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Southeastern Pomo Grammar

By

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## PREFACE

This phonological and grammatical sketch of the Southeastern Pomo language is based on data which I gathered as a fieldworker for the Survey of California and other Indian Languages, between 1965 and 1968. I undertook three field trips during this period, each lasting from eight to ten weeks. I received research funds from the Survey and from the Phillips Fund of the American Philosophical Society.

I want to express my thanks to many individuals. First of all, to Mary R. Haas, who introduced me to American Indian linguistics, directed my attention to Southeastern Pomo, and altered my linguistic viewpoints for the better on more than one occasion.

Secondly, I would like to thank Abraham Halpern, whose extremely thorough field notes on Southeastern Pomo, gathered as part of a survey of all seven Pomo languages in 1939-1940, enriched my own work considerably. The people that Halpern worked with were from an earlier generation, and discussions and re-elicitations of his materials with Albert Thomas proved extremely valuable.

Most importantly, I want to thank the people who taught me about Southeastern Pomo for their time, energies and patience: Albert Thomas and John and Effie

Kelsey of Sulfur Bank, Lake County, California; Jim Brown of Upper Lake, Lake County, California; and Harry Johnson of Alexander Valley, Sonoma County, California. I am indebted to them all.

Finally, I have derived a great deal of linguistic insight, encouragement and general therapy from discussions with my committee members and the following individuals: John Crothers, Robert C. Hollow, Terrence S. Kaufman, Sally McLendon, Mauricio J. Mixco, Robert L. Oswalt, Douglas R. Parks, Shirley K. Silver, Leonard Talmy, Eero Vihman and Marilyn May Vihman.

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## PART ONE - INTRODUCTION

### Chapter One. Introduction

#### 1.1. Linguistic Affiliations and Geography

Southeastern Pomo is one of seven distinct languages comprising the Pomoan family. Sapir classified Pomo as part (c) of the Northern Hokan branch of the Hokan stock, within the Hokan-Coahuiltecan group of the Hokan-Siouan superstock.<sup>1</sup>

Six of the seven Pomo languages were spoken in an area extending from a point sixty miles north of San Francisco, northward for ninety miles, and from the Pacific Coast eastward about fifty miles. The seventh language, Northeastern Pomo, was spoken east of this area, across the Inner Coast Range.<sup>2</sup> Southeastern Pomo was spoken in an area surrounding East Lake and Lower Lake, in Lake County. The area extended from approximately the town of Clear Lake Oaks at the north, to the bottom of Lower Lake at the south. The Southeastern Pomos inhabited two modern sites: the Lower Lake Rancheria on the northern bank of Cache Creek, about one and a half miles northeast of the town of Lower Lake; and the Sulphur Bank Rancheria, on the eastern shore of East Lake, the eastern arm of Clear Lake, at a point about one-half mile north of the Sulphur Bank mine.<sup>3</sup>



All of the informants available at the time of my fieldwork were from Sulphur Bank.<sup>4</sup> Dialect divergences between Sulphur Bank and Lower Lake Southeastern Pomo seem to be minimal, however, restricted to a small number of lexical differences.

### 1.2. Informants

Although there are still about a dozen speakers of Southeastern Pomo, I was able to work with only five people. Three of these, John and Effie Kelsey and Albert Thomas, all in their late 50's, still use the language on a daily basis. Harry Johnson, in his late 70's, speaks Pomo with them occasionally. Jim Brown, also in his 70's, had not spoken the language actively for about thirty years, but was able to recall a great deal.

Texts were elicited from Jim Brown, Harry Johnson and John Kelsey. Most of the verb paradigm material was elicited from Albert Thomas, with whom I also re-elicited and analyzed all of Halpern's 1939-40 Southeastern Pomo texts and morphological data.

### 1.3. Scope of the Description

Because of the fact that no aspect of Southeastern Pomo phonology or grammar has ever been described, and because of the apparently imminent demise of this language, my fieldwork was directed towards an overview of the

language, rather than towards a deeper study of any single subsystem or group of related phenomena. It is hoped that the resulting sketch, which obviously can make no grandiose claims as to psychological validity or as a representation of the competence of a Southeastern Pomo speaker, will nonetheless be of some use to people interested in Hokan descriptive and historical studies, and in related fields.

An attempt has been made to structure the description so that it can be easily used by people with varying interests. All inflectional and derivational morphemes have been listed and semantically characterized in an inventory fashion, in addition to having been described as functional elements in syntactic processes. Given my limited knowledge of the language, the description of selected transformational processes is naturally the most speculative part of the dissertation.

No Pomo bibliography will be included, since extensive Pomo and Hokan-Coahuiltecan linguistic bibliographies have already been compiled by Robert Oswalt and Margaret Langdon, respectively.<sup>5</sup>

## NOTES TO PART ONE

<sup>1</sup>Edward Sapir "Central and Northern American Languages" in David G. Mandelbaum, editor, Selected Writings of Edward Sapir. University of California Press (Berkeley and Los Angeles, 1951), page 173.

<sup>2</sup>Robert L. Oswalt, "The Internal Relationships of the Pomo Family of Languages" in XXXV Congreso Internacional de Americanistas (Mexico, 1964), vol. 2, page 413.

<sup>3</sup>S.A. Barrett, The Ethno-geography of the Pomo and Neighboring Indians. University of California Publications in American Archaeology and Ethnology, vol. 6, no. 1 (February, 1908), pages 204-209.

<sup>4</sup>Barrett refers to this site as xná day "balsa landing", and to the site on Rattlesnake Island, on Clear Lake just opposite Sulphur Bank as elém. The informants I worked with called Sulphur Bank elém and Rattlesnake Island, elém mdon "Elem Island."

<sup>5</sup>In Robert L. Oswalt, A Kashaya Grammar. Unpublished Ph.D. dissertation, University of California at Berkeley, pages 11-17; and in Margaret Langdon, "Bibliography of Hokan-Coahuiltecan", March, 1968 (unpublished).

## PART TWO - PHONOLOGY

## Chapter 2. Phonetics

## 2.1. Phonetic Inventory

In this section the distinctive segment types of Southeastern Pomo will be listed, that is, those segments which must be distinguished at a systematic phonetic level, before phonetic detail rules converting binary to n-ary valued matrices operate. All of these segments except for ə, č, č̣ and ŋ are also present at the systematic phonemic level. All schwas are products of the Pretonic Vowel Epenthesis rule, č and č̣ are products of the Palatal Backing rule, and ŋ is produced by the Nasal Assimilation rule.

b	d					i	u	
p	t	ṭ	c (č)	k	q	e	(ə)	o
p̣	ṭ	ṭ̣	c̣ (č̣)	ḳ	q̣	?	a	
f	s		š	x	ɣ	h	Vowel Length (·)	
m	n			(ŋ)			Stress	
	(r)	l						
w			y					

## 2.2. Articulatory Descriptions

The articulation of the segments listed in 2.1. will be described in this section. Several informal statements of semi-systematic low-level phonetic alternations will be made.

### 2.21. Obstruents

#### 2.21.1. Voiced Stops

This series is defective by comparison with the voiceless and glottalized series, having only two members, b and d. Both are rather fortis in articulation, and voiced throughout their duration.

The phone d, like its voiceless and glottalized counterparts, is usually articulated in roughly the same position as the English alveolar stops, but may be retroflexed, especially in the environment of post-velar consonants, as in [xóqoq] 'gopher snake'. Other examples of b and d are [ʔábko] 'dreamer, story-teller', [bál] 'tongue', [cuwáibu] 'thumb', [bedá] 'creek' and [dúyɬat] 'he turns around'.

#### 2.21.2. Voiceless Stops

Southeastern Pomo distinguishes two apical stops, t and ɬ, in both the voiceless and glottalized series. t is an apico-interdental to apico-dental stop, and ɬ is an apico-alveolar to retroflexed apical stop. The

range of articulatory variation is a result of differences both between idiolects and within single idiolects, as a result of both random variation and phonetic conditioning such as that noted for d.

c is a palato-alveolar affricate for the most part, but is articulated further back in the palatal region when a palatal vowel or glide follows (see the Palatal Backing rule in 4.2), for some speakers.

The k-q distinction is basically that between a velar and a post-velar stop, although articulatory position may not always be the primary factor. The post-velar stop is typically more fortis in articulation, and there may be considerable x-affrication with q, even a failure to effect closure at times. In such instances, especially in word-final position, q is quite difficult to distinguish from x.

Examples of the voiceless stops are [púkit] 'straight', [páʔšem] 'ten', [pú·du] 'cigar', [kápoʔe] 'coat' (p occurs relatively rarely in native vocabulary, more often in Spanish loans), [kəmát] 'ride, sit, bear fruit', [kəmátʔ] 'large sp. of squirrel', [cínqa] ~ [čínqa] 'hang something up', [cáduwa] 'north', [céceš] 'tanbark tree', [cúkuy] 'flower, pet', [xkál] 'paddling, rowing', [xqál] 'blackfish', [xqáq] 'quail' and [céxayquyquy] 'star'.

### 2.21.3. Glottalized Stops

The glottalized stops are articulated in the same positions as the plain voiceless stops. Depending on the speaker they may be mildly popped or ejected with great force. Examples are [p'ál] 'cheek', [p'ísaxo] 'large sp. of weed', [t'ó] 'neck', [takala] 'bat', [f'út] 'teal', [f'f'íqa] 'to whip', [t'əfálam] 'dirty', [k'óʔ] 'mouse', [c'úb'cubkit] 'sharp, pointed', [c'íc'íkob] 'wild berry', [ʔ'ík] 'choking', [q'á] 'foot' and [q'ufúmat] 'dark'.

### 2.21.4. Spirants

Southeastern Pomo has only a voiceless spirant series. f is labio-dental, š is palatal, and s, x and ɣ are articulated in the same positions as the corresponding stops. As noted with the velar and post-velar stops, articulatory position may not be the primary effector of the x-ɣ distinction. Not only does x seem to be less fortis than ɣ, but the velar spirant also seems to be accompanied by a spreading and tensing of the lips during its articulation. Examples of the spirants are [f'á] 'mushroom', [fnóʔ] 'pelican', [mufúl] 'wormwood', [sdáqʔa] 'devil', [šášlab] 'hair net, burden net', [šbé b'qòq] 'coot', [xá] 'fish', [ɣá] 'water', [xubá] 'body', [ɣəbá] 'fog' and [hédabaq] 'foreign'.

### 2.21.5. Sonorants

The non-syllabic sonorants consist of the nasals m, n and ŋ (which is always a product of the Nasal Assimilation Rule), the lateral l, and semivowels w and y. l is always "light", with no velar co-articulation. There is also a flap r which sometimes occurs in Spanish loans, but is usually replaced by d or l, for example /tódu/ ~ /tóru/ 'bull', /ʔédedu/ ~ /ʔéredu/ 'blacksmith' and /sómlilu/ 'hat'.

There are six vowels, schwa occurring only epenthetically before stress. They are all lax, with the approximate phonetic qualities [ɪ], [ɛ], [a], [ə], [U] and [ʌ]. There is some tendency to tense vowels in word-final syllables.

Examples of the sonorants are [mbác] 'paternal grandfather', [móloq] 'skeleton', [mélálmaç] 'blanket', [nántaçit] 'think', [qəʔón] 'raw, alive', [çéŋqat] 'stick something in the ground', [wélkiç] 'mean, vicious', [yówsqe] 'sideposts, studs', [yú] 'snow', [ʔelémay] 'half, middle', and [becílin] 'tall'.

## 2.3. Feature Analysis

### 2.31. Theoretical Framework

The feature theory I will use is basically that presented in The Sound Pattern of English. This system



describes Southeastern Pomo phonetics and phonological processes more adequately than any other I have seen. Binariness of feature values is assumed for all phonological rules. While phonetic detail rules, mapping binary onto n-ary values are considered to be a necessary part of the phonological component, none will be given, because of the theoretical and instrumental problems involved. I do not assume that such rules are necessarily universally specified, however.<sup>1</sup>

One problem in the specification of the stops should be mentioned. In Chomsky and Halle's phonetic theory the claim is made that in languages possessing both dental and alveolar stops in distinctive opposition, the actual positions of articulation are determined secondarily, by low-level phonetic rules. They claim that the distinction is manifested primarily by a feature "Distributed", which is roughly parallel to the traditional distinction between apical and laminal articulation.<sup>2</sup>

Distributed is defined in the following manner

(page 312):

Distributed sounds are produced with a constriction that extends for a considerable distance along the direction of air flow; nondistributed sounds are produced with a constriction that extends only for a short distance in this direction.

Although I have made no instrumental measurements on this for Southeastern Pomo, my observations are that the dental

articulation is typically made by an occlusion extending from the tongue apex, placed directly against the underside of the teeth, the tip extending slightly beyond the teeth, and backwards to effect some laminal contact on the front part of the alveolar ridge. The articulation of the alveolar stops, on the other hand, shows less extension along the direction of air flow, varying between a solely laminal occlusion against the central part of the alveolar ridge, to a more apical closure at about the same position, or somewhat further back.

In addition, there seem to be other articulatory mechanisms which aid in distinguishing the dental from the alveolar stops. Word-finally the plain dental stop may be affricated, producing an easily audible [t<sup>θ</sup>]. And the alveolar stops d, t and ʈ may be considerably retroflexed, as noted in 2.21.1.

Although I do not have conclusive evidence one way or the other as to the suitability of the Distributed feature to describe this distinction in Pomo, it is a reasonable hypothesis, and will be utilized in this study.

### 2.32. Systematic Phonetic Feature Matrix

The following matrix is a characterization of Southeastern Pomo segments at a systematic phonetic level. Systematic phonemic matrices will be presented in 3.3.

	b	d	p	t	ʈ	c	č	k	q	ᵻ	ᵿ
sonorant	-	-	-	-	-	-	-	-	-	-	-
syllabic	-	-	-	-	-	-	-	-	-	-	-
consonantal	+	+	+	+	+	+	+	+	+	+	+
coronal	-	+	-	+	+	+	-	-	-	-	+
anterior	+	+	+	+	+	+	-	-	-	+	+
high	-	-	-	-	-	-	+	+	-	-	-
low	-	-	-	-	-	-	-	-	-	-	-
back	-	-	-	-	-	-	-	+	+	-	-
round	-	-	-	-	-	-	-	-	-	-	-
distributed	+	-	+	+	-	-	-	-	-	+	+
glottal closure	-	-	-	-	-	-	-	-	-	+	+
nasal	-	-	-	-	-	-	-	-	-	-	-
lateral	-	-	-	-	-	-	-	-	-	-	-
continuant	-	-	-	-	-	-	-	-	+	-	-
delayed release	-	-	-	+	-	+	+	-	+	-	-
glottal pressure	-	-	-	-	-	-	-	-	-	+	+
heightened subglottal pressure	-	-	+	+	+	+	+	+	+	-	-
voiced	+	+	-	-	-	-	-	-	-	-	-
strident	-	-	-	-	-	+	+	-	-	-	-
length	-	-	-	-	-	-	-	-	-	-	-
stress	-	-	-	-	-	-	-	-	-	-	-

	ṭ	c̣	č̣	ḳ	q̣	ʔ	f	s	š	x	χ	h	m	n	ŋ
son	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+
syll	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+
cons	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
cor	+	+	-	-	-	-	-	+	-	-	-	-	-	+	-
ant	+	+	-	-	-	-	+	+	-	-	-	-	+	+	-
high	-	-	+	+	-	-	-	-	+	+	-	-	-	-	-
low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
back	-	-	-	+	+	-	-	-	-	+	+	-	-	-	+
round	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
distr	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
glot cl	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-
nasal	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+
lat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cont	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-
del rel	-	+	+	-	+	-	-	-	-	-	-	-	-	-	-
glot pres	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-
ht sbg.pr	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
voiced	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+
strid	-	+	+	-	-	-	+	+	+	+	+	-	-	-	-
length	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
stress	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	w	y	l	r	i	e	ə	a	u	o
son	+	+	+	+	+	+	+	+	+	+
syll	-	-	<u>+</u>	-	+	+	+	+	+	+
cons	-	-	+	+	-	-	-	-	-	-
cor	-	-	+	+	-	-	-	-	-	-
ant	-	-	+	+	-	-	-	-	-	-
high	+	+	-	-	+	-	-	-	+	-
low	-	-	-	-	-	-	-	+	-	-
back	+	-	-	-	-	-	+	+	+	+
round	+	-	-	-	-	-	-	-	+	+
distr	-	-	-	-	-	-	-	-	-	-
glot cl	-	-	-	-	-	-	-	-	-	-
nasal	-	-	-	-	-	-	-	-	-	-
lat	-	-	+	-	-	-	-	-	-	-
cont	+	+	+	+	+	+	+	+	+	+
del rel	-	-	-	-	-	-	-	-	-	-
glot pres	-	-	-	-	-	-	-	-	-	-
ht sbg pr	-	-	-	-	-	-	-	-	-	-
voiced	+	+	+	+	+	+	+	+	+	+
strid	-	-	-	-	-	-	-	-	-	-
length	-	-	-	-	<u>+</u>	<u>+</u>	-	<u>+</u>	<u>+</u>	<u>+</u>
stress	-	-	-	-	<u>+</u>	<u>+</u>	-	<u>+</u>	<u>+</u>	<u>+</u>

## Chapter 3. Pre-phonology

In this chapter, in section 3.1., I will present morpheme structure conditions which relate fully specified systematic phonemic matrices to minimally redundant lexical representations of morphemes. Both fully and minimally specified systematic phonemic matrices will be given in section 3.2.<sup>3</sup>

### 3.1. Morpheme Structure Conditions

#### 3.1.1. Segment Structure Conditions

An unordered set of if-then conditions relating complete feature specifications of individual segments to minimally redundant specifications will be given in this section. The application of these conditions to the matrix in section 3.22. will result in the matrix in section 3.21.

1. [-son] → 

-syll
+cons
-low
-round
-nasal
-lat
-length

2. [+son] → 

-glot ci
-del rel
-glot pres
+voiced
-strid
-distr

3. [+syll] →  $\begin{bmatrix} +\text{son} \\ -\text{cons} \\ -\text{cor} \\ -\text{ant} \\ -\text{distr} \\ -\text{nasal} \\ -\text{lat} \\ +\text{cont} \end{bmatrix}$
4. [-syll] → [-length]
5. [-cons] →  $\begin{bmatrix} +\text{son} \\ -\text{cor} \\ -\text{ant} \\ -\text{nasal} \\ -\text{lat} \\ +\text{cont} \end{bmatrix}$
6. [+cor] →  $\begin{bmatrix} -\text{high} \\ -\text{low} \\ -\text{back} \\ -\text{round} \end{bmatrix}$
7. [+ant] →  $\begin{bmatrix} -\text{high} \\ -\text{low} \\ -\text{back} \\ -\text{length} \end{bmatrix}$
8. [+high] → [-low]
9. [+low] →  $\begin{bmatrix} +\text{syll} \\ -\text{high} \\ +\text{back} \\ -\text{round} \end{bmatrix}$
10. [+round] →  $\begin{bmatrix} -\text{low} \\ +\text{back} \end{bmatrix}$
11. [+distr] →  $\begin{bmatrix} +\text{ant} \\ -\text{del rel} \end{bmatrix}$

12. [+glot cl] →  $\begin{bmatrix} \text{-son} \\ \text{-cont} \\ \text{-voiced} \end{bmatrix}$
13. [+nasal] →  $\begin{bmatrix} \text{+son} \\ \text{-syll} \\ \text{+cons} \\ \text{+ant} \\ \text{-round} \\ \text{-lat} \\ \text{-cont} \end{bmatrix}$
14. [+lat] →  $\begin{bmatrix} \text{+son} \\ \text{-syll} \\ \text{+cons} \\ \text{+cor} \\ \text{+ant} \\ \text{-distr} \\ \text{-nasal} \\ \text{+cont} \end{bmatrix}$
15. [+cont] →  $\begin{bmatrix} \text{-glot cl} \\ \text{-del rel} \\ \text{-glot pr} \end{bmatrix}$
16. [+del rel] →  $\begin{bmatrix} \text{-son} \\ \text{+cor} \\ \text{+ant} \\ \text{-distr} \\ \text{-cont} \\ \text{-voiced} \\ \text{+strid} \end{bmatrix}$
17. [+glot pr] → [+glot cl]
18. [+ht sbg pr] →  $\begin{bmatrix} \text{-cor} \\ \text{-ant} \\ \text{-high} \\ \text{-back} \\ \text{-glot cl} \\ \text{+cont} \\ \text{-del rel} \\ \text{-glot pr} \\ \text{+strid} \end{bmatrix}$



19. [+voiced] →  $\begin{bmatrix} \text{-glot cl} \\ \text{-strid} \end{bmatrix}$
20. [-voiced] → [-son]
21. [+strid] →  $\begin{bmatrix} \text{-son} \\ \text{-voiced} \end{bmatrix}$
22.  $\begin{bmatrix} \text{-son} \\ \text{+voiced} \end{bmatrix}$  →  $\begin{bmatrix} \text{+ant} \\ \text{-cont} \\ \text{-glot pr} \end{bmatrix}$

### 3.12. Sequence Structure Conditions

An unordered set of sequence structure conditions, characterizing redundancies in feature specifications of phonemes, will now be given.

1. d and h do not occur as the first element of a consonant sequence.

$$\sim \left\{ \begin{array}{l} \begin{bmatrix} \text{-son} \\ \text{+voiced} \end{bmatrix} \\ \begin{bmatrix} \text{-son} \\ \text{-ant} \\ \text{-high} \\ \text{-back} \\ \text{+cont} \end{bmatrix} \end{array} \right\} \quad [-\text{syll}]$$

2. h and ʔ do not occur morpheme-finally.

$$\sim \begin{bmatrix} \text{-son} \\ \text{-ant} \\ \text{-high} \\ \text{-back} \end{bmatrix} +$$

3. All morpheme-final two-consonant sequences have a resonant as the first member.

$$\text{[-syll]} \rightarrow \begin{bmatrix} \text{+son} \\ \text{+cons} \end{bmatrix} / \_ \text{[-syll]} +$$

4. The only voiceless segments occurring after x and ɣ are velar and post-velar stops and ʔ.

$$\text{[-voiced]} \rightarrow \left\{ \begin{array}{l} \begin{bmatrix} \text{+back} \\ \text{-cont} \end{bmatrix} \\ \begin{bmatrix} \text{+glot cl} \\ \text{-glot pr} \end{bmatrix} \end{array} \right\} / \begin{bmatrix} \text{+back} \\ \text{+cont} \\ \text{-voiced} \end{bmatrix} \_$$

5. There are no vowel sequences.

$$\sim \text{[+syll]} \text{ [+syll]}$$

6. The only voiceless stops that can follow t, t̥, ṭ or ṭ̥ are homorganic.

$$\begin{bmatrix} \text{-cont} \\ \text{-voiced} \end{bmatrix} \rightarrow \begin{bmatrix} \text{+cor} \\ \text{<distr} \\ \text{-del rel} \end{bmatrix} / \begin{bmatrix} \text{+cor} \\ \text{<distr} \\ \text{-del rel} \\ \text{-voiced} \end{bmatrix} \_$$

7. Glottalized stops are never followed by glottalized stops.

~ [+glot pr] [+glot pr]

8. Spirants are never followed by spirants.

~  $\begin{bmatrix} -\text{son} \\ +\text{cont} \end{bmatrix}$   $\begin{bmatrix} -\text{son} \\ +\text{cont} \end{bmatrix}$

9. w and y are never followed by stops, except for ?.

$\begin{bmatrix} -\text{son} \\ -\text{cont} \end{bmatrix}$   $\rightarrow$   $\begin{bmatrix} +\text{glot cl} \\ -\text{glot pr} \end{bmatrix}$  /  $\begin{bmatrix} +\text{son} \\ -\text{syll} \\ -\text{cons} \end{bmatrix}$  —

10. Plain voiceless stops are never followed by h.

~  $\begin{bmatrix} -\text{cont} \\ -\text{glot cl} \\ -\text{voiced} \end{bmatrix}$

11. l is never followed by a spirant.

~ [+lat]  $\begin{bmatrix} +\text{cont} \\ -\text{voiced} \end{bmatrix}$

12. The only geminate consonant sequences are tt and ss.

[ $\psi$ specified segment] [ $\psi$ specified segment]  $\rightarrow$

$\begin{bmatrix} +\text{cor} \\ \alpha\text{distr} \\ -\alpha\text{cont} \\ -\text{voiced} \end{bmatrix}$   $\begin{bmatrix} +\text{cor} \\ \alpha\text{distr} \\ -\alpha\text{cont} \\ -\text{voiced} \end{bmatrix}$

13. b is never followed by a nasal.

~  $\begin{bmatrix} -\text{son} \\ +\text{voiced} \end{bmatrix} \quad [+nasal]$

14. p and  $\dot{p}$  do not occur as the first member of a two-consonant sequence.

~  $\begin{bmatrix} -\text{son} \\ +\text{ant} \\ -\text{cor} \end{bmatrix} \quad [-\text{syll}]$

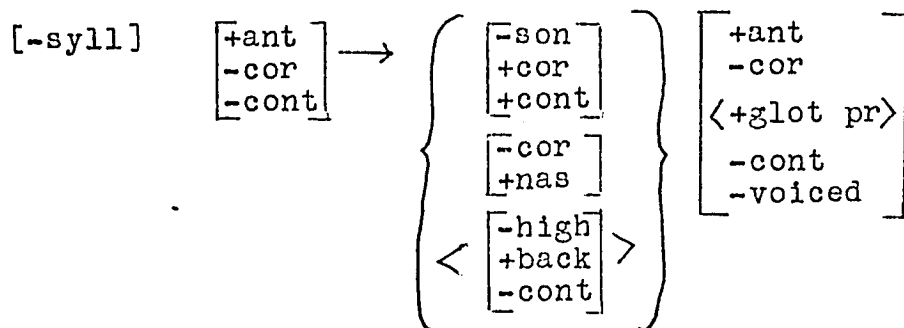
15. Dental and alveolar stops are not followed by s or š.

~  $\begin{bmatrix} -\text{son} \\ +\text{cor} \\ -\text{cont} \end{bmatrix} \quad \begin{bmatrix} -\text{son} \\ +\text{cont} \\ \left\{ \begin{array}{l} [+cor] \\ [+high] \end{array} \right\} \end{bmatrix}$

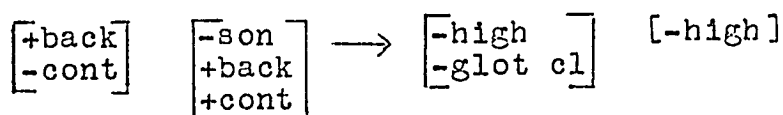
16. There are no two-stop sequences of k,  $\dot{k}$ , q and  $\dot{q}$ .

~  $\begin{bmatrix} -\text{cont} \\ +\text{back} \end{bmatrix} \quad \begin{bmatrix} -\text{cont} \\ +\text{back} \end{bmatrix}$

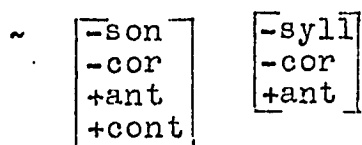
17. The only two-consonant sequences with p or  $\dot{p}$  as the second member are sp,  $s\dot{p}$ , mp and  $m\dot{p}$  (This may be accidentally due to the rarity of p and  $\dot{p}$ ).



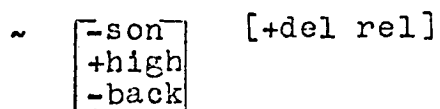
18. The only two-consonant sequence with k or q as the first member and x or ɣ as the second member is qɣ.



19. f is never followed by a labial consonant.



20. ʃ is not followed by c or č.



21. The only two-consonant sequences with n as the first member are nk, nɣ, nw and ny.

$$\begin{array}{l}
 \boxed{+cor} \\
 \boxed{+nas}
 \end{array}
 \quad
 [-syll] \rightarrow [ \quad ]
 \quad
 \left. \begin{array}{l}
 \boxed{+high} \\
 \boxed{+back} \\
 \boxed{+glot pr} \\
 \boxed{-high} \\
 \boxed{+back} \\
 \boxed{+cont} \\
 \boxed{-syll} \\
 \boxed{-cons} \\
 \boxed{+high}
 \end{array} \right\}$$

22. The only consonant sequences with w as the first member are w?, ws, and wy.

$$\begin{array}{l}
 \boxed{-syll} \\
 \boxed{-cons} \\
 \boxed{+high} \\
 \boxed{+round}
 \end{array}
 \quad
 [-syll] \rightarrow [ \quad ]
 \quad
 \left. \begin{array}{l}
 \boxed{+glot cl} \\
 \boxed{-glot pr} \\
 \boxed{+cor} \\
 \boxed{+cont} \\
 \boxed{-voiced} \\
 \boxed{-syll} \\
 \boxed{-cons} \\
 \boxed{+high}
 \end{array} \right\}$$

23: The only consonant sequences with y as the first member are yx and yh.

$$\begin{array}{l}
 \boxed{-syll} \\
 \boxed{-cons} \\
 \boxed{+high} \\
 \boxed{-round}
 \end{array}
 \quad
 [-syll] \rightarrow [ \quad ]
 \quad
 \begin{array}{l}
 \boxed{-ant} \\
 \boxed{\alpha high} \\
 \boxed{\alpha back} \\
 \boxed{+cont} \\
 \boxed{-voiced}
 \end{array}$$

24. l does not occur before a spirant.

$$\sim \boxed{+lat} \quad \begin{array}{l} \boxed{-son} \\ \boxed{+cont} \end{array}$$

25. Most verb stems are of the form (C)CV(·)(C).

[<sub>Vstem</sub> + ([-syll]) [-syll] [+syll] ([-syll]) + ]<sub>Vstem</sub>

These sequence structure conditions account for 384 of the 432 non-existing two-consonant sequences (out of a mathematically possible  $26^2=676$  different sequences). The following gaps in the set of occurring two-consonant sequences are not accounted for, and are thought to be non-systematic:

b<sup>̇</sup>t, bf, c<sup>̇</sup>t, c<sup>̇</sup>t, c<sup>̇</sup>t, c<sup>̇</sup>k, c<sup>̇</sup>q, cf, cm, k<sup>̇</sup>t, c<sup>̇</sup>p, c<sup>̇</sup>t, c<sup>̇</sup>q, c<sup>̇</sup>n,  
 k<sup>̇</sup>t, k<sup>̇</sup>t, k<sup>̇</sup>c, k<sup>̇</sup>f, k<sup>̇</sup>š, k<sup>̇</sup>n, q<sup>̇</sup>d, q<sup>̇</sup>p, q<sup>̇</sup>t, q<sup>̇</sup>c, q<sup>̇</sup>s, q<sup>̇</sup>š, q<sup>̇</sup>m, ft,  
 fc, fk, f<sup>̇</sup>t, f<sup>̇</sup>c, fy, s<sup>̇</sup>t, s<sup>̇</sup>t, š<sup>̇</sup>t, š<sup>̇</sup>q, š<sup>̇</sup>p, š<sup>̇</sup>t, š<sup>̇</sup>k, lt, l<sup>̇</sup>t,  
 lc, l<sup>̇</sup>t, l<sup>̇</sup>k, ln, ly, ?f.

## 3.2. Systematic Phonemic Feature Matrices

## 3.21. Fully Specified Systematic Phonemic Matrix

	b	d	p	t	ʈ	c	k	q	ᵻ	ᵿ	ᵿ	ᵿ	ᵿ	ᵿ	ʔ
sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
coronal	-	+	-	+	+	+	-	-	-	+	+	+	-	-	-
anterior	+	+	+	+	+	+	-	-	+	+	+	+	-	-	-
high	-	-	-	-	-	-	+	-	-	-	-	-	+	-	-
low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
back	-	-	-	-	-	-	+	+	-	-	-	-	+	+	-
round	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
distributed	+	-	+	+	-	-	-	-	+	+	-	-	-	-	-
glottal closure	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+
nasal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
lateral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
continuant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
delayed release	-	-	-	-	-	+	-	-	-	-	-	+	-	-	-
glottal pressure	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-
height. subglot. pressure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
voiced	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
strident	-	-	-	-	-	+	-	-	-	-	-	+	-	-	-
length	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



	f	s	š	x	ç	h	m	n	w	y	l	r	i	e	a	u	o
son	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+
syll	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
cons	+	+	+	+	+	+	+	+	-	-	+	+	-	-	-	-	-
cor	-	+	-	-	-	-	-	+	-	-	+	+	-	-	-	-	-
ant	+	+	-	-	-	-	+	+	-	-	+	+	-	-	-	-	-
high	-	-	+	+	-	-	-	-	+	+	-	-	+	-	-	+	-
low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
back	-	-	-	+	+	-	-	-	+	-	-	-	-	-	+	+	+
round	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	+
distr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
glot cl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
nasal	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
lat	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
cont	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+
del rel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
glot pres	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ht sbg pr	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
voiced	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+
strid	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-
length	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+

## 3.22. Incompletely Specified Systematic Phonemic Matrix

	b	d	p	t	t̥	c	k	q	p̣	ṭ	ṭ̥	c̣	ḳ	q̣	?	
sonorant	-	-														
syllabic																
consonantal																
coronal	-	+	-	+	+		-	-	-	+	+		-	-		
anterior					+		-	-			+		-	-	-	
high							+	-					+	-	-	
low																
back								+	+					+	+	
round																
distributed	+	-	+	+	-		-	-	+	+	-		-	-	-	
glottal closure					-	-	-	-								+
nasal																
lateral																
continuant					-	-	-	-	-							
delayed release		-				-	+	-	-			-	+	-	-	-
glottal pressure						-	-	-	-	+	+	+	+	+	+	-
height. subglot. pressure																
voiced	+	+	-	-	-		-	-								
strident																
length																

	f	s	š	x	ç	h	m	n	w	y	l	r	i	e	a	u	o
son												+					
syll									-	-		-	+	+		+	+
cons									-	-		+					
cor	-	+	-	-	-			-	+			+					
ant	+	+	-	-	-							+					
high			+	+	-				+	+			+	-		+	-
low														-	+		
back			-	+	+				+	-			-	-			
round									+	-		-	-	-		+	+
distr																	
glot cl																	
nasal								+	+			-					
lat											+	-					
cont	+	+	+	+	+							+					
del rel																	
glot pres																	
ht sbg pr								+									
voiced																	
strid	+	+	+	+	+												
length													+	+	+	+	+

## Chapter 4. Phonological Rules

### 4.1. Introduction

This chapter will consist of a partially ordered set of phonological rules which derive phonetic representations from sequences of morphemes in their underlying or morphophonemic form. All rules operate obligatorily, unless there is a statement of optionality.

According to Chomsky and Halle's phonological theory,<sup>4</sup> before phonological rules can operate on surface structures, a series of readjustment rules must be applied. Included among the processes which these rules effect is the assigning of underlying phonological representations to grammatical morphemes. This removes all morphologically conditioned alternations which are unique to individual morphemes out of the phonology, which then includes only statements of some degree of generality. These readjustment rules will be stated in the appropriate sub-sections of the Morphology chapters.

### 4.2. Rule Ordering

The phonological rules require strict ordering of the following sequences (the numbers referring to the rules are the sub-section numbers of 4.3).

The notation should be read in this way: 5-6 means that there is an ordering relationship between 5 and 6; 6/7 means that there is no ordering necessary

between 6 and 7. 5-6/7 means that both 6 and 7 must be ordered after 5. Rules listed on separate lines are ordered independently of each other.

1-2-3-4-5-6/7

8/9/10-11-12/13/15/17

13-16/17-19-20-21

1-6/11-12-17-24

#### 4.3. Phonological Rules

##### 4.3.1. Stress Placement

$$V \rightarrow \check{V} / \left\{ \begin{array}{l} \# \\ \langle \text{Seg} \rangle \end{array} \right\} + C_1^n \text{ --- } \dots / \text{ --- } \left\{ \begin{array}{l} \dots ]_{N, V, \text{Adj}, \text{Adv}} \\ \langle \dots ]_{\text{stem}} \rangle \end{array} \right\}$$

$$[+\text{syll}] \rightarrow [+\text{stress}] / \left\{ \begin{array}{l} [-\text{seg} \\ +\text{word } b] \\ \langle [+ \text{seg}] \rangle \end{array} \right\} + [-\text{syll}]_1^n \text{ --- } \dots /$$

$$\left[ \begin{array}{l} \left\{ \begin{array}{l} +N \\ +V \\ +\text{Adj} \\ +\text{Adv} \end{array} \right\} \\ \langle +\text{stem} \rangle \end{array} \right]$$

This rule applies primary stress to the first vowel of every word of a major category, as well as to the first vowel of a major stem. The latter statement

is necessary in order that the first vowel of a reduplicated stem, or of a stem preceded by a directional prefix may still receive stress, although it is not in word-initial position.

Examples of the application of this rule follow:

/ca+qla+m+t/ 'it flew down to the ground'

1. cá+qla+m+t
- 11j. cá+qla+ma+t
24. cáqlamat

/ci·cala/ 'peas (Spanish loan)'

1. cí·cala

/qlacac/ 'woodpecker'

1. qlácac
3. qelácac

Surface bracketing will be given for the following example:

#[<sub>v</sub>[dir pref líl ]<sub>dir pref</sub>+ [<sub>stem</sub> kʔa ]<sub>stem</sub>+ [<sub>suf</sub> n ]<sub>suf</sub>  
+ [<sub>suf</sub> ć ]<sub>suf</sub>+ [<sub>fin suf</sub> t ]<sub>fin suf</sub>]<sub>v</sub>#

/líl+kʔa+n+ć+t/ 'he chased them into the corral'

1. líl+kʔa+n+ć+t
- líl+kʔá+n+ć+t
3. líl+kəʔá+n+ć+t

6.        lɪl+kəʔà+n+c̣+t  
 11n.     lɪl+kəʔà+n+c̣i+t  
 24.        lɪlkəʔànc̣it

/q̣e+q̣e+k+c̣+t/ 'he cleared his throat'

1.        q̣é+q̣e+k+c̣+t  
           q̣é+q̣é+k+c̣+t  
 6.        q̣é+q̣è+k+c̣+t  
 11n.     q̣é+q̣è+k+c̣i+t  
 24.        q̣éq̣èkc̣it

#### 4.3.2 Sonorant Syllabicization

$$\left[ \begin{array}{c} m \\ l \end{array} \right] \rightarrow \left[ \begin{array}{c} m \\ l \\ | \end{array} \right] / \# \text{ --- } C_{\text{homorganic}}$$

$$[-\text{syll}] \rightarrow [+ \text{syll}] / \# \left[ \begin{array}{c} +\overline{\text{son}} \\ +\text{cons} \\ +\text{ant} \\ \alpha\text{cor} \\ \beta\text{distr} \end{array} \right] \left[ \begin{array}{c} -\text{syll} \\ +\text{ant} \\ \alpha\text{cor} \\ \beta\text{distr} \end{array} \right]$$

This rule states that the resonants m and l become syllabic when followed by a consonant which has the same point of articulation. It must be ordered before the Pretonic Vowel Epenthesis rule to prevent a vowel insertion in such a position. Presumably n is

excluded from this process only because Sequence Structure Condition 21 prevents it from preceding an alveolar consonant.

Examples:

/lde/ 'mountain lion'

1. ldé

2. ldé

/lʔa/ 'shoulder blade'

1. lʔá

2. lʔá

/mpu+k+t/ 'he whistles'

1. mpú+k+t

2. mpú+k+t

11n. mpú+ki+t

24: mpúkit

/mbo+l+k+t/ 'it exploded'

1. mbó+l+k+t

2. mbó+l+k+t

11n. mbó+l+ki+t

24. mbólkit



## 4.3.3. Pretonic Vowel Epenthesis (Optional)

$$\phi \rightarrow \text{ə} / \left\{ \begin{array}{l} \# \\ \text{C} \end{array} \right\} \left[ \text{stem C} \_ \text{CV} \dots \right]_{\text{stem}}$$

$$\phi \rightarrow \left[ \begin{array}{l} +\text{syll} \\ -\text{cons} \\ -\text{high} \\ -\text{low} \\ -\text{back} \end{array} \right] /$$

$$\left\{ \begin{array}{l} \# \\ [-\text{syll}] \end{array} \right\} \left[ \text{stem}[-\text{syll}] \_ [-\text{syll}] [+stress] \dots \right]_{\text{stem}}$$

This rule inserts a schwa between stem-initial consonants, preceding the stress vowel. It is optional in its operation for the most part, although it is more frequent in the most difficult to articulate consonant clusters, such as two stops. It is less frequent in connected discourse when the preceding word ends in a vowel, as well as almost never occurring when the cluster is preceded by a vowel in the same word.

Examples:

/blay/ 'blood'

1. bláy
3. bəláy
- 4c. buláy

/qbandu ɣle/ 'white oak tree'

1. qbáandu ɣlé
3. qəbáandu ɣlé ~ qəbáandu ɣələ
6. qəbàandu ɣələ

/ksút+k+t/ 'he poked the fire'

1. ksút+k+t
3. kəsút+k+t
- 11n. kəsút+ki+t
24. kəsútkit

#### 4.3.4. Schwa Modification (Optional)

This rule will be stated in five subparts.

a)  $e \rightarrow i$  /  $\left[ \begin{array}{l} \text{C} \text{ —} \\ \text{—} \text{y} \\ \text{—} \text{C} \end{array} \right] \left\{ \begin{array}{l} \text{i} \\ \text{e} \end{array} \right\}$

$\left[ \begin{array}{l} \text{-high} \\ \text{+back} \end{array} \right] \rightarrow \left[ \begin{array}{l} \text{+high} \\ \text{-back} \end{array} \right]$  /  $\left[ \begin{array}{l} \text{+del rel} \\ \left[ \begin{array}{l} \text{-low} \\ \text{-round} \\ \text{+syll} \end{array} \right] \\ \left[ \begin{array}{l} \text{+son} \\ \text{+high} \\ \text{-back} \\ \text{-syll} \end{array} \right] \\ \left[ \begin{array}{l} \text{-syll} \\ \left[ \begin{array}{l} \text{+syll} \\ \text{-back} \end{array} \right] \end{array} \right] \end{array} \right]$

b) e → e / \_\_\_ C e

[+back] → [-back] / 

-high
-low
-round
+syll

 [-syll] 

-high
-low
-back
+syll

c) e → u / 

q
b
m
ɸ

 \*  
 — c 

u
o

-high
-round

 → 

+high
+round

 / 

-high
+back
-syll

-low
+back
+syll

 \*  

+ant
-cor
+distr

-low
+back
+syll

 [-syll] 

+round
+syll

The asterisk indicates that the first part of 4c is a mirror image rule: The segment adjacent to the changing schwa may be on either side of it.

d) e → o /  $\left. \begin{array}{c} \text{k} \\ \text{c} \end{array} \right\}$  o

[-round] → [+round] /  $\left[ \begin{array}{l} \bar{-}\text{high} \\ \bar{-}\text{low} \\ +\text{back} \\ +\text{syll} \end{array} \right] \left\{ \begin{array}{l} [-\text{syll}] \\ \left[ \begin{array}{l} \bar{-}\text{syll} \\ +\text{high} \\ +\text{back} \\ \bar{-}\text{cont} \end{array} \right] \end{array} \right. \left[ \begin{array}{l} \bar{-}\text{high} \\ +\text{back} \\ +\text{round} \\ +\text{syll} \end{array} \right]$

e) e → ə /  $\left\{ \begin{array}{c} \text{x} \\ \text{k} \end{array} \right\}$  ya

[-high] → [+high] /  $\left[ \begin{array}{l} +\text{high} \\ +\text{back} \\ \bar{-}\text{syll} \end{array} \right] \left[ \begin{array}{l} \bar{-}\text{low} \\ +\text{back} \\ \bar{-}\text{round} \end{array} \right] \left[ \begin{array}{l} +\text{son} \\ +\text{high} \\ \bar{-}\text{back} \\ \bar{-}\text{syll} \end{array} \right] \left[ \begin{array}{l} +\text{low} \\ +\text{syll} \end{array} \right]$

This is an optional rule stating observed tendencies of the epenthetic schwa to color in assimilation to an adjacent consonant or to the following stressed vowel. There is no ordering claim made for subparts of the rule.

Examples:

/cya+cya+k+n/ 'green'

1. cyá+cya+k+n  
cyá+cyá+k+n
3. cəyá+cyá+k+n
- 4a. ciyá+cyá+k+n
6. ciyá+cyà+k+n
- 11n. ciyá+cyà+k<sup>1</sup>+n

19. čiyá+cyà+ki+n

čiyá+čyà+ki+n

24. čiyáčyàkin

/sdi+q+a/ 'swallow it'

1. sdí+q+a

3. sedí+q+a

4a. sidí+q+a

24. sidíqa

/ʔke/ 'to catch'

1. ʔké

3. ʔeké

4a. ʔiké

4b. ʔeké

/xwan/ 'dance house'

1. xwán

3. xəwán

4c. xuwán

/mwat+a/ 'talk!'

1. mwát+a

3. məwát+a

4c. muwát+a

24. muwáta

/bca+k+a/ 'drink!'

- 1. bcá+k+a
- 3. bæcá+k+a
- 4c. bucá+k+a
- 24. bucáka

/cnu/ 'word'

- 1. cnú
- 3. cənú
- 4c. cunú

/ʔqol/ 'cradle basket'

- 1. ʔqól
- 3. ʔəqól
- 4c. ʔuqól

/ʔk<sup>h</sup>ob/ 'angelica sprout'

- 1. ʔk<sup>h</sup>ób
- 3. ʔək<sup>h</sup>ób
- 4d. ʔok<sup>h</sup>ób

/q<sup>h</sup>bo+k+t/ 'it's dry'

- 1. q<sup>h</sup>bó+k+t
- 3. q<sup>h</sup>əbó+k+t
- 4c. q<sup>h</sup>ubó+k+t

- ~4d. q'obó+k+t  
 11n. q'ubó+ki+t ~ q'obó+ki+t  
 24. q'ubókit ~ q'obókit

/xya/ 'head'

1. xyá  
 3. xəyá  
 4e. xɿyá

/kya/ 'chicken hawk'

1. k'yá  
 3. k'əyá  
 4e. k'ɿyá

/qsíl+t/ 'it's cold'

1. qsíl+t  
 3. qəsíl+t  
 4e. qɿsíl+t  
 11n. qɿsíli+t  
 24. qɿsílit

## 4.3.5. Stress Movement (Optional)

$$v^{-\sigma} \quad ? \quad \acute{v} \rightarrow \acute{v} \quad ? \quad v$$

<table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">+syll</td> </tr> <tr> <td style="padding: 2px 5px;">-cons</td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px 5px;">-back</td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px 5px;">+low</td> </tr> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px 5px;">+round</td> </tr> </table>	+syll	-cons	-back	+low	+round	[	+glot cl	-glot pr	]	[+stress] →	[+stress]	[ ]	[-stress]
+syll													
-cons													
-back													
+low													
+round													

This rule, which shifts the stress back onto the epenthetic vowel if the intervening consonant is glottal stop, has been observed only a few times, but has been included because of its possible generality.

Example:

/kʔilto/ 'yellow'

1. kʔilto
3. kəʔilto
- 4a. kiʔilto
5. kíʔilto
7. kíilto



## 4.3.6. Stress Reduction

$$\hat{V} \rightarrow \hat{V} / [N \dots \_ \dots] \dots [V \left\{ \begin{array}{l} [dir \ pref] \ dir \ pref \\ [stem] \ stem \end{array} \right\}]$$

$$[stem \ \dots \_ \dots]_{stem \ \dots}]_V$$

a) [+stress]  $\rightarrow$  [1stress]

b) [1stress]  $\rightarrow$  [2stress] /

$$[ \overline{+N} ] \dots \left\{ \begin{array}{l} [+dir \ pref] \\ [+stem] \end{array} \right\} \left[ \begin{array}{l} \overline{+V} \\ +stem \end{array} \right]$$

This rule reflects the fact that not all stresses in a Southeastern Pomo utterance are of equal intensity. Word-internally, the first stress is the stronger, any subsequent stress being reduced. Sententially, the verb seems to get the most stress, the other words in the sentence having their stress reduced by varying degrees.

The stress reduction process for sentences has not been worked out, but if it is systematic it may be either left-iterative or governed by some sort of transformational cycle--the observed data is ambiguous, since the verb, which is the word usually receiving the greatest stress, is usually the last element of the clause.

## Examples:

/b'k'o+b'k'o+l+t/ 'the bird pecks all the time'

1. b'k'ó+b'k'ó+l+t  
b'k'ó+b'k'ó+l+t
3. b'æk'ó+b'k'ó+l+t
6. b'æk'ó+b'k'ò+l+t
- 11n. b'æk'ó+b'k'ò+l+i+t
24. b'æk'ób'k'òlit

/máʔ+m+ma+t/ 'he lay down'

1. máʔ+m+ma+t  
máʔ+m+má+t
2. máʔ+m+má+t
6. máʔ+m+mà+t
24. máʔmmàt

/#ʔu+yi#wiy+aq#bdu#ba#xlé#kí+c+t#/ 'That tree  
grew from my acorn' (that-my-acorn-agent-tree-grew)

1. #ʔú+yi#wiy+aq#bdú#ba#xlé#kí+c+t#
3. #ʔú+yi#wiy+aq#bedú#ba#xlé#kí+c+t#
- 4c. #ʔú+yi#wiy+aq#budú#ba#xlé#kí+c+t#
6. #ʔù+yi#wiy+aq#budù#ba#xlè#kí+c+t#
- 11n. #ʔù+yi#wiy+aq#budù#ba#xlè#kí+ci+t
24. #ʔùyi #wiy+aq#budù#ba#xlè#kíci+t#

## 4.3.7. Glottal Stop Deletion (Optional)

$$ʔ \rightarrow \emptyset / V \_ V$$

$$\begin{bmatrix} +\text{glot} & \text{cI} \\ -\text{glot} & \text{pr} \end{bmatrix} \rightarrow \emptyset / \begin{bmatrix} -\text{cons} \\ +\text{syll} \end{bmatrix} \_ \begin{bmatrix} -\text{cons} \\ +\text{syll} \end{bmatrix}$$

This rule deletes glottal stops intervocalically.

Example:

/šʔo/ 'acorn meal'

1. šʔó
3. šəʔó
- 4c. šuʔó
7. šuó

## 4.3.8. D-deletion

$$d \rightarrow \emptyset / \_ C$$

$$\begin{bmatrix} -\text{son} \\ +\text{vd} \\ +\text{cor} \end{bmatrix} \rightarrow \emptyset / \_ [-\text{syll}]$$

This rule deletes d when it occurs before a consonant.

Examples:

/lɔd+t/ 'my hair is falling out (many long objects  
fall down)'

- 1. lɔd+t
- 8. lɔ+t
- 24. lɔt

/bɔ̃ɛd+lay/ 'women'

- 1. bɔ̃ɛd+lay
- 3. bɔ̃ɛɛd+lay
- 4a. biɔ̃ɛd+lay
- 8. biɔ̃ɛ+lay
- 24. biɔ̃ɛlay

#### 4.3.9. Semivowel Metathesis

CVy → CyV /  $\left[ \begin{array}{c} +\overline{\text{redup}} \\ \text{stem} \end{array} \right] \text{C}$

$\left[ \begin{array}{c} [-\text{syll}] \\ +\text{syll} \\ \psi\text{spec seg} \end{array} \right] \left[ \begin{array}{c} +\text{son} \\ -\text{cons} \\ -\text{syll} \\ -\text{back} \\ \chi\text{spec seg} \end{array} \right] \rightarrow$

$\left[ \begin{array}{c} [-\text{syll}] \\ \chi\text{spec seg} \\ \psi\text{spec seg} \end{array} \right] / \left[ \begin{array}{c} +\overline{\text{redup}} \\ \text{stem} \end{array} \right] [-\text{syll}]$

This rule states that when a stem of the shape CVy is reduplicated, the second part shows a metathesis of the vowel plus y when it is followed by a consonant. It has been observed so far only with the root /-qoy-/ 'weaving, cutting motion', but may operate more generally.

A notational device ' $\Psi$ specified segment' is used in this and several other rules. Specified Segment is a shorthand device meaning "all the features of a fully specified matrix" and  $\Psi$  or any other Greek letter late in the alphabet is a variable over a configuration of all the +'s and-'s of that matrix. Such a segment is identified in the input by giving the minimum subset of these features.

Examples:

/s+qoy+qoy+m+t/ 'they were sawing logs'

1. s+qóy+qoy+m+t  
s+qóy+qóy+m+t
3. s $\epsilon$ +qóy+qóy+m+t
6. s $\epsilon$ +qóy+qòy+m+t
9. s $\epsilon$ +qóy+qòy+m+t
- 11j. s $\epsilon$ +qóy+qyò+ma+t
24. s $\epsilon$ qóyqyòmat

- /x̣+qoy+qoy+t/ 'they were felling trees'
1. x̣+qóy+qoy+t
  - x̣+qóy+qóy+t
  6. x̣+qóy+qòy+t
  9. x̣+qóy+qyò+t
  24. x̣qóyqyòt

#### 4.3.10. Stop Metathesis

ṃḳu → muk / C \_\_ Seg<sup>-1</sup>

+nas -back -cor	]	+high +back +glot pr ψspec seg	]	→	+syll +high +round χspec seg
-----------------------	---	---	---	---	---------------------------------------

[ ] [χspec seg] [ψspec seg] / [-syll] \_\_ [-lat]

This rule metathesizes the ḳu of the suffix /-ṃḳu-/ 'reciprocal', when it is preceded by a consonant and followed by any consonant but l.

Examples:

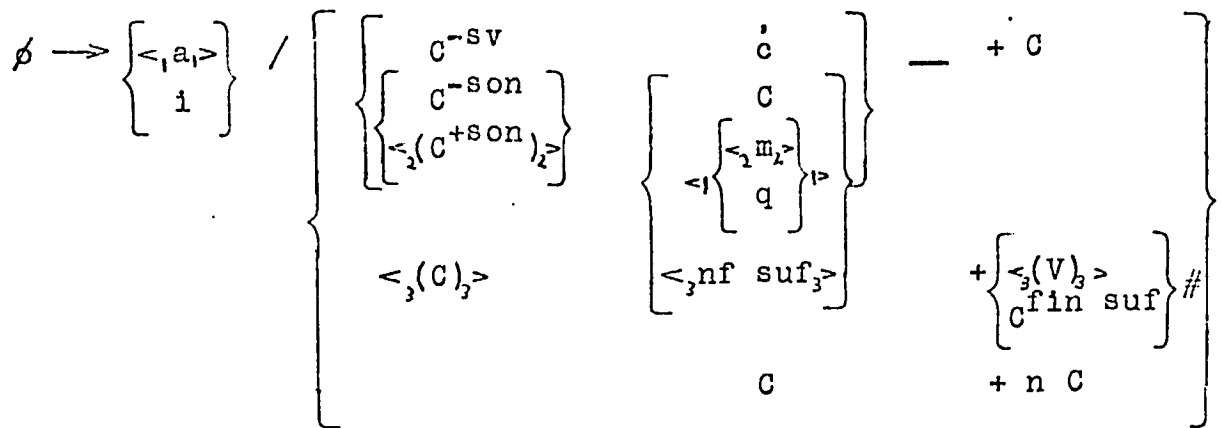
- /p̣úṭ̣+ṃḳu+t/ 'they kissed each other'
1. p̣úṭ̣+ṃḳu+t
  10. p̣úṭ̣+muḳ+t

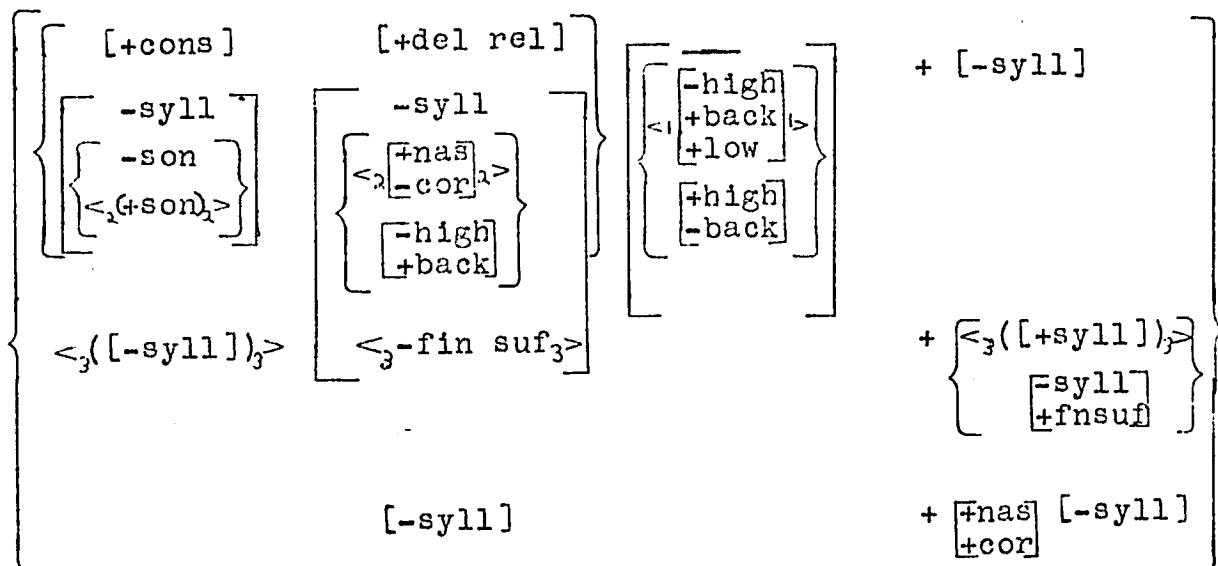
- 11n. pú<sup>́</sup>t+muk<sup>́</sup>i+t  
 24. pú<sup>́</sup>t<sup>́</sup>muk<sup>́</sup>it

/kda+n+mku+t/ 'those people are shooting each other'

1. kdá+n+mku+t  
 3. kədá+n+mku+t  
 10. kədá+n+muk<sup>́</sup>+t  
 11n. kədá+n+muk<sup>́</sup>i+t  
 24. kədánmuk<sup>́</sup>it

#### 4.3.11. Post-tonic Vowel Epenthesis



$$\emptyset \rightarrow [+syll] \quad /$$


This rule inserts vowels into sequences of verb suffixes. The seventeen expansions of the fully collapsed rule follow:

- a)  $\emptyset \rightarrow a \quad / \quad C \ m \ \_ \ + \ C$
- b)  $\emptyset \rightarrow a \quad / \quad C^{-son} \ q \ \_ \ + \ C$
- c)  $\emptyset \rightarrow i \quad / \quad C^{-sv} \ \acute{c} \ \_ \ + \ C$
- d)  $\emptyset \rightarrow i \quad / \quad C^{-son} \ C^{-q,m} \ \_ \ + \ C$
- e)  $\emptyset \rightarrow i \quad / \quad C^{sv} \ C^{son-m} \ \_ \ + \ C$
- f)  $\emptyset \rightarrow a \quad / \quad C \ m^{nf} \ suf \ \_ \ + \ V \ \#$



- g)  $\emptyset \rightarrow a / C q^{nf} suf \_ + V \#$
- h)  $\emptyset \rightarrow a / C m^{nf} suf \_ + \#$
- i)  $\emptyset \rightarrow a / C q^{nf} suf \_ + \#$
- j)  $\emptyset \rightarrow a / m \_ C^{fin} suf \#$
- k)  $\emptyset \rightarrow a / q \_ C^{fin} suf \#$
- l)  $\emptyset \rightarrow i / C C^{-m,q} \_ + V \#$
- m)  $\emptyset \rightarrow i / C C_{nf}^{-m,q} suf \_ + \#$
- n)  $\emptyset \rightarrow i / C^{-m,q} \_ C^{fin} suf \#$
- o)  $\emptyset \rightarrow a / m \_ n C$
- p)  $\emptyset \rightarrow a / q \_ n C$
- q)  $\emptyset \rightarrow i / C^{-m,q} \_ n C$

lla-b state that an a is inserted following a sequence of non-sonorant consonant plus m or q, when this sequence is followed by morpheme boundary plus a consonant, and that the first consonant can be sonorant if it is followed by m.

Examples:

/ca+l+q+m+q+t/ 'they're rolling hoops along the ground'

1. cá+l+q+m+q+t  
 11a. cá+l+q+ma+q+t  
 11k. cá+l+q+ma+qa+t  
 24. cá1qmaqat

/ʔqay+m+w+l+c̣+t/ 'he makes faces'

1. ʔqáy+m+w+l+c̣+t  
 3. ʔeqáy+m+w+l+c̣+t  
 11a. ʔeqáy+ma+w+l+c̣+t  
 11e. ʔeqáy+ma+li+c̣+t  
 11n. ʔeqáy+ma+w+li+c̣i+t  
 24. ʔeqáymawlic̣it

11c-e state that an i is inserted under the same conditions as a-c, except that the immediately preceding consonant is not m or q, and that if that consonant is c̣, any consonant (including sonorants) except for a semi-vowel may precede.

Example:

/kto+b+k+q+t/ 'he put it down on the ground'

1. któ+b+k+q+t  
 3. kətó+b+k+q+t  
 11d. kətó+b+kí+q+t  
 11k. kətó+b+kí+qa+t  
 24. kətóbkiqat

llf-i state that an a is inserted following two consonants, before a morpheme boundary plus an optional vowel, at the end of a word, when the second of the two consonants is m or q.

Examples:

/ʔsel+m tɔdɔpu/ 'wash cloth'

1. ʔsél+m tádɔpu
3. ʔəsél+m tádɔpu
- 11h. ʔəsél+ma tádɔpu
13. ʔəsél+am tádɔpu
24. ʔəsélam tádɔpu

/ʔlɔ+m+q+a/ 'turn it around!'

1. ʔlól+m+q+a
- 11g. ʔlól+m+qa+a
18. ʔlól+m+qa+
24. ʔlómqa

ll-l-m state that an i is inserted under the same conditions as in g-j, except that the second of the two consonants is not m or q.

Example:

/ʔwɔl+c̣+a/ 'duck!'

1. ʔwál+c̣+a
3. ʔəwál+c̣+a

- 11-1. ?əwál+ci+a  
 18. ?əwál+ci+  
 24. ?əwálci

11j-k state that an a is inserted following m or q, before a consonant which is a final-position suffix (unlike -c- in the above example), at the end of a word. 11n inserts an i under the same conditions, except that the preceding consonant is not m or q.

Example:

- /cá+m+t/ 'they're hunting'  
 1. cá+m+t  
 11j. cá+ma+t  
 24. cámat

11o-p insert an a following m or q, before a sequence of n plus a consonant. 11q inserts an i under the same conditions, except that the preceding consonant is not m or q.

Example:

- /dó+q+n+hu+t/ 'I got it from him'  
 1. dó+q+n+hu+t  
 11p. dó+qa+n+hu+t  
 24. dóqanhut

## 4.3.12. Vowel Lowering

$$\begin{bmatrix} \langle \text{}_1 i_1 \rangle \\ \langle \text{}_2 u_2 \rangle \end{bmatrix} \longrightarrow \begin{bmatrix} e \\ o \end{bmatrix} / \text{---} + \begin{bmatrix} l \\ \langle \text{}_1 s_1 \rangle \\ \langle \text{}_2 c_2 \rangle \end{bmatrix}$$

$$[+\text{high}] \longrightarrow [-\text{high}] / \begin{bmatrix} +\text{syll} \\ \langle \text{}_1 -\text{back}_1 \rangle \\ \langle \text{}_2 +\text{back}_2 \rangle \end{bmatrix} + \begin{bmatrix} +\text{cor} \\ [+son] \\ \langle \text{}_1 [-son]_1 [+cont]_1 \rangle \\ \langle \text{}_2 [-son]_2 [+del\ rel]_2 \rangle \end{bmatrix}$$

This rule lowers *i* and *u* to *e* and *o*, respectively. Lowering occurs morpheme-finally, *i* lowering before *s*, *u* before *c*, and both *i* and *u* before *l*. The rule is obligatory in its operation, except that *i*-lowering is optional before *s*.

Examples:

/ʔwál+c̣+l+t/ 'he ducked repeatedly'

1. ʔwál+c̣+l+t
3. ʔəwál+c̣+l+t
- 4c. ʔuwál+c̣+l+t
- 11c. ʔuwál+c̣i+l+t
- 11o. ʔuwál+c̣i+li+t
12. ʔuwál+c̣e+li+t
24. ʔuwál+c̣elit

/ca+m<sup>l</sup>u+l+t/ 'he ran around'

1. cá+m<sup>l</sup>u+l+t  
 11n. cá+m<sup>l</sup>u+li+t  
 12. cá+m<sup>l</sup>o+li+t  
 24. cámlolit

/c<sup>í</sup>+m<sup>k</sup>u+c<sup>í</sup>+t/ 'those three are fighting each other'

1. c<sup>í</sup>+m<sup>k</sup>u+c<sup>í</sup>+t  
 11n. c<sup>í</sup>+m<sup>k</sup>u+c<sup>í</sup>+t  
 12. c<sup>í</sup>+m<sup>k</sup>o+c<sup>í</sup>+t  
 24. c<sup>í</sup>m<sup>k</sup>o<sup>c</sup>í<sup>t</sup>

/da f<sup>ʔ</sup>ey+c<sup>s</sup>/ 'he didn't bother you'

1. da f<sup>ʔ</sup>éy+c<sup>s</sup>  
 11n. da f<sup>ʔ</sup>éy+c<sup>í</sup>+s  
 12. da f<sup>ʔ</sup>éy+c<sup>e</sup>+s  
 24. da f<sup>ʔ</sup>éy<sup>c</sup>es

#### 4.3.13. Word-final Vowel Metathesis

C V → V C / \_ # / ]<sub>non-final suf</sub>

$$\left[ \begin{array}{c} -\text{syll} \\ \psi\text{specseg} \end{array} \right] \left[ \begin{array}{c} +\text{syll} \\ \chi\text{specseg} \end{array} \right] \rightarrow \left[ \begin{array}{c} +\text{syll} \\ \chi\text{specseg} \end{array} \right] \left[ \begin{array}{c} -\text{syll} \\ \psi\text{specseg} \end{array} \right] / \left[ \begin{array}{c} -\text{finsuf} \end{array} \right] \#$$

This rule metathesizes a word-final CV sequence, if that sequence does not include a final position suffix.

Examples:

/ʔšón+k/ 'to guess'

1. ʔšón+k
3. ʔəšón+k
- 11m. ʔəšón+ki
13. ʔəšón+ik
24. ʔəšónik

/ʔteč+mku/ 'twice' (ʔteč- 'to fold')

1. ʔtéč+mku
3. ʔətéč+mku
13. ʔətéč+muk
24. ʔətéčmuk

/tóm+c/ 'razor'

1. tó+m+c
- 11m. tó+m+ci
13. tó+m+ic
24. tómic

## 4.3.14. Degemination

$$c_1 c_1 \rightarrow c_1 / \_ \_$$

$$[\psi\text{specseg}] [\psi\text{specseg}] \rightarrow [\psi\text{specseg}] / [-\text{syll}] \_ \_$$

This rule simplifies a geminate consonant cluster when a consonant precedes. Such a sequence has been found so far only with the suffix -tta- 'dual'.

Example:

/ʔxe+k+tta+t/ 'two make, fix things'

1. ʔxé+k+tta+t
3. ʔexé+k+tta+t
- 4b. ʔexé+k+tta+t
14. ʔexé+k+ta+t
24. ʔexéktat

## 4.3.15. Nasal Backing (Optional)

$$\begin{Bmatrix} m \\ n \end{Bmatrix} \rightarrow \eta / \_ \_ q$$



$$[+nas] \rightarrow \begin{bmatrix} -high \\ +back \end{bmatrix} / \_ \begin{bmatrix} -syll \\ -high \\ +back \\ -cont \end{bmatrix}$$

This rule changes m and n to ŋ, when a q follows.  
It is optional for m, and possible also for n.

Examples:

/čé+m+q+t/ 'he stuck it in the ground'

1. čé+m+q+t  
11k. čé+m+qa+t  
15. čé+ŋ+qa+t  
19. čé+ŋ+qa+t  
24. čéŋqat

/ʔšá+m+q+t/ 'she dressed him'

1. ʔšá+m+q+t  
11k. ʔšá+m+qa+t  
(15. ʔšá+ŋ+qa+t )  
24. ʔšámqat ~ ʔšáŋqat

#### 4.3.16. Spirantization

$$\begin{Bmatrix} k \\ q \end{Bmatrix} \rightarrow \begin{Bmatrix} x & / & \_ & q \\ x & / & \_ & k \end{Bmatrix}$$

$$[-cont] \rightarrow \begin{bmatrix} +cont \\ \alpha high \end{bmatrix} / \begin{bmatrix} -son \\ +back \end{bmatrix} \begin{bmatrix} -son \\ \alpha high \\ +back \end{bmatrix}$$

This rule changes k or q to a velar or post-velar spirant, homorganic with the following velar or post-velar stop.

Examples:

/ʔyí+q+k+l+t/ 'he teaches all the time'

1. ʔyí+q+k+l+t
3. ʔeyí+q+k+l+t
- 11d. ʔeyí+q+ki+l+t
- 11n. ʔeyí+q+ki+li+t
12. ʔeyí+q+ke+li+t
16. ʔeyí+x+ke+li+t
24. ʔeyíxkelit

/cyó+cyo+k+q+t/ 'he rattled it; a rattlesnake rattles'

1. cyó+cyo+k+q+t  
cyó+cyó+k+q+t
6. cyó+cyò+k+q+t
- 11k. cyó+cyò+k+qa+t
16. cyó+cyò+x+qa+t
19. čyó+cyò+x+qa+t  
čyó+čyò+x+qa+t
24. čyóčyòxqat

## 4.3.17. Ejective Reduction (Optional)

$$\left\{ \begin{array}{c} \acute{c} \\ \acute{k} \\ \acute{q} \end{array} \right\} \rightarrow ? / \_ k$$

$$\left[ \begin{array}{l} \acute{\text{delrel}} \\ -\acute{\text{back}} \\ +\text{glotpr} \end{array} \right] \rightarrow \left[ \begin{array}{l} -\text{delrel} \\ -\text{back} \\ -\text{glotpr} \end{array} \right] / \_ \left[ \begin{array}{l} +\text{high} \\ +\text{back} \\ -\text{cont} \end{array} \right]$$

This rule optionally reduces  $\acute{c}$ ,  $\acute{k}$  and  $\acute{q}$  to  $?$ , when immediately preceding  $k$ . It may be obligatory for  $\acute{k}$ .

Examples:

/lak<sup>1</sup>+lak<sup>1</sup>+k+t/ 'he shakes his head from side to side'

1. lak<sup>1</sup>+lak<sup>1</sup>+k+t
- lak<sup>1</sup>+lak<sup>1</sup>+k+t
6. lak<sup>1</sup>+lak<sup>1</sup>+k+t
- 11n. lak<sup>1</sup>+lak<sup>1</sup>+ki+t
17. lak<sup>1</sup>+lak<sup>1</sup>?+ki+t
24. lak<sup>1</sup>lak<sup>1</sup>?kit

/ciw<sup>1</sup>+c<sup>1</sup>+k+t/ 'she's cooking'

1. ciw<sup>1</sup>+c<sup>1</sup>+k+t
- 11n. ciw<sup>1</sup>+c<sup>1</sup>+ki+t
17. ciw<sup>1</sup>+c<sup>1</sup>?+ki+t
24. ciw<sup>1</sup>?kit

- /tʰoq+tʰoq+k+t/ 'it got soft'
1. tʰoq+tʰoq+k+t  
tʰoq+tʰoq+k+t
  6. tʰoq+tʰoq+k+t
  - 11n. tʰoq+tʰoq+ki+t
  17. tʰoq+tʰoʔ+ki+t
  24. tʰoqʔoʔkit

#### 4.3.18. Vowel Cluster Reduction

$v \rightarrow \emptyset / v \_$

$\begin{bmatrix} +\text{son} \\ +\text{syll} \\ -\text{cons} \end{bmatrix} \rightarrow \emptyset / \begin{bmatrix} +\text{son} \\ +\text{syll} \\ -\text{cons} \end{bmatrix} \_$

This rule deletes the second member of a two-vowel sequence.

Examples:

- /sbu+l+k+a/ 'steal!'
1. sbú+l+k+a
  3. seabú+l+k+a
  - 4c. subú+l+k+a
  - 11-1. subú+l+ki+a
  18. subú+l+ki+
  24. subúlk1

/ʔki+a/ 'marry her!'

- 1. ʔkí+a
- 3. ʔəkí+a
- 18. ʔəkí+
- 24. ʔəkí

/háyu+it/ 'dog's'

- 1. háyu+it
- 18. háyu+t
- 24. háyut

/tí+ib/ 'for you(sg)(benefactive)'

- 1. tí+ib
- 18. tí+b
- 24. tíb

#### 4.3.19. Affricate Palatalization

$$\begin{bmatrix} \text{c} \\ \text{c} \end{bmatrix} \rightarrow \begin{bmatrix} \check{\text{c}} \\ \check{\text{c}} \end{bmatrix} / \text{---} \left\{ \begin{array}{c} \text{i} \\ \text{y} \end{array} \right\}$$

$$\begin{bmatrix} +\text{ant} \\ +\text{cor} \\ -\text{high} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{ant} \\ -\text{cor} \\ +\text{high} \end{bmatrix} / [+d̄elrel] \begin{bmatrix} +\text{son} \\ -\text{cons} \\ +\text{high} \\ -\text{back} \end{bmatrix}$$

This rule moves palato-alveolar affricates further back into the palatal region, when followed by i or y.

Examples:

/čičikob/ 'wild berry'

1. čičikob

19. č̣ič̣ikob

/cɪl+m+k+t/ 'a breeze is blowing'

1. cɪl+m+k+t

11a. cɪl+ma+k+t

11n. cɪl+ma+ki+t

19. čɪl+m̄a+ki+t

24. čɪlmakit

#### 4.3.20. Liquid Palatalization

$$l \rightarrow y / \_ \left\{ \begin{array}{c} \check{c} \\ \check{c} \end{array} \right\}$$

$$\begin{bmatrix} +\text{cons} \\ +\text{cor} \\ +\text{ant} \\ -\text{high} \\ +\text{lat} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{cons} \\ -\text{cor} \\ -\text{ant} \\ +\text{high} \\ -\text{lat} \end{bmatrix} / \text{---} \begin{bmatrix} -\text{son} \\ +\text{high} \\ +\text{delrel} \end{bmatrix}$$

This rule changes l to y, when it is followed by ě or ě̇.

Example:

/bde+l+ċ+t/ 'they're carrying them in their hands'

1. bdé+l+ċ+t
3. bədé+l+ċ+t
- 4a. bidé+l+ċ+t
- 11c. bidé+l+ċi+t
19. bidé+l+ě̇i+t
20. bidé+y+ě̇i+t
24. bidéyě̇it

#### 4.3.21. Affricate Depalatalization

$$\begin{bmatrix} \check{c} \\ \check{c} \end{bmatrix} \rightarrow \begin{bmatrix} c \\ c \end{bmatrix} / \text{---} i$$

$$\begin{bmatrix} -\text{ant} \\ -\text{cor} \\ +\text{high} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{ant} \\ +\text{cor} \\ -\text{high} \end{bmatrix} / [+d̄elrel] \begin{bmatrix} +\text{son} \\ -\text{cons} \\ +\text{syll} \\ +\text{high} \\ -\text{back} \end{bmatrix}$$

This is an optional rule which changes palatal affricates back to palato-alveolar affricates, before i. It is necessary to first change c to č and then back optionally because Liquid Palatalization operates even if a c before i is not palatalized on the phonetic surface, but it will not operate on an l followed by a c which cannot undergo Affricate Palatalization.

The example given in 4.3.21. will serve as the example of Affricate Depalatalization. After rule 20 operates, rule 21 may optionally.

20.      bidé+y+č<sup>1</sup>i+t  
 21.      bidé+y+č<sup>1</sup>i+t  
 24.      bidéyč<sup>1</sup>it

#### 4.3.22. h-deletion

$$h \rightarrow \emptyset / \_ c$$



$$[+htsbgpr] \rightarrow \emptyset / \_ [-syll]$$

This rule deletes h before a consonant. It might be considered to be related to Sequence Structure Condition 1, which states that h cannot precede a consonant. All examples of this rule which have been discovered so far involve the directional prefix /kuh-/ 'move to the outside of a enclosed space'.

Example:

/kuh+na+t/ 'many trees poke up through the ground'

1. kúh+na+t
- kúh+ná+t
6. kúh+nà+t
22. kú+nà+t
24. kúnàt

#### 4.3.23. Vowel Deletion

$$V \rightarrow \emptyset / V C \_ C V$$

$$[+syll] \rightarrow \emptyset / [+syll] [-syll] \_ [-syll] [+syll]$$

This rule deletes a vowel which is preceded by a vowel plus a single consonant, and followed by a single consonant plus a vowel.

As I am currently analyzing the problem of vowel insertion and deletion in Southeastern Pomo, this rule is necessary only within the pronominal system. An analysis of verb suffix sequences as consisting of mainly -CV- shaped morphemes, with this rule performing deletions was rejected in favor of an analysis in which suffixes of the shape -C- have vowels inserted by the Post-tonic Vowel Epenthesis rule. This latter analysis seems to be a less complex and ad hoc analysis of the verb than the former. Therefore, both processes of vowel deletion and vowel insertion are being posited for the language.

Examples:

- /ʔo+mal+ay/ 'they(non-displaced)'
1. ʔó+mal+ay
  23. ʔó+ml+ay
  24. ʔómlay

- /me+mal+ay+il/ 'them(near)'
1. mé+mal+ay+il
  23. mé+ml+ay+il
  24. mémlayil

- /?o+med+it+ib/ 'for her(non-displaced, benefactive)'
1.       ?ó+med+it+ib
  23.      ?ó+md+it+ib
  24.      ?ómditib

#### 4.3.24. Morpheme Boundary Deletion

+ → ∅

$\left[ \begin{array}{l} -\text{seg} \\ +\text{Morpheme Boundary} \end{array} \right] \rightarrow \emptyset$

This rule deletes all occurrences of morpheme boundary, which has no phonetic realization.

## NOTES TO PART TWO

<sup>1</sup>Paul Postal, Aspects of Phonological Theory. Harper and Row (New York, 1968), pages 66-69.

<sup>2</sup>Noam Chomsky and Morris Halle, The Sound Pattern of English. Harper and Row (New York, 1968), pages 312-314.

<sup>3</sup>This section is based on the theoretical framework presented in Richard Stanley, "Redundancy Rules in Phonology", Language vol. 43 (1967), pages 393-436.

<sup>4</sup>Chomsky and Halle, pages 9-11.

## PART THREE - VERB MORPHOLOGY

## Chapter Five. Introduction and Positional Analysis

## 5.1. Introduction to the Morphology

Parts Three and Four will consist of an inventory of the grammatical morphemes of Southeastern Pomo, that is, inflectional and derivational affixes and postfixes, pronominal elements, and adverbials. Each entry will include the underlying phonological shape of the morpheme, a description of its syntactic-semantic properties, and examples of its use. Full sentence examples will be given only in those instances where the nature of the morpheme warrants it, such as a coordinating suffix.

The inventory nature of this section should be emphasized. Except for a positional analysis of the verb complex, a systematic treatment of the morphemes within the total grammar will not be undertaken. Information such as the mechanism of introducing a particular morpheme, whether by phrase structure rewrite or by transformational rule, will be given in Part Five.

## 5.2. Positional Analysis

A chart of the surface configuration of verb morpheme positional classes will be presented in this

section. The sequence of suffix positions represents a maximum extrapolation, since no single verb form contains a member of each position class. Note that several morphemes have been found to occur in more than one position, although not with a single verb stem, except when there is more than one occurrence of the causative suffix.

There are twelve suffixes which, due to a great deal of homonymy, have only four underlying representations among them: -q-, -m-, -k- and -c̣-. To facilitate the interpretation of the examples given, each of these twelve morphemes will be indicated by the phonological shape with a subscript letter which indicates which morpheme is being represented, such as q<sub>c</sub>, q<sub>p</sub>, q<sub>x</sub>, etc. This is a purely morphemic notation, and has no morphophonemic significance.

A distinction was made, in certain phonological rules in Chapter Four, between final position and non-final position suffixes. Position 14 contains those morphemes which are being called final position, including modal, aspectual, deverbalizing, and sentence conjoining elements. Every verb form must include one of these morphemes, and may additionally follow it with one of a number of interrogative, evidential, conjoining, and modal suffixes, listed in position 15. These latter

suffixes will be termed 'enclitics', because they follow morphemes which are, for phonological and syntactic reasons, called final position suffixes.

This chart serves as the Surface Suffix Ordering Constraint, as outlined in section 13.3.28.

DIRECTIONAL PREFIXES	+	INSTRUMENTAL PREFIXES	+	VERB ROOT	+	<u>REDUPLICATIVE MORPHEMES</u>
						HAB 'habitual'
						INTS 'intensive'
						DISTR 'distributed'
						ITCOM 'iter. to comp.'
						PLS 'plural source'
						PLF 'plural figure'
						ITER 'iterative'

<u>SUFFIX POSITION 1</u>	+	<u>SUFFIX POSITION 2</u>
-b- 'intensive change'		<u>DIRECTIONALS</u>
-š- 'forceful contact'		-mlu- 'circulative'
-p- 'with force'		-qla- 'downward'
-t- 'iterative'		-qlo- ~ -ql- 'upward'
-y- 'plural figure'		

<u>SUFFIX POSITION 3</u>	+	<u>SUFFIX POSITION 4</u>
-m <sub>g</sub> - 'down towards a surface'		-m <sub>1</sub> - 'iterative'
-q <sub>c</sub> - 'causative'		-n- 'figure separation'
-q <sub>p</sub> - 'non-singular'		
-q <sub>x</sub> - 'to away from'		

<u>SUFFIX POSITION 5</u>	+	<u>SUFFIX POSITION 6</u>
-mku- 'reciprocal'		-k <sub>i</sub> - 'inceptive'
-w- 'plural action'		-k <sub>p</sub> - 'plural figure, source'
		-k <sub>s</sub> - 'semelfactive'

<u>SUFFIX POSITION 7</u>	+	<u>SUFFIX POSITION 8</u>
-m <sub>p</sub> - 'plural source'		-c <sub>r</sub> - 'reflexive'
-c <sub>x</sub> - 'to away'		-k <sub>p</sub> - 'plural figure, source'

<u>SUFFIX POSITION 9</u>	+	<u>SUFFIX POSITION 10</u>
-l- 'durative'		-c <sub>p</sub> - 'plural action'
		-q <sub>c</sub> - 'causative'
		-q <sub>p</sub> - 'non-singular'
		-k <sub>i</sub> - 'inceptive'

<u>SUFFIX POSITION 11</u>	+	<u>SUFFIX POSITION 12</u>
-xot- 'negative'		-tta- 'dual'

<u>SUFFIX POSITION 13</u>	+
<u>MODE</u>	
-d- 'potential'	
-dey- 'about to'	
-mlaʔm- 'almost'	



## SUFFIX POSITION 14

MODE

-a 'imperative'  
 -da 'future conditional'  
 -dowa 'hortative'  
 -hine 'imperf. optative'  
 -k'li 'inabilitive'  
 -wa 'impersonal agent'

ASPECT

-kle 'habitual'  
 -s 'negative imperfective'  
 -t 'positive imperfective'  
 -ya 'perfective'

DEVERBALIZERS

-baq 'past passive part.'  
 -m 'instr. or place nom.'  
 -n 'absolutive'

CONJOINING ELEMENTS

-btonwa 'after'  
 -day 'simultaneous'  
 -fed 'conditional'  
 -fla 'sequential'  
 -qat 'when'  
 -yukin 'before-switch reference'

## POSITION 15

## ENCLITICS

CONJOINING ELEMENT

-miṭ 'identical subj.'

INTERROGATIVES

-?e 'interrogative'  
 -?ha 'yes-no interrogative'  
 -we 'locative interrogative'

EVIDENTIALS

-do 'quotative'  
 -qo 'introspective'  
 -ya 'visual'

MODE

-y 'perfective optative'

## Chapter Six. Directional Prefixes

Most of the directional affixes are prefixed to the verb stem. The few directional suffixes are treated in Chapter Ten.

### 6.1. bay- 'to the outside of an enclosed area'

Examples:

/bay+a+q<sub>x</sub>+t/ → báyaqat 'I goes outside'

/bay+ʼce+q<sub>x</sub>+t/ → báycʼèqat 'I takes it out of the house'

/bay+cnu+q<sub>x</sub>+t/ → báycnùqat 'preach'

/bay+do+q<sub>x</sub>+t/ → báydòqat 'stick your head out through  
a window'

/bay+qʼtu+l+t/ → báqʼtùlit 'spit something out'

/bay+k+ʼa+q<sub>p</sub>+n+c<sub>p</sub>+t/ → báykʼàqancit 'he chased them out  
of the corral'

### 6.2. cal- 'to home'

This is made up of the stem ca 'house' and the object suffix -il.

Examples:

/cal+ʼye+q<sub>p</sub>+dowa/ → cályèqdowa 'let's go home'

/cal+o+t/ → cálot 'go home!'

## 6.3. dul- 'to across a body of water'

Examples:

/dul+fli+t/ → dúlflít 'move residence to across the river'

/dul+xka+t/ → dúlxkàt 'they paddled across the river'

## 6.4. duy- 'through an area, around within an area, along the perimeter'

Examples:

/duy+ci+ya/ → dúyciya 'he walked through, carrying'

/duy+?he+t/ → dúy?hèt 'turn the car around; carry something across the hall'

/duy+?he+ç<sub>r</sub>+t/ → dúy?hèçit 'I receives a non-long object'

/duy+da+t/ → dúydàt 'road runs along the perimeter of the lake'

/duy+kja+t/ → dúykjàt 'ladle or dip out soup, water'

/duy+qlo+q<sub>c</sub>+t/ → dúyqlòqat 'he tipped it over'

/duy+sce+t/ → dúyscèt 'stand in a circle'

/duy+di+t/ → dúydít 'float by on the water, glide by in the air'

/duy+ɬla+t/ → dúyɬlàt 'turn over(in prone position); turn around(in sitting position)'

/duy+xdi+DISTR+t/ → dúyxdìxdít 'drag something around inside an area(like in the sweathouse)'

## 6.5. kuh- 'emerge out of an enclosed space'

## Examples:

/kuh+ʔhe+t/ → kúʔhèt 'bring a non-long object in from the outside or from another room'

/kuh+ca+t/ → kúcàt '(the sun)rises'

/kuh+çì+ç<sub>x</sub>+t/ → kúçìçit 'take something out of an enclosure'

/kuh+ne+t/ → kúnèt 'trees are growing'

/kuh+o+t/ → kúhot 'come out a hole, out of hiding'

/kuh+na+t/ → kúnàt 'smoke comes out of the hole in the top of the sweathouse'

/kuh+kdo+ç<sub>x</sub>+t/ → kúkdòçit 'pull a rope out of a box, a handkerchief out of your pocket'

/kuh+mdi+t/ → kúmdit 'shut the door; put a lid on a jar'

/kuh+mli+t/ → kúmlit 'someone pushes something over to your side of the room; take something out of the room'

/kuh+sce+t/ → kúscèt 'a squirrel peeps up out of a hole; a drill comes through a board'

## 6.6. lil- 'into an enclosed space'

## Examples:

/lil+k+ʔa+n+ç<sub>p</sub>+t/ → lílkʔàncit 'he chased the cattle into the corral'

/lil+bde+t/ → lílbdèt 'put a non-long object into a container'

- /lil+bo+t/ → lílbòt 'he crawled into a tunnel'  
 /lil+ca+t/ → lílcàt '(the sun)sets'  
 /lil+do+t/ → líldòt 'put your hand into a hole, into  
 your pocket'  
 /lil+mli+q<sub>p</sub>+l+t/ → lílmliqlit 'insert one non-long  
 object each into many holes'  
 /lil+mo+t/ → lílmòt 'tunnel goes through'  
 /lil+tle+t/ → líḷtlèt 'fall into a creek'

6.7. ma- 'down to the ground; to a surface'

The difference in meaning between this and maṭ-  
 is not known.

Examples:

- /ma+ni+t/ → mánit 'a tree full of apples falls down'  
 /lamesa ma+di+t/ → làmesa mádit 'set the table'

6.8. mal- 'across water; from water onto land'

This prefix is made up of the stem ma- 'land'  
 plus the object suffix -il.

Examples:

- /mal+ʔše+t/ → málʔšèt 'sit down on the ground after  
 coming out of the water'  
 /mal+ca+q<sub>c</sub>+t/ → málcàqat 'it was washed ashore'  
 /mal+m+sa+t/ → málmsàt 'he brought something in a boat'

/mal+ni+t/ → málnit 'throw an object out of the water onto the land; to fire someone from a job'

/mal+xka+t/ → málxkàt 'he came across the water and landed on shore'

/mal+cki+t/ → máyckit 'go from water onto land'

6.9. maṭ- 'down to a surface, down to the ground'

Examples:

/maṭ+m+ma+t/ → máṭmàt 'he lies down'

/maṭ+k+ma+t/ → máṭkmàt 'he sat down'

/maṭ+sca+t/ → máṭscàt 'he was sitting'

/maṭ+ne+mku+l+t/ → máṭnèmkolit 'they wrestled (down to the ground)'

6.10. mo- 'cease forward motion, stop, come to rest'

Examples:

/mo+di+t/ → módit 'come to a stop on the water'

/mo+kto+t/ → móktòt 'walk along and stop'

/mo+kto+k<sub>s</sub>+t/ → móktòkit 'he stood up; a horse rears'

/mo+ne+t/ → mónet 'lean something against something'

/mo+š+ne+t/ → móšnèt 'put a belt on someone'

6.11. moy- 'up off a surface, up from the ground'

Examples:

/moy+<sup>?</sup>he+b+k<sub>s</sub>+t/ → móy<sup>?</sup>hèbkit 'I picks up a non-long object'

/moy+ca+b+k<sub>s</sub>+t/ → móycàbkit 'a non-long object (bird, helicopter) rises off the ground'

/moy+ca+b+k<sub>s</sub>+t/ → móycàbkit 'a long object (bird, airplane) rises off the ground'

/moy+di+t/ → móydìt 'stuck in the mud' (this seems to mean 'suspended upward in a fluid')

6.12. til- 'thither, away from speaker'

Examples:

/til+ci+ya/ → tílciya 'he carried it away'

/til+o+t/ → tílot 'he left'

/til+?bi+t/ → tíl?bìt 'begin something'

/til+?he+n+c<sub>x</sub>+t/ → tíl?hèncit 'chase away, drive off'

/til+bdi+t/ → tílbđìt 'throw something away'

/til+ca+q<sub>c</sub>+t/ → tílcàqat 'mail something'

/til+fli+t/ → tílflìt 'move, change residence'

/til+mdi+t/ → tílmdìt 'open a door'

/til+ne+t/ → tílnèt 'overtake and pass; throw away, leave behind'

6.13. xol- 'hither, towards speaker'

Examples:

/xol+o+t/ → xólot 'he came'

/xol+yhe+mku+t/ → xólyhèmkut 'they met each other'

/xol+bo+t/ → xólbòt 'an animal or person walks up to you'

## 6.14. xqol- 'outward, to the outside'

## Examples:

/xqol+ne+t/ → xqólnèt 'sing; throw something from the side into the center'

/xqol+xdi+ITER+t/ → xqólxðixðit 'drag something from the inside to the outside of(the sweathouse)'

/xqol+o+t/ → xqólot 'creek running, water running after a storm'

/xqol+ʔhe+c<sub>x</sub>+t/ → xqólʔhècít '1 or 2 take a non-long object out(from a cupboard, etc.)'

/xqol+bu+k<sub>s</sub>+t/ → xqólbùkit 'a boy or girl grows up'

/xqol+ca+k<sub>s</sub>+c<sub>x</sub>+t/ → xqólcàkècít 'spring(season)'

/xqol+dí+t/ → xqóldít 'it floated out from shore'

## 6.15. xuy- 'up to a high position'

/xuy+ma+t/ → xúymàt 'place a long object up high(like on a high shelf)'

/xuy+k+ma+q<sub>c</sub>+t/ → xúykmàqat 'place a non-long object up high'

/xuy+xqo+m<sub>p</sub>+q<sub>c</sub>+t/ → xúyxqòŋqat 'place several objects up high'

## 6.16. yoh- 'downstream, downhill, down along a surface'

## Examples:

/yoh+ci+ya/ → yóciya 'walk down carrying'

/yoh+fli+t/ → yóflit 'move downstream'

/bda yoh+bda+t/ → bdà yóbdàt 'the creek runs downward'



- /yoh+bo+t/ → yóbot 'he crawled downhill'  
 /ʔ+su+n yoh+cya+t/ → ʔsún yóčyàt 'the mark runs downward'  
 /dawa yoh+da+t/ → dáwa yódat 'the road runs downhill'  
 /yoh+di+t/ → yódit 'things float downstream'  
 /yoh+o+t/ → yóhot 'he went downhill'  
 /yoh+kʔa+ITER+t/ → yókʔàkʔàt 'drag something downhill'  
 /yoh+ʔla+t/ → yóʔlàt 'slide, roll downhill'

#### 6.17. yol- 'to away from something'

Examples:

- /yol+bi+t/ → yólbít 'something is left, remains; leave  
 something behind'  
 /yol+k<sub>s</sub>+t wa+q<sub>x</sub>+t/ → yólkít wàqat 'he walked away  
 from it'

#### 6.18. yuy- 'back to(?) (meaning uncertain)'

Examples:

- /yuy+nu+k<sub>s</sub>+c<sub>r</sub>+t/ → yúynùk'cít 'answer(nu-'speak')'  
 /yuy+xbe+k<sub>s</sub>+c<sub>r</sub>/ → yúyxbèkié 'crutch, cane'

## Chapter Seven. Instrumental Prefixes

### 7.1. Introduction

The instrumental prefix system of Southeastern Pomo appears to be considerably more limited than those of the other Pomo languages, both in productivity and in the number of occurring prefixes. This is largely the result of a pre-Southeastern Pomo phonological rule which deleted an unstressed vowel which preceded the stressed root vowel.<sup>1</sup> All of the instrumental prefixes were thereby reduced in shape from CV- to C-, causing extreme homophony. This seems to have resulted in reduced analyzability of the prefixes, their meanings only sporadically isolable from those of the roots.

For the purposes of this grammar, then, the resultant CCV and CCVC stem will be considered single morphemes, except in cases where a prefix is clearly identifiable, and can be combined with several different roots. The question of the synchronic reality of these prefixes in Southeastern Pomo will thus remain open for the present.

For comparative purposes, this section will present prefixes which are clear synchronically, as well as those which may be isolable only on a comparative basis. The cognate forms in Kashaya and Eastern Pomo will be provided for ease of comparison.<sup>2</sup>

## 7.2. Instrumental Prefixes

## 7.2.1. ʔ- 'with the hand'

This prefix corresponds to Eastern Pomo /da·-/  
and Kashaya /da-/. It is ʔ- rather than d- because of  
a pre-Southeastern Pomo phonological rule

$$d \rightarrow ʔ / \_ C$$

which resulted in the Southeastern Pomo sequence struc-  
ture condition that d may not be followed by a consonant.

Examples:

/ʔ+boʔ+k<sub>s</sub>+t/ → ʔbóʔkit 'pull a plant up out of the  
ground'

/ʔ+dut<sup>!</sup>+l+t/ → ʔdútlit 'touch, nudge with the hand'

/ʔ+ke+t/ → ʔkét 'hold or grab something'

/ʔ+liw+k<sub>s</sub>+t/ → ʔlíwkit 'gesture with the hand; wave'

/ʔ+sat+t/ → ʔsátit 'feel something with the hands'

/ʔ+ta+n/ → ʔtán 'a hand'

/ʔ+te+š+k<sub>s</sub>+t/ → ʔtéškit 'pat something with the hands'

## 7.2.2. ʔ- 'action by natural forces, by gravity'

This prefix corresponds to Eastern /di·-/  
Kashaya /di-/.

Examples:

/ʔ+beʔ+t/ → ʔəbéʔit 'destroy, run out of'

/ʔ+qay+t/ → ʔəqáyit 'a boat rocks; something turns over'

/ʔ+ʔat+k<sub>s</sub>+t/ → ʔəʔátkit 'crack (an egg)'

/ʔ+te+š+k<sub>s</sub>+t/ → ʔətéškit 'a bear jumps a man and brings  
him down'

/ʔ+ʔut+k<sub>s</sub>+t/ → ʔʔútkit 'get a man down, wrestling'

### 7.2.3. ʔ- 'with one or more fingers or claws'

This is cognate with Eastern /du·-/ and Kashaya  
/dũ-/.

Examples:

/ʔ+ćin+t/ → ʔćinit 'pinch someone'

/ʔ+lot+t/ → ʔlótít 'touch with the finger'

/ʔ+ʔaʔ+k<sub>s</sub>+t/ → ʔəʔáʔkit 'scratch with fingers, claws'

### 7.2.4. b- 'with a protrusion; with the mouth, tongue, beak; talking, eating'

This is cognate with Eastern /ba·-/ and Kashaya  
/ba-/.

Examples:

/b+káʔ+t/ → bkáʔít 'say something wrong; lie' (compare  
with ʔkáʔít 'do something wrong')

/b+qoy+t/ → bqóyít 'to chop something into two pieces'

/b+cok+l+t/ → bcóklit 'fish nibbles, pulls on line'

/b+ko+ITER+k<sub>s</sub>+t/ → bkóbkòkit 'bird pecks'

/b+lat+k<sub>s</sub>+t/ → blátkit 'he's licking it'

/b+lit+k<sub>s</sub>+q<sub>c</sub>+t/ → blítkiqat 'stick out the tongue'  
 /b+lo+HAB+l+t/ → blóblòlit 'he mumbles'  
 /b+ʔok'+t/ → bʔók'it 'woodpecker pecks'  
 /b+xu•tu+k<sub>s</sub>+c<sub>r</sub>+t/ → buxú•tuk'cit 'pucker up the mouth'  
 /b+yi+q<sub>c</sub>+t/ → byíwat 'advise, lecture, preach'

7.2.5. b- 'handling a number of objects; gathering;  
 by sewing'

This corresponds to Eastern /bi•-/ and Kashaya  
 /bi-/.

Examples:

/b+ʔi+l+t/ → bʔélit 'gather food'  
 /b+ho+w+l+t/ → bhówlit 'he's stringing beads'  
 /b+di+q<sub>c</sub>+t/ → bdiqat 'hand someone a bunch of arrows'  
 /b+šut'+t/ → bšút'it 'she's sewing'

7.2.6. c- 'with the front end, by flowing water'

This is cognate with Kashaya /cǔ-/ and may be  
 related to Eastern /ku•-/.

Examples:

/c+do+t/ → cdót 'see'  
 /c+ki+t/ → ckít 'bird alights; car, train stops'  
 /c+lot+t/ → clótit 'scrape something off; paint'

/c+wi+t+ITER+t/ → cwítcwítit 'bow a violin'  
 /c+wol+ITER+k<sub>s</sub>+t/ → cwólcwòlkit 'he stirred it'  
 /c+xuṭ+t/ → cxuṭit 'he sipped it'  
 /c+xol+k<sub>s</sub>+t/ → cxólkit 'it's leaking'

7.2.7. c- 'with a massive object, with a knife'

This corresponds to Kashaya /ca-/ and possibly to Eastern /ka·-/.

Examples:

/c+yeṭ+q<sub>c</sub>+t/ → čiyétqat 'to iron clothes'  
 /c+qa+t/ → cqát 'he put it down'  
 /c+x̣aw+q<sub>c</sub>+t/ → cx̣áwqat 'he cut it down with a swinging motion'  
 /c+xat+k<sub>s</sub>+t/ → cxátkit 'strip a bunch of hops off a stem in one motion'

7.2.8. č- 'momentaneous, intensive action, projecting from a surface'

This is cognate with Eastern /či-/.

Examples:

/č+daṭ+k<sub>s</sub>+t/ → čdáṭkit 'splatter; he spit and his spit splattered'  
 /č+le+t+t/ → člétit 'it's dripping'

/č+mu+INTS+k<sub>s</sub>+t/ → čmúčmùkit 'he smiled'

/č+te+q<sub>c</sub>+k<sub>s</sub>+t/ → čtéxkit 'he sneezed'

/č+xuťuk/ → oxúťuk 'wart'

7.2.9. f- 'with the end of a long object'

This is cognate with Eastern /p<sup>h</sup>a·-/ and Kashaya /p<sup>h</sup>a-/.

Examples:

/fa+dak+t/ → fádakit 'to dress a deer'

This verb stem is unusual in its preservation of the prefix vowel, if the above segmentation is correct. The stress apparently moved back onto the prefix before that vowel was deleted.

/f+ťik+t/ → fťíkit 'whip, beat someone'

/f+ťam+q<sub>c</sub>+t/ → fťámqat 'he lit the lamp'

7.2.10. f- 'with the side of a long object; piercing'

This is cognate with Eastern /p<sup>h</sup>i·-/ and Kashaya /p<sup>h</sup>i-/.

Examples:

/f+luť+k<sub>s</sub>+t/ → flúťkit 'he dented it'

/f+qa+l+t/ → fqálit 'knock nuts off a tree'

7.2.11. k- 'poking, piercing, pounding, squeezing, mashing'

This probably corresponds to both /ka·-/ and /ku·-/ in Eastern.

Examples:

/k+du<sup>h</sup>ŋ+k<sub>s</sub>+t/ → kdú<sup>h</sup>ŋkit 'poke, jab with finger'

/k+ca+t/ → kcát 'to kick'

/k+cu+š+k<sub>s</sub>+t/ → kcúškit 'he poked it with a stick'

/k+čok'+k<sub>s</sub>+t/ → kc'ók'kit 'hit someone with your fist'

/k+luc+k<sub>s</sub>+t/ → klúckit 'he rolled a cigarette'

/k+lu<sup>h</sup>t+DISTR+k<sub>s</sub>+t/ → klú<sup>h</sup>tklù<sup>h</sup>tkit 'it's dented up all over'

/k+nil+t/ → knílit 'pound, grind'

/k+šu+ITER+t/ → kšú<sup>h</sup>kšù<sup>h</sup>t 'he poked around with a stick'

/k+ŋal+k<sub>s</sub>+t/ → kŋálkit 'slap someone'

/k+to+k<sub>s</sub>+t/ → któkit 'he took a step'

/k+ŋuk'+k<sub>s</sub>+t/ → kŋú<sup>h</sup>ʔkit 'he punched a hole in it, pierced it'

/k+ŋat+t/ → kŋátit 'squash, step on, mash'

/k+ŋet+k<sub>s</sub>+t/ → kŋétkit 'run over with a car, mash'

/k+ti+t/ → ktít 'stab, spear, impale, poke with finger'

/k+ti+k<sub>1</sub>+t/ → ktíkit 'bump into, hit, run into'

/k+ti+m<sub>1</sub>+t/ → ktímat 'beat a drum'



7.2.12. m- 'with a projection at the end of a long object; with the fingers, with the butt of the hand, with the foot'

This is cognate with Eastern /ma·-/ and Kashaya /ma-/.

Examples:

/m+dut+k<sub>s</sub>+t/ → mđútkit 'squeeze with the fingers'

/m+čal+k<sub>s</sub>+t/ → mčáلكit 'squeeze in arms, hands; wring out clothese'

/m+li+k<sub>s</sub>+t/ → mlíkit 'throw many objects, a bunch of sticks'

/m+na+k<sub>s</sub>+t/ → mnákit 'to pay'

/m+řak+k<sub>s</sub>+t/ → mřá?kit 'press it down with the hand'

/m+řek+k<sub>s</sub>+t/ → mřé?kit 'step on, mash, smash with the foot; depress the gas pedal'

/m+te+š+k<sub>s</sub>+t/ → mtěškit 'pat, slap with both hands'

/m+řat+k<sub>s</sub>+t/ → mřátkit 'strip a bunch of hops off a stem in one motion'

7.2.13. m- 'with internal energy; with heat, exploding, burning; with the emotions'

This is cognate with Eastern /mu·-/ and Kashaya /mŭ-/.

## Examples:

/m+bol+k<sub>s</sub>+t/ → mbólkit 'pop, explode, blow up; tire blows, bacon pops, balloon pops'

/m+ho+l+t/ → mhólit 'wood turns to charcoals'

/m+lu+t/ → mlút 'bake, roast'

/m+ta+t/ → mtát 'be cooked, sunburned'

/m+te+k<sub>s</sub>+t/ → mtékit 'be hot, warm; have a fever'

/m+cay+m<sub>i</sub>+c<sub>r</sub>+t/ → mcáymacit 'to hate'

/m+co+q<sub>c</sub>+c<sub>r</sub>+t/ → mcóqcit 'be ashamed'

/m+feɬ/ → mféɬ 'skunk'

/m+doyo+k<sub>s</sub>+t/ → mdóyokit 'sour'

/m+qay+t/ → mqáyit 'sweet'

/m+xu·tu+k<sub>s</sub>+t/ → mxú·tukit 'shrivel up; be wrinkled up'

/m+xe+c<sub>r</sub>+t/ → mxécit 'it has an odor(not necessarily bad)'

## 7.2.14. m- 'with the projected end of an object'

This is cognate with Eastern /mi·-/ and Kashaya

/mi-/.

## Examples:

/m+pu+k<sub>s</sub>+t/ → mpúkit 'to whistle, blow a whistle'

/m+di+l+t/ → mdélit 'to fish with a dip net'

/m+do+q<sub>c</sub>+t/ → mdóqat 'to kill'

/m+qo+q<sub>c</sub>+t/ → mqóqat 'to holler, shout'

/m+ᵗo+q<sub>c</sub>+k<sub>s</sub>+t/ → mᵗóqkit 'smack the lips' (This form exceptionally does not undergo Spirantization. It may also be pronounced mᵗóxkit.)

7.2.15. q- 'with a biting, scratching, tearing, mashing action'

This is cognate with Eastern /qa·-/ and Kashaya /qa-/.

Examples:

/q+beᵗ+t/ → qbéᵗit 'to eat all the food up; to scratch'

/q+ce+k<sub>s</sub>+t/ → qcékit 'to eat along with, in addition to'

/q+ne+t/ → qnéᵗ 'to bite'

/q+ne+c<sub>p</sub>+t/ → qnécít 'eat the same food day after day'

/q+se+q<sub>c</sub>+ya/ → qséqya 'canned food'

/q+ᵗay+l+t/ → qᵗáylit 'to tell something (archaic)'

/q+šul+l+t/ → qšúllit 'peel buckeye, corn'

/q+ᵗa+m<sub>1</sub>+t/ → qᵗámat 'rusty, mildewed'

/q+ᵗat+ITER+k<sub>s</sub>+t/ → qᵗátqᵗàtkit 'mash'

7.2.16. s- 'cutting, slicing, shearing'

This is probably cognate with Eastern /sa·-/.

Examples:

- /s+qoy+t/ → sqóyit 'cut with scissors; saw off'  
 /s+da+t/ → sdát 'peel(fruit or vegetable)'  
 /s+da+t+k<sub>s</sub>+t/ → sdátkit 'slice bread'  
 /s+kóṭ+l+t/ → skóṭlit 'he shovelled all day'  
 /s+pá+m<sub>i</sub>+t/ → spámat 'mouse gnaws'  
 /s+ka+b+k<sub>s</sub>+t/ → skábkit 'cut with knife, tear, slash,  
 rip'  
 /s+qol+t/ → sqólit 'cut hair, feathers with shears'

7.2.17. s- 'with water'

This is cognate with Eastern /si·-/ and Kashaya /si-/.

Examples:

- /s+coṭ+t/ → scoṭit 'it's melting'  
 /s+wo+ITER+k<sub>s</sub>+c<sub>p</sub>+t/ → swóswòk'cit 'gargle'  
 /s+wo+t+k<sub>s</sub>+q<sub>c</sub>+t/ → swótkiqat 'dissolve'  
 /s+di+q<sub>c</sub>+t/ → sdíqat 'swallow'

7.2.18. š- 'with a long, often flexible object'

This is cognate with Eastern /k<sup>h</sup>i·-/ and Kashaya /c<sup>h</sup>i-/.

Examples:

- /š+bu+t/ → šbút 'weave a basket'

/š+da+t/ → šdát 'make mush'

/š+dok+k<sub>s</sub>+t/ → šdóʔkit 'make a dent; a gully or depression in the ground'

/š+lu+l+c<sub>r</sub>+t/ → šlóycit 'snake sheds its skin' (This form shows that phonological rule 12. Vowel Lowering must precede phonological rule 20. Liquid Palatalization.)

/š+ne+t/ → šnét 'put a belt or headband on someone'

/š+ʔa+p+q<sub>c</sub>+t/ → šʔápqat 'snap your fingers'

#### 7.2.19. š- 'spreading out, stretching'

This is probably cognate with two prefixes in Eastern Pomo, /k<sup>h</sup>u·-/ and /t<sup>h</sup>i·-/.

Examples:

/š+ʔo+t/ → šʔót 'leach acorns'

/š+ki+t/ → škit 'catch in a trap, in a net'

/š+mo/ → šmó 'foam'

/š+ʔay+t/ → štáyit 'bleed someone; cut with a flint'

/š+wu+k<sub>s</sub>+t/ → šwúkit 'melt, thaw out'

#### 7.2.20. x- 'break, undo'

This is probably cognate with Kashaya /ha-/, and maybe with Kashaya /hi-/.

Examples:

/x+lo+k<sub>s</sub>+t/ → xlókit 'unwind, tear down, erase'

/x+moɬ+t/ → xmoɬit 'snore'

/x+qa+b+k<sub>s</sub>+t/ → xqábkit 'break in a door'

/x+qoy+t/ → xqóyit 'fell a tree'

/da x+di+q<sub>c</sub>+s/ → da xdíqas 'he doesn't know'

## Chapter 8. The Verb Root

### 8.1. Introduction

A syntactic analysis of a language should include as an integrated sub-part a presentation of the verb stem and affixal systems. The criterial categories which the particular language abstracts out of the experiential continuum should be given, and the system in which they are embedded should be characterized at the most abstract deep structure or generative semantic level. Finally, to validate the empirical reality of the deep analysis, there should be a set of transformations relating such a system to observed surface configurations.

This analysis of the Southeastern Pomo verb will fall short of this goal. What is being presented is a syntactic-semantic characterization of each affix, and an analysis of a small but significant sub-part of the verb root system, which I will term the motion-configurational system. This includes the verbs of motion, position, giving, carrying, throwing, and placing of objects.

An informal presentation of the prelexical structure of these roots will be given first.<sup>3</sup> Then the roots will be listed in sets which are suppletive for the number of the 'figure' or 'theme'.<sup>4</sup> Gruber defines 'theme' as the noun phrase in the sentence

which "may be in motion in a concrete or in an abstract sense, manifesting a change of position, possession, class membership, activity, etc."<sup>5</sup>

Each verb root will be defined first according to the prelexical components which I believe are involved, and then by various English translations supplied by the informants. Some examples of the use of these roots will be given in this chapter, and further examples will be found throughout the verb morphology.

## 8.2. Motion-configurational Prelexical Elements

In this section the prelexical elements which define this subset of the verb root system will be presented. They will be formalized into binary features for notational convenience only, but these features may be indicative of real categories in the language. The elements fall into seven categories:

- 1) Presence or absence of source of motion
- 2) Figure-source relationship
- 3) Shape of figure
- 4) Orientation of figure
- 5) Position of figure with respect to the medium
- 6) Motion of figure
- 7) Number of figure



### 8.2.1. Presence or Absence of Source of Motion

The set of verb roots can be bifurcated on the criterion of whether or not a 'source of motion' (in Gruber's sense) is specified. For the verbs treated in this section, those which indicate presence of source are transitive and those indicating absence are intransitive. This distinction will be formalized by the feature [+source present]. [+source present] verbs indicate carrying, placing, giving and throwing, and [-source present] verbs indicate stationary position or motion. [-source present] verbs can be changed to [+source present] by the addition of the suffix -q<sub>c</sub>- 'causative'.

### 8.2.2. Figure-source Relationship

[+source present] verbs may be further distinguished by the spatial (and extended meanings) relationship between the figure and the source. The figure may be in contact with the source, out of contact and moving away from the source, or may be transferred from one source to another.

These distinctions will be represented by the features [+figure contact] and [+figure transfer]. [+figure contact] verbs indicate holding and carrying, [-figure contact] verbs indicate such things as throwing

and sending, and [+figure transfer] verbs indicate giving. In addition, a verb root marked [+figure contact] may be changed to [-figure contact] by the addition of the suffix -n- 'figure separation'.

### 8.2.3. Shape of Figure

Many of these roots specify the shape of the figure involved. The classification is basically between plural(or mass), and between long and non-long objects. In addition, the [+figure contact] or carrying verbs distinguish between animate and inanimate objects. With other verbs, animate objects are considered either long or non-long. The features used to indicate these distinctions are [+long], [+mass] and [+animate].

### 8.2.4. Orientation of Figure

If a figure is marked [+long], its orientation, whether horizontal(lying)or vertical(standing)may be indicated by the verb root. This will be specified by the feature [+vertical].

### 8.2.5. Position of Figure with Respect to the Medium

Basically, a two-way distinction is made as to the medium that the figure is positioned in relation to. It is either positioned on a surface or within a fluid.

The fluid may be air or water, a distinction made by some roots, but not by others (such as -di- which is 'suspended in a fluid', but xka- 'come to land from out of water'). It is probably the case that the distinction is not between types of fluid, but between the kinds of actions possible in the environment of air or water specifically. The distinction will be indicated by [+surface], [-surface] meaning positioning within a fluid. Plural or mass figures positioned on a surface may be specified to be distributed over the surface, indicated [+distributed]. Finally, at least one pair of roots distinguishes between the ground and other surfaces, so a feature [+ground] is necessary.

Some verb roots indicate transfer of a figure from one medium to another, such as from air to land, water to land, or land to water. A notation like [+surface] → [-surface] meaning 'from a surface into a fluid' will be used. At least one verb also indicates greater forcefulness in the transfer, so a feature [+force] will be used. Also, a feature [+from water] is necessary to distinguish water-to-land motion from air-to-land motion in a few instances.

### 8.2.6. Motion of Figure

Motion can be specified by a four-way distinction for the roots treated here: a figure is at rest, in translatory motion, in rotation around an axis, or passing from an in-motion state to an at-rest state. These will be indicated by the features [+motion], [+translatory], [+rotation, and [+end motion]. [-end motion] can be changed to [+end motion] by the addition of the suffix -b- 'intensive change in motional state'.

### 8.2.7. Number of Figure

The majority of motion-configurational roots are suppletive for singular, dual and plural/mass figure number. Some roots make only a two-way distinction, between singular/dual and plural figure.

Therefore, the feature notation for number of figure will be [+plural] and [+dual].

### 8.2.8. Internal Relationships of the Features

Although no theoretical claim is being made that the above features are an adequate representation of the semantics of these verb roots, in this section some statements of hierarchy and redundancy within this feature system will be given.

1. [+source present]  $\rightarrow$   $\left[ \begin{array}{l} +\text{figure contact} \\ +\text{figure transfer} \end{array} \right]$
2. [-mass]  $\rightarrow$   $\left[ \begin{array}{l} +\text{long} \\ +\text{animate} \end{array} \right]$
3. [+surface]  $\rightarrow$  [+ground]
4. [+motion]  $\rightarrow$   $\left[ \begin{array}{l} +\text{translatory} \\ +\text{rotational} \\ +\text{end motion} \end{array} \right]$
5. [-plural]  $\rightarrow$  [+dual]
6.  $\left[ \begin{array}{l} +\text{mass} \\ +\text{surface} \end{array} \right]$   $\rightarrow$  [+distributed]
7. [+long]  $\rightarrow$  [+vertical]
8. [+figure contact]  $\rightarrow$  [+animate]
9. [+plural]  $\rightarrow$  [+mass]
10. [+motion]  $\rightarrow$  [-distributed]
11.  $\left\{ \begin{array}{l} [+figure contact] \\ [+figure transfer] \end{array} \right\}$   $\rightarrow$  [+source present]
12.  $\left\{ \begin{array}{l} [+long] \\ [+animate] \end{array} \right\}$   $\rightarrow$  [-mass]

13. [+ground] → [+surface]
14.  $\left\{ \begin{array}{l} [+translatory] \\ [+rotational] \end{array} \right\} \rightarrow [+motion]$
15. [+dual] → [-plural]
16. [+distributed] →  $\left[ \begin{array}{l} +mass \\ +surface \end{array} \right]$
17. [+vertical] → [+long]
18. [+animate] → [+figure contact]

### 8.3. The Verb Roots

The motion-configurational verb roots will now be listed. It should be noted that the feature notation is not intended to fully characterize the semantics of the roots, but only to maintain some distinctness between them. It seems clear that if binary feature notation is to be used at all in semantics, the distinctness convention utilized in phonology cannot be maintained. Morphemes must be differentiable by the specification or lack of specification of a given feature, that is, a third value, which will be indicated [+Feature].

Singular, dual and plural/mass number will be indicated here and elsewhere in the grammar as 1, 2

and 3, rather than as [-plural, -dual], [-plural, +dual] and [+plural].

8.3.1.	ca-	1	[-source present +surface +translatory]
	ko-	2	
	mha-	3	

'motion over a surface; run, fly, flow'

Examples:

/ca+m<sub>l</sub>u+l+t/ → cámlolit '1 runs around a point, or within an area, or flies around in the sky'

/ko+m<sub>l</sub>u+l+t/ → kómlolit '2...'

/mha+m<sub>l</sub>u+l+t/ → mhámlolit '3...'

/ca+l+t/ → cálit '1 runs, flies; water flows slowly'

/ca+l+q<sub>p</sub>+m<sub>1</sub>+q<sub>c</sub>+t/ → cálqmaqat 'they're playing ball'

8.3.2.	wa- ~ -a- ~ -o-	1	[-source present +surface +translatory]
	yhe-	2	
	?ye-	3	

'motion along a surface; walk, go'

The semantic difference between ca- and wa- is not adequately characterized by the features. The difference seems to be between 'moving along progressively'(ca-) and simply 'going'(wa-). The former seems to indicate

a more flowing kind of motion, the latter usually less so.

The allomorphy for the singular morpheme can be expressed by the following ordered readjustment rules:

- 1) wa → a / bay \_\_\_
- 2) wa → o / dir. prefix \_\_\_
- 3) wa → wa

Examples:

- /wa+l+t/ → wálit '1 is walking'  
 /yhe+l+t/ → yhélit '2...'  
 /ʔye+l+t/ → ʔyélit '3...'  
 /wa+l+k<sub>1</sub>+t/ → wáلكit '1 started walking'

8.3.3.	di-	1	-source present -surface { -motion } { [+motion +translatory] }
	li-	2	
	li+t-	3	

'moving or hovering while suspended in and being buoyed up by a fluid; float in water, glide in air, be stuck in mud'

The plural is formed from the dual plus the suffix -t- 'iterative'.



## Examples:

/duy+di+t/ → dúydít '1 floats by on water, glides by  
in the air'

/duy+li+t/ → dúylít '2...'

/duy+li+t+t/ → dúylítit '3...'

/di+m<sub>g</sub>+t/ → dímat '1 hangs in the air or floats on  
the water(stationary)'

/li+m<sub>g</sub>+t/ → límat '2...'

/li+t+PLF+t/ → lítlítit '3...'

/di+b+k<sub>g</sub>+t/ → díbkit '1 floats along and comes to a  
stop on the water'

8.3.4. bhe- 1,2                   [-source present]  
          mya- 3                   [-surface]  
                                  [+motion]

'motion through a fluid; swimming'

## Examples:

/bhe+l+t/ → bhélit '1 swims'

/bhe+tta+t/ → bhéttat '2...'

/mya+t/ → myát '3...'

/bhe+mlu+l+t/ → bhémlólit '1 swims around'

8.3.5. q̇lo- 1,2,3                   [-source present]  
                                  [+surface]  
                                  [+translatory]  
                                  [+rotational]

'rolling motion along a surface; wheel rolls'

Examples:

/qlo+l/ → qlól 'wheel'

/qlo+ITER+k<sub>s</sub>+t/ → qlóqlòkit 'the wagon is rolling along'

8.3.6.	bo-	1	[-source present +surface -vertical +translatory]
	bla-	2	
	mha-	3	

'motion along a surface, long object horizontally;  
crawl, walk on all fours, snake moves'

Examples:

/bo+l+t/ → bólit '1(baby, snake)crawls, moves'

/bla+l+t/ → blálit '2...'

/mha+l+t/ → mhálit '3... ; mudhens swimming along on  
the surface of the water'

/bo+k<sub>1</sub>+t/ → bókit 'baby starts crawling'

/bo+qlo+q<sub>c</sub>+t/ → bóqloqat '1(dog, baby)crawls uphill;  
up to you'

/bla+qlo+q<sub>c</sub>+t/ → bláqloqat '2...'

/mha+qlo+q<sub>c</sub>+t/ → mháqloqat '3...'

8.3.7.	qa-	1,2,3	[-source present +translatory [+surface] → [-surface]]

'motion into a fluid medium; dive into water,  
swim'

Examples:

/qa+k<sub>s</sub>+t/ → qákit '1 dives in'

/qa+k<sub>s</sub>+tta+t/ → qáktat '2...'

/qa+m<sub>p</sub>+t/ → qámat '3...' or '1,2,3 swim'

8.3.8. sca- 1

mye- 2

blo- 3

-source present
-long
+surface
-motion

'non-long object rests on a surface; sit(the  
human body in a sitting position is [-long])'

Examples:

/maʔ+sca+t/ → máʔscát 'he's sitting down'

/sca+t/ → scát 'he's sitting, staying; he's alive;  
it's sitting there'

/mye+m<sub>g</sub>+t/ → myémat '2 are seated, sitting'

/blo+m<sub>g</sub>+t/ → blómat '3...'

8.3.9. kto- 1

no- 2

blo- 3

-source present
+long
+vertical
+surface
-motion

'long object rests on a surface in a vertical position; stands'

Examples:

/kto+m<sub>g</sub>+t/ → któmat '1 stands still; faces towards something'

/no+m<sub>g</sub>+t/ → nómat '2 stand still'

/blo+m<sub>g</sub>+t/ → blómat '3...'

/kto+k<sub>1</sub>+t/ → któkit '1 steps on something'

/kto+m<sub>g</sub>+tta+t/ → któmtat '2 face towards something'

8.3.10.	mṭi-	1	<table border="1"> <tr><td>-source present</td></tr> <tr><td>+long</td></tr> <tr><td>-vertical</td></tr> <tr><td>+surface</td></tr> <tr><td>-motion</td></tr> </table>	-source present	+long	-vertical	+surface	-motion
-source present								
+long								
-vertical								
+surface								
-motion								
	bṭi-	2						
	ṣqo-	3						

'long object rests on a surface in a horizontal position; lies'

Examples:

/mṭi+t/ → mṭít '1 person, log, animal is lying down'

/bṭi+t/ → bṭít '2...'

/mṭi+tta+t/ → mṭíttat '2...'

/ṣqo+m<sub>p</sub>+t/ → ṣqómat '3...'

/ṣqo+m<sub>p</sub>+q<sub>p</sub>+a/ → ṣqómqa 'lie there!'

/ṣqo+m<sub>g</sub>+q<sub>c</sub>+a/ → ṣqórqa 'put it down there!'

The penultimate example is an exception to the

Nasal Backing rule. This may be due to pressure to keep the last two examples from being homophonous.

8.3.11. sce- 1,2,3

-source present
+mass
+surface
-motion
+distributed

'objects distributed on a surface'

Examples:

/xos sce+t/ → xòs scét 'people sitting or standing  
around in a circle'

/sce+n/ → scén 'rain'

/sce+n sce+k<sub>p</sub>+t/ → scèn scékit 'it's raining'

8.3.12. ṭla- 1

ṣ̌ta- 2

x̣qo- 3

-source present
+long
{+surface
[-surface] → [+surface]}
-vertical
+rotational
+translatory

'long object turns on horizontal axis; turn over in bed; airplane takes off; person rolls onto the ground and lies there; someone falls; houses stand in a row(extended meaning?)'

## Examples:

/t̥la+ya/ → t̥láya '1 fell(into the lake, from a boat)'

/t̥la+q<sub>c</sub>+t/ → t̥láqat '1 fell down'

/š̥t̥a+q<sub>c</sub>+t/ → š̥t̥áqat '2...'

/x̥qo+q<sub>c</sub>+t/ → x̥qóqat '3...'

/myo t̥la+m<sub>i</sub>+q<sub>c</sub>+c̥<sub>r</sub>+t/ → myò t̥lámq̥cit 'feel sorrow, grief  
(myo 'heart)'

/ca t̥la+m<sub>g</sub>+k<sub>p</sub>+t/ → cà t̥lámkit 'row of house extends in  
a row'

/t̥la+l+t/ → t̥lálit '1 pencil moves around in a box;  
person crawls up to you'

/x̥qo+l+t/ → x̥qólit '3...'

/t̥la+k<sub>s</sub>+t/ → t̥lák̥it 'person hits the ground, rolls,  
and lies'

8.3.13. t̥lo- 1,2,3

-source present
+long
+surface
+vertical
+rotational
-translatory

'long object turns on vertical axis; someone  
turns around'

## Examples:

/t̥l+m<sub>g</sub>+t/ → t̥lóm̥at '1 turns around'

/t̥lo+m<sub>g</sub>+q<sub>c</sub>+t/ → t̥lóm̥qat '1 turns 1 around'

8.3.14. kbi- 1,2      [-source present  
[-surface] → [+surface]  
xqo+b- 3      -from water  
                 +end motion ]

'come to rest down onto a surface; sit down,  
bird or plane lights down, lands'

Examples:

/kbi+k<sub>s</sub>+t/ → kbikit '1 sits, lights down'

/xqo+b+k<sub>s</sub>+t/ → xqóbkit '3...'

8.3.15. cki- 1,2      [-source present  
+long  
+vertical  
+surface  
xqo+b- 3      +end motion ]

'long object comes to rest on a surface; car,  
train, person comes to a stop'

Examples:

/cki+t/ → ckít '1 stops'

/xqo+b+k<sub>p</sub>+t/ → xqóbkit '3 stop'

/cki+ITER+m<sub>1</sub>+t/ → ckíckímat '1 starts and stops, over  
and over'

8.3.16. maṭ+sca- 1      [-source present  
-long  
+surface  
maṭ+kma- 2      +end motion ]  
maṭ+mya- 2  
maṭ+blo- 3

'non-long object comes to rest on a surface;  
move to a sitting position, sit down'

Examples:

/maɬ+sca+t/ → máɬscàt '1 sits down'

/maɬ+kma+t/ → máɬkmàt '2...'

/maɬ+mya+m<sub>g</sub>+t/ → máɬmyàmat '2...'

/maɬ+blo+m<sub>g</sub>+t/ → máɬblòmat '3...'

8.3.17. xka- 1,2

ʔye- 3

[ -source present  
[-surface] → [+surface]  
+from water  
+end motion ]

'come to rest on land, from out of the water'

Examples:

/mal+xka+t/ → málxkàt '1 comes to shore'

/mal+xka+tta+t/ → málxkàttat '2...'

/mal+ʔye+q<sub>p</sub>+t/ → málxkàttat '3...'

8.3.18. kna- 1,2

ɬqo+b- 3

[ -source present  
[-surface] → [+surface]  
+force  
+end motion ]

'object comes to rest on a surface with a forceful  
or abrasive action; plop down on the bed and lie there,  
rub against wet paint, shut your eyes'



## Examples:

/kna+t/ → knát '1 hit the bed and lay; 1 rubbed against  
wet paint'

/xqo+b+k<sub>p</sub>+t/ → xqóbkit '3...'

/kna+k<sub>s</sub>+t/ → knákit '1 closed his eyes'

- 8.3.19.    'ce- 1[+long]                                    [+source present  
            'ke- 2[+long]\*                                +figure contact  
  -figure transfer  
  +motion  
            ?du- ~ ?he-  
  1[-long]  
            ?ta- 2[-long]  
            fi- 1,2[+animate]  
            ci- 3[+plural]  
            ci- 1,2,3 on back  
            \*'ke- can also mean '3 carry 1-3 long objects each'.  
            'figure in motion with source; carry'

All carrying on the back is undifferentiated for shape and number.

The readjustment rule for '1[-long]' is

?du- → ?he- / dir. prefix \_\_

?du- → ?du-

## Examples:

/kuh+?he+t/ → kú?hèt '1 brings in a non-long object'

/?du+l+t/ → ?dúlit '1 carries 1 non-long object'

- /kuh+çe+t/ → kúçèt '1 brings in 1 long object'  
 /xól+ci+ya/ → xólciya '3 bring in(peaches, water)  
 /xól+ké+t/ → xólkèt '1 brings 2(loaves of bread)'  
 /fi+l+t/ → félit '1 carries a baby, a dog'  
 /duy+?he+ya/ → dúy?hèya '1 carried(a watermelon)through  
 (the field)'  
 /?ta+qli+k<sub>s</sub>+ya/ → ?táqlikya '1 carried 2 non-long  
 objects uphill'  
 /yo+fi+tta+ya/ → yófittaya '1 carried 2(babies)downstream'  
 /mal+çe+t/ → málcèt '1 brought it in from the lake'

- 8.3.20. bde- 1,2[-long] +source present  
-figure contact  
-figure transfer  
 ne- 1,2[+long]  
 mli- 3[+plural]  
 kle- 3[+distributed]  
 ?la- iterative  
 'object in motion away from source; throw, send'

Examples:

- /bde+l+t/ → bdélit '1 throws something'  
 /bde+t/ → bdét '1 hit someone with a rock, ball'  
 /kle+l+t/ → klélit '1 threw a lot of rocks at many people'  
 /ne+t/ → nét '1 throws a stick'  
 /ne+k<sub>s</sub>+t/ → nékit '1 threw a stick once'  
 /mli+k<sub>s</sub>+t/ → mlíkit '1 threw many rocks, sticks'

8.3.21.	xo-	1[+long]	<table border="1"> <tr><td>+source present</td></tr> <tr><td>+figure contact</td></tr> <tr><td>+figure transfer</td></tr> </table>	+source present	+figure contact	+figure transfer
+source present						
+figure contact						
+figure transfer						
	f'o-	2[+long]				
	?qa-	1[-long]				
	?ta-	2[-long]				
	ho-	3[+plural]				

'figure is transferred from one source to another;  
give'

Examples:

- /xo+t/ → xót '1 gives one long object'  
 /xos f'o+ya/ → xòs f'óya '1 or 2 gave 2 long objects'  
 /?qa+t/ → ?qát '1 gives 1 non-long object'  
 /xos ?ta+q<sub>p</sub>+t/ → xòs ?táqat '1 or 2 give 2 non-long  
 objects'  
 /ho+q<sub>p</sub>+ya/ → hóqya '1, 2 or 3 gave many objects'

8.3.22.	kma-	1[-long]	<table border="1"> <tr><td>+source present</td></tr> <tr><td>+figure contact</td></tr> <tr><td>+surface</td></tr> <tr><td>-ground</td></tr> <tr><td>-motion</td></tr> </table>	+source present	+figure contact	+surface	-ground	-motion
+source present								
+figure contact								
+surface								
-ground								
-motion								
	ma-	1[+long]						
	mya-	2						
	xqo-	3						

'place object on a surface'

Examples:

- /xuy+ma+t/ → xúymàt '1 placed 1 long object up high'  
 /xuy+kma+t/ → xúykmàt '1 placed a non-long object up high'

/xuy+xqo+m<sub>g</sub>+q<sub>p</sub>+t/ → xúyxqòŋqat '1 placed 3 objects up high'

/ma+q<sub>c</sub>+t/ → máqat '1 put 1 long object on the table'

8.3.23. ko- 1,2                    [+source present  
xqo- 3                            +figure contact  
                                  [-surface] → [+surface]

'place an object down onto a surface'

Examples:

/mat+ko+t/ → mátkòt '1 put something down'

/mat+xqo+m<sub>p</sub>+q<sub>p</sub>+t/ → mátxqòŋqat '3 put things down'

/ko+m<sub>i</sub>+t/ → kómat 'serve food (put things down on the table repeatedly)'

8.3.24. cqa- 1                    [+source present  
mya- 2                            +figure contact  
xqo- 3                            +ground]

'place an object on the ground'

Examples:

/cqa+t/ → cqát '1 put it on the ground'

/cqa+tta+t/ → cqáttat '1,2 put 2 on the ground'

/mya+m<sub>g</sub>+q<sub>p</sub>+t/ → myáŋqat '1 set 2 things down on the ground'

/mat+xqo+m<sub>g</sub>+q<sub>p</sub>+t/ → mátxqòŋqat '1 set many things down on the ground'

8.3.25. ʔeɬ-

+source present
+plural
+surface
-motion
+distributed

'place objects distributively on a surface'

Example:

/ʔeɬ+q<sub>p</sub>+t/ → ʔéɬqat 'I set the table'

### 8.3.26. Neutralizations

It will be noticed that many of the distinctions are neutralized for some roots, especially when the figure is [+plural]. A list of these roots follows, with the number of each subsection of 8.3. in which it is presented.

mha- 1,6

mya- 4,16,22,24

blo- 8,9,16

ɣqo- 10,12,14,15,18,22,23,24

## Chapter Nine. Reduplication

### 9.1. Reduplicative Morphemes

Several verb affixes are realized phonologically by reduplication of the verb stem. These are:

1. Habitual (HAB)
2. Intensive (INTS)
3. Distributed over a surface (DISTR)
4. Iterative (ITER)
5. Iterative to Completion (ITCOM)
6. Plural source of motion (PLS)
7. Plural figure (PLF)

While most verb stems occurring with reduplication also occur without, some, such as those for colors, do not.

Reduplicative morphemes will be represented in morphemic notation within the grammar in the same way as will morphemes with more independent phonological representations, except that they will be labelled with English abbreviations, rather than with underlying Pomo phonological elements.

Additionally, certain nouns show reduplication. These include derived verbs, as well as the semantic domains of small animals, plants, and birds. Nominal reduplication is not treated by rules, but is indicated

in the lexicon. Some reduplicative nouns follow.

- qwáqwà cà 'kitchen, cookhouse' (qwa- 'eat')
- qólqòl 'thunder'
- wówò 'grandfather'
- lmélmè 'pneumonia'
- lúlù 'flute'
- ɣáyɔ̀dàndàn 'one-stick basket'
- ćílaćíla 'mink'
- fɔ́áclùlù 'lizard'
- ʦúnʦùn 'mole'
- ćínćín 'chipmunk'
- hóšhòš 'porcupine'
- lókoylòkoy 'pink flower pinole'
- ćíćíkob 'berry'
- cílikcìlik 'swallow'
- ćáyćày 'bluejay'
- ćóʦcòʦ 'small flying creature (bird, fly)'
- lálàq 'goose'
- qáʦqàʦ 'crane'
- wúqwùq 'loon'
- ɣléb̀k̀òb̀k̀ò 'black and grey spotted woodpecker'  
(ɣle 'tree' + b̀k̀o- 'peck')
- ʔáwʔàw 'crow'

## 9.2. Readjustment Rules

The following readjustment rules prepare verb forms which have reduplicative morphemes for the application of phonological rules.

HAB	}	→ Reduplication
INTS		
DISTR		
ITER		
ITCOM		
PLS		
PLF		

### Reduplication 1. Stem Reduplication

(Directional Prefix)+(Instrumental Prefix)+Root →  
 (DP)+(IP)+Root+(IP)+Root

$((C_1)C_2V_1C_3)+(C_4)+C_5V_2(C_6) \rightarrow$   
 $((C_1)C_2V_1C_3)+(<_1C_4 \ 1>)+C_5V_2(<_2C_6 \ 2>)+(<_1C_4 \ 1>)+C_5V_2(<_1C_6 \ 2>)$

### Reduplication 2. Directional Prefix + -o-

$(C_1)C_2V_1C_3+o \rightarrow (C_1)C_2V_1C_3+o+C_3+o$

### Reduplication 3. Stem-final Consonant Loss (Minor Rule)

$(C_1)+C_2V_1C_3 \rightarrow (< \ C_1 \ >)+C_2V_1C_3+(< \ C_1 \ >)+C_2V_1$



## Reduplication 4. Root+Suffix (Minor Rule)

Root+Suffix            Root+Suffix+Root+Suffix

$$C_1V_1+C_2 \longrightarrow C_1V_1+C_2+C_1V_1+C_2$$

## 9.3. Examples of Reduplication

/ʔ+kol+ITCOM+k<sub>s</sub>+t/ → ʔkólʔkòlkit 'a snake is curled up'

/ʔ+tec+ITCOM+k<sub>s</sub>+t/ → ʔtéçʔtèçkit 'fold something up'

/b+la+ITCOM+t+k<sub>s</sub>+t/ → blátblàtkit 'lap it up'

/b+li+ITCOM+k<sub>s</sub>+c<sub>r</sub>+t/ → blíblìkçit 'wet the lips'

/bok+ITCOM+k<sub>s</sub>+t/ → bókbòkkit 'boil over'

/k+luť+ITCOM+k<sub>s</sub>+t/ → klúťklùťkit 'it's dented up all over'

/k+ʔuk+ITCOM+k<sub>s</sub>+t/ → kʔúkʔkʔùʔkit 'punch it full of holes'

/m+bol+ITCOM+k<sub>s</sub>+t/ → mbólmbòlkit 'all the tires blew out'

/m+te+ITCOM+l+t/ → mtém̀tèlit 'pat down with the hands;  
pat dirt or wrinkles out of a bed'

/q̣e+ITCOM+k<sub>s</sub>+c<sub>r</sub>+t/ → q̣éq̣ekçit 'l clears his throat'

/q̣wo+ITCOM+t/ → q̣wóq̣wòt 'cough something up'

/ʔ+loy+HAB+l+t/ → ʔlólólòlit    ʔlólólòlit 'he skins an  
animal every day'

/b+ḳo+HAB+l+t/ → bḳóḅḳòlit 'it pecks all the time'

/x̣ol+o+HAB+m<sub>1</sub>+kle/ → x̣ólólomkle 'he used to come around'

- /ʔ+le+INTS+t/ → ʔléʔlèt 'help someone'
- /cub+INTS+k<sub>s</sub>+t/ → cúbcùbkit 'it's sharp-pointed'
- /kci+INTS+k<sub>s</sub>+t/ → kcíkcíkit 'the water is crystal-clear'
- /stek'+INTS+k<sub>s</sub>+t/ → stékstèʔkit 'it's very sticky'
- /xli+INTS+c'<sub>r</sub>+t/ → xlíxlícit 'regret something'
- /lki+DISTR+k<sub>s</sub>+t/ → lkílkíkit 'it's shiney, it shines'
- /lqo+DISTR+k<sub>s</sub>+t/ → lqólqòkit 'it's black'
- /cya+DISTR+k<sub>s</sub>+n/ → čyáčyàkin 'blue-green'
- /t'an+DISTR+n/ → t'án't'ánin 'brown'
- /t'o+DISTR+k<sub>s</sub>+n/ → t'ó't'ókin 'white'
- /ʔ+liw+ITER+l+t/ → ʔlíwʔlíwlit 'make gestures'
- /ʔ+qo+ITER+l+t/ → ʔq'óʔq'òlit 'feel around for something  
in a container'
- /ʔ+t'et'+ITER+l+t/ → ʔt'ètʔt'ètlit 'walk around with your  
legs far apart; walk bowlegged'
- /ʔ+xat'+ITER+k<sub>s</sub>+t/ → ʔxátʔxátkit 'scour a spot; scratch  
with fingernails'
- /b+x'a+ITER+t/ → bxábxàt 'he's whispering'
- /ca+ITER+k<sub>s</sub>+t/ → cákcàkit 'l flits around'
- /cki+ITER+m<sub>1</sub>+t/ → ckíckímat 'stop and start, over and over'
- /co+ITER+q<sub>c</sub>+t/ → cóqcòqat 'l gallops, trots'
- /cwi+ITER+t/ → cwícwít 'play the violin'

- /myo+ITER+k<sub>s</sub>+t/ → myómyòkit 'breathe'
- /q+ǰa+ITER+t+k<sub>s</sub>+t/ → qǰátqǰàtkit 'mash'
- /šú+ITER+l+t/ → šúšulit 'poke around with a stick'
- /ǰtu+ITER+k<sub>s</sub>+t/ → ǰtúǰtùkit 'tremble'
- /ci+PLS+b+m<sub>p</sub>+t/ → cíbcíbmát '3 grab onto something'
- /cwol+PLS+m<sub>p</sub>+t/ → cwólcwòlmat '3 stir pots'
- /cqe+PLS+t+q<sub>c</sub>+t/ → cqétcqètqat '3 hang up many things'
- /ʔ+bol+PLF+t/ → ʔbólʔbòlit 'pull 3 out'
- /ʔ+na+PLF+t/ → ʔnáʔnàt '1 ties 3 up'
- /ci+PLF+t+t/ → cítcítit '3 hang, dangle'
- /kè+PLF+t+t/ → kèt'kèt'it '3 are sticking in the ground'
- /lod+PLF+q<sub>c</sub>+t/ → lódlòdqat 'knock many over'
- /kba+PLF+t/ → kbák'bat 'dust went into several people's eyes'
- /ʔ+lo+PLS+t/ → ʔlól'ʔlòt '3 are untying'
- /ʔ+lo+PLF+t/ → ʔlól'ʔlòt 'untie 3'

#### 9.4. Vowel Reduplication

There is a small set of verb stems of the shape (C)CV<sub>1</sub>C(C)V<sub>1</sub>. This might possibly be a minimal form of reduplication, only the stem vowel being reduplicated. Since this is a totally non-productive phenomenon, these stems will merely be listed in the lexicon. The verbs in question are the following.

- bošto- 'be glad'
- bxu·tu- 'pucker up the mouth'
- daqya- 'scold'
- kocolò- 'tickle someone' (CV<sub>1</sub>CV<sub>1</sub>CV<sub>1</sub> shape)
- kʔede- 'stiff, dry, calloused'
- mdoyo- 'sour'
- mqaba- 'sweet, strong, healthy, tough, hard'
- mxu·tu- 'shrivel up, be wrinkled up'
- nanta+c<sub>r</sub>- 'think'
- qmudu- 'thick, dense; of hair, hay, grass, etc.'
- qpiydi- 'have slit eyes'
- qšulu- 'have cramps'
- skada- 'cry, bawl, scream'
- tmulu- 'clench the fist'
- xqulbu- 'grow up, be adolescent, be tall and  
lean'

## Chapter Ten. The Suffixes

In this chapter the verb suffix morphemes will be presented, along with semantic characterizations and examples of their use.

## 10.1. -b- 'intensive change in motional state'

This morpheme seems to indicate a rather vigorous inception or termination of an action or state of motion.

Examples:

/blo+b+k<sub>s</sub>+t/ → blóbkít 'I sits down, bird alights'

/cdo+b+k<sub>s</sub>+t/ → cdóbkít 'I wakes up and opens eyes'

/ci+b+k<sub>s</sub>+t/ → cíbkít 'I grabs onto something while falling'

/di+b+k<sub>s</sub>+t/ → díbkít 'I floats along and comes to a stop on the water'

/do+b+k<sub>s</sub>+t/ → dóbkít 'place the hand down on something'

/tá't+ITER+b+k<sub>p</sub>+c<sub>r</sub>+t/ → tá'tt'àbki'cít 'children are playing'

/xá+b+k<sub>s</sub>+t/ → xábkit 'water stands in a puddle'

/da xko+b+k<sub>s</sub>+s/ → da xkóbkis 'she didn't pay attention'

## 10.2. -p- 'with force(?)'

This suffix has been found on only two stems.

Examples:

/k<sup>o</sup>+ITER+p+k<sub>s</sub>+q<sub>c</sub>+t/ → k<sup>o</sup>p<sup>k</sup>k<sup>o</sup>p<sup>k</sup>kiqat 'knock on a door'

/š<sup>t</sup>a-p+q<sub>c</sub>+t/ → š<sup>t</sup>áp<sup>q</sup>at 'snap your fingers'

### 10.3. -š- 'to contact with great force'

Examples:

/ʔ+te+š+k<sub>s</sub>+t/ → ʔtéškit 'a bear jumps on a man and  
brings him down'

/m+te+š+k<sub>s</sub>+t/ → mtéškit 'pat or slap with both hands'

/mye+š+k<sub>s</sub>+t/ → myéškit 'rub; push open with the hands'

/k+cu+š+k<sub>s</sub>+t/ → kcúškit 'poke with a stick'

### 10.4. -t- 'iterative'

The meaning of this suffix is basically iterative, although it sometimes seems to indicate plurality of an associated noun phrase (figure, source, goal).

Examples:

/ʔ+lu+t+t/ → ʔlútít 'bail; wrap a box with paper'

/ʔ+ša+t+m<sub>p</sub>+t/ → ʔšátmat '3 wear something'

/ʔ+su+t+t/ → ʔsútít 'scrape something off; whittle a stick, sharpen a pencil, plane a board'

/c+lo+t+t/ → clótít 'rub fingers on; many short scrapes on a surface'

/čle+t+t/ → člétit 'the faucet is dripping'

/č̣a+t+k<sub>s</sub>+t/ → č̣átkit 'mash something'

/yoh+li+t+t/ → yólitit 'many objects float downstream'

#### 10.5. -y- 'plural figure'

Examples:

/ʔ+lu+y+m<sub>p</sub>+k<sub>p</sub>+č<sub>r</sub>+t/ → ʔlúymakčit '3 wrap themselves up'

/ʔ+te+y+m<sub>p</sub>+l+t/ → ʔtéymalit '1 covers many things'

/ʔ+te+y+m<sub>p</sub>+k<sub>p</sub>+t/ → ʔtéymakit '3 cover many things'

/ča+y+m<sub>p</sub>+k<sub>s</sub>+t/ → čáymakit '3 are hunting'

/dačalho+y+q<sub>c</sub>+t/ → dáčalhoqat '1 gathers things into a  
pile'

/kč̣a+y+m<sub>p</sub>+k<sub>p</sub>+t/ → kč̣áymakit '3 pouring something into  
containers'

/qč̣a+y+m<sub>p</sub>+k<sub>p</sub>+t/ → qč̣áymakit '3 are rusty; mildewed'

/č̣a+y+k<sub>s</sub>+t/ → č̣áykit 'glass, ice cracks'

/blo+y+č<sub>p</sub>+t/ → blóyčit '3 sit around in a room'

#### 10.6. -mlu- 'circulative'

This suffix indicates motion around a point or multidirectional movement within an area.

## Examples:

- /bhe+m<sub>l</sub>u+l+t/ → bhém<sub>l</sub>olít 'I swims around and around'  
 /ca+m<sub>l</sub>u+l+t/ → cá<sub>m</sub>lólít 'I runs around something'  
 /do+m<sub>l</sub>u+t/ → dóm<sub>l</sub>ut 'move one's hand on something'  
 /xa+m<sub>l</sub>u+l+t/ → xám<sub>l</sub>olít 'the water runs around and around'

## 10.7. -qla- 'downward'

## Examples:

- /ca+q<sub>l</sub>a+m<sub>g</sub>+t/ → cá<sub>q</sub>qlamat 'I flies down'  
 /do+q<sub>l</sub>a+m<sub>g</sub>+t/ → dóm<sub>g</sub>qlamat 'lower the hand, move the hand  
 downward'  
 /k<sub>t</sub>á+q<sub>l</sub>a+m<sub>g</sub>+t/ → k<sub>t</sub>á<sub>q</sub>qlamat 'I pours something down; it's  
 raining hard'

## 10.8. -qlo- ~ -ql- 'upwards; uphill; up off the ground'

The alternation between the two forms is not clear, but is probably morphologically conditioned by the verb stem.

## Examples:

- /mha+q<sub>l</sub>+k<sub>s</sub>+t/ → mhá<sub>q</sub>qlíkit '3 fly up; 3 run uphill'  
 /ci+q<sub>l</sub>+k<sub>s</sub>+t/ → cí<sub>q</sub>qlíkit 'walk uphill carrying'  
 /da+q<sub>l</sub>+k<sub>s</sub>+t/ → dá<sub>q</sub>qlíkit 'a road runs uphill'  
 /do+q<sub>l</sub>+k<sub>s</sub>+t/ → dóm<sub>q</sub>qlíkit 'put one's hand up in the air'



/bla+qlo+q<sub>c</sub>+t/ → bláqloqat '2 crawl uphill or up to you'

10.9. -m<sub>g</sub>- 'towards or onto or on a surface; on the ground'

Examples:

/cdo+m<sub>g</sub>+c<sub>r</sub>+t/ → cdóm<sup>ˈ</sup>cit 'look at oneself in the mirror'

/kto+m<sub>g</sub>+t/ → któmat '1 stands still'

/lku+m<sub>g</sub>+t/ → lkúmat 'it's dark(of weather)'

/tlo+m<sub>g</sub>+t/ → tlómat '1 turns around'

/kʃa+m<sub>g</sub>+t/ → kʃámat 'baptize'

/ko+m<sub>g</sub>+t/ → kómat 'serve food'

10.10. -q<sub>c</sub>- 'causative'

Some examples will be given in pairs, to show the effect of the causative.

Examples:

/ʔ+ʃeʔ+k<sub>s</sub>+t/ → ʔʃéʔkit 'it's heavy'

/ʔ+ʃeʔ+k<sub>s</sub>+q<sub>c</sub>+t/ → ʔʃéʔkiqat 'put something heavy on someone'

/ʔyot+q<sub>p</sub>+m<sub>p</sub>+q<sub>c</sub>+t/ → ʔyótq<sup>ˈ</sup>maqat '3 refuse'

/bay+ce+q<sub>c</sub>+t/ → báycèqat 'take something out of the building'

- /bay+cnu+q<sub>c</sub>+t/ → báycnùqat 'he's preaching' (cnu 'word')
- /bcil+n/ → bcílin 'long'
- /bcil+k<sub>s</sub>+q<sub>c</sub>+t/ → bcílkiqat 'lengthen'
- /ca+l+q<sub>c</sub>+t/ → cálqat 'I rolls a ball, a hoop; drives a car'
- /cdo+q<sub>c</sub>+t/ → cdóqat 'I shows('causes to see')
- /cdaṭ+k<sub>s</sub>+t/ → cdaṭkit 'I splatters'
- /cdaṭ+k<sub>s</sub>+q<sub>c</sub>+t/ → cdaṭkiqat 'I spits something out, which splatters'
- /cub+ITCOM+q<sub>c</sub>+t/ → cúbcùbqat 'to sharpen'
- /m̄ta+t/ → m̄tát 'it's cooked'
- /m̄ta+q<sub>c</sub>+t/ → m̄táqat 'I cooks something, it's getting cooked, it's cooked'
- /syi+m<sub>g</sub>+t/ → syímat 'borrow something'
- /syi+m<sub>g</sub>+q<sub>c</sub>+t/ → syíṇqat 'loan something'
- /šaṭ+k<sub>s</sub>+t/ → šaṭkit 'water splashes'
- /šaṭ+k<sub>s</sub>+q<sub>c</sub>+t/ → šaṭkiqat 'throw water on'

10.11. -q<sub>p</sub>- 'non-singular figure or source of motion'

Examples:

- /ʔ+loy+q<sub>p</sub>+t/ → ʔlóyqat 'I skins 2 or more animals'
- /ʔ+tec̣+q<sub>p</sub>+t/ → ʔtéc̣qat 'I pleats a skirt(does many folds)'

/hulacu+q<sub>p</sub>+m<sub>p</sub>+t/ → húlacuqmat 'many are getting drunk'

/kšit+q<sub>p</sub>+m<sub>p</sub>+q<sub>c</sub>+kle/ → kšitqmaxkle 'they're always  
cheating people'

/kšul+q<sub>p</sub>+t/ → kšúlqat 'they're all peeled'

/kti+q<sub>p</sub>+m<sub>p</sub>+t/ → ktíqmat 'they steal'

/kti+q<sub>p</sub>+l+t/ → ktíqlit 'steal many things'

10.12. -q<sub>x</sub>- 'motion to away from the speaker'

Many forms with this suffix seem to be ambiguously interpretable as containing -q<sub>c</sub>-.

Examples:

/ci+q<sub>x</sub>+t/ → cíqat 'carry a lot of things away from here'

(/ci+q<sub>c</sub>+t/ → cíqat 'hand someone a bowl or glass full')

/'ce+q<sub>x</sub>+t/ → 'céqat 'take something long away from here'

/?ta+q<sub>x</sub>+t/ → ?táqat 'take 2 away from here'

(/?ta+q<sub>c</sub>+t/ → ?táqat 'give 2 to someone')

10.13. -m<sub>1</sub>- 'iterative'

Examples:

/?lu+m<sub>1</sub>+t/ → ?lúmat '1 wraps a long thing with cloth,  
wire, rope'

/?lu+m<sub>1</sub>+m<sub>p</sub>+t/ → ?lúmat '3 wrap a long thing'

- /ʔqay+m<sub>1</sub>+w+l+c<sub>r</sub>+t/ → ʔqáymawlićit '1 makes faces'  
 /kti+m<sub>1</sub>+t/ → ktímat 'beat a drum'  
 /myat+m<sub>1</sub>+w+l+c<sub>r</sub>+t/ → myátmawlićit 'wish, pray, think  
 about something'  
 /spá+m<sub>1</sub>+t/ → spámat 'mouse gnaws'

#### 10.14. -n- 'figure separation'

As noted in 8.2.2., this suffix changes the meaning of verbs which indicate that the figure and source of motion are in contact to mean that they are spatially separated, but still causally connected in some way.

Examples:

- /ʔhe+n+c<sub>x</sub>+t/ → ʔhécit '1 chases 1'  
 /bay+ʔhe+q<sub>x</sub>+n+c<sub>x</sub>+t/ → báyʔhèqancit '1 chases 1 out of'  
 /ʔta+n+c<sub>x</sub>+t/ → ʔtáncit '1 chases 2,3'  
 /do+q<sub>c</sub>+n+hu+t/ → dóqanhut 'receive something; take something off somebody's hands' (This is the sole example of the morph -hu-.)  
 /bay+kda+n+l+t/ → báykdànlit '1 shoots, kills many'  
 /til+k+ǰa+n+c<sub>x</sub>+t/ → tilkǰàncit '1 chases many away;  
 many chase 1 away'

## 10.15. -mku- 'reciprocal'

The phonological treatment of -mku- is dealt with in section 4.3.10.

Examples:

/ʔki+mku+t/ → ʔkímkut 'they got married'

/b+kó+w+c<sub>p</sub>+mku+l+t/ → bkówcimkolit 'to gossip'

/ci+mku+l+t/ → cimkolit 'a war, many fight each other'  
(ci- 'do')

/f+di+q<sub>c</sub>+mku+t/ → fdíqmukit 'recognize each other'

/k+cók+mku+l+t/ → kcókímkolit '2 hit each other'

/ʔanho+mku+l+t/ → ʔánhomkolit 'they're arguing'

/xoxl+l+k<sub>s</sub>+t til+yhe+mku+t/ → xòxlilkít tílyhèmkut

'they went in opposite directions'

/mxex+mku+ttat/ → mxéxmuktat 'they swapped something'

/tošna+mku+t/ → tóšnamkút 'they embraced each other'

## 10.16. -w- 'plural action'

This suffix means that an action is performed a number of times, either simultaneously by different agents or sequentially by the same agent.

Examples:

/ʔ+kó+w+c<sub>p</sub>+t/ → ʔkówcit 'many feed the fire'

/b+ho+w+l+t/ → bhówlit '1 strings beads'

- /b+ku+q<sub>x</sub>+t/ → bkúqat 'I shoots, gigs, spears'  
 /b+ku+w+q<sub>x</sub>+t/ → bkúwqat 'I thrashes standing grain'  
 /k+ša+PLF+w+q<sub>p</sub>+t/ → kšáwkšàwqat 'break many'  
 /q+mu+w+l+t/ → qmúwlit 'he tastes them sequentially  
 (like at a wine tasting)'  
 /q+mu+w+m<sub>p</sub>+t/ → qmúwmat 'they're tasting it'

10.17. -k<sub>i</sub>- 'inceptive'

Examples:

- /xáq+k<sub>i</sub>+t/ → xáʔkit 'he started crying'  
 /lme+ITER+t/ → lmélmèt 'have the chills'  
 /lme+ITER+k<sub>i</sub>+t/ → lmélmèkit 'get the chills'  
 /myo+k<sub>i</sub>+t/ → myókit 'wake up, become conscious'  
 /wa+l+k<sub>i</sub>+t/ → wálkit 'I starts walking'  
 /xmoʔ+k<sub>i</sub>+ya/ → xmoʔkiya 'I started to move'

10.18. -k<sub>p</sub>- 'plural figure; plural source of motion'

Examples:

- /f+di+k<sub>p</sub>+t/ → fdíkit 'many know'  
 /qá+k<sub>p</sub>+t/ → qákit 'many men leave their wives'  
 /myel+k<sub>p</sub>+t/ → myélkit 'many are watching, watching over'

/q+beṭ+k<sub>p</sub>+m<sub>p</sub>+t/ → qbéṭkimat 'many ate the food up'  
 /sqól+k<sub>p</sub>+l+t/ → sqólkelit 'l cuts the hair of many'  
 /š+bu+k<sub>p</sub>+t/ → šbúkit 'many weave'

#### 10.19. -k<sub>s</sub>- 'semelfactive'

This suffix appears to both characterize the overall shape of an action as being of relatively short duration, in contrast to -l- 'durative', as well as to indicate that an action is performed once, as opposed to an action performed habitually or an unspecified number of times.

##### Examples:

/xi+t/ → xít 'to name someone'  
 /xi+k<sub>s</sub>+t/ → xíkit 'to say someone's name'  
 /ʔ+káṭ+t/ → ʔkáṭit 'do things on the sly'  
 /ʔ+káṭ+k<sub>s</sub>+t/ → ʔkáṭkit 'do something on the sly once'  
 /ʔ+liw+k<sub>s</sub>+t/ → ʔlíwkit 'wave once to someone'  
 /ʔ+lot+k<sub>s</sub>+t/ → ʔlótkit 'touch something once'  
 /ʔ+qáṭ+k<sub>s</sub>+t/ → ʔqáṭkit 'cut l open'  
 /ʔ+tec+k<sub>s</sub>+t/ → ʔtéckit 'fold something once'  
 /ʔ+tec+ITCOM+k<sub>s</sub>+t/ → ʔtéčʔtèckit 'fold something up'  
 /šṭa+p+k<sub>s</sub>+q<sub>c</sub>+t/ → šṭápkiqat 'snap the fingers once'

10.20.  $-m_p$ - 'plural source of motion'

This is still another of the many verb suffixes indicating pluralization of action and of associated noun phrases. As may be seen from the examples, the suffixes seem to work together, reinforcing each other and further delineating the nature of the pluralization involved.  $-m_p$ - indicates plural source of motion more unambiguously than  $-k_p$ - does.

## Examples:

- /ʔ+lo+t+m<sub>p</sub>+t/ → ʔlótmat 'many touch things'  
 /ʔ+luc+m<sub>p</sub>+t/ → ʔlúcmat 'many roll cigarettes'  
 /ʔ+lu+t+m<sub>p</sub>+t/ → ʔlútmat 'many are bailing'  
 /ʔ+q̇o+y+m<sub>p</sub>+t/ → ʔq̇óymat 'many are picking prunes'  
 /ʔ+su+t+m<sub>p</sub>+t/ → ʔsútmat 'many are planing a board'  
 /ʔ+x̣us+m<sub>p</sub>+ċ<sub>r</sub>+t/ → ʔx̣úsmacit 'many are scratching themselves  
 where they itch'  
 /b+ʔi+m<sub>p</sub>+t/ → bʔímat 'many are gathering edibles'  
 /b+ṣ̌u+t+m<sub>p</sub>+tta+t/ → bṣ̌útmattat '2 are sewing'  
 /x̣mi+PLS+m<sub>p</sub>+t/ → x̣míx̣mimat 'many are humming'



10.21.  $-\dot{c}_x-$  'to away from a point'

This suffix means either 'to away from the source of motion' or 'to away from the goal', and is usually found with the appropriate directional prefixes and  $-n-$  'figure separation'.

Examples:

/kuh+ $\dot{c}_i$ + $\dot{c}_x$ +t/ → kú $\dot{c}$ í $\dot{c}$ ít 'pull a bucket out of a well'

/xqol+ $\text{?he}+n+\dot{c}_x$ +t/ → xqól $\text{?hè}$  $\dot{c}$ ít 'take a non-long object  
out from the cupboard'

/bay+ $\text{?ta}+q_p+n+\dot{c}_x$ +t/ → bá $\text{y?tà}$ qan $\dot{c}$ ít 'chase 2 out'

/til+m $\dot{d}$ i+t/ → tí $\dot{m}$ dít 'open the door'

/til+m $\dot{d}$ i+ $\dot{c}_x$ +t/ → tí $\dot{m}$ dí $\dot{c}$ ít 'open the door from the inside'

10.22.  $-\dot{c}_r-$  'reflexive'

Examples:

/ $\text{?+kay}+\dot{c}_r$ +t/ →  $\text{?ká}$ y $\dot{c}$ ít 'take your own hat off'

/ $\text{?+ke}+\dot{c}_r$ +t/ →  $\text{?ké}$  $\dot{c}$ ít 'hold your breath'

/ $\text{?+lu}+m_1+\dot{c}_r$ +t/ →  $\text{?lú}$ m $\dot{c}$ ít 'wrap something around oneself'

/ $\text{?+lu}+t+m_p+\dot{c}_r$ +t/ →  $\text{?lú}$ tma $\dot{c}$ ít 'they rolled their hair  
up into buns'

/ $\text{?+sel}+k_p+\dot{c}_r$ +a/ →  $\text{?sél}$ kí $\dot{c}$ a 'wash yourselves!'

/ $\text{?qo}+\dot{c}_r$ +t/ →  $\text{?qó}$  $\dot{c}$ ít 'he's hiding'

/ʔ+su+c<sub>r</sub>+t/ → ʔsúci't 'mark yourself; get your picture taken'

/kma+q<sub>c</sub>+c<sub>r</sub>+t/ → kmáqci't 'pick up a hitchhiker' ('cause a person to place himself in a sitting position')

/da f+di+q<sub>c</sub>+c<sub>r</sub>+s/ → da fdiqci's 'be unconscious' ('to not know oneself')

/kʃal+k<sub>s</sub>+c<sub>r</sub>+t/ → kʃáلكi't 'clap once('slap oneself')'

/nanta+c<sub>r</sub>+t/ → nántaci't 'think'

/se+n sey+k<sub>s</sub>+c<sub>r</sub>+t/ → sèn séyki't 'be ashamed of oneself' (sey- 'not to like something')

#### 10.23. -l- 'durative'

-l- serves as a contrastive element to -k<sub>s</sub>- 'semelfactive'. Its basic meaning seems to be durative, but it can indicate iterative, habitual, plural figure or goal, and frequentative.

Examples:

/ʔ+k<sub>o</sub>+w+l+c<sub>p</sub>+t/ → ʔk<sub>o</sub>wli't 'he keeps the fire going'

/ʔ+liw+ITER+l+t/ → ʔliwʔliwli't 'make gestures'

/ʔ+qa+y+l+t/ → ʔqáylit 'boat rocks many times'

/ʔ+šon+l+t/ → ʔšónlit 'he guesses all the time'

/ʔ+wál+c<sub>r</sub>+l+t/ → ʔwálcelit 'l dodges, ducks repeatedly'

/ʔwić+l+t/ → ʔwićlit 'he's always fighting with his wife'

/b+k<sup>o</sup>+w+l+t/ → bk<sup>o</sup>wlit 'tell something to a lot of  
people'

/d<sup>o</sup>+l+c<sub>p</sub>+t/ → d<sup>o</sup>ycit 'many are moving their hands back  
and forth'

/li+l+c<sub>p</sub>+t/ → léycit 'many are floating'

#### 10.24. -c<sub>p</sub>- 'plural action'

This suffix has the same meaning as -w-.

Examples:

/loy+c<sub>p</sub>+t/ → lóycit 'they're singing'

/q+ne+c<sub>p</sub>+t/ → qnécit 'eat the same food day after day'

/b+x<sub>a</sub>+c<sub>p</sub>+t/ → bx<sub>a</sub>ácit 'I whisper'

/q<sup>o</sup>+w+c<sub>p</sub>+t/ → q<sup>o</sup>wcit 'many people are doing something'

#### 10.25. -xot- 'negative(non-imperfective)'

This is the realization of negative(along with the preverbal element da)when the verb negated would not have -t 'positive imperfective' in the positive form.

Examples:

/da bde+xot+a/ → da bdéxota 'don't hit him!'

/da kti+k<sub>s</sub>+q<sub>c</sub>+xot+a/ → da ktíxqaxota 'don't hit it!'

/da khod+l+xot+kle/ → da khódlíxotkle 'he never used to  
limp'

/da daqya+xot+ya/ → da dáqyaḵotya 'he didn't scold him'

#### 10.26. -tta- 'dual'

This suffix can dualize the figure, goal, or source of motion, sometimes resulting in a form that is ambiguous out of context.

Examples:

/ʔ+liw+k<sub>s</sub>+tta+a/ → ʔlíwkitta '2 wave once!'

/ʔḵe+k<sub>s</sub>+tta+t/ → ʔḵéktat '2 fix or make something'

/ʔ+ša+m<sub>p</sub>+q<sub>p</sub>+tta+t/ → ʔšámqattat '1 wears 2 things or 2 wear 1 thing'

/b+k'o+w+l+tta+t/ → bk'ówlittat '2 tell something to many'

/hali+q<sub>p</sub>+m<sub>p</sub>+tta+t/ → háliqmattat '2 discuss, plan'

/k+cuš+k<sub>s</sub>+tta+t/ → kcúškittat '2 poke with sticks'

/k+sol+k<sub>s</sub>+tta+t/ → ksólkittat '1 or 2 break 2 long objects'

/k+ti+q<sub>p</sub>+m<sub>p</sub>+tta+t/ → ktíqmattat '2 stab people'

/kuh+m<sub>d</sub>i+tta+t/ → kúmdittat '2 shut doors'

#### 10.27. -dey- 'about to'

This suffix indicates that the action is impending, but still unperformed.

## Examples:

/ʔo+mal+ay xól+ʔye+q<sub>p</sub>+t ke bxe na+k<sub>s</sub>+dey+qat/ →

ʔòmlay xólʔyèqat ke bxè nákdeyqat 'He was about to drive the deer when they came!' ("they-came-and-deer-he was about to drive at the same time")

/mal+xka+dey+qat/ → málxkàdeyqat 'he was almost to shore when...'

/ʔa ba ʔ+loy+q<sub>p</sub>+dey+ʔha/ → ʔà ba ʔlóyqadeyʔha

'Shall I skin them?'

/ʔa til+o+dey+ʔha/ → ʔa tílodeyʔha 'Should I leave?'

/xó ʔkoč+dey+ʔha/ → xò ʔkóčdeyʔha 'Should we build a fire?'

## 10.28. -d- 'potential'

This suffix means that an action has not been performed. It is sometimes translated as future, sometimes as conditional, and sometimes as potential.

## Examples:

/ca+m<sub>i</sub>+d+t/ → cámdit 'he's getting ready to hunt'

/ʔa noyoc+k<sub>s</sub>+d+t cale/ → ʔà nóyockidit càle 'I'm drowning'

/qli+k<sub>s</sub>+d+t cale/ → qlíkdit càle 'the weather is clearing up'

/ʔ+loy+d+t/ → ʔlóydit 'he's going to skin the animal'

/ma q'ow+k<sub>s</sub>+fed+miṭ ʔ+le+INTS+d+t/ → mà q'ówkifedmiṭ

ʔléʔlèdit "It will be helpful if you'll do something."

("you-if you do something-it will help")

/ci+d+t/ → cídit 'he can do it'

#### 10.29. -mlaʔm- 'almost'

This suffix indicates that an action was or is almost completed. It is always followed by the final position suffix -ya 'perfective'.

Examples:

/suq'+mlaʔm+ya/ → súqmlaʔmaya 'it almost burnt'

/xà sca+mlaʔm+ya/ → xà scámlaʔmaya 'it almost got wet'

/ʔq'od+mlaʔm+ya/ → ʔq'ódmlaʔmaya 'he almost finished'

/qnak'+mlaʔm+ya/ → qnákmlaʔmaya 'he is almost asleep'

Sections 10.30. through 10.48. describe the final position suffixes, one of which must occur on every finite verb form.

#### 10.30. -a 'imperative'

Examples:

/ʔhe+q1+k<sub>s</sub>+a/ → ʔhéqlika 'bring it up!'

/ʔ+kay+c<sub>r</sub>+a/ → ʔkáyci 'take your hat off!'

/ʔ+q'od+a/ → ʔq'óda 'finish it!'

/ʔ+sa+a/ → ʔsá 'wet it down'

/ʔal+k<sub>s</sub>+a/ → ʔálki 'dig'

/daqalho+a/ → dáqalho 'gather, assemble!'

### 10.31. -da 'future conditional'

This suffix indicates that an action might take place in the future, usually with some conditional meaning. When used in a past tense context, it seems to mean about the same as -dey-.

#### Examples:

/ti sle+q<sub>c</sub>+da/ → tì sléqda 'you might get choked'

(compare ti sléqdit 'you're gonna get choked')

/x̄a+il ʔla+da/ → x̄àl ʔláda 'you might fall in the water'

/yow koc+da/ → yow kóda 'he was about to sit down'

/bde+l+da/ → bdélda 'what am I going to carry?'

/ʔawi+ba+ʔe ti ʔoqa ci+da/ → ʔáwibaʔe tì ʔoqa cída

'Who would do that to you?' ("who-to you-that-would do")

/xna duy+qlo+da/ → xnà dúyqlòda 'The boat might tip over!'

### 10.32. -dowa 'hortative'

This is a first-person imperative, either singular or plural. It has a shortened form -do.

#### Examples:

/cal+ʔye+q<sub>p</sub>+dowa/ → cáłʔyèqdowa 'let's go home'

/b+k<sup>o</sup>+dowa/ → bk<sup>o</sup>dowa 'let me tell it'

/maṭ+k<sup>o</sup>+dowa/ → máṭk<sup>o</sup>dowa 'let me lay it down'

/sce+k<sub>s</sub>+d+t bay ca ku+dowa/ → scékdit bay cà kúdowa

'It's gonna rain, so I'd better build a house!'

("it will rain-therefore-house-I'd better build")

/ʔa ba ʔ+qáṭ+q<sub>c</sub>+dowa/ → ʔà ba ʔqáṭqadowa ~ ʔqáṭqado

'Let me cut it; I'll do the cutting.'

/wiy ba fadak+dowa/ → wiy ba fádakdowa 'Let's butcher it.'

### 10.33. -hine 'imperfective optative'

This suffix contrasts with the enclitic -y 'perfective optative'. It is always found in conjunction with a preverbal element *ta*.

Examples:

/ma ta ʔoqa cí+q<sub>c</sub>+hine/ → mà ta ʔoqa cíqahine 'I wish you would do it; You ought to do it.'<sup>6</sup>

mà ta ʔoqa da cíṭotqahine 'I wish you wouldn't do it.'

/ta tawal+k<sub>s</sub>+q<sub>c</sub>+hine/ → ta táwalkiqahine 'he ought to work'

/ʔa yiwi ta ʔol+o+q<sub>c</sub>+hine/ → ʔà yiwi ta ʔóloqahine

'I wish he would come.'

scèn ta scéṭqahine 'I hope it rains.'

/wi+ay ta bxe cé+b+k<sub>s</sub>+hine/ → wiy ta bxè cébkihine

'We oughta go watch for deer.'



/ʔa ta bxe bo+hine/ → ʔà ta bxè bóhine 'I ought to go hunting.'

ʔùyi ta tènta wálqahine 'He oughta go to town.'

10.34. -k<sup>h</sup>li 'inabilitive'

This is a negative morpheme which usually, but not always, has the meaning 'unable to, can't'. It can also function independently, as a particle.

Examples:

hèqada ma ʔol núk<sup>h</sup>li 'You can't say anything about it.'

/ʔle+INTS+k<sup>h</sup>li/ → ʔléʔlèk<sup>h</sup>li 'It can't help him.'

ʔà c<sup>h</sup>dók<sup>h</sup>li 'I can't see.'

/mna+q<sub>c</sub>+k<sup>h</sup>li/ → mnáq<sup>h</sup>li 'it's cheap' ('it can't make you pay(?)')

y<sup>h</sup>iwi méy k<sup>h</sup>li 'he's not here'

ʔà xil c<sup>h</sup>ékle k<sup>h</sup>è yim k<sup>h</sup>li 'I used to have it, but I don't now.'

10.35. -wa 'impersonal agent'

Examples:

/tu ʔal+k<sub>s</sub>+wa/ → tu ʔálkiwa 'it's already dug'

/sce+k<sub>s</sub>+wa/ → scékwa 'it's raining'

## 10.36. -kle 'habitual'

Examples:

/cxol+k<sub>s</sub>+kle/ → cxólkikle 'it always leaked'/kšít+q<sub>c</sub>+kle/ → kšítqakle 'he always cheats us'

/skót+l+kle/ → skótlikle 'he used to shovel'

## 10.37. -t 'positive imperfective'

This seems to be the most unmarked final position suffix, occurring on most forms within the grammar. No further examples will be given in this section.

## 10.38. -s 'negative imperfective'

This is the negative suffix which corresponds to -t. It is always accompanied by the negative preverbal element da, and is suffixed directly to da in non-verbal constructions.

Examples:

/da xko+s/ → da xkós 'he didn't obey'

/da xko+b+k<sub>s</sub>+s/ → da xkóbkis 'he didn't pay attention'

ʔùyi sáqanbaq das 'that's not true'

/da xma ʔšal+q<sub>c</sub>+c<sub>r</sub>+s/ → da xmə ʔšálqacís

## 10.39. -ya 'perfective'

Examples:

/?su+ya/ → ?súya 'he marked it'

/daqya+ya/ → dáqyaya 'I scolded him'

/ku+ya/ → kúya 'he built it'

/puṭ+k<sub>s</sub>+ya/ → púṭkiya 'he kissed her'/q+se+q<sub>c</sub>+ya/ → qséqya 'canned food'

/yxe+ITER+ya/ → yxéyxèya 'quit having spasms'

/yxe+ITER+k<sub>s</sub>+ya/ → yxéyxèkiya 'have 1 spasm'

/š+qod+ya/ → šqódyá 'he finished weaving it'

## 10.40. -baq 'past passive participle'

This suffix nominalizes verbs, with the meaning 'having been VERBed'.

Examples:

/bṭe+k<sub>s</sub>+q<sub>c</sub>+baq/ → bṭéxqabaq 'raised, grown up (of a child)'/?isal+k<sub>s</sub>+baq/ → ?ísalkibaq 'fried'

/?a+?šal+baq/ → ?á?šàlbaq 'hurt'

## 10.41. -m 'instrument or place of action nominalizer'

This suffix forms nouns with the resultant meaning of 'instrument of action' or 'place of action'.

## Examples:

- /ʔsu+q<sub>c</sub>+m/ → ʔsúqam 'pen, pencil, camera'
- /xó kaleta ba cki+ITER+m/ xó kàleta ba ckíckím  
'train depot('train stops over and over')'
- /cwi+ITER+m/ → cwícwím 'violin('you strop back and  
forth on it')'
- /kto+ITER+q<sub>c</sub>+m/ → któktòqam 'stairs('you step on them')'
- /m+lu+q<sub>c</sub>+m/ → mlúqam 'oven' (mlu- 'bake')
- /qla+q<sub>c</sub>+m/ → qláqam 'fishing rig or fish hook'  
(qla- 'trap something')
- /sú+q<sub>c</sub>+m xqó+wi/ → s'úqam xq'òwi 'sucking doctor'
- /xli+w+m/ → xlíwam 'sifter'

## 10.42. -n 'absolute'

This suffix forms adjectives from certain verbs, such as those indicating quality, as well as state of action nouns. It also functions as the final position suffix when an evidential enclitic is present.

## Examples:

- /lki+DISTR+n/ → lkílkín 'shiny; satin'
- /ʔ+ʔeʔ+k<sub>s</sub>+n+qó/ → ʔʔéʔkinqó 'it's heavy(it feels heavy  
to me)'
- /q+qey+n xa/ → qq'éyin xà 'ice water' (q+qey- 'cold')

/sce+n/ → scén 'rain'

/ʔsu+n/ → ʔsún 'picture, photo'

/ki+n/ → kín 'string'

/kti+n/ → ktín 'corpse, very sick person' (kti- 'stab')

/ko+m<sub>g</sub>+n/ → kóman 'wave(water)' (ko+m<sub>g</sub>- 'put it down')

/sma+n/ → smán 'sleep' (no corresponding verb form)

#### 10.43. -btonwa 'after'

This suffix conjoins two sentences which describe actions in a direct sequential relationship.

Example:

/ma ʔol+o+btonwa ʔa yi+il syi+m<sub>g</sub>+ya/ → mà ʔólobtonwa

ʔà yíl syímya 'I borrowed it after you came.' ("you-after you came-I-it-borrowed")

#### 10.44. -day 'simultaneous'

This suffix conjoins two sentences which describe actions performed simultaneously, by the same or different subjects.

Examples:

/ʔol+blo+t cale ʔa bte+k<sub>g</sub>+t wa+l+day/ → ʔólblòt cale

ʔà btékít wàlday 'It happened when I was grown up.'

("it happened-I-was grown up-when")

/yí+wiʔa sca+day sma+n q̄l+l+ya/ → yíwi ʔa scàday smán  
 q̄làlya 'He fell asleep while I was there.' ("he-I-  
 when I was there-sleep-got him")

/ʔa wít xbaç+day x̄ol+o+d+t/ → ʔa wít x̄bàçday x̄ólodit  
 'I come when he asks me.' ("I-me-when he asks-I'll come")

10.45. -fed 'conditional; if'

This suffix conjoins two sentences, the second of which describes an action following and conditional on the first. It is often followed by -miṭ.

Examples:

ʔùyi wi yukin x̄ólofedmiṭ, dàwa da fd̄ikix̄otdit 'If he  
 gets there before me, he won't know the road.'

("he-me-before-if he comes-road-not-he won't know")

ʔa bdékfed wiyaq̄kàcuce cáqdit 'If I throw, my cap will  
 fall.' ("I-if I throw-my-cap-will fall")

ʔòmlay ʔuyil ʔqóyfed ʔa mqódit 'If they ever head him  
 off, I'll see it' ("they-him-if they head him off-I-  
 will see")

10.46. -fla 'sequential'

This suffix conjoins two sentences describing actions which occur sequentially, with the same or different subject, and no necessary causal connection.

## Examples:

ʔà xólofla qnákya 'He fell asleep after I came.' ("I-  
after I came-he fell asleep")

yíwi yóqfla bxè tláqya 'After he shot it, the deer fell  
over.' ("he-after he shot-the deer-fell over")

## 10.47. -qat 'when'

This suffix conjoins two sentences whose actions occur either sequentially or simultaneously, with the same or different subject.

## Examples:

málot ke lèluša xóloqat 'When he came to Leluša, he  
landed.' ("he landed-and-Leluša-when he came")

/ʔo+mal+ay mqo+q<sub>c</sub>+qat+miṭ hayu woʔ+ITER+k<sub>s</sub>+kle/

ʔòmlay mqóxqatmiṭ hàyu wóʔwòʔkikle 'When they holler,  
the dog barks.' ("they-when they holler-the dog-barks")

## 10.48. -yukin 'before-switch reference'

This suffix conjoins sentences which describe sequentially occurring events with different subjects.

## Examples:

ʔà xòloyukin tú qnákinya 'He fell asleep before I came.'  
("I-before I came-already-I saw he had fallen asleep")

mà móckiyukin ?à tìlodit 'I'll go before you wake up.'  
 ("you-before you wake up-I'll go")

Sections 10.49 through 10.56 describe the postverbal enclitics, which, when they occur, usually follow a final position suffix. The evidentials do, qo, and ya must follow -n 'absolute'.

10.49. -miṭ 'identical subject; if'

This enclitic usually conjoins two sentences having the same subject, describing two actions which are either causally connected or simultaneous.

Examples:

/ʔo+mal+ay táṭ+ITER+b+k<sub>s</sub>+c<sub>r</sub>+t+miṭ qey+ITER+k<sub>s</sub>+m<sub>p</sub>+kle/ →  
 ?òmlay táṭtābkiçitmiṭ qéykiqèykimkle 'Whenever they  
 play, they laugh.' ("they-when they play-they laugh")  
 /ma çinakotay qow+l+miṭ ql+l+miṭ ma çinakotay qnil+k<sub>s</sub>  
 til+o+d+t/ → mà çinakotay qówlimiṭ qlálimiṭ mà çinakotay  
 qnilki tìlodit 'If you do bad things, when you die  
 you will go to a bad place.' ("you-bad-when you do-when  
 you die-you-bad-towards-will go")



## 10.50. -?e 'interrogative'

This is an interrogative enclitic for questions requiring more than a yes or no answer.

Examples:

héqat?e tì xín 'What's your name?'

hèmalkit mà y xkálit?e 'Where are you(plural)paddling to?'

## 10.51. -?ha 'yes-no interrogative'

This is an interrogative enclitic for yes-no questions.

Examples:

xólo?ha 'Did you come?; Hello!' (greeting used by person visited)

scén scekit?ha 'Is it raining?'

mà ba mèl bxè bkúq?ha 'Did you shoot this deer?'

("you-subject marker-this deer-did you shoot")

## 10.52. -we 'locative interrogative'

This interrogative is used on motion verbs, indicating 'to where?', 'from where?' or extended meanings.

Examples:

/xkal+we/ → xkálwe 'Where are you paddling?'

ca ba mel bxè bkúqwe 'Who shot this deer?' ('Where did the shot come from?')

## 10.53. -do 'quotative'

This is an evidential enclitic, meaning that the sentence is either a direct quote or is known because someone else reported it to you.

Examples:

/nu+n+do/ → nundo 'he said' This is used throughout narratives.

/bku+q<sub>c</sub>+n+do/ → bkúqando 'he shot it'

/til+mli+d+n+do/ → tílmlidindo 'he's gonna throw it away'

## 10.54. -qo 'introspective'

This is an evidential enclitic which means that the sentence contains information known because of introspection on one's thoughts or senses.

Examples:

/wit ʔt̥eʔ+k<sub>s</sub>+n+qo/ → wít ʔt̥éʔkínqo 'it's too heavy for me'

/bošt̥o+n+qo/ → bóšt̥onqo 'I'm glad; thanks'

/mte+k<sub>s</sub>+n+qo/ → mtékinqo 'I'm hot'

/cma xqo+q<sub>c</sub>+c<sub>r</sub>+n+qo/ → cmà xqóqácinqo 'it's good to a sense (tastes good, smells, feels, sounds, looks good)'

## 10.55. -ya 'visual'

This is an evidential enclitic which means that

the preceding information is known because of visual evidence (or extended meaning).

Examples:

yil bdù fdínya 'He took the acorn.'

?uyi ?à ba c'indo núnya 'He said that I did it.'

("he-I-subject-did it, quotative-he said, visual")

#### 10.56. -y 'perfective optative'

This suffix contrasts with the previously discussed -hine 'imperfective optative'. It usually, but not always, indicates perfective aspect. It is usually found with one of two preverbal elements, *ta* or *laq*; no meaning difference between them was observed.

Examples:

/ma mqo+q<sub>c</sub>+ya+y/ → mà mqóqayay 'You should have seen it;

I wish you had seen it.'

/ma laq' ?oqa c'i+q<sub>c</sub>+ya+y/ → mà laq' ?oqa c'iqayay 'I wish  
you had done it' also mà ta' ?oqa c'iqayay

/?a ta' ti bo+q<sub>c</sub>+ya+y/ → ?à ta' ti bóqayay 'I should let  
you go hunting.'

## NOTES TO PART THREE

<sup>1</sup>Julius Moshinsky, "Historical Pomo Phonology"  
(to appear).

<sup>2</sup>Sally McLendon, Eastern Pomo and Robert Oswalt,  
A Kashaya Grammar.

<sup>3</sup>This concept is elucidated by Jeffrey S. Gruber  
in his Studies in Lexical Relations, Ph.D. dissertation  
reproduced by the Indiana University Linguistics Circle,  
January, 1970, pages 1-5.

<sup>4</sup>I will use Leonard Talmy's term "figure"  
(personal communication), rather than Gruber's term  
"theme". These seem to be equivalent concepts. I wish  
to thank Leonard Talmy for numerous helpful discussions  
of these problems--the interpretations are strictly my own  
responsibility.

<sup>5</sup>Gruber, page 29. Gruber's term "source of the  
motion", which partially overlaps with "agent", will  
also be used.

<sup>6</sup>The q- receives an epenthetic -a- because the  
following consonant is part of a final position suffix,

even though that consonant is not itself word-final. The Post-tonic Vowel Epenthesis rule should be revised to indicate that the final position suffix consonant may be followed by other segments. Epenthesis does not always take place before the final position suffix -ya, however.

## PART FOUR - ADJECTIVES AND NOUNS

## Chapter Eleven. Adjectives

## 11.1. Introduction

Most adjectival words in Southeastern Pomo, as can be seen throughout the verb morphology, are in fact fully inflected verbs. For instance, all colors, except for yellow, are reduplicated verbs. 'Yellow', /kʔilto/ → kiʔilto, like the other morphemes which will be called true adjectives, cannot take verbal inflections. Both true adjectives and those intransitive verbs which correspond to English adjectives can be the predicate of the sentence. Therefore, my classification of morphemes as adjectives is morphological rather than syntactic.

The category of uninflectable adjectives will be exemplified in this chapter, with some morphology pointed out.

## 11.2. Adjectives in -baq

There are adjectives ending in the suffix -baq, which is assumed to be the same morpheme as the past passive participle marker on verbs, for which there are no corresponding verb forms.

Examples:

xékubaq 'first'

hédabaq 'foreign, alien'

kđílbaq 'false'

wálbaq 'right(correct)'

?uyi sáqanbaq das 'That's not true, not real.'

kébaq 'new' (ké 'now')

### 11.3. -k'li 'negative'

Adjectives can be formed by suffixing -k'li to nouns or verbs.

Examples:

?o 'tooth' + -k'li → ?ók'li 'dull(not sharp)'

ʔfal- 'dirty' + -k'li → ʔfalk'li 'clean'

cnu 'word, language' + -k'li → cnúk'li 'mute, dumb'

### 11.4. -n 'absolutive'

Many adjectives end in -n, which is probably the same as the absolutive suffix on verbs.

Examples:

sáqan 'real, true'

mʔun, mʔunbaq 'old' (compare mʔúwi 'old man')

kúćin 'small, little'

## 11.5. -myak

This suffix has been found on only one adjective, /bʔa-/ 'rich, rich man', and on a noun, knilmyak 'sprinter'.

Examples:

bʔámyak 'rich, rich man'

bʔámyak bʔèd 'rich woman' (also bʔámʔed)

bʔákli 'poor, poor man'

## 11.6. Further Examples of Adjectives

ʔúxqat 'all, every'

bʔénik 'big(singular)'

ʔínay 'big(plural)'

pínʔo 'spotted(Spanish loan)'

ló·xo 'lazy(Spanish loan)'

ćínakoʔay 'bad'

ćmá 'good'

móloq 'false, ersatz'      móloq ʔò 'false teeth'

ʔlémay 'half'



## Chapter 12. Nouns

### 12.1. Introduction

Nouns are syntactically defined in Southeastern Pomo as morphemes or sequences of morphemes to which various case and number suffixes and postpositions can be appended. Many nouns are derived from verb stems, but an equally large or larger number are not.

In this chapter I will define the subclasses of nouns and pronouns, list the case suffixes and postpositions, and present various nominalization processes.

### 12.2. Noun Subclasses

Nouns have been divided into the following subclasses:

#### Nouns

##### 1. Animate Nouns

###### a. Human Nouns

###### 1) Kinship Nouns

###### 2) Other Human Nouns

###### b. Non-human Animate Nouns

##### 2. Inanimate Nouns

###### a. Locative nouns

###### b. Other Inanimate Nouns

#### Pronouns

These subclasses have been set up on both morphological and syntactic grounds. Animate nouns can be distinguished from inanimates by their ability to take benefactive and possessive case endings. Human nouns can be distinguished from other animate nouns because only human nouns have a plural form. Kinship nouns can be distinguished from other animates by the fact that they take the prefix m- 'kinship', many have an irregular first person possessive prefix ?i-, and many have a separate vocative form.

Locative nouns can be distinguished from other inanimates by the fact that they can take the objective suffix, the two locative suffixes -y and -w, and the verbalizing suffix -lk- 'to a place'.

### 12.3. Case Suffixes

#### 12.3.1. -il 'object case'

This suffix marks the surface 'object' case.

Examples:

/hayu+il/ → háyul 'dog'

/ca+wi+il/ → cáwil 'man'

/x̣qo+mfo+il/ → x̣qómfol 'doctors'

/?a+f+di+q<sub>c</sub>+il/ → ?áfdiqil 'wise man'

## 12.3.2. -itib 'benefactive'

Examples:

/hayu+itib/ → háyutib 'for the dog'

/ḥonci+itib/ → ḥónçitib 'for the cat'

/qwi+itib/ → qwítib 'for the baby'

/balak+wi+itib/ → bálakwitib 'for the captain'

## 12.3.3. -it 'inalienable possession'

This suffix is used when the possessed noun refers to such things as personal relations (kin, friends, etc.) and body parts.

Examples:

/hayu+it xin/ → háyut xìn 'the dog's name'

/bḥéd+it xal/ → bḥédit xàl 'the woman's arm'

/wi+m+ʔe+it xela/ → wimʔet xèla 'my father's friend'

/qwi+it m+še/ → qwít mše 'the baby's mother'

## 12.3.4. -it+baq 'alienable possession'

To indicate alienable possession, the suffix -baq is added to the -it suffix. When a possessor noun stands alone without the possessed noun, it always takes this longer form.

Examples:

/hayu+it+baq/ → háyutbaq 'the dog's'

/ʔuyi+it+baq ca/ → ʔúyitbaq cà 'his house'

/ma+it+baq/ → mátbraq 'yours (plural)'

### 12.3.5. -y 'in'

This locative suffix means 'in' or 'into', in the sense of 'in or into an enclosed but not covered over space'. It can be followed by the objective suffix.

Examples:

/bda+y/ → bdáy 'in the creek'

/mo+y/ → móy 'in the hole'

/x̣a+y+il/ → x̣áyil 'into the water'

/xna+y/ → xnáy 'in the boat'

### 12.3.6. -w 'within'

This suffix means 'in or into a covered space'.

Examples:

/ca+w/ → cáw 'in the house' (This also serves as an adverbial meaning 'inside'.)

/ca+w+il/ → cáwil 'into the house'

/x̣a+w/ → x̣áw 'in the mouth' (x̣a- is from x̣ásto 'mouth')

## 12.4. Number Suffixes

In this section I will present the plural suffixes, which may be added to animate nouns, as well as the 'human singular' and 'human plural' suffixes, which are found on many human nouns. Case suffixes are attached to nouns following the number suffix.

## 12.4.1. -wi 'human singular'

Examples:

- /m<sup>h</sup>u+wi/ → m<sup>h</sup>úwi 'old man'  
 /x<sup>h</sup>qo+wi/ → x<sup>h</sup>qówi 'doctor'  
 /m<sup>h</sup>i+k+al+wi/ → m<sup>h</sup>íkalwi 'buyer'  
 /f<sup>h</sup>é<sup>h</sup>i+k+wi/ → f<sup>h</sup>é<sup>h</sup>ikwi 'clown'  
 /kma+wi/ → kmáwi 'enemy'  
 /le+wi/ → léwi 'flirt'

## 12.4.2. Plurals

## 12.4.2.1. -mfo 'human plural'

This suffix comes from the noun mfo 'people'.

Examples:

- /m<sup>h</sup>u+mfo/ → m<sup>h</sup>úmfo 'old people' There is an alternate form /m<sup>h</sup>u+k+m+ay/ → m<sup>h</sup>úkmay.  
 /kma+mfo/ → kmámfo 'enemies'  
 /m<sup>h</sup>i+k+m+a+mfo/ → m<sup>h</sup>íkmamfo ~ /m<sup>h</sup>i+k+a+mfo/ → m<sup>h</sup>íkamfo  
 'buyers'

/x̣a+win+mfo/ → x̣áwinmfo 'Southeastern Pomo' ('on-the-water people')

#### 12.4.22. Other Plurals

The situation is quite complex with regard to the other plural suffixes. Two morphs which recur in the variants of the suffixes are -ay and -k. The following patterns have been observed:

- 1) -ay
- 2) -l+ay
- 3) -k+m+ay
- 4) -l+ay ~ k+m+ay
- 5) -k+m+a+l+ay
- 6) -t+ay

There do not seem to be any semantic distinctions between these various suffixes. A particular variant is selected by a given morpheme.

In addition, there are some irregular plural formations in human nouns derived from verbs. Some of these are:

/ba+ciw+al/ → báciwal ~ /ci+al+wi/ → cíwalwi 'killer'

/ba+ciw+c<sub>p</sub>+mfo/ → báciw<sub>c</sub>imfo 'killers'

/bxe+bol+wi/ → bxébolwi 'hunter'

/bxe+c<sub>p</sub>+ay+b+al+mfo/ → bxé<sub>c</sub>aybalmfo 'hunters'

/qwa+c̣+w+al/ → qwáciwal 'cook'

/qwa+c̣+w+c̣<sub>p</sub>/ → qwáciwic̣ 'cooks'

Examples:

/qʦa+ay/ → qʦáy 'old women'

/bʦed+l+ay/ → bʦélay 'women'

/bʦa+x̣+di+n+l+ay/ → bʦáx̣dinlay 'poor men'

/bʦa+myak+l+ay/ → bʦámyaklay ~ /bʦá+k+m+ay/ → bʦákmay  
'rich men'

/x̣qo+k+m+ay/ → x̣qókmay ~ /x̣qo+k+m+a+l+ay/ → x̣qókmalay  
'doctors'

/balak+k+m+a+l+ay/ → bálaxkmalay 'captains'

/qwi+k/ → qwík 'babies'

/bʦed+l+ay qwi+k/ → bʦélay qwik 'baby girls'

/xela+t+ay/ → xélatay 'friends'

/knil+myak+l+ay/ → knilmyaklay ~ /knil+k+m+ay/ →  
knílkmay 'runners, sprinters'

12.5. -lk- 'to a place'

This is the only morpheme I have found which derives verbs from nouns. Added to a locative noun, it has the meaning 'to that place'. It is probably analyzable as a sequence of -l- 'object case' + -k<sub>s</sub>- 'semelfactive'.

## Examples:

- /ʔlem+lk+t/ → ʔelémalkit 'he went to Sulfur Bank'  
 /tenta+lk+t/ → téntalkit 'he went to town'  
 /caduwa+lk+t/ → cáduwalkit 'he went north'  
 /ʔlem mdo+n win +lk+t/ → ʔelém mdòn winilkít 'he went  
 to Rattlesnake Island' (This is an example of an entire  
 noun phrase being verbalized.)

## 12.6. Postpositions

In addition to the case suffixes, noun phrase grammatical relations and locatives are also expressed by a set of postpositions. Many, perhaps all, of these postpositions can be transformed into place adverbials by the addition of the suffix *-wa*. So from *b̄on* 'after', you can derive *b̄onwa* 'afterwards'. Those postpositions which I was able to elicit with *-wa* will be indicated by (wa) following them, in the list below.

- beṭ* 'with(comitative)'  
*b̄on(wa)* 'after(time)'  
*daw* 'in front of'  
*day* 'while, during, through'  
*duwa(wa)* 'across'  
*fla* 'after'  
*knon(wa)* 'above, upstream'



lew 'close to(towards)'  
 mamal(wa) 'beside, along'  
 man(wa) 'in back of'  
 mlal(wa) ~ mlala 'over, on top of'  
 moy(wa) 'out of'  
 muṭu 'close, near'  
 qan 'on, into, in'  
 qna 'from, on(your)side'  
 ʔal(wa) 'on one side of'  
 wa 'on, from, off'  
 way 'with(instrument), inside of'  
 win 'on'  
 x̣an(wa) 'below, downstream'  
 x̣ma 'inside of'  
 x̣maya(wa) ~ x̣may 'in, inside, partitive'  
 x̣o 'outside'  
 xwat(wa) 'inside'  
 yow(wa) 'under, below'  
 yukin(wa) 'ahead of, before'

## 12.7. Pronouns

The personal pronouns and demonstratives form a single unified system in Southeastern Pomo. They distinguish the following grammatical categories: (isolable morphs are in parentheses)

- Person: First (wi-)  
 Second (ma-)  
 Third
- Number: Singular  
 Plural (-ay)
- Gender (in Third Person):  
 Masculine (-yi, -wi)  
 Feminine (-med)
- Position with Relation to Speaker:  
 Near--this (mi-, me-)  
 Far--that
- Displacement:  
 Non-displaced  
 Displaced (yi-)
- Case: Subject  
 Object (-il)  
 Benefactive (-itib)  
 Alienable Possession (-it+baq)  
 Inalienable Possession (-it)

The category which I am calling 'displacement' indicates the presence or absence of the referent of the demonstrative in the speech situation. It could alternatively be termed 'visibility', since presence in the visual field is also part of the distinction.

The pronouns will now be charted, first in systematic phonemic form, and underneath in systematic phonetic form:

PERSON	SUBJECT	OBJECT
1 Sg	/ʔa/ ʔá	/wi+t/ wít
2 Sg	/ma/ má	/ti/ tí
3 Sg/masc/non- displ/unmarked position	/ʔu+yi/ ʔúyi	/ʔu+yi+il/ ʔúyil
3 Sg/masc/non- displ/near	/mi+yi/ míyi	/mi+il/ míl ~ mél
3 Sg/masc/non- displ/far	/ʔi+yi/ ʔíyi	/ʔi+yi+il/ ʔíyil
3 Sg/masc/displ	/yi+wi/ yíwi	/yi+wi+il/ yíwil
3 Sg/fem/non- displ/near	/me+med/ mémed	/me+med+il/ mémdil
3 Sg/fem/non- displ/unmarked position	/ʔo+med/ ʔómed	/ʔo+med+il/ ʔómdil
3 Sg/fem/displ	/yi+med/ yímed	/yi+med+il/ yímdil

BENEFACTIVE	ALIENABLE POSS	INALIENABLE POSS
/wi+itib/ wítib	/wi+it+baq/ wítbaq ~ wíbaq ~ wíyaq	/wi/ wí
/ti+itib/ títib ~ tíb	/ti+it+baq/ títbaq ~ tíbaq ~ tíyaq	/ti ~ ti+it/ tí ~ tít
/ʔu+yi+itib/ ʔúyítib	/ʔu+yi+it+baq/ ʔúyítbaq	/ʔu+yi+it/ ʔúyít
/miy+itib/ míyítib	/miy+it+baq/ míyítbaq	/miy+it/ míyít
/ʔi+yi+itib/ ʔíyítib	/ʔi+yi+it+baq/ ʔíyítbaq	/ʔi+yi+it/ ʔíyít
/yi+wi+itib/ yíwítib	/yi+wi+it+baq/ yíwítbaq	/yi+wi+it/ yíwít
/me+med+itib/ mémdítib	/me+med+it+baq/ mémdítbaq	/me+med+it/ mémdít
/ʔo+med+itib/ ʔómdítib	/ʔo+med+it+baq/ ʔómdítbaq	/ʔo+med+it/ ʔómdít
/yi+med+itib/ yímdítib	/yi+med+it+baq/ yímdítbaq	/yi+med+it/ yímdít

PERSON	SUBJECT	OBJECT
3/unmarked number and position		/ʔo+il/ ʔól
1 Pl	/wi+ay/ wíy	/wi+il/ wíl
2 Pl	/ma+ay/ máý	/ma+il/ mál
3 Pl/unmarked position	/ʔo+mál+ay/ ʔómlay	/ʔo+mál+ay+il/ ʔómlayil ~ ʔómlayl
3 Pl/near	/me+mál+ay/ mémlay	/me+mál+ay+il/ mémlayil
3 Pl/far	/mál+ay/ málay	/mál+ay+il/ málayil ~ málil
Each, someone	/ca+da/ cáda	/ca+da+il/ cádal
Some people	/tay+da/ táyda	/tay+da+il/ táydal
Reflexive		/sen/ sén

BENEFACTIVE	ALIENABLE POSS	INALIENABLE POSS
/wi+il+itib/ wíltib	/wi+it+baq/ wítbaq	/wi+it/ wít
/ma+il+itib/ máltib	/ma+it+baq/ mátbaq	/ma+it/ mát
/ʔo+mal+ay+itib/ ʔómlaytib	/ʔo+mal+ay+it+baq/ ʔómlayitbaq	/ʔo+mal+ay+it/ ʔómlayit
/me+mal+ay+itib/ mémlaytib	/me+mal+ay+it+baq/ mémlayitbaq	/me+mal+ay+it/ mémlayit
/mal+itib/ máltib	/mal+ay+it+baq/ málayitbaq ~ málitbaq	/mal+it/ málit
/ca+da+itib/ cádatib	/ca+da+it+baq/ cádatbaq	/ca+da+it/ cádat
/tay+da+itib/ táydatib	/ba+baq/ bábaq	/ba+baq/ bábaq

## 12.8. Kinship Nouns

Kinship nouns form a separate subclass of animate nouns because of their more elaborate morphology. In addition to occurring with a post-pronominal prefix /-m-/, they are the only words in the nominal system which may have a separate form for the vocative.

Nearly all kinship terms occur prefixed with the normal inalienable possession pronouns, with a special complication in the first person, explained below. Whether or not all kinship words can appear without a pronoun has not been determined. It is certain, however, that most kin terms not prefixed by -m- can occur unpossessed, and that certain -m- forms can occur thus. Four terms, wóq̄ta 'great grandmother', wówo 'great grandfather', tóʔmela 'child's spouse's parent', and xácín 'sister's child' have not been elicited with pronominal prefixes.

The -m- prefix occurs on the non-vocative forms of all kinship terms elicited, with the exception of the terms for great grandparents, mate, son, sister's child, and son-in-law.

The pronominal prefix /ʔi-/ is an alternate first person singular morpheme which occurs only with terms denoting non-descending generation. It is the only first person pronoun occurring with most of these, such as ʔímsen 'my mother's brother', but some also occur with wi, and have specialized the ʔi- form as a



vocative, as in wí mšè 'my mother' and ?íšek 'mother!'.

The vocatives, when morphologically differentiated from the non-vocative first person singular, may be formed in one of three ways:

1. The ?i- prefix replaces wí, with concurrent alteration of the stem form, and sometimes removal of the -m- prefix: wí mʔè 'my father' and ?ímek 'father!'.
2. The -m- prefix is removed, with no pronoun prefixed: wí mqòṭ 'my grandchild' and qóṭ 'grandchild!'.
3. There is a suppletive form, with no pronoun: wí mdùtaq 'my younger brother' and cúman 'younger brother!'.

Most of the kinship terms have been elicited in the plural, which is in this subclass always formed with -l+ay: wí mdèqlay 'my older sisters', ?íšeklay 'my mothers!' (addressing women older than yourself), and wí xàlay 'my sons'.

A list of kinship terms follows, with forms cited in the first person singular, followed by vocative, if differentiated.

## CONSANGUINEAL

- /wo+q̣ṭa/ → wóq̣ṭa 'great grandmother'  
 /wo+wo/ → wówo 'great grandfather'  
 /ʔi+m+qa/ → ʔímqa 'mother's mother'  
 /ʔi+m+ma/ → ʔímma 'father's mother'  
 /ʔi+m+cen/ → ʔímcen 'mother's father'  
 /ʔi+m+baç/ → ʔímbaç 'father's father'  
 /wi m+še/ → wí mšè 'mother'  
 /ʔi+šek/ → ʔíšek 'mother!'  
 /wi mʔe/ → wí mʔè 'father'  
 /ʔi+mek/ → ʔímek 'father!'  
 /wi m+šud/ → wí mšùd 'mother's younger sister'  
 /ʔi+m+xyaq/ → ʔímxyaq 'mother's older sister'  
 /ʔi+m+sen/ → ʔímsen 'mother's brother'  
 /ʔi+m+we/ → ʔímwe 'father's sister'  
 /ʔi+m+ceḡ/ → ʔímceḡ 'father's brother'  
 /wi m+taq/ → wí mtaq 'younger sister'  
 /ʔaṭḡa/ → ʔáṭḡa 'younger sister!'  
 /ʔi+m+deq/ → ʔímdeq 'older sister'  
 /wi m+du+taq/ → wí mduṭaq 'younger brother'  
 /cuman/ → cúman 'younger brother!'  
 /ʔi+m+meq/ → ʔímmeq 'older brother'  
 /wi ɣad/ → wí ɣàd 'son'  
 /wi m+fad/ → wí mfàd 'daughter'  
 /ɣac̣in/ → ɣác̣in 'sister's child'

## AFFINAL

- /wi da/ → wí dà 'wife'  
 /wi ʔba/ → wí ʔbà 'husband'  
 /wi m+qon/ → wí mqòn 'sister's husband'  
 /ʔi+m+qon/ → ʔimqon 'sister's husband!'  
 /wi yaqmed/ → wí yàqmed 'brother's wife'  
 /wi m+xa/ → wí mxà 'spouse's mother'  
 /wi m+cac/ → wí mcàc 'wife's father'  
 /wi m+ba/ → wí mbà 'husband's father'  
 /wi m+faq/ → wí mfàq 'wife's brother'  
 /wi m+faq bʔed/ → wí mfàq bʔed 'wife's sister' (bʔed 'woman')  
 /wi m+qaʔin/ → wí mqàʔin 'husband's sister'  
 /wi m+xutaq/ → wí mxùtaq 'husband's brother'  
 /wi ʔmoá/ → wí ʔmòd 'son-in-law'  
 /wi m+ʔod/ → wí mʔòd 'daughter-in-law'  
 /tòʔmela/ → tòʔmela 'child's spouse's parent'

## 12.9. Nominalization

Five nominalization processes will be described in this section.

## 12.9.1. No Nominalization Affix

Nouns can be formed from verbs with no affix overtly marking nominalization. Such a noun will always lack a final position suffix.

Examples:

qwa 'food' (q+wa- 'eat')

k'ec' 'piece' (k'ec'- 'cut')

/ʔo šu+ITER+m<sub>i</sub>+c'<sub>r</sub>/ → ʔó šùšùmic' 'toothpick' (šu- 'pick')

/bay+cnu+q<sub>c</sub>/ → báycnùq 'preaching'

/k'de+l/ → k'dél 'chewing tobacco' (k'de- 'chew')

## 12.9.2. -m 'instrument or place of action nominalization'

This suffix is discussed in section 10.41.

## 12.9.3. -n 'absolutive'

Nominalization is one of the functions of this suffix. It is discussed in 10.42.

## 12.9.4. -al+wi/-mfo 'agent nouns'

The formation of agent nouns with -wi(singular) and -mfo(plural) is exemplified in sections 12.4.1. and 12.4.21. As will be seen in these examples, -wi is often preceded by a suffix -al. Examples of -al without -wi will be given in section 12.9.5.

## 12.9.5. ?a- 'nominalizing prefix'

This prefix forms nouns meaning 'one who does (verb)'.

Examples:

/?a+?+kaʃ+al/ → ?á?kaʃal 'thief' ('do wrong')

/?a+b+kaʃ+al/ → ?ábkaʃal 'liar' ('say wrong')

/?a+b+ko/ → ?ábko 'story-teller' ('tell')

/?a+f+di+q<sub>c</sub>/ → ?áfdiq 'wise man' ('know')

## 12.10. Interrogatives

All interrogative words occur in two forms: the basic form, ending in the interrogative suffix -?e, and the quotative form, occurring in narrative, in which the -?e suffix is replaced by -do 'quotative'. A list of interrogative words follows.

/?awi+?e/ → ?áwi?e 'what?'

/?awi+do/ → ?áwido (quotative)

/?awi+way+?e/ → ?áwiway?e 'what with, what for?'

/?awi+way+do/ → ?áwiwaydo (quotative)

/?awi+x̣ma+?e/ → ?áwiḡma?e 'what in?'

/?awi+x̣ma+do/ → ?áwiḡmado (quotative)

/bsin+?e/ → bsín?e 'how many?'

/bsin+do/ → bsíndo (quotative)

/bsin+way+?e/ → bsinway?e 'what time?' (I am not sure of  
this form)

/bsin+way+do/ → bsinwaydo (quotative)

/btey+?e/ → btéy?e 'when?'

/btey+do/ → btéydo (quotative)

/ca+?e/ → cá?e 'who?'

/ca+do/ → cádo (quotative)

/hel+?e/ → hél?e 'which one(inanimate)?'

/hel+do/ → hélido (quotative)

/hiy+?e/ → híy?e 'which one(animate)?'

/hiy+do/ → híydo (quotative)

/he+mal+a+?e/ → hémla?e 'where from, on which side?'

/he+mal+a+do/ → hémlado (quotative)

/he+mal+k<sub>s</sub>+t+?e/ → hémalkit?e 'where to?'

/he+mal+k<sub>s</sub>+t+do/ → hémalkitdo (quotative)

/he+qat+?e/ → héqat?e 'how?'

/he+qat+do/ → héqatdo (quotative)

/he+qat+way+?e/ → héqatway?e 'why?'

/he+qat+way+do/ → héqatwaydo (quotative)

/he+y+?e/ → héy?e 'where?'

/he+y+do/ → héydo (quotative)

## PART FIVE - SYNTAX

## Chapter 13. Syntax

## 13.1. Introduction

In this chapter I will attempt to present an overview of Southeastern Pomo syntactic organization. It is intended to be suggestive, groundwork for future research, rather than an attempt to handle any specific problem definitively.

Specifically, an adequate semantic-syntactic analysis of grammatical relations between noun phrases and the verb will not be undertaken. The syntactic framework of Noam Chomsky in Aspects of the Theory of Syntax, which allows for a superficial treatment of these problems, will be more or less adhered to. Semantic categories which must be handled in the morphology, such as 'source of motion' and 'figure', will not be characterized in the syntax, rather, 'subject-of' and 'object-of' configuratively defined.

In addition, problems of the somewhat free word order, and its semantic and stylistic consequences will not be treated. Sentences will be generated in what seems to be the neutral order, with some permutations transformationally derived. Likewise, neither the order, syntactic classification, or internal structure of adverbials will be presented.

### 13.2. Phrase Structure Rules

A set of phrase structure rules, producing deep structure phrase markers, will be postulated in this section.

$$1. \quad S \rightarrow \left\{ \begin{array}{l} (da+Neg) (Adv) NP (ba) Pred Phrase (Adv) \\ S (ke) S \end{array} \right\}$$

This initial rewrite rule introduces the immediate constituents of the sentence. The second line of the rewrite produces a series of conjoined sentences, optionally connected with the coordinating conjunction *ke*, of any length.

The optional morpheme *ba* is a marker of subject, and is used especially in sentences which might otherwise be ambiguous, such as the following.

/ʔu+yi ʔa ba ci+n+do nu+n+ya/ → ʔuyi ʔa ba cindo nunya  
 'He said that I did it' (he-I-ba-did it-said)

$$2. \quad \text{Pred Phrase} \rightarrow \left\{ \begin{array}{l} (NP) (NP) (\text{Post Phrase}) (\text{Post Phrase}) \\ \qquad \qquad \qquad (da+Neg) (VP) \\ \text{Predicate} \end{array} \right\}$$

This rule rewrites the predicate phrase as either



a series of noun phrases and postpositional phrases (arbitrarily indicated in number and order) followed by a Verb Phrase, or as a Predicate, which is then specified as either a predicate nominal or as an adjective (since there is no copula).

3. Predicate  $\rightarrow$   $\left. \begin{array}{l} \text{NP} \\ \text{Adjective} \end{array} \right\}$

4. NP  $\rightarrow$   $\left. \begin{array}{l} (\text{NP}) \text{ S} \\ \text{NP NP (ke)} \\ \left. \begin{array}{l} \text{Possessive} \\ \left[ \begin{array}{l} +\text{N} \\ +\text{deictic} \end{array} \right] \\ \text{Numeral} \end{array} \right\} (\text{NP}) \\ \left. \begin{array}{l} \text{N} \\ \text{Pron} \end{array} \right\} \text{Number} \end{array} \right\}$

This rule expands Noun Phrase into sequences which include one or more noun phrases, as well as into the constituents of NP: a noun or pronoun, plus an indicator of singular, dual, or plural number.

The first line introduces a nominal sentential complement, with or without a head noun. The second line produces conjoined NP's, followed by an optional

coordinating conjunction. The third line produces a noun phrase with a possessive, demonstrative or numeral modifier, as well as the modifier standing without a head noun phrase.

5. Number  $\rightarrow$   $\left\{ \begin{array}{l} \text{Singular} \\ \text{Dual} \\ \text{Plural} \end{array} \right\}$

6. Possessive  $\rightarrow$  NP  $\left\{ \begin{array}{l} \text{Inalienable} \\ \text{Alienable} \end{array} \right\}$

This rule specifies a possessive modifier as alienable or inalienable, in agreement with the head noun of the phrase.

7. Pron  $\rightarrow$  Pers (Deic) (Gender)

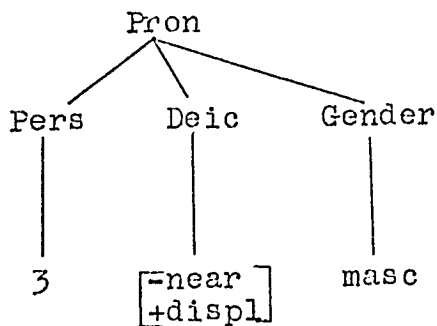
8. Pers  $\rightarrow$   $\left\{ \begin{array}{l} 1 \\ 2 \\ 3 \end{array} \right\}$

9. Deic  $\rightarrow$   $\left[ \begin{array}{l} \text{+near} \\ \text{+displaced} \end{array} \right]$

10. Gender  $\rightarrow$   $\left\{ \begin{array}{l} \text{masc} \\ \text{fem} \end{array} \right\}$

Rules 7-10 specify a pronoun as to person and, in the case of third person pronouns, deixis and gender.

For example, the pronoun *yiwi* 'he(displaced)' is generated thusly:



A readjustment rule will operate on this sequence of formatives, producing the underlying phonological shape of the stem:

$3 \text{ Pers} + \left[ \begin{array}{l} \text{-near} \\ \text{+displ} \end{array} \right] + \text{masc} \rightarrow \text{yiwi}$

In the sample text in Chapter 14, such formative configurations will be assumed in the generation of pronouns, and for simplicity, they will be replaced by the shorthand notation:

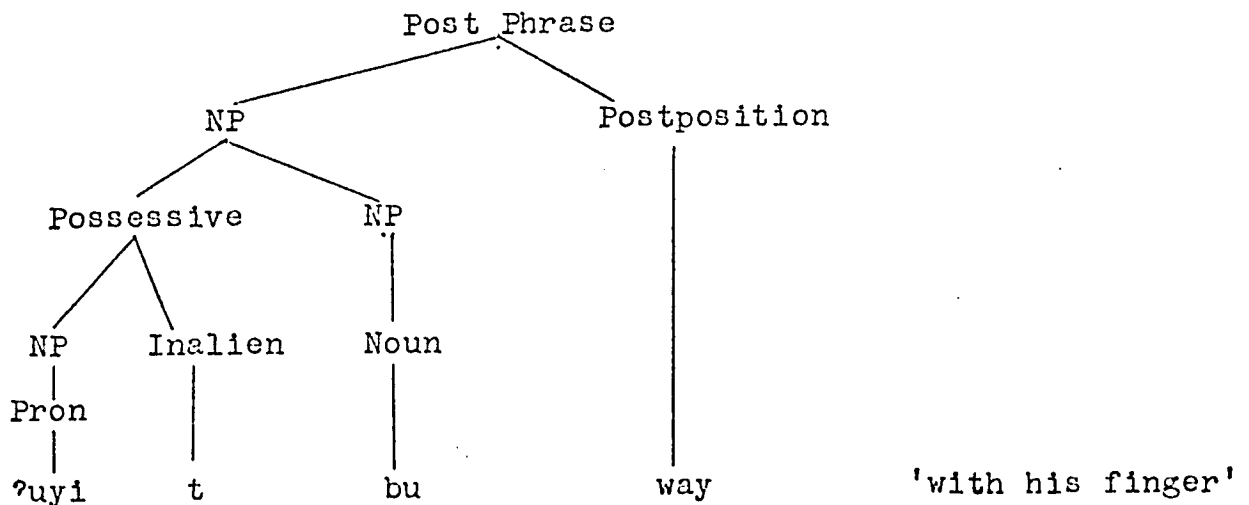


11. Post Phrase → NP Postposition

12. Postposition → win  
mlala  
tib  
etc.

Rules 11 and 12 generate postpositional phrases. Although -tib 'benefactive' is treated paradigmatically as a case suffix, in this syntactic sketch it will be generated as a postposition.

An example of a postpositional phrase follows.



13. VP  $\rightarrow$  (Adv) (Adv) (da+Neg) Verb

This rule expands Verb Phrase into an optional sequence of adverbs, plus an optional verb phrasal negation marker, plus the verb.

14. Verb  $\rightarrow$  (Dir) (IP) V (Aspect) (Mode) (Evidential)

15. Dir  $\rightarrow$   $\left. \begin{array}{l} \text{bay} \\ \text{mal} \\ \text{mlu} \\ \text{etc.} \end{array} \right\}$

16. IP  $\rightarrow$   $\left. \begin{array}{l} ? \\ b \\ f \\ \text{etc.} \end{array} \right\}$

17. Aspect  $\rightarrow$   $\left. \begin{array}{l} \text{HAB} \\ \text{INTS} \\ \text{DISTR} \\ \text{ITER} \\ \text{ITCOM} \end{array} \right\}$  (w)  $\left. \begin{array}{l} b \\ \text{š} \\ p \\ t \end{array} \right\}$  ( $m_1$ )  $\left. \begin{array}{l} k_i \\ k_s \end{array} \right\}$  (l) ( $c_p$ )  $\left. \begin{array}{l} \text{kle} \\ t \\ ya \\ n \end{array} \right\}$

18. Mode  $\rightarrow$   $\left. \begin{array}{l} d \\ dey \\ mla'm \end{array} \right\}$

This rule introduces one of the three modal elements which is not a final position suffix or enclitic.

19. Evidential  $\rightarrow$   $\left. \begin{array}{l} do \\ ,qo \\ ya \end{array} \right\}$

Rules 14-19 develop the Verb Complex. The ordering of the suffixes is somewhat arbitrary; it may be that the deep structure ordering of suffixes is indeterminate. See 13.3.28.

20.  $\left. \begin{array}{l} N \\ V \\ Adjective \\ Adv \end{array} \right\} \rightarrow CS$

Rule 20 is an instruction to rewrite a node labelled with one of the four lexical categories as a Complex Symbol, which initiates the insertion of an

appropriate lexical item.

### 13.3. Transformational Rules

An ordered set of transformations will be presented in this section. Most of these transformations are exemplified in the sample text in Chapter 14.

#### 13.3.1.

##### T1. CAUSATIVE REDUCTION

SD: X - Verb - 'xe...]<sub>verb</sub> - Y  
       1      2          3                  4

SC: 1 2 3 4  $\Rightarrow$  1 2+q<sub>c</sub> 4

This transformation reduces the periphrastic form of the causative construction to the causative suffix. The claim is that the two constructions are equivalent; this may not hold up under further analysis.

#### 13.3.2.

##### T2. REFLEXIVIZATION

SD: [<sub>S</sub> W - NP<sub>1</sub> - X - NP<sub>2</sub> - Y - V - Z ]<sub>S</sub> where NP<sub>1</sub> = NP<sub>2</sub>  
       1      2          3      4      5      6      7          referentially

SC: 1 2 3 4 5 6 7  $\Rightarrow$  1 2 3 4 5 6+c<sub>r</sub> 7

This transformation inserts the reflexive suffix into a verb suffix string when there are two referentially identical noun phrases, which are always subject and object.

13.3.3.

### T3. RECIPROCALIZATION

This transformation inserts the reciprocal suffix into the verb suffix string when proper conditions have been met in the sentence for a reciprocal meaning. While the details of this process have not yet been worked out, a simple case might work like this:

SD: X - [-sɛ]<sub>NP</sub>]<sub>S</sub> - Y - V - Z  
       1          2          3  4  5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3 4+mku 5

So, for example,

      ʔo+mal+ay ci+l+t  
 $\Rightarrow$  ʔo+mal+ay ci+mku+l+t  
 $\rightarrow$  ʔomlay cimkolit 'They were fighting each other.'



13.3.4.

T4. EQUI-NP DELETION

SD: X - NP<sub>1</sub> - Y-NP<sub>2</sub> - Z where NP<sub>1</sub> = NP<sub>2</sub> referentially  
       1     2     3 4     5

SC: 1 2 3 4 5 ⇒ 1 2 3 5

This transformation deletes a noun phrase which is referentially identical to a preceding noun phrase in the same sentence.

13.3.5.

T5. PRONOUN DELETION

SD: X - Pron - Y where Y is not a postposition or  
       1     2     3 possessive element

SC: 1 2 3 ⇒ 1 3

This transformation optionally deletes a subject or object pronoun whose identity is knowable from linguistic or non-linguistic contexts.

## 13.3.6.

## T6. PLURAL SOURCE CONCORDANCE

SD: X -  $\begin{bmatrix} +plural \\ +source \end{bmatrix}_{NP}$  - Y - V - Z  
 1            2                    3        4        5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3 4 (PLS) ( $k_p$ ) ( $m_p$ ) 5

This is one of four transformations which scans the sentence for a noun phrase which is marked with a particular case and number specification, and inserts one or more morphemes into the verb suffix sequence, which indicates concordance with this noun phrase.

The insertion of such concordance morphemes is not obligatory in all instances. Whether or not a given morpheme is inserted into a verb suffix sequence, when the proper noun phrase is present, may be determined by the verb stem, the co-occurrence of other morphemes in the string, individual variation, or other conditions. Examples of many verb forms can be found in Part Three.

This particular transformation inserts from one to three morphemes into a suffix sequence when there is a noun phrase in the sentence which is marked as a Source of Motion and plural number. Since such distinctions as Source are not represented in the phrase markers of

this set of syntactic rules, noun phrases must be considered to be interpretable in terms of features such as [+source].

## 13.3.7.

## T7. PLURAL FIGURE CONCORDANCE

SD: X -  $\begin{bmatrix} +\text{plural} \\ +\text{figure} \end{bmatrix}_{\text{NP}}$  - Y - V - Z  
           1          2                  3    4        5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3 4 (PLF) (y) (k<sub>p</sub>) 5

This transformation inserts one to three suffixes if there is a noun phrase in the sentence marked for Figure and plural number.

## 13.3.8.

## T8. NON-SINGULAR NP CONCORDANCE

SD: X - [-sg]]<sub>NP</sub> - Y - V - Z  
           1          2                  3    4        5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3 4+q<sub>p</sub> 5

This transformation inserts the suffix -q<sub>p</sub>-if

there is a noun phrase in the sentence which is either dual or plural in number.

### 13.3.9. DUAL NP CONCORDANCE

SD: X - [+dual]]<sub>NP</sub> - Y - V - Z

1        2                3    4    5

SC: 1 2 3 4 5    ⇒ 1 2 3 4+tta 5

This transformation inserts the suffix -tta- if there is a noun phrase in the sentence which is marked for dual number.

### 13.3.10.

#### T10. NEGATIVE MOVEMENT

SD: X - da-Neg - Y - V - Z

1    2    3    4    5    6

SC: 1 2 3 4 5 6    ⇒ 1 4 2 5 3 6

This transformation moves the (da+Neg) negation marker, either within or outside of the Predicate Phrase, to the verb of the sentence, the da preposed, and the Neg after the verb stem. Neg will be operated on by the

following readjustment rule:

$$\text{Neg} \rightarrow \left\{ \begin{array}{l} \text{s} / \text{---} \dots \text{t} \\ \text{xot} / \text{---} \text{---} \end{array} \right\}$$

13.3.11.

T11. KE MOVEMENT

SD: X]<sub>S</sub> - ke - [<sub>S</sub>[NP] - Y

1        2        3        4

SC: 1 2 3 4 ⇒ 1 3 2 4

This transformation optionally moves the coordinating conjunction ke, when it is conjoining two sentences, to the right of the initial noun phrase of the following sentence.

13.3.12.

T12. SENTENCE NOMINALIZATION

SD: X - -t - Y]<sub>S</sub>]<sub>NP</sub> - Z

-ya

1        2        3        4

a) SC: 1 2 3 4 ⇒ 1 3 4

b) SC: 1 2 3 4 ⇒ 1+baq 3 4

This transformation operates on sentences which are embedded in noun phrases, either deleting the final aspect suffix of the verb, or replacing it by the suffix -baq.

13.3.13.

T13. OBJECT SUFFIX INSERTION

SD:  $\left[ \begin{array}{l} +n \\ +animate \end{array} \right]_{NP} \text{ Pred Phrase}$   
       1

SC: 1  $\Rightarrow$  1+il

This transformation adds the object marker -il to a Noun Phrase which is dominated by Predicate Phrase, but not by an intervening node like Predicate; predicate nominals do not take -il.

13.3.14.

T14. ?OL-INSERTION

SD: S ]<sub>NP</sub> - VP  
       1       2

SC: 1 2  $\Rightarrow$  1+?ol 2

This transformation optionally inserts a pronoun which is anaphoric to a preceding nominalized sentence.

13.3.15.

T15. OBJECT FRONTING

SD: X - NP] Pred Phrase - Y  
       1      2                  3

SC: 1 2 3  $\Rightarrow$  2 1 3

This transformation, possibly involved with focus or emphasis, optionally moves an object noun phrase to the end of a sentence.

13.3.16.

T16. NP EXTRAPOSITION

SD: X - NP - Y where Y is not a postposition or possessive  
       1      2      3      element

SC: 1 2 3  $\Rightarrow$  2 3 1

This transformation optionally moves a subject or object noun phrase to the end of the sentence.





This transformation inserts a final position suffix indicating various types of sentence conjoining into sentences which are thus conjoined. The suffix may be inserted after either a verb or adjective predicate.

13.3.18.

T18. IMPERATIVE

SD: X - [2nd Person]<sub>NP</sub>]<sub>S</sub> - Y - -t - Z  
           1                  2                  3   4   5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3+a 5

This transformation can replace the final position suffix -t with -a, producing an imperative sentence, if the subject of the sentence is a second person noun phrase.

13.3.19.

T19. HORTATIVE

SD: X - [1st Person]<sub>NP</sub>]<sub>S</sub> - Y - -t - Z  
           1                  2                  3   4   5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3+dowa 5

This transformation replaces the -t 'imperfective' suffix with the hortative suffix, forming a hortative sentence, if the subject is a first person noun phrase.

13.3.20.

T20. OPTATIVE

a) SD: X - V - Y - -t - Z  
           1    2    3    4    5

SC: 1 2 3 4 5  $\Rightarrow$  1+<sup>ta</sup> 2+hine 3 5

b) SD: X - V - Y - -ya - Z  
           1    2    3    4    5

SC: 1 2 3 4 5  $\Rightarrow$  1  $\left\{ \begin{array}{l} \text{'ta} \\ \text{laq} \end{array} \right\}$  2 3 4+y 5

This transformation forms an optative sentence by either a) replacing the imperfective suffix with the imperfective optative suffix -hine and preposing <sup>ta</sup> to the verb, or by b) following the perfective suffix with the perfective hortative enclitic -y, and preposing an optional <sup>ta</sup> or laq<sup>'</sup> to the verb.

## 13.3.21.

## T21. INABILITIVE

a) SD: X - V - Y - -kle - Z  
   -t  
   -ya  
           1   2   3      4      5

SC: 1 2 3 4 5 ⇒ 1 2 3+kli 5

b) SD: X - Adjective - Y  
           1          2          3

SC: 1 2 3 ⇒ 1 2+kli 3

This transformation either replaces a final position aspect suffix, or follows a predicate adjective with the *kli* 'inabilitive' suffix.

## 13.3.22.

## T22. FUTURE CONDITIONAL

SD: X - V - Y - -t - Z  
           1   2   3      4      5

SC: 1 2 3 4 5 ⇒ 1 2 3+da 5

This transformation replaces the imperfective aspect suffix -t with the future conditional suffix -da.

13.3.23.

T23. INTERROGATIVE

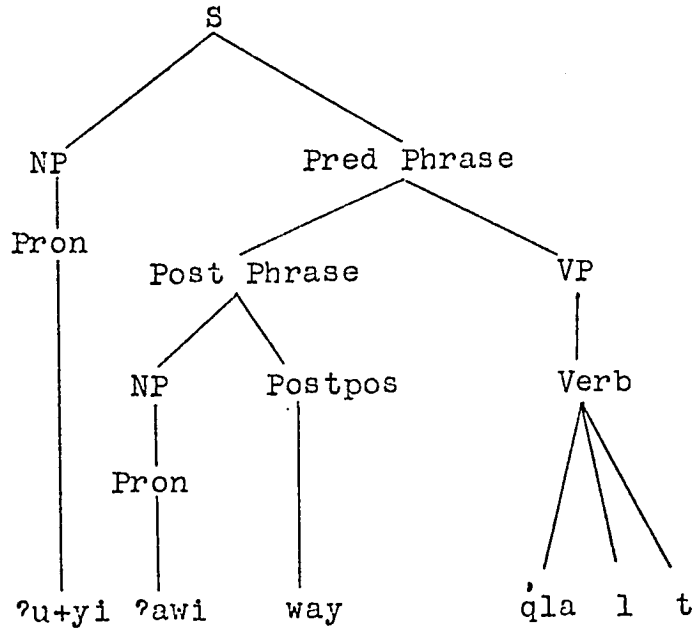
a) SD: W - [Interrog] - X - V - Y - -t - Z  
           1          2          3  4  5  6  7

SC: 1 2 3 4 5 6 7  $\Rightarrow$  1 2 3 4 5 6+?e 7

b) SD: W - [Interrog] - X - V - Y - n+do - Z  
           1          2          3  4  5  6  7

SC: 1 2 3 4 5 6 7  $\Rightarrow$  1 2 3 4 5 6 7

This transformation forms an interrogative sentence by following the imperfective suffix with the enclitic ?e, if there is an interrogative word in the sentence. As an example:



PRON DEL      ?awaway q'la+l+t  
 INTERROG    ?awaway q'la+l+t+?e

P rules      ?àawaway q'lálit?e      'What did he die from?'

Note that if the sentence to be interrogativized has a quotative evidential, it will undergo part (b), leaving the sequence of morphemes unchanged:

?àawaway q'lá'lindo

13.3.24.

T24. YES OR NO INTERROGATIVE

SD: X - Verb - Y

1 2 3

SC: 1 2 3  $\Rightarrow$  1 2+?ha 3

This transformation produces a question to which the appropriate answer is yes or no (?íy or hí'í).

Example:

?u+yi ba til+o+d+t

YES/NO ?u+yi ba til+o+d+t+?ha

P rules ?ùyi ba tílodit?ha 'Is he going to leave?'

13.3.25.

T25. LOCATIVE INTERROGATIVE

$$\text{SD: X - V - Y - } \left. \begin{array}{l} \text{-t} \\ \text{-ya} \end{array} \right\} \text{ - Z}$$

1 2 3 4 5

SC: 1 2 3 4 5  $\Rightarrow$  1 2 3+we 5



This transformation moves a Predicate Phrase or an embedded sentence to the front of the sentence, possibly for emphasis.

13.3.28.

T28. SUFFIX SEQUENCE REORDERING

SD: X - V - [Suf] ... - Y - Z  
       1   2       3...n     n+1   n+2

where SD parts 3...n are each a verb suffix, and Y is not a verb suffix

SC: 1 2 3...n n+1 n+2  $\Rightarrow$  1 2 SURF SUF SEQ n+1 n+2

where SURF SUF SEQ is the set of suffixes in 3...n, reordered by matching to the Surface Suffix Ordering Constraint

This is, strictly speaking, not a transformation in the current formal sense of the term. It is a schema which takes as input the sequence of verb suffixes generated by the phrase structure and transformational rules, and reorders them according to the Surface Suffix Ordering Constraint, the surface ordering of suffixes given in Chapter Five. The claim is that the ordering of the



suffixes is not distinctive in the deep structure, except insofar as it is necessary to effect some ordering so that transformations and cocurrence restrictions can operate properly.

### 13.4. Summary of Transformations

- T1. Causative Reduction
- T2. Reflexivization
- T3. Reciprocalization
- T4. Equi-NP Deletion
- T5. Pronoun Deletion
- T6. Plural Source Concordance
- T7. Plural Figure Concordance
- T8. Non-singular NP Concordance
- T9. Dual NP Concordance
- T10. Negative Movement
- T11. Ke-Movement
- T12. Sentence Nominalization
- T13. Object Suffix Insertion
- T14. ?ol Insertion
- T15. Object Fronting
- T16. NP Extraposition
- T17. Conjoining Suffix Insertion
- T18. Imperative
- T19. Hortative
- T20. Optative
- T21. Inabilitive
- T22. Future Conditional
- T23. Interrogative

- T24. Yes/No Interrogative
- T25. Locative Interrogative
- T26. Sentence Extraposition
- T27. Predicate Fronting
- T28. Suffix Sequence Reordering

## Chapter 14. Sample Text

### 14.1. Introduction

In this chapter, a short text will be presented, exemplifying many of the elements and processes discussed in the grammar.

First, the text will be presented in a more-or-less systematic phonetic transcription (except that pre-tonic epenthetic vowels and stress will not be indicated), along with a free translation. This will be followed by a morphemic analysis of each sentence, with deep structure phrase markers and indications of the transformations that operate on each sentence.

The text is a narrative spoken in July, 1965.

### 14.2. Text and Translation

- 1) ?uyil enu fdiḡqacit. 2) ?a ba fdiqbaq te uyil bkolidit ?a. 3) heqada bḡeqa ?uyi šiškidit, ?ol da fdiqas ?a.
- 4) mḡun ?a mey, pa?šem muḡin walqat, pa?šem muḡin ke walqat, ḡqomfo ?uḡqat kli qat, wiy sen mey blommat, ?umtimfo beqat. 5) ?a·ba ḡqacit wiy qowcikle, xa qlakmat, bxe camat, xacit camat. 6) cada wil da ciḡotkle. 7) wiy sen blommat, ke ḡqomfo ḡol?yeqat, ke wil ?ol ?uḡqat kyewkiqya.
- 8) ?ow, ?a ḡalk?o ḡal pa?šem ke danwidi muḡin ké, wiy ke mey

ʔawda da ɔow'ces. 9) wil ʔwalqat. 10) bxe ɔamal, xa  
 ɔowic', ʔuxqat ʔwalqat wil. 11) heqada bcilin, memla  
 bɔoyilki, heqada wali, ʔa·ba ʔuxqa kyewkiqdit, ʔxotit.  
 12) ʔa da fdiqas.

1) He wants to learn our language. 2) I'll tell him  
 just as much as I know. 3) I don't know how much he's  
 going to ask. 4) A long time ago, when I was ten years  
 old, there were no white people around. We lived here  
 alone, just us Indians. 5) We did everything we wanted  
 to. We went fishing, deer hunting, mudhen hunting.  
 6) No one bothered us. 7) We were here alone, but  
 then the white man came. They stopped us from doing  
 all that. 8) I'm fifty-eight years old now. We don't  
 do anything here anymore. 9) They stopped us.  
 10) Deer hunting, fishing... They stopped us from doing  
 everything. 11-12) I don't know how long from now it will  
 be. I guess they'll stop us from doing everything.

### 14.3. Morphological Analysis

1) ʔuyi+il 3 sg. masc obj. pron.

cnu noun 'language, word'

f+di+q<sub>c</sub>+q<sub>c</sub>+c'<sub>r</sub>+t 'he teaches himself, knows' fdi+q<sub>c</sub> 'know'

2)

ʔa 1 sg. subj. pronoun

ba subject particle

f+di+q<sub>c</sub>+baq verb 'what I know'

te adverb 'just, only'

ʔu+yi+il 3 sg. masc. pronoun, object

b+ko+l+d+t 'will tell' verb

ʔa 1 sg subject pronoun

3) heqada interrogative adverb 'how'

bʔe+q<sub>c</sub> adverb 'size, much' from verb bʔe- 'grow'

ʔu+yi 3 sg masc subject pronoun

šiš+k<sub>s</sub>+d+t 'will ask' verb

ʔo+il 3 sg object pronoun 'that'

da f+di+q<sub>c</sub>+s verb 'don't know'

ʔa 1 sg subject pronoun

4) mʔu+n adverb 'long ago'

ʔa 1 sg subject pronoun

mey adverb 'here'

paʔšem numeral 'ten'

muʔin noun 'year'

wa+l+qat verb 'when I was' wa- 'I goes, walks'

paʔšem

muʔin

ke coordinating conjunction

wa+l+qat

- x̣qo+mfo noun 'white men'  
 ʔux̣qat adjective 'all, every'  
 ḳli inability, here 'none at all'  
 qat conjoining element, 'when'  
 wi+ay 1 pl subject pronoun  
 sen adverb 'alone'  
 mey adverb 'here'  
 blo+m<sub>p</sub>+t verb 'sit, live'  
 ʔumti+mfo noun 'people, Indians'  
 beqat verb 'just, only'  
 5) ʔa·ba pronoun 'materials, paraphernalia' here  
                   'everything' or 'anything'  
 x̣qa+c̣<sub>p</sub>+t verb 'like, want to'  
 wi+ay 1 pl subject pronoun  
 q̣o+w+c̣<sub>p</sub>+kle 'we always did'  
 xa noun 'fish'  
 q̣la+k<sub>p</sub>+m<sub>p</sub>+t verb 'we caught'  
 bxe noun 'deer'  
 c̣a+m<sub>p</sub>+t verb 'we hunted'  
 x̣a'cit noun 'mudhen, cootch'  
 c̣a+m<sub>p</sub>+t verb 'we hunted'  
 cada pronoun 'someone'  
 wi+il 1 pl object pronoun

da či+xot+kle verb 'they didn't do' here 'bother'

7) wi+ay 1 pl subject pronoun

sen adverb 'alone'

blo+m<sub>p</sub>+t verb 'lived'

ke coordinating conjunction

xqo+mfo noun 'white men'

xol+?ye+q<sub>p</sub>+t verb 'came'

ke coordinating conjunction

wi+il 1 pl object pronoun

?o+il 3 sg object pronoun 'that'

?uxqat adjective 'all, every'

k+ye+w+k<sub>s</sub>+q<sub>c</sub>+ya verb 'they stopped us'

8) ?ow sentence adverbial 'well'

?a 1 sg subject pronoun

ʔalk?o numeral 'five'

ʔal connective 'times'

pa?šem numeral 'ten'

ke coordinating conjunction

danwidi numeral 'eight'

(5x10+8=58)

muʔin noun 'year'

ké adverb 'now'

wi+ay 1 pl subject pronoun



ke coordinating conjunction

mey adverb 'here'

?aw+da pronoun 'something, anything'

da qo+w+c<sub>p</sub>+s verb 'we don't do'

9)

wi+il 1 pl object pronoun

?+wa+l+q<sub>c</sub>+t 'they stopped us'

10) bxe noun 'deer'

ca+m<sub>p</sub>+l verb 'hunt'

xa noun 'fish'

qo+w+c<sub>p</sub> verb 'doing'

?uxqat adjective 'all, every' here as pronoun 'everything'

?+wa+l+q<sub>c</sub>+t

wi+il

11) heqa+da adverb 'how'

bcilin adverb 'long' from verb bci+l+n 'long'

memla adverb 'from here, from now(time or space)'

btoylki adverb 'backwards' from verb b+toyi+l+k<sub>s</sub>

'go to behind, backwards'

heqa+da wali adverb 'how long' from verb wa+l 'I goes'

?a.ba pronoun 'everything'

?uxqa adjective 'all' (alternate form)

k+ye+w+k<sub>p</sub>+d+t verb 'stop'

?xot+t verb 'guess'

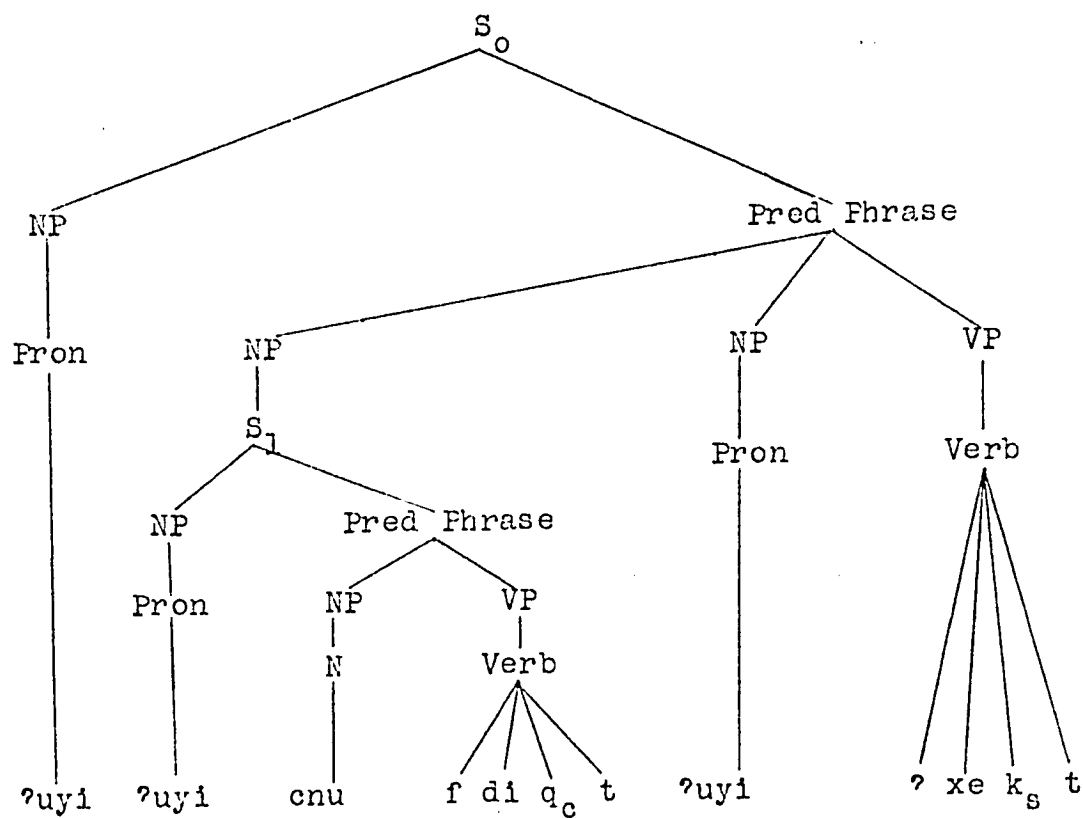
12) ?a 1 sg subject pronoun

da f+di+q<sub>c</sub>+s verb 'not know'

#### 14.4. Syntactic Analysis

In this section deep structure phrase markers and transformational derivations will be given for each sentence.

1) ?uyil cnu fdiqacit.



DS: ?uyi ?uyi cnu f+di+q<sub>c</sub>+t ?uyi ?+xe+k<sub>s</sub>+t

T1-Caus ?uyi ?uyi cnu f+di+q<sub>c</sub>+t+q<sub>c</sub> ?uyi

T2-Ref1 ?uyi ?uyi cnu f+di+q<sub>c</sub>+t+q<sub>c</sub>+c<sub>r</sub> ?uyi

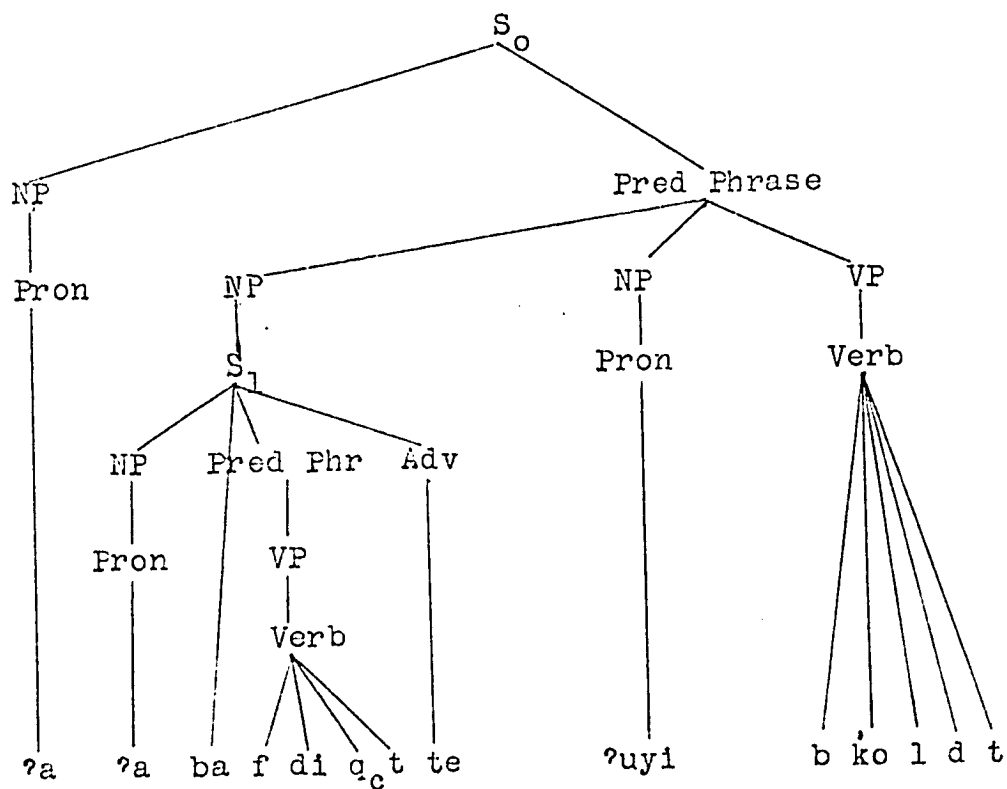
T4-EqNPdel (2 operations)

?uyi cnu f+di+q<sub>c</sub>+t+q<sub>c</sub>+c<sub>r</sub>

T13-OSI ?uyi+il cnu f+di+q<sub>c</sub>+t+q<sub>c</sub>+c<sub>r</sub>

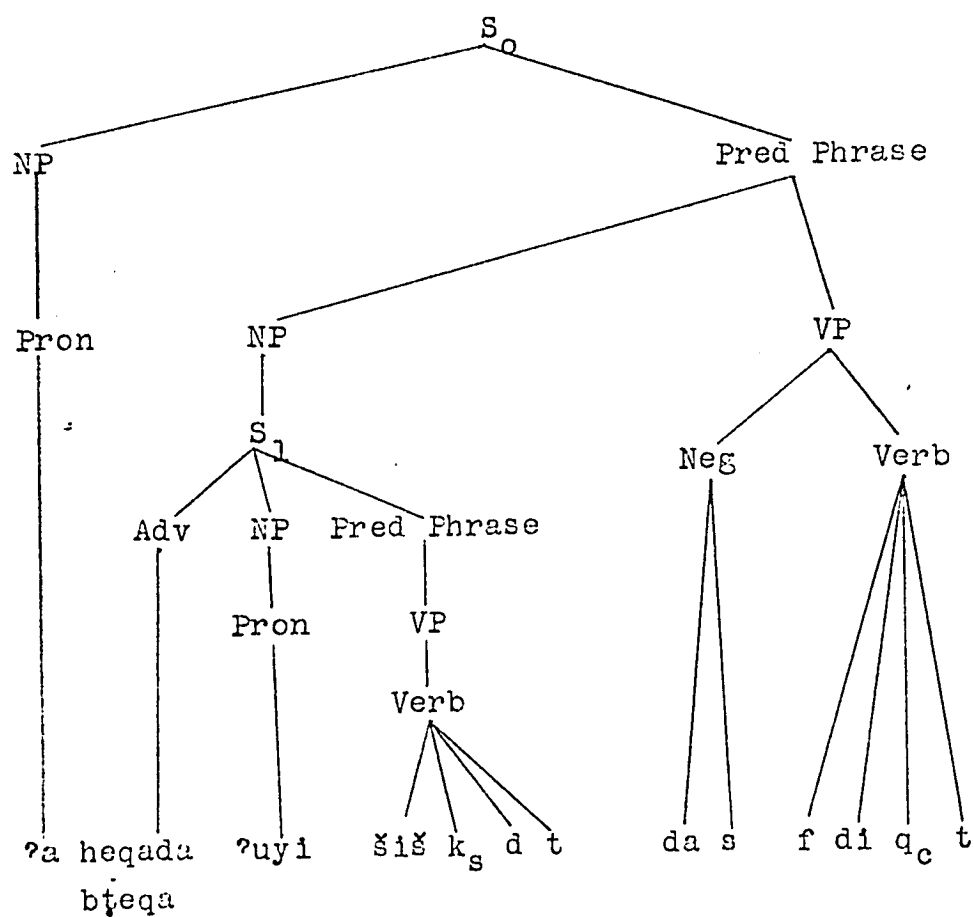
T28-SSR ?uyi+il cnu f+di+q<sub>c</sub>+q<sub>c</sub>+c<sub>r</sub>+t

2) ?a ba fdiqbaq te ?uyil bkolidit ?a.



DS:       ʔa ʔa ba f+di+q<sub>c</sub>+t te ʔuyi b+k<sup>o</sup>+l+d+t  
 T12-SN ʔa ʔa ba f+di+q<sub>c</sub>+baq te ʔuyi b+k<sup>o</sup>+l+d+t  
 T13-OSI ʔa ʔa ba f+di+q<sub>c</sub>+baq te ʔuyi+il b+k<sup>o</sup>+l+d+t  
 T16-NPE ʔa ba f+di+q<sub>c</sub>+baq te ʔuyi+il b+k<sup>o</sup>+l+d+t ʔa  
 T28-SSR   vacuous operation

3) heqada b<sup>ʔ</sup>eqa ʔuyi šišk<sup>ʔ</sup>idit, ʔol da fdiq<sub>c</sub> ʔa.



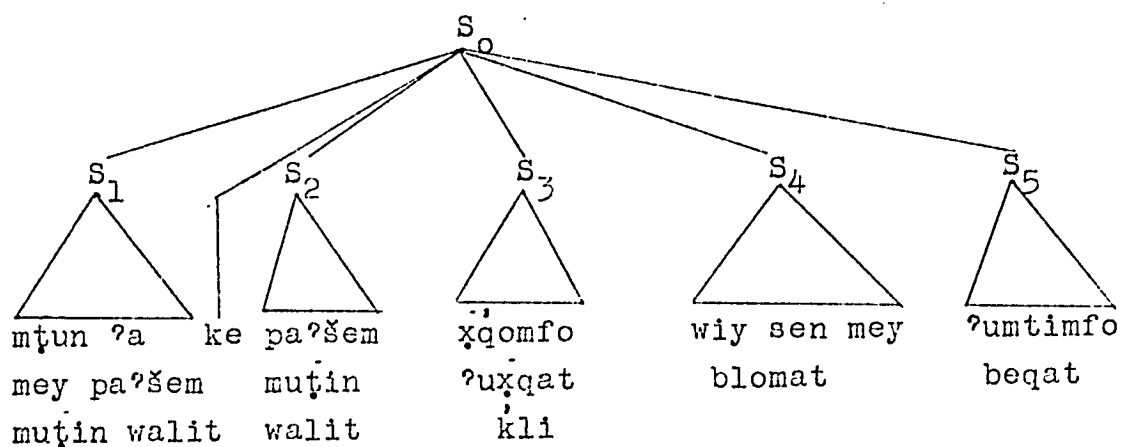
DS:       ?a heqa+da bteqa ?uyi šiš+k<sub>s</sub>+d+t da+s f+di+q<sub>c</sub>+t

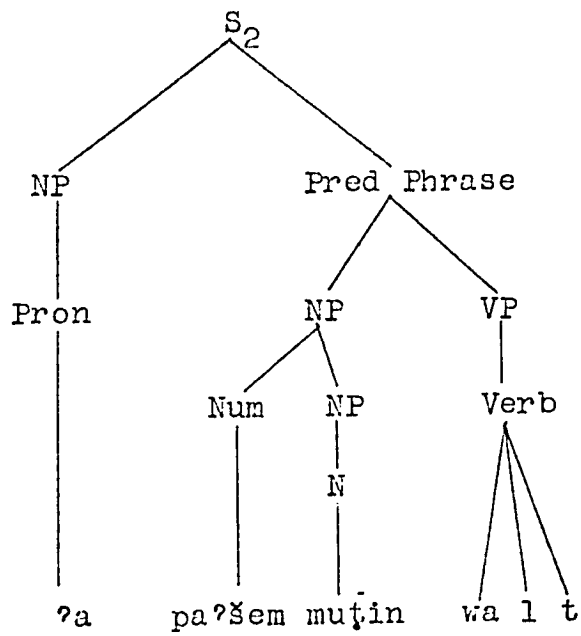
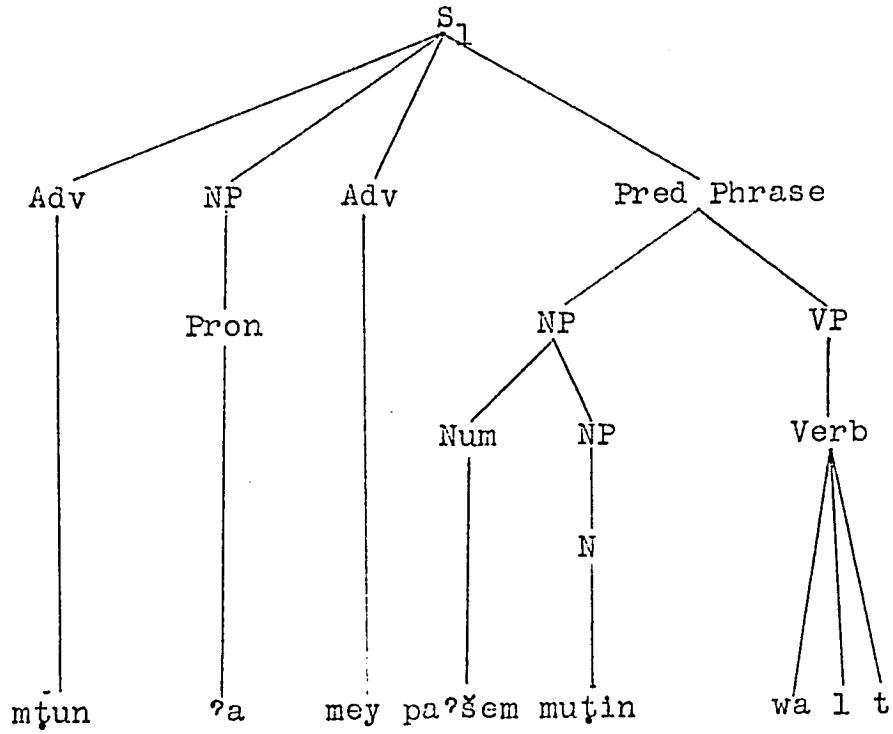
T14-OI    ?a heqa+da bteqa ?uyi šiš+k<sub>s</sub>+d+t ?ol da+s f+di+q<sub>c</sub>+t

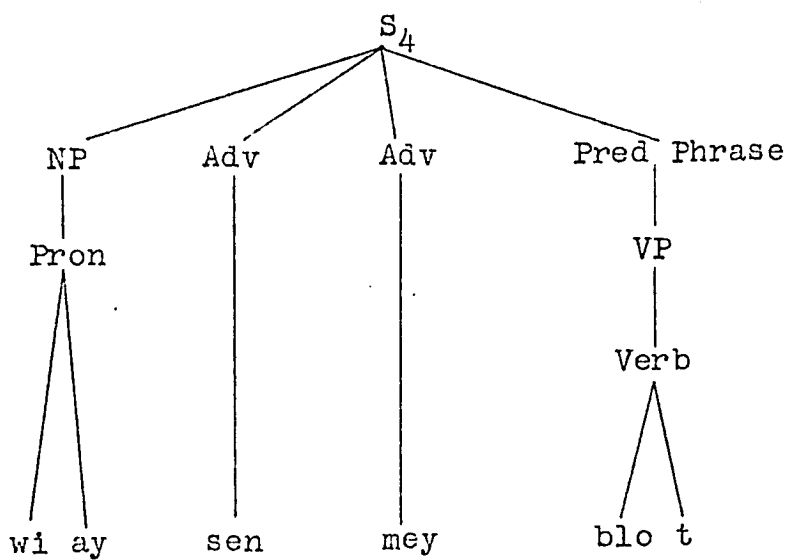
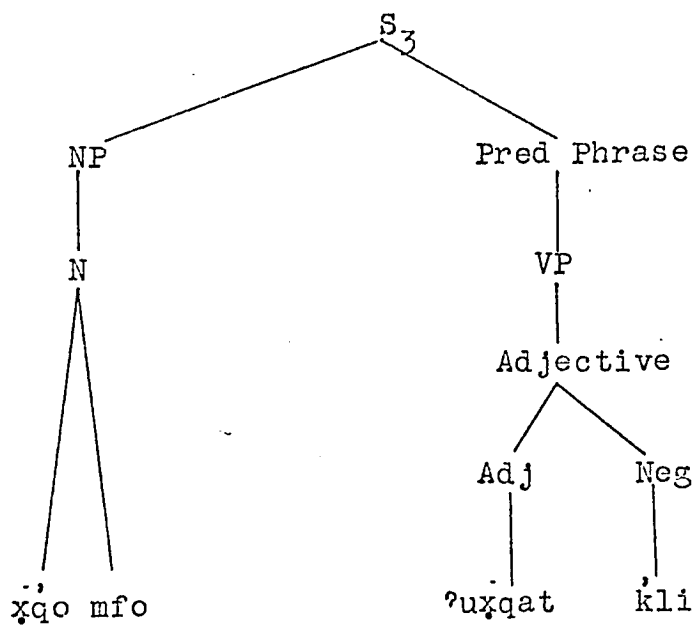
T16-NPE heqa+da bteqa ?uyi šiš+k<sub>s</sub>+d+t ?ol da+s f+di+q<sub>c</sub>+t ?a

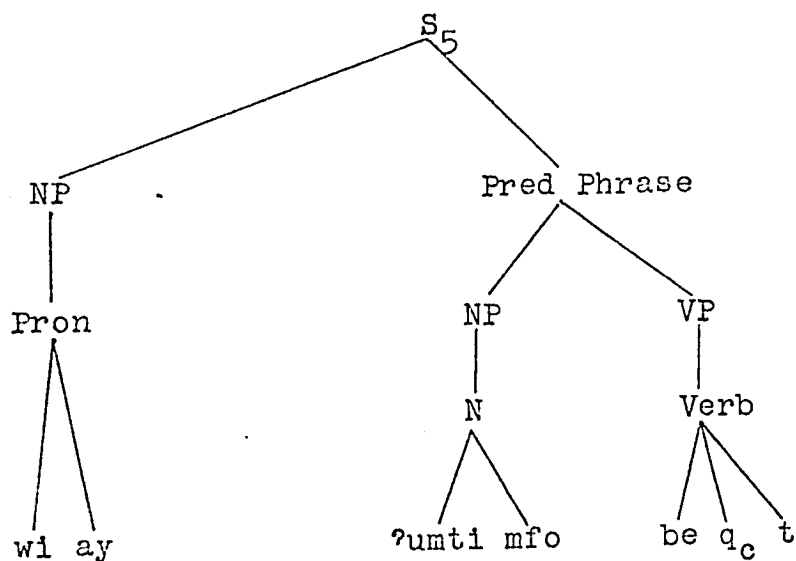
T28-SSR heqa+da bteqa ?uyi šiš+k<sub>s</sub>+d+t ?ol da f+di+q<sub>c</sub>+s ?a

4) mɯn ?a mey, paʔšem muɯin walqat, paʔšem muɯin ke  
walqat, xqomfo ?uxqat kli qat, wiy sen mey blommat,  
?umtimfo beqat.







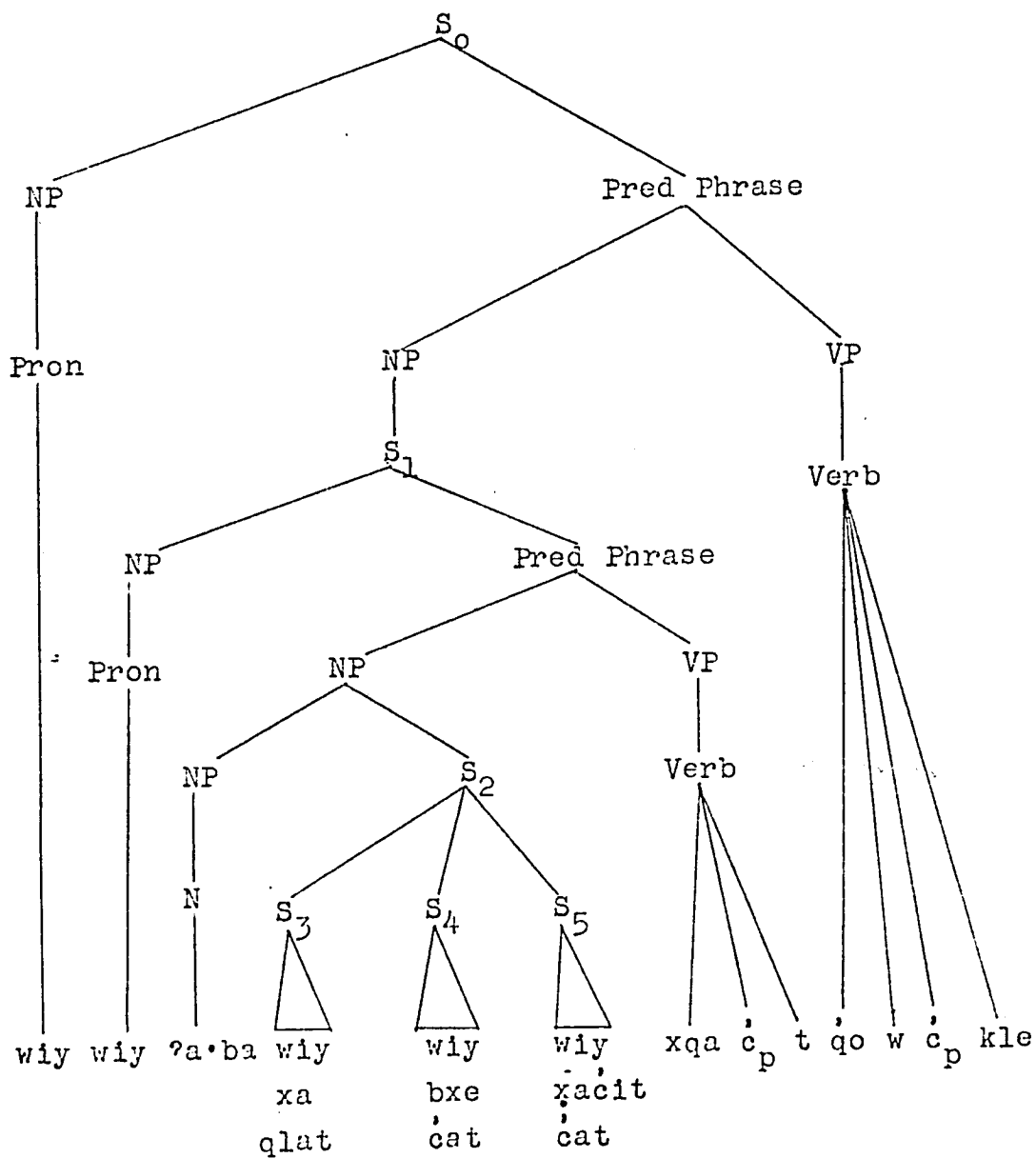


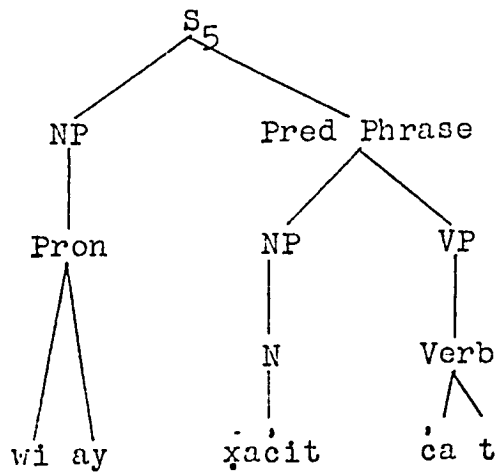
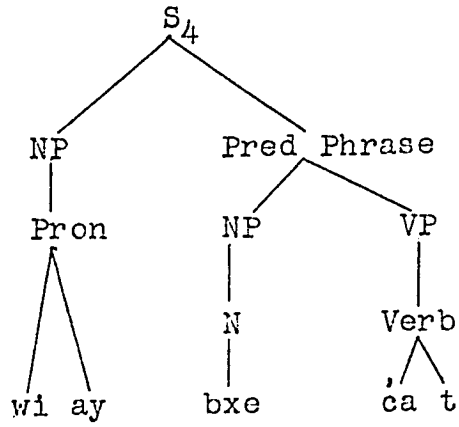
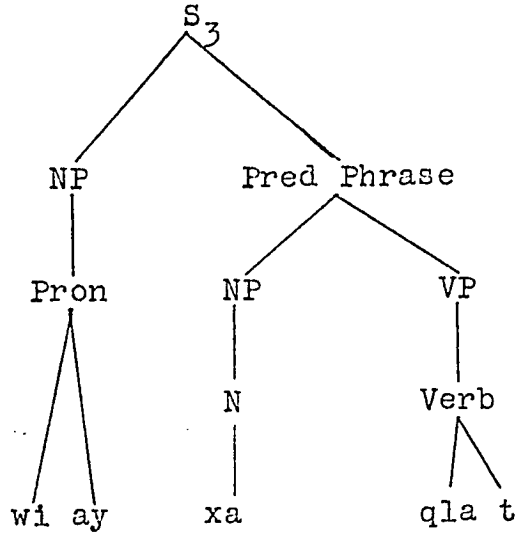
- DS:        S<sub>1</sub> m̄fun ?a mey pa?šem muṭin wa+l+t        ke  
             S<sub>2</sub> ?a pa?šem muṭin wa+l+t  
             S<sub>3</sub> x̄qo+mfo ?uxqat k̄li  
             S<sub>4</sub> wi+ay sen mey blo+t  
             S<sub>5</sub> wi+ay ?umti+mfo be+qc+t
- T17-C SI        m̄fun ?a mey pa?šem muṭin wa+l+qat  
 T4-ENPD        ke pa?šem muṭin wa+l+t  
 T11-KM        pa?šem muṭin ke wa+l+t  
 T17-C SI        pa?šem muṭin ke wa+l+qat  
 T6-PSC        wi+ay sen mey blo+m<sub>p</sub>+t  
 T17-C SI        x̄qo+mfo ?uxqat k̄li qat



## T28-SSR vacuous operation

5) ?a·ba xqacit wiy qow'cikle, xa qlakmat, bxe camat,  
xacit camat.





DS: wi+ay wi+ay ?a·ba wi+ay xa qla+t wi+ay bxe 'ca+t  
 wi+ay x̄acit 'ca+t x̄qa+c'<sub>p</sub>+t q̄o+w+c'<sub>p</sub>+kle

T4-ENPD (4 operations)

wi+ay ?a·ba xa qla+t bxe 'ca+t x̄acit 'ca+t x̄qa+c'<sub>p</sub>+t  
 q̄o+w+c'<sub>p</sub>+kle

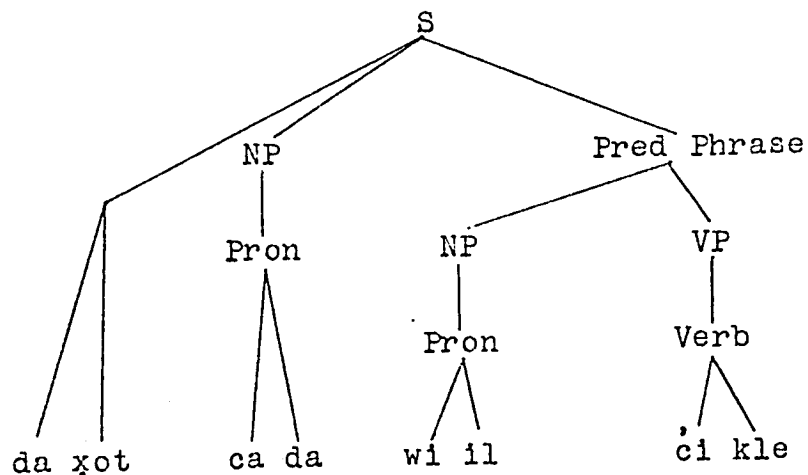
T6-PSC wi+ay ?a·ba xa qla+k<sub>p</sub>+m<sub>p</sub>+t bxe 'ca+m<sub>p</sub>+t x̄acit  
 'ca+m<sub>p</sub>+t x̄qa+c'<sub>p</sub>+t q̄o+w+c'<sub>p</sub>+kle

T26-SE wi+ay ?a·ba x̄qa+c'<sub>p</sub>+t q̄o+w+c'<sub>p</sub>+kle xa qla+k<sub>p</sub>+m<sub>p</sub>+t  
 bxe 'ca+m<sub>p</sub>+t x̄acit 'ca+m<sub>p</sub>+t

T27-PF ?a·ba x̄qa+c'<sub>p</sub>+t wi+ay q̄o+w+c'<sub>p</sub>+kle xa qla+k<sub>p</sub>+m<sub>p</sub>+t  
 bxe 'ca+m<sub>p</sub>+t x̄acit 'ca+m<sub>p</sub>+t

T28-SSR vacuous operation

6) cada wil da cixotkle.

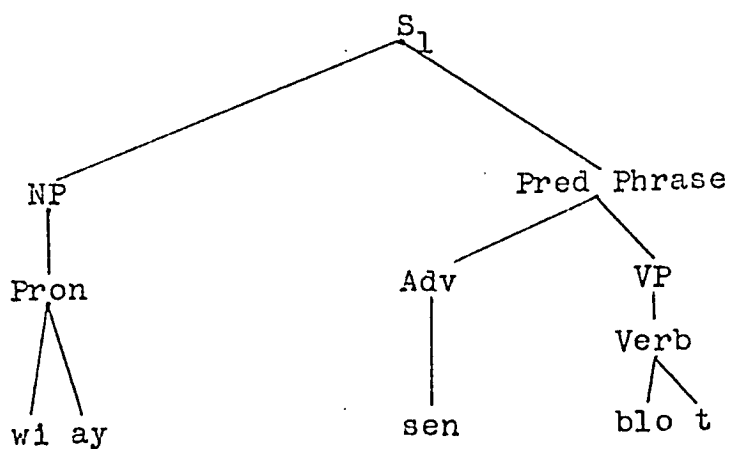
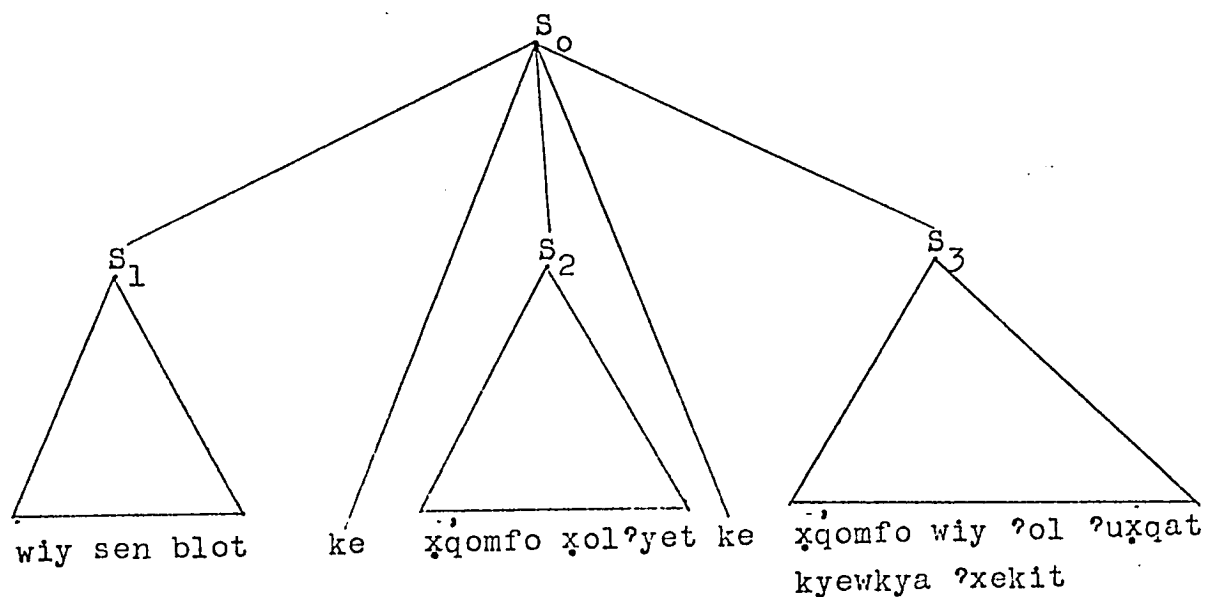


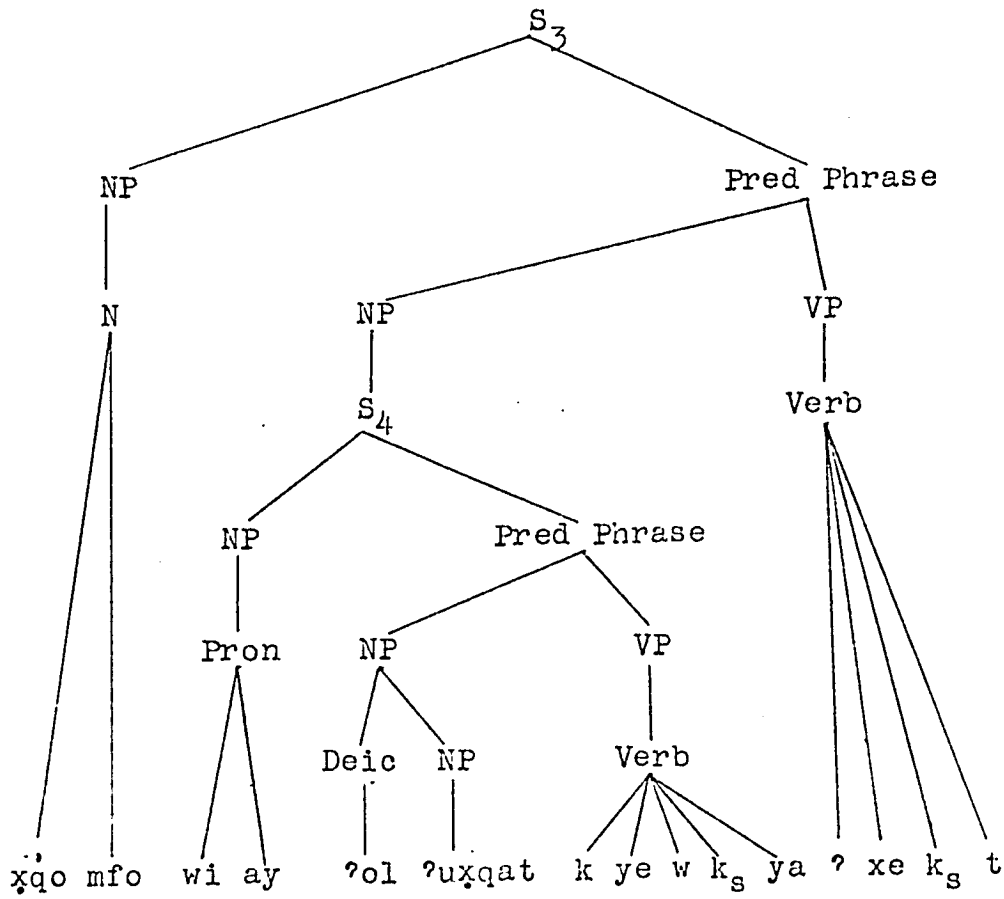
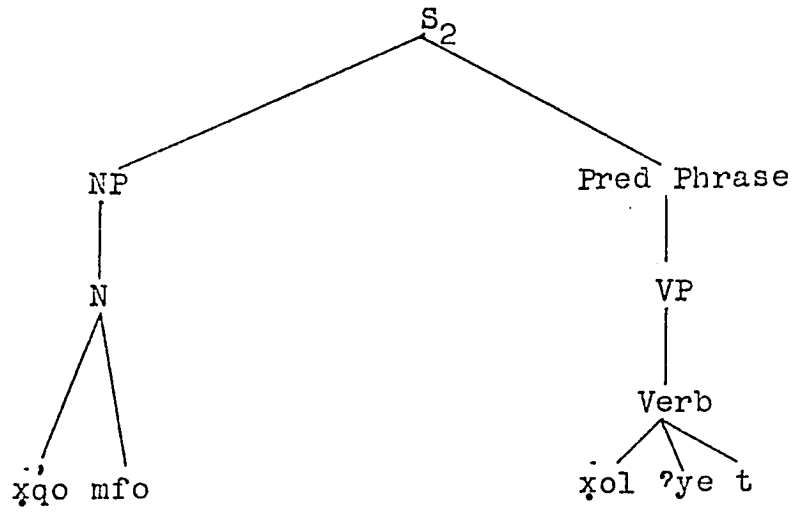
DS: da xot ca+da wi+il ci+kle

T10-NM ca+da wi+il da c+xot+kle

T28-SSR vacuous operation

7) wiy sen blomt, ke xqomfo xol'yeqat, ke wil 'ol  
 ?uxqat kyewkiqya.





DS: wi+ay sen blo+t ke x̄qo+mfo x̄ol+?ye+t ke x̄qo+mfo  
 wi+ay ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+ya ?+xe+k<sub>s</sub>+t

T1-CR wi+ay sen blo+t ke x̄qo+mfo x̄ol+?ye+t ke x̄qo+mfo  
 wi+ay ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+ya+q<sub>c</sub>

T4-ENPD wi+ay sen blo+t ke x̄qo+mfo x̄ol+?ye+t ke wi+ay  
 ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+ya+q<sub>c</sub>

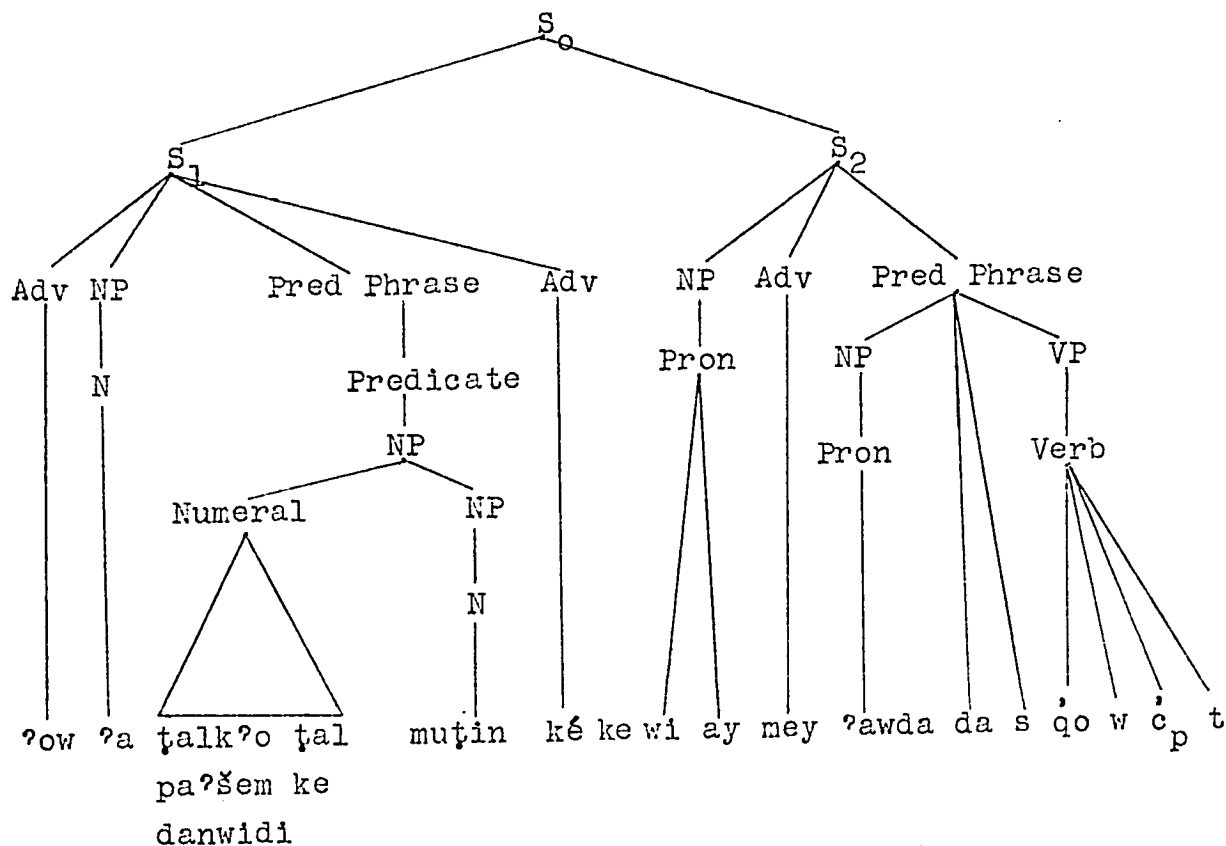
T6-PSC wi+ay sen blo+m<sub>p</sub>+t ke x̄qo+mfo x̄ol+?ye+t ke wi+ay  
 ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+ya+q<sub>c</sub>

T8-NSC wi+ay sen blo+m<sub>p</sub>+t ke x̄qo+mfo x̄ol+?ye+q<sub>p</sub>+t ke  
 wi+ay ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+ya+q<sub>c</sub>

T13-OSI wi+ay sen blo+m<sub>p</sub>+t ke x̄qo+mfo x̄ol+?ye+q<sub>p</sub>+t ke  
 wi+il ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+ya+q<sub>c</sub>

T28-SSR wi+ay sen blo+m<sub>p</sub>+t ke x̄qo+mfo x̄ol+?ye+q<sub>p</sub>+t ke  
 wi+il ?ol ?ux̄qat k+ye+w+k<sub>s</sub>+q<sub>c</sub>+ya

8) ?ow, ?a t̄alk?o t̄al pa?šem ke danwidi muṭin ké, wiy  
 ke mey ?awda da qowčes.

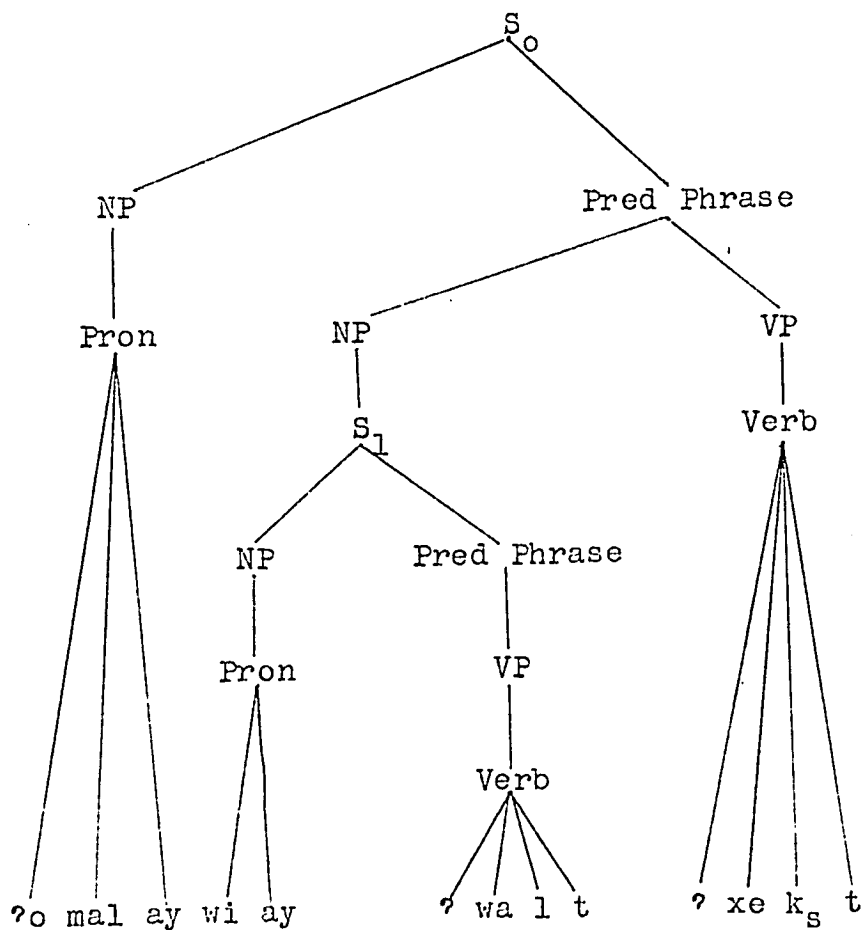


DS: ʔow ʔa ʔalkʔo ʔal paʔšem ke danwidi muʔin ké ke  
wi+ay mey ʔawda da+s ʔo+w+c'p+t.

T11-KM ʔow ʔa ʔalkʔo ʔal paʔšem ke danwidi muʔin ké  
wi+ay ke mey ʔawda da+s ʔo+w+c'p+t.

T28-SSR ʔow ʔa ʔalkʔo ʔal paʔšem ke danwidi muʔin ké  
wi+ay ke mey ʔawda da ʔo+w+c'p+s.

9) wil ?walqat.



DS:       ?o+mal+ay wi+ay ?+wa+l+t ?+xe+k<sub>s</sub>+t

T1-CR     ?o+mal+ay wi+ay ?+wa+l+t+q<sub>c</sub>

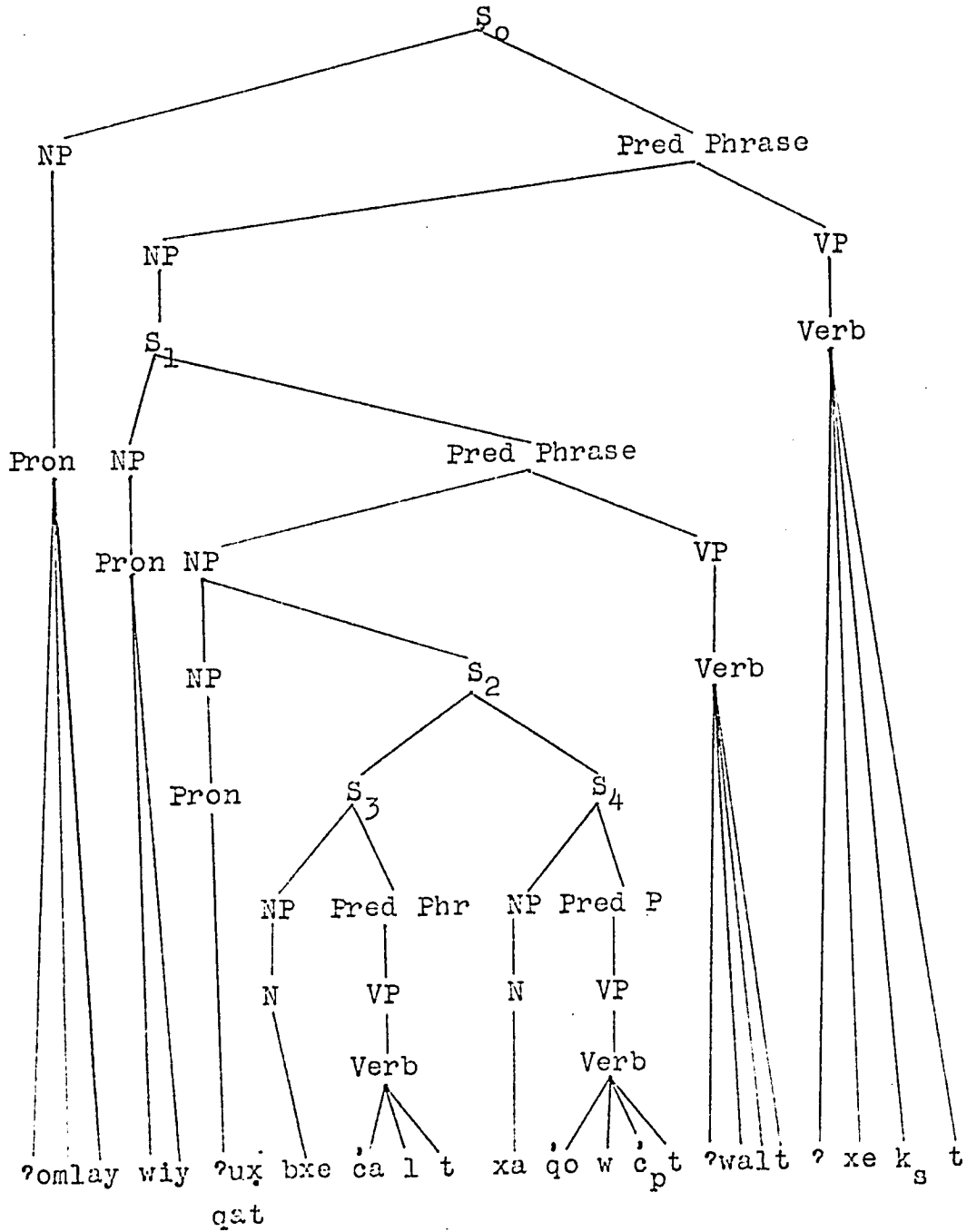
T5-FD     wi+ay ?+wa+l+t+q<sub>c</sub>

T13-OSI  wi+il ?+wa+l+t+q<sub>c</sub>

T28-SSR  wi+il ?+wa+l+q<sub>c</sub>+t



10) bxe 'camal, xa qowic', ?uxqat ?walqat wil.



DS: ?o+māl+ay wi+ay ?uḫqat bxe 'ca+l+t xa 'qo+w+c'<sub>p</sub>+t  
 ?+wa+l+t ?+xe+k<sub>s</sub>+t

T1-CR ?o+māl+ay wi+ay ?uḫqat bxe 'ca+l+t xa 'qo+w+c'<sub>p</sub>+t  
 ?+wa+l+t+q<sub>c</sub>

T5-PD wi+ay ?uḫqat bxe 'ca+l+t xa 'qo+w+c'<sub>p</sub>+t ?+wa+l+t+q<sub>c</sub>

T6-PSC wi+ay ?uḫqat bxe 'ca+m<sub>p</sub>+l+t xa 'qo+w+c'<sub>p</sub>+t ?+wa+l+t+q<sub>c</sub>

T12-SN wi+ay ?uḫqat bxe 'ca+m<sub>p</sub>+l xa 'qo+w+c'<sub>p</sub> ?+wa+l+t+q<sub>c</sub>

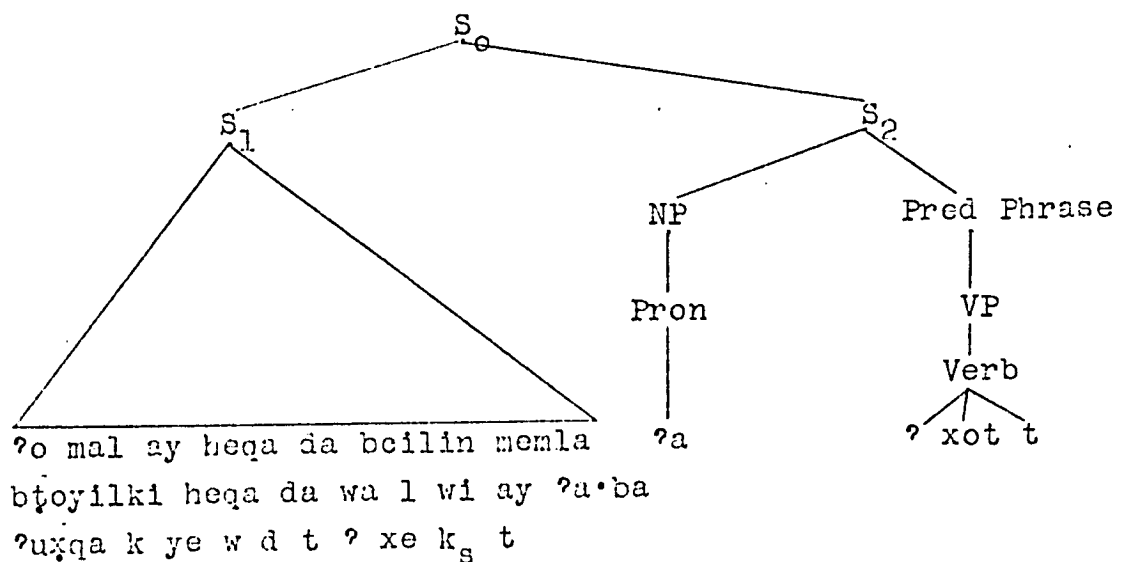
T13-OSI wi+il ?uḫqat bxe 'ca+m<sub>p</sub>+l xa 'qo+w+c'<sub>p</sub> ?+wa+l+t+q<sub>c</sub>

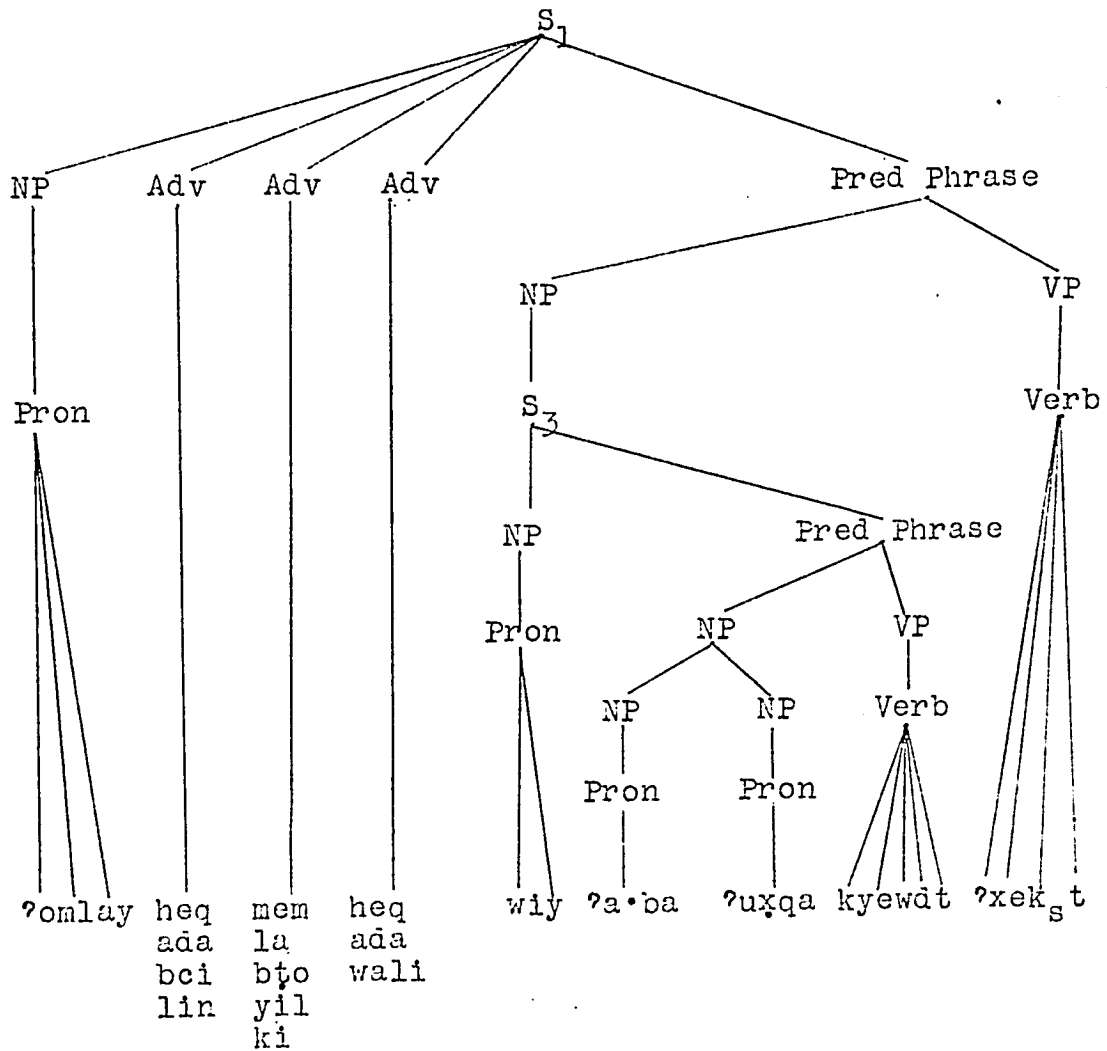
T16-NFE ?uḫqat bxe 'ca+m<sub>p</sub>+l xa 'qo+w+c'<sub>p</sub> ?+wa+l+t+q<sub>c</sub> wi+il

T27-PF bxe 'ca+m<sub>p</sub>+l xa 'qo+w+c'<sub>p</sub> ?uḫqat ?+wa+l+t+q<sub>c</sub> wi+il

T28-SSR bxe 'ca+m<sub>p</sub>+l xa 'qo+w+c'<sub>p</sub> ?uḫqat ?+wa+l+q<sub>c</sub>+t wi+il

11) heqada bcilin, memla bḫoyilki, heqada wali, ?a•ba  
 ?uḫqa kyewkiqdit, ?xotit.





DS: ?o+mal+ay heqa+da bcilin memla btoyilki heqa+da  
 wa+l wi+ay ?a'ba ?uxqa k+ye+w+d+t ?+xe+k<sub>s</sub>+t  
 ?a ?+xot+t

Tl-CR ?o+mal+ay heqa+da bcilin memla btoyilki heqa+da  
 wa+l wi+ay ?a'ba ?uxqa k+ye+w+d+t+q<sub>c</sub> ?a ?+xot+t

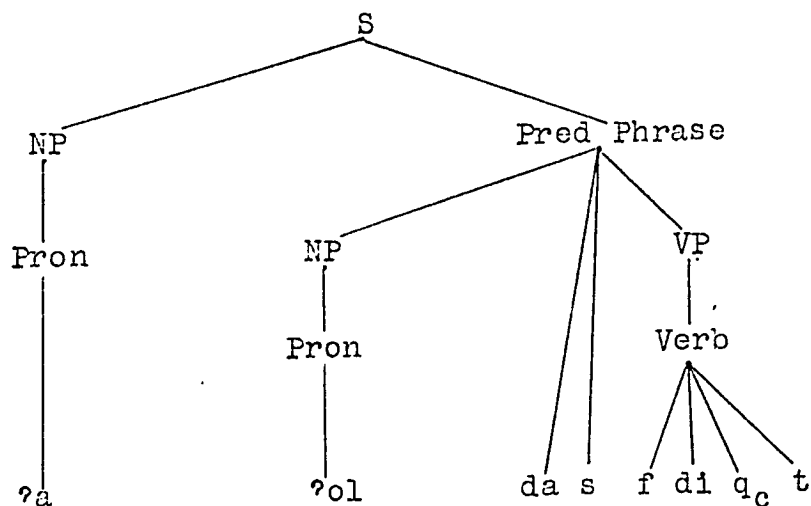
T5-PD (3 operations)

heqa+da bcilin memla b $\dot{\text{f}}$ oyilki heqa+da wa+l ?a•ba  
 ?uxqa k+ye+w+d+t+q<sub>c</sub> ?+xot+t

T7-PFC heqa+da bcilin memla b $\dot{\text{f}}$ oyilki heqa+da wa+l ?a•ba  
 ?uxqa k+ye+k<sub>p</sub>+w+d+t+q<sub>c</sub> ?+xot+t

T28-SSR heqa+da bcilin memla b $\dot{\text{f}}$ oyilki heqa+da wa+l ?a•ba  
 ?uxqa k+ye+w+k<sub>p</sub>+q<sub>c</sub>+d+t ?+xot+t

12) ?a da fdiqas.



DS: ?a ?ol da+s f+di+q<sub>c</sub>+t

T5-PD ?a da+s f+di+q<sub>c</sub>+t

T28-SSR ?a da f+di+q<sub>c</sub>+s

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