73; as imperative, 124.
- ha verbal and nominal inflection (second person singular); as subject of transitive verbs (position -2), 117; as possessor of nouns, 133; selection of allomorphs, 60-61, 65. See also //hač//, //h// and //ač//.
- hač verbal inflection (second person singular); as subject of intransitive verbs (position -2), 117; as object of transitive verbs (position -4), 118; selection of allomorphs, 60-61; relation to //háč//, 61. See also //ha//, //h// and //ač//.
- ham verbal and stative inflection (interrogative); as verbal inflection (position -6), 119; as stative inflection (position +3), 140.
- hap' verbal and stative inflection (reportative); as verbal inflection (position -6), 119; as stative inflection (position +3), 140.



- he verbal and nominal inflection (second person plural); as subject of transitive verbs (position -2), 117; as possessor of nouns, 133; selection of allomorphs, 60-61, 65. See also //heš//, //hey// and //eš//.
- hep' verbal, nominal, and stative inflection (plural of third person); as verbal inflection (position +9), 129; as nominal inflection, 133, 134; as stative inflection (position +8), 142.
- heš verbal inflection (second person plural); as subject of intransitive verbs (position -2), 117; as object of transitive verbs (position -4), 118; selection of allomorphs, 60-61; relation to //héš//, 61. See also //he//, //hey// and //eš//.
- hey verbal and nominal inflection (second person plural); as subject of transitive verbs (position -2), 117; as possessor of nouns, 133; selection of allomorphs, 60-61, 65. See also //heš//, //he// and //eš//.
- hin verbal, nominal, and stative inflection (first person singular); as subject of transitive and intransitive verbs (position -2), 117; as object of transitive verbs (position -4), 118; as possessor of nouns, 133; selection of allomorphs, 60-61, 65; relation to //hín//, 61. See also //w// and //in//.
- hoN verbal inflection (first person plural); as subject of intransitive verbs (position -2), 117; as object of transitive verbs (position -4), 118; selection of allomorphs, 60-61; relation to //hóN//, 61. See also

//ko//, //k// and //oN//.

- hul verbal and stative inflection for directional motion (coming); as verbal inflection (position -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //húl//, 61-62. See also //húl//.
- húl (unattested) verbal and stative inflection for directional motion (coming); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //hul//.
- k intransitive verb stem formant, 90; with //ih//, 123.
- k verbal and nominal inflection (first person plural); as subject of transitive verbs (position -2), 117; as possessor of nouns, 133; selection of allomorphs, 60-61, 65. See also //hoN//, //ko// and //oN//.
- kan verbal and stative inflection for directional motion (remaining); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //kán//, 61-62. See also //kán//.
- kán (unattested) verbal and stative inflection for directional motion (remaining); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //kan//.
- kiš positional inflection (plurality of features), 137.
- ko verbal and nominal inflection (first person plural); as subject of transitive verbs (position -2), 117; as possessor of nouns, 133; selection of allomorphs, 60-

- 61, 65. See also //hoN//, //k// and //oN//.
- kót verbal and stative inflection for directional motion (nearing); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //kut//.
- kut verbal and stative inflection for directional motion (nearing); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //kót//, 61-62. See also //kót//.
- k' verb stem formant, 83; with //ax//, 88; with //eč//, 97; with //ih//, 123.
- k'e? verbal and stative inflection for directional motion (rising); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //k'é?//, 61-62. See also //k'é?//.
- k'é? verbal and stative inflection for directional motion (rising); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //k'e?//.
- k'oč verbal and stative inflection for directional motion (arriving); as verbal inflection (positions -3, -5, +5), 118-119, 126; as stative inflection (position +5), 141; relation to //k'óč//, 61-62. See also //k'óč//.

- k'óč. (unattested) verbal and stative inflection for directional motion (arriving); as verbal inflection (position +6), 127; as stative inflection (position +6), 141. See also //k'óč//.
- l transitive verb stem formant, 85; with //ax//, 88; with //an//, 89; with //ap'//, 91.
- lax verbal and stative inflection (negative); as verbal inflection (position +8), 128; relation to tense-aspect markers, 120-121; as stative inflection (position +7), 141; with //ma//, 138.
- lék' intransitive verb stem formant (color change), 90.
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