The Piro (Arawak) Language

By

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DISSERTATION

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Approved:

Mary A. Hare

Committee in Charge
PREFACE

This description presents the phonological and grammatical structure of the Piro language. The structural analysis was made according to the tagmemic model of Kenneth L. Pike; the description, however, is presented in a modified terminology worked out by the author.

Terms used in a special sense and not explained in the section in which they are introduced, are defined in an accompanying Glossary.

Grateful acknowledgement is made to the professors of the Department of Linguistics of the University of California, especially to Professors Mary R. Haas, Madison S. Beeler, William F. Shipley, and Murray B. Emeneau, and also to Professor John H. Rowe of the Department of Anthropology, for their help and encouragement during my years of study at the University and work on the Piro language and culture. Special acknowledgement is due to Professor Mary R. Haas for her guidance and for numerous suggestions in the preparation of this description.
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INTRODUCTION

The Piro (Arawak) whose dialect is represented in this description live along the lower Urubamba River in the Montaña region of Eastern Peru. They have maintained intermittent intercourse with communities both on the Manu River, about a hundred and fifty miles to the southeast, and on the Cushabatay River, a tributary of the Ucayali, some three hundred miles downstream from the Urubamba villages. Although commenting on the dialectical differences, they converse freely with the Piro of both of these groups. Recently they have been brought into contact with communities which refer to themselves as Manchineri rather than Piro on the Acre and Iaco rivers about two hundred miles to the east. With this group, dialectical differences are much more marked. The Urubamba Piro report that a month of practice is required before they can converse easily with the Manchineri of the Iaco.

The Piro language belongs to the Arawak family. It is most closely related to Ipuriná. Forty-eight per cent of the words of an Ipuriná vocabulary transcribed by Nimuendajú correspond to Piro words. Only about nineteen per cent of the vocabulary of either Campa or Machiguenga, spoken by the nearest neighbors of the Piro, correspond to
Piro words.

Two Piro vocabularies have previously been published. One is by Padre Agustín Alemany, who lived on a mission among the Piro for two years, and prepared a vocabulary of about 1,775 words. See Bibliography: Izaguirre, Bernardino, 1922-1929. A list of about 170 words was transcribed by Francisco Carrasco in 1846. See Bibliography: Carrasco, Francisco, 1901. The material from these vocabularies has not been included in the present study because of the complete duplication of items covered by data secured on the field.

The data upon which this description is based were gathered during field work under the auspices of the Summer Institute of Linguistics between 1947 and 1961. The greater part of the data was gathered monolingually; that is, without recourse to Spanish. In fact, a considerable proportion of the information was jotted down on trips and visits, or in conversations during the daily routine of life among the Piro. The principal informants who sat across a desk in regular sessions were the following:

Carlos Domingo Aguilar in Aguaitía, 1947
Rafael Zapata C. in Aguaitía, Huau, and Belén, 1948-1953
Hortensia Cesario de Zapata in Huau and Aguaitía, 1948-1953
Juan Sebastián P. in Bufeo Pozo and Yarinacocha, 1949-1961
Tereza Montes de Sebastián in Huau, Bufeo Pozo, and Yarinacocha, 1949-1961
Aurora Miqueas in Huau, 1947-1948
Victoria Cesario de Canayo in Huau, Belén, and Yarinacocha, 1948-1961
Pablo Zumaeta B. in Bufeo Pozo, 1954
Moran Zumaeta B. in Bufeo Pozo, 1948
Laurencio Gordón Hidalgo in Yarinacocha, 1953
Flavio Federico in Yarinacocha, 1953
Victoria Diaz de Bardales in Yarinacocha, 1960

I sincerely thank all of the informants, both those who sat long hours at the desk, and those who patiently took time out from their activities to answer questions. All of them responded with unfailing graciousness and a lively sense of humor, and in general with intelligence and intuitiveness that quickly bridged the gaps in my ability to communicate with them.

My hearty thanks go also to Annabell Weber, Irma Bendigo, and Marjorie Brown for the typing of the manuscript.
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Hockett, Charles F.


Nida, Eugene


Pickett, Velma Bernice


Pike, Kenneth L.

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1954. Part I
1955. Part II
1960. Part III

The Piro Language

Alvarez, P. Ricardo

Carrasco, Francisco


Insley, Jeanne Forrer de


Izaguirre, Bernadino


Matteson, Esther

Matteson, Esther and Pike, Kenneth L.

ABBREVIATIONS AND SYMBOLS

Note: Section numbers follow the definition of abbreviations and symbols which are further explained in the Phonology or Grammar.

< derived from

> becomes

~ alternating with. Variation is free or idiolectical unless a condition is stated.

∅ zero

+ obligatory

± optional

+/±/- obligatory in some cases, optional in other cases, not occurring in other cases.

1 low pitch (114).

2 mid pitch (114).

3 high pitch (114).

↑ upward glide of pitch (114).

↓ downward glide of pitch (114).

→ tense low level pitch register (115).

...→ relaxed low level pitch register (115).

→ high level pitch register (115).

→ slowly falling pitch register (115).

→ rapidly falling pitch register (115).

→ rapidly rising pitch register (115).
I  stress-group stress (120).

II  rhythm-group stress (113).

//  long pause (117).
/

space  short pause, end of stress group (120).

I  Class I of nouns or verbs (241.6).

II  Class II of nouns or verbs (241.6).

III  Class III of nouns (241.6).

adj.  adjective (243).

adv.  adverb (244).

Ag  agent construction in clause (213).

aux.  auxiliary (231).

c.  circa.

C  short consonant (143).

C^  long consonant (143).

Cl.  clause (211).

cn.  connective word (246).

Cn  connective construction in clause (213).

cp.  compare.

d.  diameter.

deriv.  derivational.

esp.  especially.

exclam.  exclamatory word (249).

Exclam.  exclamatory expression (213).

f.  feminine (212.1, 242.3).
ft. feet.
Hes. hesitation feature in clause (213).
in. inches.
intr. intransitive (211,231,241).
l. long.
-L- l > r following /i/,/e/,/u/,or /n/ (151).
m. masculine, a noun of masculine gender (212.1, 242.3).
M mood expression in clause (213).
Mod modification construction in clause (213).
n. noun (242).
num. numeral.
O object (211).
O2 second object (212.1).
OAp object appositive (212.1).
OComp object complement (212.1).
onomat. onomatopoetic word (251).
P predicate (211).
PAp predicate appositive (212.1).
pl. plural (212.1,242.3).
pos. possessed form.
postpos. postpositive (248).
prepos. prepositive (247).
pref. prefix.
pron. pronoun, pronominal (242.3).
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ptn.</td>
<td>potentiality expression in clause (213).</td>
</tr>
<tr>
<td>r.</td>
<td>root.</td>
</tr>
<tr>
<td>redup.</td>
<td>reduplication.</td>
</tr>
<tr>
<td>s.</td>
<td>singular (212.1, 242.3).</td>
</tr>
<tr>
<td>S</td>
<td>subject (211).</td>
</tr>
<tr>
<td>SAP</td>
<td>subject appositive (212.1).</td>
</tr>
<tr>
<td>SComp</td>
<td>subject complement (212.1).</td>
</tr>
<tr>
<td>S. Coax.</td>
<td>Coaxing sentence (118, 221.2).</td>
</tr>
<tr>
<td>S. Decl.</td>
<td>declarative sentence (118, 221.2).</td>
</tr>
<tr>
<td>S. Exclam.</td>
<td>exclamatory sentence (118, 221.2).</td>
</tr>
<tr>
<td>S. Impv.</td>
<td>imperative sentence (118, 221.2).</td>
</tr>
<tr>
<td>S. Inter.</td>
<td>interrupted sentence (118, 221.1).</td>
</tr>
<tr>
<td>S.Q.</td>
<td>interrogative sentence (118, 221.2).</td>
</tr>
<tr>
<td>sp.</td>
<td>species.</td>
</tr>
<tr>
<td>suf.</td>
<td>suffix.</td>
</tr>
<tr>
<td>tr.</td>
<td>transitive (221, 231, 241).</td>
</tr>
<tr>
<td>-U</td>
<td>u~i in vowel harmony (154).</td>
</tr>
<tr>
<td>V</td>
<td>short vowel (142).</td>
</tr>
<tr>
<td>V*</td>
<td>long vowel</td>
</tr>
<tr>
<td>-V-</td>
<td>retention of any preceding vowel. Before a suffix not so marked, the preceding vowel is lost (153).</td>
</tr>
<tr>
<td>vb.</td>
<td>verb (241).</td>
</tr>
<tr>
<td>vbl.</td>
<td>verbal.</td>
</tr>
<tr>
<td>Voc.</td>
<td>vocative or familiar reference (213).</td>
</tr>
<tr>
<td>w.</td>
<td>wide.</td>
</tr>
</tbody>
</table>
GLOSSARY

adjective
A word which expresses a quality or attribute, and which is formally defined in Section 243. Its distribution differs from that commonly associated with the adjective. See theme.

base
See theme.

clause
The clause is defined by the minimal formulas of the three basic clause classes. See Section 211. It is composed of phrases, one of which serves as a predicate.

expansion
The addition of optional items to a construction.

formula
A list of constructions or units which are labeled as obligatory (+) or optional (+). The list generally indicates the order of the items. Variations of order are mentioned separately.

A minimal formula is a list of constructions or units obligatory to the composition of a particular construction.

object
The pronominal suffix of an active transitive verb or of a noun, adjective, or adverb in a phrase which is the
<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>phrase</td>
<td>A sequence of words forming a construction within a clause, or a single word for which such a sequence can be substituted. See Pike on &quot;Portmanteau Levels,&quot; Language, 1960, p. 5.</td>
<td></td>
</tr>
<tr>
<td>postpositive</td>
<td>Any of a set of words which are commonly incorporated into the verb among the derivational suffixes, and which occur as an enclitic with other word classes.</td>
<td></td>
</tr>
<tr>
<td>predicate</td>
<td>A phrase which is the essential element of a clause, and to whose head word pronominal person markers serving as subject or object may be affixed.</td>
<td></td>
</tr>
<tr>
<td>prepositive</td>
<td>One of a set of two preclitics: ma Privative; pa &quot;one, another.&quot;</td>
<td></td>
</tr>
<tr>
<td>stem</td>
<td>See theme.</td>
<td></td>
</tr>
<tr>
<td>subject</td>
<td>The pronominal prefix of a verb, or a noun phrase which may be substituted for the prefix. Semantically the subject is the actor of an active verb or the goal of a passive verb.</td>
<td></td>
</tr>
</tbody>
</table>
Morphological constructions. A root plus/minus stated affixes constitutes a base; a base plus/minus stated affixes constitutes a stem; a stem plus/minus certain affixes constitutes a theme.
CHAPTER I: PHONOLOGY

100. The description of the Piro phonology begins with the rhythm group and proceeds with the stress group, syllable, and phoneme.

The rhythm group is the largest phonological unit which has clearly marked formal boundaries by which the Piro discourse is segmented. More inclusive phonological units might be established on the basis of changes in the general discourse register or variations in speed, loudness, intensity, or voice quality (tense, relaxed, husky, clear, dulcet, strident, gruff, etc.); however, these larger units are often fused, or are of such gradual onset and closure as to be indeterminable. Such larger units are beyond the scope of this analysis.

110. The rhythm group is usually coterminous with the syntactic clause. Its beginning is unmarked; its close is marked by a period, comma, or other conventional terminal punctuation.

It consists of the following components: optional breath intake, obligatory sequence of stress groups, obligatory pitch, rhythm-group stress, register, and range of pitch interval, and optional pause. Pitch is symbolized by numbers in those sections in which it is under discussion. Elsewhere it is indicated by punctuation which is explained in Sections 118 and 221. The stress, regis-
ter, range of pitch interval, and pause are also considered to be phonemic units, because, while their occurrence or placement in the rhythm group is automatic, they involve quantitative contrasts as described below. Nevertheless although these features are phonemic, they are not generally indicated in the transcription of Piro texts because the contrasts are not between clearly bounded units, but are relative, and because the description of the language has not been made in terms of these contrasts.

An example showing stress, pitch, and pause is given with the most frequently occurring classes:

tsr₁póthimả tköltpükátkâ⁴. "she opened it wide."

111. The optional breath is an intake of air. It by no means occurs with all rhythm groups. Neither does it mark related sequences of rhythm groups, but its occurrence appears to depend largely upon the length of the rhythm groups, and upon the circumstances of the utterance. It is least frequently found with rhythm groups uttered in hurry and excitement, and most frequently in deliberate or hesitant speech. Rarely it occurs medially in the rhythm group.

112. The rhythm group contains from one to nine stress groups. This count excepts series, which are potentially unlimited. In the following examples the stress groups are separated by spaces:
nyanutka. "I'm going now."

wa hipowha wakanuthetkohima tyatka. "maybe she had gone to the other side of the lake."

ha wa waneko pitxka hima wa tumirikanatka satni wa mturni wa sutxni. "in just the same way they ganged up on the other child, the girl."

113. Two rhythm group stresses occur. Primary rhythm group stress is coincident with the primary stress of the final stress group. It occurs on the penultimate syllable of the rhythm group. Secondary rhythm group stress is coincident with the secondary stress of the initial stress group. Both primary and secondary rhythm group stress are symbolized by a double accent mark (\*). Placement of stress is automatic, but the varying degrees of intensity of the stresses are contrastive, indicating degrees of emphasis. An emphatic secondary clause stress may be stronger than a nonemphatic primary clause stress. Additional emphatic clause stresses may occur coinciding with rhythm group-medial word stresses, and may optionally be accompanied by a slight lengthening of the segmental phones:

\\txani nkaṣtʃa\\ nunru wa\\ lepni. "now I am going to seize him."

An exception to the regular placement of stress occurs with the calling and exclamatory pitch contour, when the stress shifts to the final syllable of the
rhythm group of Class 6 (See Section 117), and to the final syllable of a word when the exclamatory pitch contour occurs medially in the rhythm group.

114. The pitch unit includes high 3, medium 2, low 1. Pitch 1 is the most common. Pitch 3 is infrequent. It occurs only in situations in which pitch 2 occurs. In view of the changes of register, and of the significant variations between ranges of pitch levels, described below, pitch 3 might be considered a nonphonemic intensive and emphatic variant of pitch 2. It is described as a separate level only because the range of variation of this level is as great as the range of level 2 or level 1. A variant of 1 occurs on the final syllable of the rhythm group. The pitch begins within the range of 1 and, gliding downward, slurs into silence.

Glides from one pitch level to another are relatively infrequent, except for the glide 2-3 in exclamation and calling. Upward glides on pitch 3 and pitch 2 also occur in exclamation and calling. Various pitches are demonstrated in the following portion of a text:

1. wâle hîma nîkxêtwa kšôtêrû. 2. hâpnû-
     hîmâkmâkâ rudsântéwatntâtnâkâ. 3. wânêhîmâkô wâlehîmâk-nî-
     kydântnâklô. 4. pmhîmâkmâkâ râyôklewhîmâtânâtktânâ. 5. wânê hîma tšûnâ, hû pâ tsrû nîkâldûtûnâ-nîne.
The deer kept eating it up.

He tried to repay him again by making still another planted field.

That also he ate up again.

The two became more and more annoyed with each other.

Then he said, "What a big eater you are!"

That made the deer angry.

He worked magic against the man.

The man went into a coma.

Then when he returned, how must it have been, after the absence of a summer and a rainy season?

The register or envelope of pitches is raised or lowered to express changes of emotion, without affecting the pitch contrasts. Symbols of the contrasting registers are introduced with the examples below, except for the medium level register which is not marked:

a. **Medium level register**, meaning a neutral emotional state. 
   
   "it is said that he did not go there."

b. **Low level register with tenseness**, meaning grief or suspense.
   
   "oh, mother, mother!"
c. **Low level register** with relaxation, meaning relief or indifference. \( \rightarrow \text{byânùhíwà} \text{ktà hi ñòwùkàánàwùktàlu wa k} \text{kiyàtkà.} \) "thank goodness, the rainbow was now not far away."

d. **High level register**, meaning concern on the part of the speaker. \( \rightarrow \text{tsrùyàkàmkà pò-nòtkàkìni.} \) "get a big look out the door."

e. **Slowly falling register**, meaning relaxation or an aside. In the following example, the register begins to fall with the last syllable of the third word: \( \rightarrow \text{wa ñàriwà t} \text{ñinkà-nwà tsrùni.} \) (wa Connective, ñàriwà Proper Noun, tñinkàni "said to be," wa tsrùni "the ancestor") "he, the ancestor, was called Shanirawa."

f. **Rapidly falling register**, meaning apology. \( \rightarrow \text{ha wà txànìtkà hi wà kàpkàklàrùnè.} \) "but now there are no able hunters."

g. **Rapidly rising register**, meaning approaching climax. In the following example, the register begins to rise with the second word of the first rhythm group, whose end is marked
by a period, and extends over the first
three syllables of the second rhythm group:

\[
\begin{align*}
\text{1} & \text{1} \text{1} \text{1} \text{1} \text{2} \text{1} \\
\text{wāne hīmā kani̱kamtnā. tyehimamunwā}
\end{align*}
\]

\[
\begin{align*}
\text{1} & \text{1} \text{1} \text{2} \downarrow \\
\text{ruptšitėlē hōnū. "they climbed up there.}
\end{align*}
\]

\[
\begin{align*}
\text{it was a place where the water was tearing}
\end{align*}
\]

\[
\begin{align*}
\text{away the land."
\end{align*}
\]

As illustrated above, a register may extend over
a stress group or groups, or over a fraction of a stress
group, or over a stress group and a fraction.

116. Ranges of pitch interval are illustrated
in the following examples. The interval is not marked,
but is labeled for each example:

a. **Normal interval**, associated with no par-
ticular meaning. \( \text{1} \text{1} \text{1} \text{1} \text{2} \text{1} \downarrow \). "thus
they did."

b. **Small interval** indicating subdued or sup-
pressed emotion or indifference. \( \text{1} \text{1} \text{1} \text{1} \text{1} \text{1} \)

\( \text{2} \text{1} \text{1} \text{1} \text{2} \text{1} \downarrow \). "that's why my eye swelled."

(False explanation of a black eye.)
The register was high level. **Normal interval**
was restored in the rhythm group which followed.

\( \text{1} \text{1} \text{1} \text{1} \text{1} \text{1} \).

\( \text{tšinhi̱mātlō wā rūnro'. "...he said to his mother."} \)
c. **Large interval** indicating excitement or lack of restraint. \(\text{tx}_2\text{âk}_1\text{n}_1\text{tó pr}_2\text{áni}\). "careful, that's mother's pet monkey."

117. The optional pause consists of either a long pause (//) with the meaning of closure, or medium pause (/) with the meaning of anticipation. The pause is most frequently omitted in hurry and excitement. It is also frequently omitted between two successive rhythm groups which are considered to have a certain degree of semantic relation:

kamtši nanwak-hima hiyakatyatšin'i wa takine//. "it is said that gulls had their origin in the demon's abdomen."

seyni wa himan-himni hi retikna. "but they were not seen as corporeal."

wa rethimatatkalu wa kšoteru. wa wale kotx-hima-kta niklokanru /. "it is said that he saw the deer. (The demon) had swallowed him too."

ha wa sutx-kotxa makloxi tuxrewatinitka, tyinu-waka hikluhleta wa satu walapu //. "and a female also, a young girl, when she had begun to observe taboo, she began to remain lying down for a year."

hikta hima ritxpotapana, katlikhimamtanatka //. "whatever on earth happened to him; he slipped."

Optional nonfinal pause indicates hesitation:
There are seven classes of rhythm groups. These classes contrast in the grammatical units with which their distribution is coincident, and in meaning, as well as in the intonation contours formed by various combinations of the phonological units described above. Class 1 is subdivided into Classes 1a to 1d, which contrast among themselves in meaning and contour, but not in coincidence with grammatical units.

The contrasts of the seven classes and the subclasses are shown in Chart 1.

Contours of Class 1 and Class 2 are marked by a period at the end of the rhythm group. The presence of an imperative morpheme, as described in Sections 221.1 and 221.2, signifies the optional occurrence of the Class 2 Imperative contour. The Class 3 contour meaning "association of predication" is marked by a comma or semicolon. The Class 4 Question contour is indicated by a question mark. The Class 5 Coaxing contour is marked by a double exclamation point (!!) only when one of the coaxing morphemes described in Sections 221.1 and 221.2 is not present; when the identifying morpheme is present, a period is used. The
Chart 1. Classes of Rhythm Groups

<table>
<thead>
<tr>
<th>Class</th>
<th>Corresponding Grammatical Unit</th>
<th>Meaning</th>
<th>Identifying Contour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S. Decl. or S. -final cl.</td>
<td>Closure Inconclusiveness Suspense Series, Anticipation</td>
<td>2 - 1↓</td>
</tr>
<tr>
<td>1a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1c</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1d</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>S. Imp.</td>
<td>Imperative</td>
<td>2 - 2</td>
</tr>
<tr>
<td>3</td>
<td>S. -initial cl.</td>
<td>Association of predication</td>
<td>2 - 2</td>
</tr>
<tr>
<td>4</td>
<td>S. Q.</td>
<td>Question</td>
<td>2 - 2</td>
</tr>
<tr>
<td>5</td>
<td>S. Coax.</td>
<td>Coaxing</td>
<td>1 - 2</td>
</tr>
<tr>
<td>6</td>
<td>S. Exclam.</td>
<td>Calling, Exclamation</td>
<td>1 - 2, 1 - 3, 1 - 2↑, 1 - 3↑</td>
</tr>
<tr>
<td>7</td>
<td>S. Inter.</td>
<td>Interruption</td>
<td>1 - 1</td>
</tr>
</tbody>
</table>
Class 6 Calling and Exclamatory contour is marked by a single exclamation point. The Class 7 Interruption contour is marked by two dashes preceding a period.

Following are examples of the rhythm group classes:

1a. Closure. \( \frac{1}{1} \frac{1}{1} \frac{2}{1} \frac{1}{1} \). "they ran in all directions."

1b. Inconclusiveness. \( \text{twd} \frac{1}{1} \frac{2}{1} \). "she's black."

1c. Suspense. \( \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \). "he shouted again, then I saw the women, he appeared just a little way off."

1d. Series, Anticipation. \( \frac{1}{1} \frac{1}{1} \frac{2}{2} \). "they ate heartily; they drank."

2. Imperative. \( \text{txawakni} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \). "now you plant a field for me."

3. Association of Predication. \( \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \). "therefore when they were
through pacing in a circle, the men took up their weapons."

11.11

wâne himâ rönötyálunâ; hi himâ howukâktanwâ kšiyâ. "then they looked at it; they were not far from the rainbow."

4. Question. hî hê palûkâ yântâ-mutsköňka-kîêtâ? "do you want to wrestle?"

5. Coaxing. ptsôtsôtaxîmkâ wêtân-i!! "let us have just a little peek." nîkanûtšî. "let me eat."

6. Calling, Exclamation. wâ. kâyinrethimâ-tânaktatkalâ! "he bewitched him."

7. Interruption. mákhimâktâ kâmtšî nâ--. "but, it is said, the demon's na--."

Each of these classes occurs with the phonological units described above: + rhythm-group stress + register + range of pitch interval + pause. The number of classes may be multiplied by the occurrence of one or more of the following nonfinal pitch contours with each of the classes:

**Pitch 2 coincident with nonfinal emphatic clause stress.** When it coincides with the first word stress of
the rhythm group, the whole group is emphatic.

\[ \text{máktá yíxnákóna tănwu. "but he was listening to us."} \]

Otherwise the word with which it occurs is emphasized.

\[ \text{ihí yahni wa kålú wa tśítśl. "and the fire was very bright."} \]

**Word final 2 - 2 occurring medially in a rhythm group.**

This may indicate series, or may indicate a qualification.

It is marked by a comma.

\[ \text{... kín-śikálé, mtśir-śikálé, kšoter-śi-} \]

\[ \text{kálé wa yahótma ... "... they attempted the howler monkey's song, the spider monkey's song ..."} \]

\[ \text{wálápuklu himá, wá kótšōhxétá hitkómá kšáté. "in the summer, it is said, he always fished on the sandy bank of a pond." The qualification is the phrase wálápuklu himá "in the summer, it is said."} \]

**The sequence 1 followed by 2 or 3 word-final, with or without an upward glide.** This is the same contour as the rhythm group-final contour of Class 6, and like the final contour is accompanied by shift of stress to the word-final syllable and optionally by increased length of the word-final vowel. This contour occurring medially
in the rhythm group is marked by a raised dot, the vowel-
length symbol which does not otherwise occur stress group-
final. It makes vocative or exclamatory the word with
which it coincides:

klàtâ. nîtxå! "I am very white!"

Monosyllabic utterances usually occur with the pitch
of the penultima or ultima of the appropriate contour.

hwû. "O.K."

hê. Cry of surprise.

ṕë. Vocative or call, "Little Sister."

hö. "what might it be?"

Multiplication by nonfinal contours results in a large
number of potential subclasses of the rhythm group, but
while the modifications themselves are frequent in occur-
rence, the subclasses resulting from them are not partic-
ularly significant. On the other hand, the classes listed
on Chart 1 are relevant to the description of the grammar.

The corresponding grammatical units and the symbol-
ization of intonation contours by punctuation are further
discussed in Section 221. Hereafter intonation will be
indicated only by punctuation.

120. The stress group is identified by the following
features: (1) final short pause; (2) primary, secondary, and tertiary word stress, which is lighter than clause stress. The primary stress occurs on the penultima except in exclamatory and vocative or calling intonation, in which it occurs on the final syllable. The secondary stress occurs on the initial syllable of all stress groups of four or more syllables. Tertiary stress occurs on all stress groups of six or more syllables. It occurs on the odd syllables counting from the initial syllable, except that in stress groups with an odd number of syllables, two unstressed syllables precede the primary stress.

The end of the stress group is marked by a space.

The stress group consists of from one to fourteen syllables with the identifying stresses, and with short final pause. In the following examples the stresses are represented by the symbol (1) preceding the stressed syllable:

1. 'Inso "genipa."
2. 'Iwalo "rabbit."
3. rùtxitàxa "he observes taboo."
4. 'tšiyahata "he cries."
5. 'Salwayenhkakna "they visit each other."
6. 'Pêtšitšṭimatlona "they say they stalk it."
7. 'Rusluhotinítkana "their voices already changed."
8. 'Saplewhimámtanàtnaka "they say he went along"
screaming again"

(9) ʰkaxruʰkakʰimanatᵃtkana "they were joking together then, it is said"

(10) ʰrumkʰetkʰimtaʰpanᵃtkana "it is said that they were perhaps unfortunately asleep as they were going along"

(11) ʰyantᵃmutʰkʰōkʰkʰapkʰimᵃᵗᵃ tkana "next, it is said, they wrestled"

(12) ʰkoʰpʰkʰitkʰapʰimᵃᵗᵃ tkᵃtkᵃ t̩aʰkuna "then, it is said, someone removed his intestines"

(13) ʰxemᵃhšinʰkᵃʰkʰetkʰimᵃᵗᵃ tkana "it is said that maybe they conferred then"

(14) ʰtᵃpᵃluʰkʰawᵃʰthimᵃʰnᵃᵘʰmtnᵃ tkᵃ tkana  "it is said that his canoe alone was going along again"

In rare instances a heavy stress occurs on every syllable, and each syllable is followed by a slight pause, in impressive, heightened emphasis. Even in these cases the syllables expected to be stressed receive heavier stress than the others:

hiʔ-toʔ-ko. "inside," of the situation of a man who slipped and then found himself in a demon's stomach.

A phonological word coincides with each potential stress group. The distinction between the actual and potential stress groups is necessary because of the
frequent fusion of words which are closely related grammatically or semantically as, for example, pre­positives and postpositives with a head word, nouns in genitive relationship, and an auxiliary with a principal verb. In the fusion of two words, the final vowel of the first word is elided, unless the elision would result in a cluster of three consonants, or in a sequence that does not conform to the general pattern of phonemic distribution. A monosyllabic word is frequently fused with a preceding or following word to form one stress group. The article wa is usually fused with the following word, but when it occurs between two closely related words, as between a predicate and its object or subject, the article may be fused with the predicate word.

Illustrations of fusion of words into single stress groups follow:

'namu:nkakya:nuplu, potentially 'ma 'munkakya:nuplu
(ma prepos. Privative) "in order that he should not tell it."

'suput-hima, potentially suputa 'hima (hima post­pos. "it is said") "the edge of the clearing it is said."

'maptsir-kamalexite, potentially maptsiri
'kamalexite (genitive plus head) "the boa's magic herb."
'ral-saxruretinitkana, potentially 'rali
'saxruretinitkana (auxiliary plus verb)
"when they had finished pacing in a circle."
howuka-ya, potentially howuka 'ya (howuka
"far," ya "he went") "he went far away."
ranikwa kahontsi, potentially ranika 'wa
kahontsi (ranika "he took," wa "the,"
kahontsi "witch doctor") "the witch doctor
took."

Timing, a feature important to the morphophonemic
analysis of the language (Section 151), is relevant to
the stress group rather than to the syllable. This can
be demonstrated by a juxtaposition of morphemes result­
ing in an identical cluster of voiced continuant conso­
nants, as in the affixation of -wu "us" to the adverb
hewi "here", with loss of the final vowel of the adverb.
The resultant word is optionally he-wu or hew-u "we are
here," with the syllable break either preceding or follow­
ing the long segment. Regularly when an identical cluster
of two stops would result from the juxtaposition of two
morphemes, one stop is lost and there is compensatory
lengthening of the vowel of the preceding syllable. Ap­
parently it does not matter in which syllable the length
is retained, so long as it remains in the stress group.

130. The syllable, which is distributed in the stress
group, is identified by a consonant-vowel sequence coter­
minous with a syllable pulse and its release.
The analogy between this phonological segment and the corresponding grammatical segment is less consistent than the analogy at the higher levels. The phonological rhythm group is usually coincident with a grammatical clause, and the stress group with a word. Although the syllable is the most frequent form of a morpheme, there are numerous polysyllabic roots, stems, and affixes, as well as some affix morphemes of less than one syllable:

- hahxi- vb. r. "to ask," mosa n.r. "owl,"
  -tnaka "again," -m- derivational suffix
  "transitory," -V>e Genitive of process.
Conformity to the syllable pattern is, however, rigid in one respect. Any morpheme of more than one phoneme in length is coterminous with a syllable or syllables. This means that every morpheme of more than one phoneme in length begins with a consonant and ends with a vowel.

Segmentally the syllable comprises a consonantal margin and a vocalic nucleus. The peak of the syllable stress, which is the peak of intensity of the syllable pulse, occurs on the nucleus. The vowel quality is sustained without change in an utterance-medial syllable, but the short a may optionally slur toward the neutral vowel in an utterance-final syllable. The vowel of an utterance-final syllable may also be wholly or partially voiceless.
The consonantal margin includes from one to three consonants. We number the consonants of the syllable, beginning with the consonant which immediately precedes the nuclear vowel: \( +C^3 +C^2 +C^1V \). In the positions of consonants \( C^2 \) and \( C^3 \) occur syllabic allophones of the consonants, so that the syllable is a complex unit consisting of from one to three syllabic units. The allophones are described in Section 145.

A syllable consisting of only \( C^1V \) is initiated by a strong syllable pulse as in \([pa]\) or \([n\cdot i]\). The movement of the syllable pulse may be either ballistic or controlled in such a syllable when both phonemes are short. It is controlled during at least part of the duration of such a syllable when it contains a long voiced continuant phoneme.

A syllable consisting of \( C^2C^1V \) or \( C^3C^2C^1V \) is initiated by a weaker, controlled syllable pulse or pulses with at least partial release(s) following each vocoid or syllabified consonant, with continued build-up even during the release, and with reinforcement by a strong pulse initiating the final syllabic unit. The strong pulse may end in a ballistic movement, as in \([mpo]\) and \([nt\xi^ao\ko]\).

In the foregoing paragraphs, the syllables are described as open. In a sequence one syllable may be
phonetically closed by the onset of the initial consonant of the following syllable. This closure is particularly common with nasal consonants. The degree of closure fluctuates from zero to complete closure with rearticulation of the consonant as a part of the following syllable. The latter extreme does not occur in normal speech, but in slow, exaggerated, hypostatic utterance. Notwithstanding the phonetic closure of some syllables, all consonants are treated as belonging to the same syllable as the following vowel because (1) the closure of syllables is freely fluctuating; (2) the patterns CV, CCV, and CCCV occur word initially and so must be described whether or not closed syllables are also described; and (3) the consonant invariably shares part of the muscular movement of the syllable pulse which produces the following vowel.

A little less than one third of the total number of syllable margins consists of $C^2C^1$; not more than one of several hundred, of $C^3C^2C^1$. The present count of clusters of three consonants shows lower frequency than a similar count made ten years ago.

The distribution of particular phonemes in the syllable is described in Section 144.

140. Five short vowel phonemes and five corresponding long vowel phonemes occur as the nuclei of the syllables.
In the margins occur sixteen short consonants, and four long consonants which correspond to the short voiced continuant consonants.

141. The segmental phonemes are classified by shared components, as shown in Section 142 and 143 below, by distribution of the phoneme, as shown in Section 144, by allophonic distribution, as shown in Section 145, and by types of morphophonemic change, as shown in Section 151.

The classes of phonemes are shown in Chart 2.

142. There are five short vowel phonemes, and five corresponding long vowel phonemes of two moras of length. Phonetically long vowels are regarded as phonemic units since vowel clusters do not occur, and the long vowels fill the same position in the syllable as do the short vowels.

Short /i/ and long /i*/* are high close front vowels:

/pitxa/ [pitxa] "you."
/rani*ka/ [rani*ka] "he is taken."

Short /e/ and long /e*/* are mid front vowels. The short /e/ varies from close to open. The variation is to some extent free, but the close variety is the more frequent in sequence with high front phones. Long /e*/* is close in all positions:

/peta/ [peta] [pɛta] "you see."
Chart 2. Phoneme Classes

VOWEL

<table>
<thead>
<tr>
<th>Vowel</th>
<th>i</th>
<th>i'</th>
<th>u</th>
<th>u'</th>
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<tbody>
<tr>
<td></td>
<td>e</td>
<td>e'</td>
<td>o</td>
<td>o'</td>
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<tr>
<td></td>
<td>a</td>
<td>a'</td>
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CONSONANT

Obstruent

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<tbody>
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<td>Stop</td>
<td></td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td>ts</td>
<td>tʃ</td>
<td>tx</td>
</tr>
<tr>
<td>Fricative</td>
<td>s</td>
<td>ʃ</td>
<td>x</td>
</tr>
</tbody>
</table>

Nasal spirant

| Nasal   | h |

Flap

<table>
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</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Lateral</td>
</tr>
<tr>
<td>Retroflex</td>
</tr>
</tbody>
</table>

Voiced continuant

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<th>Type</th>
<th>m</th>
<th>m'</th>
<th>n</th>
<th>n'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>w</td>
<td>w'</td>
<td>y</td>
<td>y'</td>
</tr>
</tbody>
</table>
/reneka/  [reneka]  [rən'ka]  "he gives."
/rene·ka/  [rene·ka]  [rəne·ka]  "he was given."

Short /a/ and long /a·/ are low open central vowels. Short /a/ is occasionally raised slightly in utterance final position; long /a·/ does not vary:

/patu/  [pati]  "father."
/rutaka/  [rUtaka]  [rUtake]  "he put."
/ruta·ka/  [rUtा·ka]  [rUtа·ke]  "he was put."

Short /u/ and long /u·/ are high back unrounded vowels. Short /u/ varies from open [I] following nasals and /w/ to close [I] in all other positions. Long /u·/ is close in all positions:

/putu/  [pUtI]  "firefly."
/repuka/  [repika]  "he summons."
/repu·ka/  [repI·ka]  "he is summoned."
/hwu/  [hwu]  "O.K."

Short /o/ and long /o·/ are close back rounded vowels which occasionally vary from mid to lower high:

/potu/  [potI]  [pOtI]  "very."
/ranoka/  [ranoka]  [ranUIka]  "he suns."
/rano·ka/  [rano·ka]  [ranO·ka]  "he is sunned."

All vowels have optionally slightly nasalized allophones following nasal consonants. The nasalization is most marked following /h/.

143. In the following description of the consonant phonemes only the nonsyllabic allophones, which occur in
position $C^1$ in the syllable margin, are presented. The syllabic allophones of the consonants will be described in Section 145 below.

All obstruents are voiceless and unaspirated. The stops are bilabial, alveolar, and velar /p/ [p], /t/ [t], and /k/ [k]:

/peta/ [peta] "you see."
/teta/ [teta] "she sees."
/keta/ [keta] "walnut."

The affricates are formed by the alveolar stop followed by each of the fricatives respectively: /ts/ [ts], /tʃ/ [tʃ] and /tx/ [tx]:

/hitsa/ [hitsa] "its cord."
/katʃo/ [katʃo] "sour."
/hitxa/ [hitxa] "you."

The affricate is regarded as a unit phoneme because the two segments occur in one syllabic unit of the syllable, in contrast to the separation of the consonants of a cluster into two such units (See Section 130):

/tʃirna/ [tʃirna] "it blazes," but /txirha/ [tʃəxirha] "she harvests."

Notice that the alveopalatal and palatal fricatives are written with a ligature in order to mark the contrast demonstrated in the foregoing examples. No ligature is
written in the alveolar affricate /ts/ because no such contrast occurs. See Section 151.

Further evidence for the interpretation of the affricates as unit phonemes is seen in their occurrence in clusters of three consonants, which would necessarily be interpreted as the only clusters of four consonants if the two segments were to be treated as separate phonemes:

/ntspatate/ \[nts\hat{\varepsilon}patate\] "my guava."
/wtškotute/ \[wt\hat{\varepsilon}kotute\] "our cebus monkey."
/ptxripite/ \[p\hat{\varepsilon}tx\varepsilon ripite\] "your small parrot."

The fricatives are alveolar and alveopalatal sibilants \(/s/ [\hat{s}]\) and \(/s/ [\check{s}]\), and the palatal spirant \(/x/ [x]\):

/sexre/ \[se\hat{\varepsilon}re\] "noise."
/šehi/ \[\check{\varepsilon}hi\] "foliage."
/xexi/ \[xexi\] "man."

The nasal spirant \(/h/\) has a voiceless nasalized allophone preceding a voiced phoneme, consonantal or vocalic. This voiceless spirant occurs with the timbre of the surrounding phones, primarily of the immediately following phone:

/hiyahni/ \[hiyaha\varepsilon ni\] "therefore."
/hwu/ \[h\hat{\varepsilon}wx\] "O.K."

A voiced nasalized velar fricative allophone \(\hat{\varepsilon}\) occurs preceding the voiceless palatal fricative \(/x/\), and a voiced velar nasal \(\hat{n}\) occurs preceding \(/k/:

/hxema/ \[\hat{\varepsilon}xema\] "you pl. hear."
/ruhxeta/ [ʁiʃəxtə] "he always answers."
/hkawa/ [ŋkəwa] "you bathe."
/ruknohka/ [ʁikŋnoŋka] "he is passed."

See the reference to the syllabification of these allophones in Section 145.

The flaps are voiced, and are formed at the alveolar ridge. They are the lateral flap /l/ [l], and the retroflexed flap /r/. The latter has the simple flap allophone [ɾ] except after /n/ where a voiced alveolar stop varies with voiced retroflexed alveopalatal sibilant [ʁ] with a retroflexed offglide, especially preceding /o/: 

/wala/ [wala] "she."
/netlu/ [netːli] "I see him."
/ruru/ [ʁiri] "his father."
/runro/ [ʁindo] [ʁindo] "his mother."

There is a set of four short voiced continuant consonants, and a corresponding set of four long voiced consonants which differ from the short only in having an added mora of length. These phonemes are bilabial nasals /m/ [m] and /mː/ [mː]; alveolar nasals /n/ [n] and /nː/ [nː]; bilabial oral continuants /w/ and /wː/ with rounded high back close vocoid allophones [w] and [wː] varying freely toward the mid back position before consonants and back and central vowels, and unrounded or very slightly rounded bilabial fricative allophones [b] [bː] preceding front vowels; and palatal oral continuants /y/ [y] and /yː/ [yː]:
The phonetically long consonant is not interpreted as an identical cluster, but as a single phoneme for the following reasons: (1) The long segment occurs within one phonetic syllable in contrast to consonant clusters which are separated into two phonetic syllables (Compare the argument concerning affricates above, and see Section 130); (2) the interpretation of long voiced continuant consonants is analogous to that of the long vowels with which they are sometimes interchanged. Either the long consonant or the long vowel may serve to preserve the
timing of the stress group (See the last paragraph of Section 120):

raw·u or ra·wu "he takes us."

kihley·i or kihle·yi "it is good for you."

(3) Clusters of very similar consonants do not occur (See Section 144).

It is quite probable that the long voiced oral continuant consonants will disappear from the language in the near future. The shift from other phonetically long consonants to a short consonant with compensatory lengthening of the preceding vowel, as in ni·ka "it is eaten" from * nik·a must be quite recent, since phonetically long stops are still used in the Manchineri dialect4 of Piro. On a few occasions elderly informants have volunteered long voiceless fricatives with the explanation that some other pronunciation was preferred.

The phonemes /w/, /w·/, /y/, and /y·/ are interpreted as consonants primarily because of the syllable pattern described in Section 130; that is, a consonant or sequence of consonants followed by a single vowel. Note the syllable-initial vowels and clusters of vowels that would result in the following words were /w/ and /y/ to be interpreted as vowels: walo "rabbit", w·axritya "we pole there," powa "soft body," yine "people," hewyi "you are here," puyo
"ray fish." Moreover both w and y occur with the syllabic allophones characteristic of consonants in the position C³ and C² of the syllable margin, as described in Section 145:

/wpowratlu/ [wp⁰w²rat⁹li] "we clean it."
/wyimyi/ [w⁻⁰yim⁻⁰yi] "we imitate you."
/whene/ [w⁰hene] "...'s child."
/kownoka/ [kow⁰noka] "he turns back."
/ymatši/ [y¹matši] "boil."
/hiypuhata/ [hiy⁴pʰ̪uhata] "to sparkle."
/hiyhi/ [hiy¹hi] "his tooth."

144. The distribution of the phonemes in the stress group and in the syllable distinguishes the same classes as those characterized by the shared components listed above.

Restriction of distribution in the stress group characterizes as a class apart from the remaining consonants the two voiced flaps /l/ and /r/. The phoneme /l/ occurs initially in a stress group only in loan words; /r/ occurs initially only in loans and in the inflectional third person masculine singular prefix r-:

lata (Spanish lata) "can, metal."
ruma (Spanish lima) "lime."
reta "he sees."

Distribution in the syllable margin does not determine classes. All consonants occur in phonetic syllables
C¹ and C² of C¹, C²C¹ and C³C²C¹ margins. Affricates and fricatives do not occur in the C³ position, but this is assumed to be due to the low frequency of the CCC margin and the low frequency of affricates and fricatives as compared to other consonant phonemes.

There are a few restrictions of consonants in the position C¹ preceding certain vowels. The consonant /s/ precedes /i/ only in loan words, as in sintawo "cent" from Spanish centavo. The consonants /tʃ/, /x/, /k/, /ʃ/, /tx/, and /y/ do not precede /u/.

The flap /l/ does not occur immediately following /i/, /e/, or /u/.

Consonant distribution classes distinguished by the occurrence of consonants in specific clusters of two coincide with componential classes. Note particularly the nonoccurrence of sequences of very similar segments in clusters of two consonants in Chart 3.

The voiceless obstruents are distinguished as a class by the fact that the voiceless allophone [h] of the nasal spirant /h/ does not precede any of them. The voiced allophones [w] and [ŋ] precede /x/ and /k/ respectively, and occur only with those phonemes.

Within the obstruent class, affricates and fricatives are segregated. An affricate is not preceded by another affricate nor by /t/. A fricative is not preceded by
Chart 3. Clusters of two consonants: $c^2c^1$

<table>
<thead>
<tr>
<th>$c^2$</th>
<th>$c^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$p$</td>
<td>$k$</td>
</tr>
<tr>
<td>$k$</td>
<td>$p$</td>
</tr>
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<td>$t$</td>
<td>$p$</td>
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<td>$p$</td>
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<tr>
<td>$t$</td>
<td>$p$</td>
</tr>
</tbody>
</table>

45
another fricative, nor by an affricate with a homorganic segment, nor by /ts/.
A few additional irregular restrictions occur: /s/ is not preceded by /t/ nor /tš/; /ts/ neither precedes nor follows /x/; /tš/ is not preceded by /x/.

The voiced flaps are likewise distinguished as a class. Neither flap is preceded by the other. In addition to this class restriction, /l/ is not preceded by the voiced continuant /n/.

With the last named exception, there are no restrictions on the occurrence of the short voiced continuants.

The long voiced continuants do not occur in any clusters whatever.

Since the phonetically long voiced continuants are interpreted as unit phonemes, there are no identical clusters of consonants.

Distribution in grammatical units segregates the long from the short phonemes. Long consonants and long vowels occur in roots and stems, but not in affixes. The long vowel occurs stress-group final only when exclamatory intonation occurs. See Section 118.

Frequency of occurrence of phonemes is correlated to some extent with class membership, as demonstrated by the following list of phonemes with frequency index. The index shows the ratio of occurrence of a given phoneme to average occurrence in about eight pages of text selected at random:
Short phonemes

Vowel  a  5.74, i  2.70, u  1.42, o  1.33, e  1.28

Consonant

Voiced continuant, nasal  n  2.59, m  1.29
Nasal spirant  h  2.02
Stop  k  2.22, t  1.89, p  .98
Flap  r  1.18, l  .87
Voiced continuant, oral  w  1.42, y  .72
Fricative  x  .34,  th  .25, s  .24
Affricate  ts  .39, tx  .13, ts  .12

Long phonemes

Vowel  a·  .14, o·  .03, e·  .01, i·  .01, u·  .01
Consonant  n·  .08, y·  .03, m·  .01, w·  .01

A percentage of less than .01 is shown as .01.

145. Syllabic consonant allophones occur in the consonant positions C3 and C2, the syllabic component serving to facilitate the transition from consonant to consonant in the cluster. The type of syllabic component and the distribution of sets of allophones with common syllabic components preceding certain classes of consonants or preceding specific consonants, further defines the consonant classes.

The syllabic consonant may be either a single syllabified segment as [s] [n], or a complex phoneme with one syllabified segment as [ts], or it may be a complex unit consisting in a non-syllabic segment plus a lenis, un-
stressed, very short voiced or voiceless vocoid\textsuperscript{6} of phonologically conditioned timbre, such as \([y^1][t^9]\). When this vocoid is voiceless, the consonant may be said to be aspirated; however, the aspiration is of predictable timbre.

The syllabification of a consonant segment, voiced and voiceless schwa, and the voiced high front vocoid \([i]\) are basic syllabic components. These are by far the most frequent syllabic components, and are the ones primarily relevant to the distinction of the consonant classes. All other syllabic components fluctuate freely with these.

Chart 4 shows the syllabic allophones of short consonants. The degree of closure of the transition vocoid varies. Details concerning the syllabic allophones are given in the Appendix.

150. There are a number of morphophonemic changes in Piro that are of general occurrence throughout the language. Others are restricted to occurrence in certain grammatical classes, or to occurrence adjacent to particular morphemes.

151. Morphophonemic changes of the general type occur when morphological processes result in the juxtaposition of two consonants which do not occur together in a cluster, as indicated in Chart 3 in Section 144, or result in a consonant-vowel sequence which does not occur,
Chart 4. Syllabic allophones of the short consonants.

<table>
<thead>
<tr>
<th>Phonemic symbol</th>
<th>Nonsyllabic allophones</th>
<th>Syllabic allophones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>p</td>
<td>p&lt;sup&gt;e&lt;/sup&gt;, p&lt;sup&gt;f&lt;/sup&gt;, p&lt;sup&gt;i&lt;/sup&gt;</td>
</tr>
<tr>
<td>t</td>
<td>t</td>
<td>t&lt;sup&gt;e&lt;/sup&gt;, t&lt;sup&gt;f&lt;/sup&gt;, t&lt;sup&gt;i&lt;/sup&gt;</td>
</tr>
<tr>
<td>k</td>
<td>k</td>
<td>k&lt;sup&gt;e&lt;/sup&gt;, k&lt;sup&gt;f&lt;/sup&gt;, k&lt;sup&gt;i&lt;/sup&gt;, k&lt;sup&gt;j&lt;/sup&gt;, k&lt;sup&gt;o&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
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<tr>
<td>ts</td>
<td>ts</td>
<td>ts&lt;sup&gt;e&lt;/sup&gt;, ts&lt;sup&gt;f&lt;/sup&gt;, ts&lt;sup&gt;i&lt;/sup&gt;</td>
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<tr>
<td>tš</td>
<td>tš</td>
<td>tš&lt;sup&gt;e&lt;/sup&gt;, tš&lt;sup&gt;f&lt;/sup&gt;, tš&lt;sup&gt;i&lt;/sup&gt;, tš&lt;sup&gt;j&lt;/sup&gt;</td>
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<td>tx&lt;sup&gt;e&lt;/sup&gt;, tx&lt;sup&gt;f&lt;/sup&gt;, tx&lt;sup&gt;i&lt;/sup&gt;, tx&lt;sup&gt;j&lt;/sup&gt;</td>
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<tr>
<td><strong>Fricative</strong></td>
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<td>s</td>
<td>s</td>
<td>s&lt;sup&gt;e&lt;/sup&gt;</td>
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<td>š</td>
<td>š&lt;sup&gt;e&lt;/sup&gt;, š&lt;sup&gt;i&lt;/sup&gt;, š&lt;sup&gt;l&lt;/sup&gt;</td>
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<td>x</td>
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</tr>
<tr>
<td><strong>Nasal</strong></td>
<td></td>
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<tr>
<td>h</td>
<td>h</td>
<td>h&lt;sup&gt;e&lt;/sup&gt;, h&lt;sup&gt;f&lt;/sup&gt;, h&lt;sup&gt;i&lt;/sup&gt;, h&lt;sup&gt;j&lt;/sup&gt;, h&lt;sup&gt;o&lt;/sup&gt;, h&lt;sup&gt;φ&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Spirant</strong></td>
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<td>r, d, ř&lt;sup&gt;r&lt;/sup&gt;</td>
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<td><strong>Voiced</strong></td>
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<tr>
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<td>y</td>
<td>y&lt;sup&gt;j&lt;/sup&gt;, y&lt;sup&gt;i&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
as mentioned in Section 144.

If the consonants are obstruents or flaps, the first of the pair is lost; when this loss occurs word-medially, the preceding vowel is lengthened.

\[
p- \quad "you," \text{pawata } "make a fire": \ast ppawata > \text{pawata } "you make a fire."
\]

\[
t- \quad "she," \text{tšiyahata } "to weep": \ast ttšiyahata > \text{tšiyahata } "she weeps."
\]

\[
nika \quad "he eats," \text{-ka Passive: } \ast nikka > \text{ni·ka } "he is eaten."
\]

\[
\text{hitsrukate } "...'s chief," \text{-tši Absolute: } \ast \text{hi-tšrukattši } > \text{hitsruka·tši } "chief."
\]

\[
\text{xitxi } "...'s foot," \text{-tši Absolute: } \ast \text{xitxtši } > \text{xi·tši } "foot."
\]

\[
\text{kose-ta } "to pull," \text{-xe "always": } \ast \text{kosxe-ta } > \text{ko·seta } "to always pull."
\]

\[
\text{hira } "to drink," \text{-Le Relational, -Vta Potential Theme Closure: } \ast \text{hirre}ta > \text{hi·reta } "to drink."
\]

\[
\text{kahwakpira- } "respect," \text{-LU Entity: } \ast \text{kahwakpirLU } > \text{kahwakpi·ru } "respect."
\]

There are two exceptions to the process described in the preceding paragraph. When \(/t/\) precedes \(/s/\), the unit phoneme \(/ts/ \text{[ts]}\) occurs:

\[
t- \quad "she," \text{saplewata } "shout": \ast \text{tsaplewata } [\text{tσa-pθewata}] "she shouts."
\]
t- "her," saplo "aunt": tsaplo [tsap(ph)lo] "her aunt."

When /x/ precedes /t\, the /x/ is replaced by /s/.

ksaxi "black," t\=ixi "earth," -LU individual:

*ksaxt\=ixiLU>ksast\=ixiri "black earth."

If the consonants are identical voiced continuants, they are replaced by the corresponding long voiced continuant; word-medially the long oral voiced continuant is in free variation with the short continuant with compensatory lengthening of the preceding vowel.

n- "I," nika "eat": *nnika>n\=ika "I eat."

xema "he hears," -maka Subjunctive: *xemmaka>

xem\=aka "he would hear."

w- "our," wuhene "child": *wwuhene>w\=uhene

"our child."

wane "there," -ya "to," -yi "you": *waneyyi>

waney\~i=wane\~yi "you have."

rawa "he takes," -wu "us": *rawwu>raw\~u ~

ra\~wu "he takes us."

If the first consonant of a pair is the nasal spirant /h/ and the second is an obstruent, the /h/ is replaced by the nasal most nearly homorganic with the obstruent.

h- "you pl.," pika "be afraid": *hpika>mpika

"you are afraid."

romkahi-ta "he follows," potu Intensifier:
*romkahpotuta > romkampotuta "he follows closely."

h- "you pl.," tunwa-ta "stand": *htunwata > ntunwata "you stand."

yaho-ta "he measures," -ta Detailed action:

*yahtata > yantata "he counts."

h- "you pl.," šimšita "whistle": *hšimšita > nšimšita "you whistle."

h- "you pl.," txirika "ignite": *htxirika > ntxirika "you ignite."

If two nasal spirants come together, one of the nasal spirants may be lost and, word-medially, the preceding vowel may be lengthened; in free fluctuation with V·h two of the allophones of the nasal spirant may occur, the first of the pair being the voiced nasalized velar fricative allophone [g], and the second, the voiceless nasal spirant allophone [h].

ruhi-ta "he answers," hima "it is said": *ruhimata > ru·himata [ru·himata] ~ [rughimata] "it is said that he answers."

saha-ta "he smears on," hetko "maybe": *sahhetkota > sa·hetkota [sa·het⁰kota] ~ [saghet⁰kota] "maybe he smears on."

When /l/ follows /n/, the /l/ is replaced by /r/:

tšina "she says," -LU "him": *tšinLU > tšinru
"she says to him."

nkašitša "I caught," -Vnu Anticipatory, -LU Individual: *nkašitšanLU > nkašitšanru "the one I caught."

When /l/ follows /i/, /e/, or /u/, the /l/ is replaced by /r/:

rutli-ta "it fades," -Lewa Characterizer: *rutli-Lewata > rutli rewata "it characteristically fades."
katšipe "selfish," -VLU Individual: *katšipeLU > katšiperu "selfish person."
saxru-ta "entwine," -Le Relational: *saxru Leta > saxrureta "to entwine."

The morphophonemic change of /l/ to /r/ is regularly conditioned, and need not be marked by the symbol L, as used above, except for the convenience of the reader. Since eight common affixes frequently undergo this change, and conditioning, though regular, is complicated, depending upon arbitrarily determined vowel loss as well as upon phonological factors, it has seemed helpful to remind the reader that the change may be expected. The following eight morphemes are accordingly written with L, and vowels which are subject to change are likewise indicated: -LU "him, it," -Lo "her, it," -Le Relative, -Lewa Characterizer, -LU Infinitive, Entity, -VLU -LU Individual, -VLo -Lo fem. Individual, -La -Le Interest, -VLI Endearment.
152. Morphophonemic changes of the restricted type are occasioned by prefixation of morphemes of Position Classes 00 and 000.

When a pronominal prefix 00, other than h- "you pl.", occurs with a noun or verb of Prefix Class I (Section 241.6), and when the prefix m- 001 Privative (Sections 241.2, 243.2) occurs in the theme of a verb of Class I or an adjective derived from a noun or verb of Class I, the initial h- of the theme or stem is replaced by the prefix; if /i/ follows the initial h-, it is replaced by /u/: 

- r- "his," hanuru "man's brother-in-law": ranuru "his brother-in-law."
- n- "my," hepuru "...'s little brother": nepuru "my little brother."
- w- "we," heta "see": weta "we see."
- t- "she," homkahita "follows": tomkahita "she follows."
- p- "you sg.," hiru "...'s father": puru "your father."
- n- "I," himata "know": numata "I know," but h- "you pl.": himata "you know."
- m- Privative, hanikanu "be going to bring": manikanu "not be going to bring."
- m- Privative, himatyanu "be going to know": 
mumatyanu "not be going to know."

An exception is the verb hitxa "to be, do, act," in which the h- is replaced by pronominal prefix, but /i/ is not replaced by /u/:

r- "he," hitxa "to do": ritxa "he does."

When hi- 002 Accompanitive occurs in the theme of a Class I verb, the initial h- of the stem is replaced by /m/; if the vowel following the initial h- is /i/, it is replaced by /u/:

hi- 002 Accompanitive, hepomha "ask":

himepomha "ask with or concerning."

hi- 002 Accompanitive, hituka "stop":

himutuka "stop together."

See Section 241.2.

When k- 003 Possessing an attribute or belonging to a class, occurs in the theme of an adjective derived from a noun or verb of Class I, the initial h- of the verb is optionally replaced by the prefix:

hatšpo- "suck," -Le Relational, -ka Passive:

khatšpokle ~ katšpokle "one who sucks, witch doctor."


See Section 243.2.
153. Arbitrary vowel loss occurs preceding certain suffixes and incorporated postpositives. In the lexicon those suffixes before which a vowel is retained are marked with "V", as in -Vpa, -Vnu, etc.:

neta "I see," -ya Locative, -Vnu Anticipatory,
-Łu "him," -Vwa "yet": netya "I see there,"
netanu "I am going to see," netlu "I see him,"
etawalu "I see him yet," netanru "I am going
to see him."

Notice the loss and retention in a different verb with the same set of affixes:

yopnuha "he wards off": yopnuhya "he wards off there," yopnuhanu "he will ward off," yopnuhlu "he wards him off," yopnuhawa "he still wards off," yopnuhanru "he is going to ward him off," yopnuhawalu "he still wards him off."

With all suffixes the preceding vowel is retained if its loss would result in a cluster of three consonants:

terka "she washes," terkalu "she washes it."

Unique and irregular alternations are listed in the lexicon.

154. There is a limited amount of vowel harmony which is in part arbitrary and in part phonologically determined. The commonest change is the replacement of /u/ with /i/ following a non-contiguous /i/ in the suffixes -Łu "him,"
-LU Infinitive, Entity, -VLU ~ -LU Individual, and -VtU Individual, Privative. The change to /i/ is optional in adjectival and verbal nouns, but is most frequent in common and familiar words. It is obligatory elsewhere:

netni "I saw one who is now dead," -LU "him":

netniri "I saw him who is now dead."

nepukini "when I summon," -LU "him": nepukinri

"when I summon him."

hime- "be drunk," -LU Infinitive: himri ~ himru

"to be drunk."

kata "shining," -hi noun base suffix, -LU Entity:

katahiri "star."

kpaši "holy," -VLU Individual: kpaširi ~ kpaširu

"holy person."

popni "purple, brown," -VLU Individual: popniri

"that which is purple, brown."

m- Privative, poyoli "energetic in hunting," -VtU Individual, Privative: mployoliti "slothful hunter."

ma Privative, yinipa "when one is going to go,"

-VtU Individual, Privative: ma yinitipa "state of not being going to go."

The suffix -VLI Endearment, Flourish, varies from -Vli to -Vle following -he Question, and optionally following /e/ elsewhere:
mama "mother," -VLI: mamali "dear mother."
wumole "our relative," -he Question, -VLI:
   wumolhere "our dear relative?"
peta "you see," V> e Interest on the part of the
   speaker, -VLI: petere ~ peteri "have a look,
   will you."

In actual occurrence morphophonemic changes are frequent in Piro. There is more than one instance per each two words of narrative text.
CHAPTER 2: GRAMMAR

200. The description of the grammar begins with the clause, and proceeds first with the higher level and then the lower level constructions.

210. The clause is the highest level construction for which formal identifying features are obligatory, within the Piro discourse.

211. Three classes of clauses (Cl. I, Cl. II, Cl. III) contrast in minimal formulas.

Cl. I, the intransitive clause, has the following formula: +S +P. The obligatory subject is either a noun phrase (See Glossary) preceding the predicate, or a pronominal prefix to the verb. The obligatory predicate is an intransitive verb phrase:

wpalihata (w- 05 "we," palihata "to go upstream"). "we go upstream."

tsrutsolexine mkoxekta palihata (tsrutsolexine "old men," mkoxekta "forming a homogeneous group," palihata "to go upstream"). "the old men are going upstream by themselves."

Cl. II, the transitive clause, has the following formula: +S +0 +P. The obligatory subject, as in Cl. I, is either a noun phrase preceding the predicate, or a pronominal prefix to the verb. The obligatory object
is either a noun phrase preceding the predicate, or a pronominal suffix to the verb. The obligatory predicate is a transitive verb phrase:

- **nmexitlu** (n- Ol "I," mexita "to attach feathers to," -LU 03 "it"). "I attach feathers to it."
- **hita mexitlu** (hita "I," mexita "to attach feathers to," -LU 03 "it"). "I attach feathers to it."
- **kašri nmexita** (kašri "arrow," n- Ol "I," mexita "to attach feathers to"). "I attach feathers to the arrow."
- **hita kašri mexita** (hita "I," kašri "arrow," mexita "to attach feathers to") or **kašri hita mexita.** "I attach feathers to the arrow."

The last two illustrations with alternate order are formally ambiguous; there is nothing to indicate which noun is the subject, and which is the object.

Cl. III, the non-verb clause, has the following minimal formula: +O +P. The obligatory object is either a noun phrase preceding the predicate or a pronominal suffix to the predicate. The obligatory predicate is a noun phrase, adjective phrase, or adverb phrase. The pronominal suffix which occurs with Cl. III is the same suffix as the object of Cl. II:

- **noprapatkayi** (noprapatka "now my pet," -yi 02 "you"). "you are now my pet."
yonalu whene noprapatka (yonalu whene "ocelot cub," noprapatka "now my pet"). "the ocelot cub is now my pet."

kmawrolu (kmawro "slimy," -LU 03 "it"). "it is slimy."

tuxratnakni (tuxratnaka "there again," -ni 03 "it"). "there it is again."

Contrasts in the minimal formulas of the three classes of clauses are summarized in Chart 5.

Two of the major classes of clauses, intransitive and transitive, are further divided into subclasses.

211.1. Subclasses of the intransitive clause are derived from the basic minimal formula of the intransitive clause Cl. I, given above. In Classes Cl. Ia and Ib the predicate is a verb with an intransitive stem. In classes Ic, Id, Ie, If, and Ig, the predicate is a verb with a transitive stem plus an intransitivizing affix or affixes, from Chart 7, Section 221.20.

In Cl. Ia the predicate is an intransitive verb with an intransitive stem:

rumka "he sleeps."

Cl. Ib does not differ in stem from Cl. Ia. The predicate is a verb with an intransitive stem. However, an optional subject complement is added:
Chart 5. Classes of Clauses

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>O</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl. I</td>
<td>+S</td>
<td></td>
<td>intr. vb.</td>
</tr>
<tr>
<td>Cl. II</td>
<td>+S</td>
<td>+O</td>
<td>tr. vb.</td>
</tr>
<tr>
<td>Cl. III</td>
<td></td>
<td>+O</td>
<td>non-vb.</td>
</tr>
</tbody>
</table>
rusurna himuwatatšri (rusurna "he went downstream," himuwatatšri "a happy man"). "he went downstream, a happy man."

In Cl. Ic the predicate is an intransitive verb which comprises a transitive verb stem plus a reflexive affix:

tyonatnawa (tyonata "she paints," -na 53... -wa 92 Reflexive). "she paints herself."

In Cl. Id the predicate is an intransitive verb which comprises a transitive verb plus a reciprocal suffix:

xephakakna (xepha...na "they deloused," -kaka 22 Reciprocal). "they deloused each other."

In Cl. Ie the predicate is an intransitive verb which comprises a transitive verb stem plus the suffix -Lewa- which indicates that an action is characteristic or occupational:

raxpoklewata (raxpoka "he blows," -Lewa 33, -Vta 21 Potential Theme Closure). "he is a medicine man."

In Cl. I-f the predicate is an intransitive verb which comprises a transitive verb stem plus a passive suffix:

nmutškotka (nmutškota "I make strong," -ka 51 Passive). "I am made strong."

In Cl. Ig the predicate is an intransitive verb which comprises a transitive verb stem plus an incorporated noun:
kostše·kašreta (kostše-ta "he picked up," kašre "his arrow"). "he picked up his arrow."

211.2. Subclasses of transitive clauses are derived from the basic minimal formula of the transitive clause Cl. II, given above. In subclass Cl. IIa the predicate is a transitive verb with a transitive stem. In subclass Cl. IIb the predicate is a transitive verb with either a transitive or an intransitive stem plus a transitivizing affix or affixes. In subclasses IIc and IID the predicate is a verb with an intransitive stem plus a transitivizing affix or affixes.

In Cl. IIa the predicate is a transitive verb which comprises a transitive stem:

yohlotlo. "he speared it."

In Cl. IIb the predicate is a transitive verb which comprises either an intransitive verb stem or a transitive verb stem plus the causative suffix -kaka 22 or the mandatory suffix -xitxa 24:

nximle·kaklu (n- O1 "I," ximleka "to boil,"
-kaka 22, -LU O3 "it"). "I caused it to boil."

nyohlotkaklu (n- O1 "I," yohlota "to spear,"
-kaka 22, -LU O3 "him"). "I cause him to spear (something)."

nkopruhxitxlu (n- O1 "I," kopruha- "to cross the river," -xitxa 24, -LU O3 "him"). "I had him
cross the river."

\[\text{nunkaxit\textbackslash xlu (n- 01 \text{"I,"} hinka \text{"to shoot,\"} -xitxa 24, -LU 03 \text{"him, it,"} \text{"I ordered him to shoot,\"} or \text{"I had it shot.\"}}\]

In Cl. IId the predicate is a transitive verb which comprises an intransitive verb stem plus either the directive suffix -ya 42 or the incorporated postpositive yehi which indicates action in behalf of or concerning:

\[\text{naskustralu (nasuka \text{"I fled,"} -ya 42, -LU 03 \text{"him\"}). \text{"I fled from him.\"}}\]

\[\text{numuwysitlu (numuwata \text{"I was happy,"} yehi \text{"concerning,"} -Vta 21 \text{Potential Theme Closure, -LU 03 \text{"him\"}). \text{"I was happy about him.\"}}\]

In Cl. IIId the predicate is a transitive verb which comprises an intransitive verb stem plus the accompaniment prefix hi- 002.

\[\text{rukamsrewatno (r- 03 \text{"he,"} hi- 002, kamrurewata \text{"to work,"} -no 01 \text{"me\"}). \text{"he worked with me.\"}}\]

211.3. Dependent clauses form a subclass which with one exception (Dependent Clause c) comprise both intransitive and transitive clauses. The dependent clause is derived from the basic minimal formulas of Clauses Cl. I and Cl. II by the addition to the predicate of one of the morphemes listed below. The distribution of the dependent clause is limited to the complex sentence. See Section
221.5.

In Dependent Clause a the morpheme -ini- 62 Conditional occurs in the predicate:

wa pkamakatinipno "if you kill me."

In the privative Dependent Clause b the morpheme sequence -kanu (-ka 51 Passive + -nu 61 Anticipatory) occurs in the predicate:

ma mostutkanuwalu "before he had tied him up."

The morpheme sequence -kanu apparently has only grammatical and not lexical value. Time ("before") in this example is expressed by morphemes ma Postpositive Privative and m- 001 Privative and -Vwa 92 "yet."

In Dependent Clause c the morpheme sequence -koklunu occurs in the verb phrase of the predicate (-ko 52-Anticipatory Passive, klu postpos. "time," -Vnu 61 Anticipatory. See the discussion of this form under Section 241.2 in the paragraph describing the fourth minor class of verb themes.)

rumatkoklunu "he having become known."

In Dependent Clause d the morpheme -kta 77 Generalizer is suffixed to an interrogative noun or interrogative adverb which occurs in the clause nucleus:

hir-himakta taluka "anyone, it is said, whom she loved."

212. The clause comprises a nucleus and a margin. To
the nucleus belong the obligatory constructions described in the minimal clause formulas (Section 211), and five optional constructions, each of which is associated with one of the obligatory constructions in such a way that if a substitution is made for an obligatory phrase, a corresponding substitution must be made for the associated optional phrase. In addition to these, there is an optional object 2. All other clause-level constructions are assigned to the clause margin.

In each class of clauses the minimal formula with pronominal affixes is much higher in frequency than the formulas with the other variants or with nuclear expansion. Nevertheless, each class of clauses occurs with innumerable combinations of the variants with expansions which consist of the addition of optional constructions, both nuclear and marginal.

212.1. The expansion of the nucleus involves the following optional constructions:

+SAp optional subject appositive: a noun phrase in apposition to either variant of the subject. The noun phrase which constitutes the subject appositive can be substituted for the noun phrase of the subject without change of meaning. The subject appositive occurs in Cl. I, and Cl. II:

kowimtatkana tšopuyane (∅...-na 07 "they,"
kowimtatka "to blow a signal horn," tșo-puyane "Amahuaca Indians"). "the Amahuaca Indians blew their signal horns."

sato sutxni-kotx-hima mtur-pot-himni hipnamatka ylitš-when·i (sato "one," sutxni-kotx-hima "female also, it is said," mtur-pot-himni "the very youngest, it is said," hipnamatka "died then," ylitš-when·i "the daughter of Ylicha"). "another of Ylicha's daughters, the youngest, died then, it is said."

honu rura mhenoklu (honu "water," r-03 "it," hira "to drink," mhenoklu "the jaguar"). "the jaguar drank water."

mhenoklu hima homkahimtatkalu, hitxoluru mhenoklu (mhenoklu "a jaguar," hima "it is said," homkahimtatkalu "followed him," hitxoluru "a multitude," mhenoklu "jaguars"). "a multitude of jaguars followed him, it is said."

The appositive does not precede the subject, but may precede or follow the predicate; however, when it is juxtaposed to a subject word, it is no longer interpreted as a subject appositive, but as part of the noun phrase which constitutes the subject, as in the example given above: sato sutxnikotx-hima mtur-pot-himni, in which mtur-pot-himni "the youngest one, it is said," is interpreted to be
in apposition to sato sutxnikotx-hima "another female
also, it is said," within the noun phrase. The subject
appositive rarely precedes the predicate. The clause,
honu rura mhenoklu "the jaguar drank water," cited above,
could be rearranged to read, mhenoklu honu rura, with­
out discernible change in meaning, but such construction
is rare.

More than one SAp may occur in a clause:

sato wa sato hnuru tyoptokinretya wala (sato "one
woman," wa Article, sato "another's," hnuru
"husband," tyoptokinretya "she received game
from," wala "she"). "one woman received game
from another's husband."

The SAp preceding the predicate and the SAp following the
predicate could, of course, be interpreted to be parts of
one discontinuous appositive phrase. It is not so inter­
preted here, the interpretation of discontinuous construc­
tions being avoided as far as possible.

+SComp optional subject complement: a noun phrase or
an adjective phrase with the same referent as the phrase of
the subject. The subject complement differs from the sub­
ject appositive in that the noun phrase of the subject com­
plement cannot be substituted for the noun phrase of the
subject without changing the meaning of the clause. The
subject complement usually precedes the predicate and may
precede or follow the subject. It occurs only in Cl. I:
kahontshi ritxa (kahontshi "witch doctor," r-03 "he," hitxa "to be, do, act"). "he is a witch doctor."

kmatsuru rumatika (kmatsuru "a fierce one," r-03 "it," himatika "to be known as"). "it is known to be fierce."

ser-kotsaptaxitsa* titxiniwa (ser-kotsaptaxitsa* "having a great quantity of red veins," t- "it," hitxiniwa "to be yet"). "it was still all covered with red veins."

hitsruka*tshi xihlokatka (hitsruka*tshi "chief," ϕ-03 "he," xihlokatka "to have now entered"). "he has now become chief."

More than one SComp may occur in a clause:

kahontshi ritxa, kayinrewakler-potu (kahontshi "witch doctor," r-03 "he," hitxa "to be," kayinrewakler-potu "one who actually kills by magic"). "he is a witch doctor, one who actually kills by magic."

+02 optional object 2: a noun phrase with a different referent from that of the object. The noun phrase of object 2 may precede or follow the predicate. It occurs only in Cl. II, and only with a limited list of verbs such as give, share, take away from, ask, etc., or with other transitive verbs plus the indirective -ya 42. The referent is obliga-
torily different from that of the object. In the case of a verb which takes either a personal or impersonal object, as the verb to give, either item may optionally be the object, and the other, the object 2:

kewe reneklu mturu (kewe "dog," reneka "he gave,"
-LU 03 "him," mturu "little boy." See OAp below). "he gave the little boy a dog."
The clause, with the same translation into English, may be varied as follows:

mturu reneklu kewe (mturu "little boy," reneka "he gave," -LU 03 "it," kewe "dog").
reneklu mturu kewe.
reneklu kewe mturu.

In the last two examples -LU 03 may be translated as either "him" or "it"; the referent is optionally the boy or the dog. The order may be either O2, OAp, or OAp, O2.

hike hima wa runanšitšyana wale (hike "nothing,"
hima "it is said," wa Connective, runanši-
tšyana "they prohibited from," wale "him").
"they prohibited nothing from him."

-OAp optional object appositive: a noun phrase in apposition to either a noun phrase as object or a pronominal suffix as object. The noun phrase of the object appositive can be substituted for the noun phrase of the object without change of meaning. This construction occurs
in Cl. II and Cl. III. It follows the object and predicate:

tkostšekamtlu heptši (t-04 "she," kostšekamta "to pick up while moving," -LU 03 "it," heptši "axe"). "she picked up the axe."

kyišluni nunka khitxirutni (kyišluni "midget monkey, now dead," nunka "I shot," khitxirutni "one which was carrying a baby on its back"). "I shot a midget monkey which had a baby on its back."

kakanopiktalo runrona (kakanopikta "having on some sort of blouse," -Lo 04 "she," runrona "their mother"). "their mother had on some sort of blouse."

sutxone wane makloxine (sutxone "women," wane "there," makloxine "girls"). "there were females, girls."

+OComp optional object complement: a noun phrase or an adjective phrase with the same referent as the phrase of the object. The object complement differs from the object appositive in that the noun phrase of the object complement cannot be substituted for the noun phrase of the object without a change of meaning. The object complement precedes or follows the object or predicate. It occurs only in Cl. II:
wale wpatrote wtšina (wale "him," wpatrote "our patron," wtšina "we say"). "we call him our patron."

sanowašatatšri nkahwaklu (sanowašatatšri "impostor," nkahwaka "I consider," -LU 03 "him"). "I consider him an impostor."

pomenota· wetlu (pomenota· "very thin," weta "we see," -LU 04 "him"). "we see that he is terribly thin."

More than one OComp may occur in a clause:

ni·kalur-potu wtšinru, wan·atanru potu
(ni·kalur-potu "good food," wtšina "we say," -LU 03 "it," wan·atanru potu "that which we relish very much"). "we say that it is good food, that we relish it very much."

+PAP optional predicate appositive: a noun phrase which is semantically partially redundant with the verb. It occurs only in Cl. I, and may precede or follow the verb:

nukwekatka noxeko (nukwekatka "then I spread my bed," noxeko "my bed"). "then I spread my bed."

tšitši wpawata (tšitši "hearthfire," wpawata "to make a hearthfire"). "we made a hearthfire."

Translated into an Indo-European language, the predicate appositive appears to be an object; however, it is not for-
mally so in Piro, inasmuch as it occurs with intransitive verbs (e.g. pawata above), and appears following verbs which may be either transitive or intransitive (e.g. hikweka above) without the object suffix which is obligatory with a transitive verb. In fact, the suffix -Lewa- 33 which is commonly used to provide an intransitive form of a basically transitive verb, has been found in the predicate with a predicate appositive:

ha wa mtur-himnimka haluk-hinka lewletni wa
niktści (ha wa "but," mtur-himnimka "the boy, it is said, with frustrated intention,"
haluk-hinka...letni "wanted to shoot," -Lewa-
Intransitivizer, wa Article, niktści "the animal").
"but the boy would have wanted to shoot the animal."

Besides the restrictions of order mentioned for the various nucleus constructions above, there is the following restriction: Interrogative nouns and interrogative pronouns always occur clause initial:

katu mukotširewata (katu "who?" mukotširewata
"to offend by failure to observe taboo")?
"who failed to observe taboo?"

Among the phrases which occur in the clause nucleus, gender concordance is obligatory in the singular:
wa parantaš-hima rene·ka, ximekaša nikanropa
(wa cn., parantaš-hima "field of plantains," f., ximekaša "field of manioc," f., rene·ka "he was given," m. subject, nikanropa "that which he was to eat," f. item with m. possessor.
"he was given a field of plantains and a field of manioc to provide him with food."

Plural concordance is not rigidly consistent; the singular often represents the plural, especially with regard to inanimate objects:

wan·a tsrutške hapoka (wan·a "they," pl., tsrutške proper n.s., hapoka "to arrive," -- no number indication). "Tsruchke and his party have arrived."

wane ritxa hašanihka (wane "thus," ritxa "he does," s., hašanihka "Campa Indian s.") "that is what the Campa do."

Lower forms of animal life, as gnats that have swarmed, are referred to as feminine singular:

tupnanatka yosla (tupnanatka "she has died now," f.s., yosla "gnat," s.) "the swarm of gnats has been killed."

213. The clause margin includes the following constructions: exclamatory (Exclam), vocative (Voc), connective (Cn), hesitation (Hes), potentiality (Ptn), mood
Chart 6. Optional clause-nucleus constructions

<table>
<thead>
<tr>
<th>Construction</th>
<th>Type of phrase</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAp</td>
<td>n.</td>
<td>Cl. I, Cl. II</td>
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<tr>
<td>SComp</td>
<td>n., adj.</td>
<td>Cl. I</td>
</tr>
<tr>
<td>O2</td>
<td>n.</td>
<td>Cl. II</td>
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<tr>
<td>OAp</td>
<td>n.</td>
<td>Cl. II, Cl. III</td>
</tr>
<tr>
<td>OComp</td>
<td>n., adj.</td>
<td>Cl. II</td>
</tr>
<tr>
<td>PAp</td>
<td>n.</td>
<td>Cl. I</td>
</tr>
</tbody>
</table>
(M), modification (Mod), agent (Ag), accompaniment (Ac), most frequently in the order listed, except that a vocative and connective do not occur clause-initial simultaneously. The clause margin constructions most frequently precede the nucleus, especially when only one such construction occurs in a clause. In fact, the most frequent clause formula is that in which one modification construction precedes the obligatory constructions with pronominal affixes as the subject and object. The second most frequent order is that following the nucleus; however, some of the constructions which belong to the margin also commonly occur interspersed quite freely among the nuclear constructions. Examples of the various orders of occurrence will be found below among the illustrations of the optional constructions which constitute the margin.

+Exclam optional exclamatory word or words:

ha*, hiphuta ruylatanatkayi (ha* "oh," hiphuta "apparently," r- 03 "it," hiylatanatka "to kill then," -yi 02 "you")! "oh, it appeared that he killed you then!"

ya* tyepatkan-papa* (ya* "oh," tyepatka "this, with change of state, is now," -ni 03 "him," papa* "papa")! "oh, this is papa!"

+Voc optional vocative: a noun phrase, especially a phrase which includes a member of a list of vocative nouns, or standardized phrases pertaining to the system of teknonymy:
totu', hinaka pyanu (totu · "grandfather," hinaka "where?" pyanu "you are going to go")? "grandfather, where are you going?"
šte hiru, puptxakan·otši (šte hiru "younger relative's father," puptxakan·otši "help me, please"). "nephew's father, please help me."
petanru, mama (petanru "see it," mama "mama"). "see it, mama."
hehoyakalo, puyokatkewa (hehoyakalo proper n., "new goddess," puyokatkewa "come on, wake up"). "Hehoyakalo, come on, wake up."

+Cn optional connective. The connectives are listed in Section 246.2. The connective usually occurs in the clause-initial position:

hiyahni kostšekamntiktatkalu mhenoklu papni (hiyahni "then," kostšekamntiktatkalu "he somehow grabbed it for a moment with detrimental results," mhenoklu "the jaguar," papni "papa who is now dead"). "then papa somehow grabbed the jaguar."

seyni hima repur-hima ranika (seyni "but," hima "it is said," repur-hima "his little brother, it is said," ranika "he took"). "but he took his little brother."
makakta hawakanwaka yopikya (makakta "however," hawakanwaka "upstream," yopikya: "it came into sight there"). "however, it appeared upstream."

ha ha wane nitxa hapokletlu Pokalpa (ha ha "and," wane "thus," nitxa hapokletlu "I did arrive at it," Pokalpa "town of Pucallpa"). "and that is the way I arrived in Pucallpa."

+Hes an optional hesitation feature, which may be

(1) some form of the pronoun klu "what, that," plus the suffix -kta "whoever, whatever," with a change of the suffix-initial k to x: kluxta, kloxta, knaxta (Section 242.3), (2) the connective wa, or (3) phonological lengthening or pause. The hesitation feature most frequently occurs in the clause-initial position, but may occur in any position in the clause:

wane hima wa tsatkakyatnaklu (wane "there," hima "it is said," wa Hesitation, tsatka-kyatnaklu "she returned him"). "she returned him from there."

hiyahni pa hohnehimatnakni wa wa kloxta hima klana hima koxwakkxeta (hiyahni "then," pa "another," hohnehimatnakni "day again, it is said," wa wa Hesitation, kloxta Hesitation, "whoever she was," klana proper n., hima
"it is said," koxwakxeta "he annoyed repeatedly"). "then on another occasion he was annoying Klana."

+Ptn optional potentiality expression which may be one of the members of a small list of particles: hikta "however it may be," himka "maybe not, perhaps," halukta "maybe, perhaps," patako "maybe," hethonuka "possibly," hiphuta "apparently." The potentiality expression precedes the predicate:

hihimamka tsruni (hihimamka "maybe not, it is said," tsruni "he was big"). "maybe he was not big."

hethonuka hi wa motoro hayapamtanu (hethonuka "possibly," hi Negative, wa Cn., motoro "motorboat," hayapamtanu "we are going to go"). "possibly we will not be going by motorboat."

hiphutla hi wa kyowiklu (hiphutla "apparently," hi Negative, wa Cn., kyowiklu "it was dangerous"). "it appeared not to be dangerous."

+M optional mood. The mood is expressed by (1) the exclamatory particle hi "how much," "how great," etc., (2) the negative particle hi, or (3) the interrogative particle hi which expects a statement or hi he which expects a "yes" or "no" answer. As will be seen in the dis-
cussion of sentence types, Section 221, the occurrence of one of these particles is by no means the only marker of an exclamatory or interrogative sentence. There are besides exclamatory and interrogative morphemes and intonation contours. Intonation is discussed under Section 221, inasmuch as it is considered to be a part of the sentence, not of the clause. Examples of mood expressions are as follows:

hi pso nanuktalu mhenoklu (hi Exclamatory, pso "size," nanuktalu "it was throughout," mhenoklu "jaguar")! "how huge the jaguar was!"

hi waleko xema (hi Negative, waleko "even him," xema "he heard"). "he didn't even listen to him."

hi pitxkayi (hi Interrogative, pitxkayi "like you are")? "how are you?"

hi he waneru kartotšoxi (hi he Interrogative, waneru "there is," kartotšoxi "bullet"). "aren't there any bullets?"

+Mod optional modification: noun phrase, adjective phrase, or adverb phrase which modifies the clause. These phrases may be divided into overlapping classes of time, location, manner, and instrument. Only the noun phrase is used to refer to an instrument, whereas adjective phrases, adverb phrases and particle phrases, as well as noun phrases,
are used to express time, location, and manner. However, no contrast can be established between the noun phrases of the instrument class and the noun phrases of the time, location, and manner class. Phrases expressing time, location, and manner are regarded as belonging to the same class, because a number of common morphemes can be translated as referring to time, place, or manner. For instance the common postpositive waka means "time, place, manner"; the adverb wane means "thus, then, there"; the postpositive hohne means "extent of time or space" or "universality." Illustrations are given below for each type of phrase that is found modifying the clause.

+Mod by a noun phrase:

**hoyetšno hiputu ya** *(hoyetšno "night," hiputu "clearing," ya "he went")*. "at night he went to the clearing."

**ha raplihimamtanatka tposne** *(ha "and," raplihimamtanatka "to vomit then, detrimentally, going along, it is said," tposne "her stench")*. "he went along vomiting from her stench."

**tšokoru yohlotyamkatkalu yeye** *(tšokoru "harpoon," yohlotyamkatka "he unsuccessfully speared with then," yeye "big brother")*. "then big brother tried to spear him with a harpoon."
+ Mod by an adjective phrase:

ten-hima ratskota (ten-hima "high, it is said," ratskota "he climbed"). "he climbed high."
howuk-potu netyalu (howuk-potu "far away," netyalu "I saw him from"). "I saw him from far away."
kihle hima ritx-kamlewleta (kihle "good," hima "it is said," ritx-kamlewleta "he does the shaping of objects as an occupation"). "he forms artifacts beautifully."
+ Mod by an adverb phrase:

ha txani pitxa nanu hewi hinyehitatkano (ha "and," txani "now," pitxa "you," nanu "in this instance," hewi "here," hinyehitatkano "have now come to me"). "and finally you, here, have come against me."
wane hima hike ritxxkana (wane "then," hima "it is said," hike "nothing," ritxxkana "was done to them"). "nothing was done to them then."
wane hima ritxxxeta (wane "thus," hima "it is said," ritxxxeta "he always acted"). "that's the way he always acted."

More than one Mod expression may occur in a clause:
hiya--himni wane hima kowtšohatnikotxatnaka
waleni rasrure (hiya'-himni "then, it is said," wane "there," hima "it is said," kowtšohatnikotxatnaka "unfortunately he also fished again," waleni "he, to his detriment," rasrure "his custom"). "then he fished there again, as his custom was."

kanaway a psol-yetšno himako wane hima romkamta-
tyatnakaluna wa makluxni molene (kanaway a "in a canoe," psol-yetšno "all night," himako "all night long, it is said," wane "thus," hima "it is said," romkamtyatnakaluna "they kept following here and there," wa Article, makluxni "the teen-age boy who had been killed," molene "his relatives"). "all night long the relatives of the boy who had been killed pursued the man by canoe."

+Ag optional agent expressed by a noun phrase. The contrast between the agent and the modification is not strong nor obvious. Only a noun phrase serves as agent, whereas modification is expressed by the various types of phrases mentioned above, or by a clause. There is a potential difference between the modification and agent constructions when an active clause is rewritten as a passive clause. In this case the agent of the passive clause be-
comes the subject of the active clause, whereas a modification construction is not so changed. This can be unequivocally demonstrated only for Cl. I-f (passive) and for clauses whose predicates happen to be morphemes which occur in both intransitive and transitive verbs.

Cl. I-f: hopši whene hiylatka kakwaluxiya (hopši "duck," whene "its young," hiylatka "was killed," kakwaluxiya "by a kangaroo rat").
"the duckling was killed by a kangaroo rat."

This could be rewritten as Cl. IIA:

kakwaluxi hiylatlo hopši whene. "the kangaroo rat killed the duckling."

The following example of a Cl. Ia involves a morpheme which occurs both in an intransitive and a transitive verb:

kanawa hihlewata wale tšinanu (kanawa "the canoe," hihlewata "became good, was repaired," wale "him," tšinanu "on account of, by"). "the canoe is repaired on account of him."

This could be rewritten as Cl. IIA:

kanawa ruhleta (kanawa "the canoe," ruhleta "he repaired"). "he repaired the canoe."

Further examples of the agent construction follow.

Of particular interest is the first of these in which the
subject and agent are both third person plural. This construction is regularly used instead of Cl. IIa (transitive), in which the morpheme -na 07 which indicates the plural of the third person subject is homophonous with the third person plural object suffix -na 07. Since the subject -na and object -na do not occur simultaneously, a passive construction with agent is used.

Cl. I-f: ruptekyehimtkana paneneya (r-...-na 07 "they," hiptekyehimtka "to be attacked," paneneya "by Indians of another tribe"). "they were attacked by Indians of another tribe."

Cl. IIa: ruru towutlu repuruya (ruru "his father," towutlu "commanded him," repuruya "by way of his little brother"). "his father had his little brother tell him that he was commanded to do something."

Cl. Ia: yimaklewatatši tšinanu nkoseka (yimaklewatatši "teacher," tšinanu "on account of," nkoseka "I am making progress"). "I am making progress because of the teacher."

Cl. III: wale tšinanu kaxeno (wale "him," tšinanu "on account of," kaxeno "I have a wound"). "I have been wounded by him."
optional accompaniment expression consisting of a noun phrase plus the postpositive yma "with" or mihxe "without." The accompaniment construction is further distinguished from the other marginal constructions in that it is obligatory in the potential substitution of Cl. Ia for Cl. IId, as illustrated below:

Cl. IId: kšoterni numapoka pantši (kšoterni "dead deer," numapoka "I arrived with," pantši "house"). "I arrived at the house with the deer that had been killed."

This clause can be rewritten as Cl. Ia:

kšoterni-yma napoka pantši (kšoterni-yma "with the dead deer," napoka "I arrived," pantši "house"). "I arrived at the house with the deer that had been killed."

Further examples of the optional accompaniment expression follow:

hiyahni wan'a haxtxihi potuko hawamtatka papni-yma (hiyahni "therefore," wan'a "their," haxtxihi "backs," potuko "right at," hawamtatka "we stayed then," papni-yma "with papa who is now dead"). "so papa and I together kept right behind them for a while."

hiyahni netanuko yahotkakamtatkanahiyalu-yma
kewe (hiyahni "then," netanuko "my very sight," yahotkakamtkana "they went along fighting each other then," hiyalu-yma "with the peccary," kewe "the dogs"). "then right in front of me the dogs were fighting with the peccary."

The classes of clauses do not contrast in margin, nor in external distribution, except that the dependent clauses occur only in complex sentences.

214. The distribution of the clause is primarily within the sentence, and is discussed in Section 221, which treats the composition of the sentence. A clause occasionally is included within a phrase. For details of this distribution within the phrase, see Section 230. Infrequently also a clause is included within a clause, as in the following illustrations:

hirukokta yayitxa, wane yanu (hirukokta "whoever," yayitxa "to be sick," wane "there," yanu "he is to go"). "whoever is sick is to go there."

hi pexnukta paluka, panikanu (hi Interrogative, pexnukta "however many," paluka "you want," panikanu "take"). "take as many as you want."

hapakaplu, hirukokta xmere (hapakaplu "let him
go along," hirukokta "whoever," xmere "desirous"). "let anyone who wants to go, go along."

hiyahni hewitkalu tkatši, rumreka (hiyahni "then," hewitkalu "when it was here," tkatši "the sun," rumreka "the weather cleared"). "then, when the sun was this high, the weather cleared."

wale himako ruxithata, ralitxin-potu-nanuko (wale "that," himako "that itself, it is said," ruxithata "he drank at the end of a meal," ralitxin-potu-nanuko "until he reached puberty"). "he drank that very (herb) at the end of every meal until he reached puberty."

hiya·himni wa tuamananu, rapokini wa tkatši, pšinitsonu wane rawa (hiya·himni "therefore, it is said," wa Cn., tuamananu "the late morning," rapokini "when he arrived," wa Article, tkatši "the sun," pšinitsonu "just a little while," wane "there," rawa "he stayed"). "therefore when the sun arrived in the late morning, he stayed there just a little while."
ral-pinretinitkalu yayitxatšri, yatka (ral-pinretinitkalu "when he had finished treating him," yayitxatšri "the sick man," yatka "he went then"). "when he had finished treating the sick man, he went away."

220. The higher level constructions which form the matrix of external distribution of the clause are the sentence and discourse.

221. The sentence comprises an obligatory nucleus, an optional margin, and an intonation contour. The nucleus consists of a clause or a fragmentary or response utterance; that is, response to a linguistic or a nonlinguistic situation.

The sentence margin comprises items which are not clauses. They consist of the same items as the clause margin, and in many cases it is not possible to determine whether a particular item is in immediate constituency with the first clause of a complex sentence or with the entire sentence; however, there are cases in which it is necessary to distinguish between those items which belong to the clause and those which pertain to the sentence as a whole. The connective in the following sentence does not necessarily pertain to the sentence as a whole:

ha wa ralitxin-potu-nanuko hima, hitškolu
xex-hima rušpakya. "and when he had fully reached puberty, it is said, he turned out to be a strong man."

In this sentence, that the connective ha wa "and, but," does not necessarily belong to the sentence as a whole is evidenced by the fact that in reversing the order of the clauses the ha wa may remain with the dependent clause. The sentence would then read:

hitškolu xex-hima rušpakya, ha wa ralitxin-potu-nanuko hima.

The connective ha wa would not be translatable into English in this situation. If, however, we change from the connective ha wa of weak meaning to the connective hiyahni which means "then" or "therefore," placing the connective at the beginning of the complex sentence, this connective would remain sentence-initial even though the order of the two clauses were changed. The connective would then be interpreted as belonging to the sentence, not to the clause.

The boundaries of the sentence are in part indeterminate; in other words, some sentence boundaries are not formally determined, as will be seen from the description in Section 221.5. Nevertheless, though indeterminacies exist, the intonation contours clearly identify the sen-
tence as a unit which contrasts with the clause.

As far as possible, sentence boundaries are established by the rhythm-group intonation contours described in Section 118.

The most frequent intonation contour is that of Closure (See Chart 1, Section 118) with penultima 2, ultima 1↓:

\[ \text{maleš-himatkalu wa ksátû}. \] "there was no more beach, it is said."

This contour is referred to as basic sentence intonation or basic sentence contour. The basic sentence contour is the only one which involves no ambiguity in the marking of the final boundary of the sentence. Among the other classes of contour, and between the final contours and the non-final modifications due to emphasis and exclamation, homophonous sets are so numerous that the intonation does not provide an absolute criterion for sentence boundaries.

When an absolute criterion for sentence boundaries is not provided by intonation, correspondence to predominate sentence types and preferred order of constructions in the clause are considered. When neither of these criteria is decisive the boundary is determined on the basis of logical coherence of the sentence elements.
Contrasting sentence types with their intonation patterns are described in detail and illustrated below. Pitch is indicated by numbers in this section as in Section 110. In subsequent sections intonation and sentence boundaries will be marked only by conventional punctuation symbols.

221.1. Fragmentary and response sentences include all sentences which do not contain clauses. The subclasses of the fragmentary and response sentences are described in the following paragraphs. Intonemes listed as optional may be replaced by the basic sentence intonemes. Optional emphasis intonation, pitch 2 on the initial and/or second syllable, is ignored here as not pertinent to the determination of the subclasses. The Call and Exclamatory sentence fragments are marked by an exclamation mark; the Question, by a question mark; the rest, by a period.

Call. An exclamatory word or a noun phrase with the intonation +penultima 1, ultima 2, 3, 2↑, 3↑, or 2↑-3↑ with lengthening of the ultima and shift of stress from the penultima to the ultima:

toto↑! The citation form is Toto, a proper name.
mamałe↑! The citation form is mama "mama," to which the suffix -Le Endearment has been added.
šte h₁'m₂': (šte "little brother," hima "it is said"). "little brother, they are calling you!"

**Exclamation.** A noun phrase, adjective phrase, or interjection, with intonation which includes the same feature as that of the Call above; however, the exclamatory intonation is simultaneous with the emphatic word or morpheme, not necessarily the last word in the sentence:

katšikletš'! "it was so cold!"

klu — klu-kṣatētā'ỹː kamtši nanwak-h₁'m₂': "such beaches as there were in the demon's stomach!"

yë'. pāpā', pāpā': "oh, it's papa, it's papa!"

**Onomatopoetic utterances.** Onomatopoetic words with intonation which varies according to the sound imitated:

h² h² h² h². Sound of a monkey chattering.

h₁h₁h₁h₁. Sound of a rooster crowing.

h₂₁h₂x. (Low register.) Sound of body flying through the air.

h₂₁l₁l₁l₁. (Low register.) Sound of jaguars growling.

**Answers.** A particle phrase with intonation which in
monosyllables is an optional 1, and in polysyllables is an optional penultima 3 or 2, ultima 1, with or without a final down glide:

\[ \text{howa. } "\text{so that's how it is.}" \]

\[ \text{hwu kòtxà. } "\text{O.K.}" \]

\[ \text{hini\d. } "\text{yes.}" \]

Questions. A particle phrase or noun phrase with an optional penultima 2, ultima 2↑:

\[ \text{halikàkà } 2 2\text{↑}. "\text{really?}" \]

\[ \text{hò } 2\text{↑}. "\text{oh, I don't know. what might it be?}" \]

Imperative fragments. A particle or interjection with an optional 2-2:

\[ \text{hitšikàkà } 2 2. "\text{wait!}" \]

\[ \text{tekàlî. } "\text{come here!}" \]

Comment on non-linguistic situation. A noun phrase or an adjective phrase with the basic sentence contour:

\[ \text{ten-hima } 2\text{↓}. "\text{(he was) tall, it is said."} \]

\[ \text{tsru potû } 2\text{↓}. "\text{(he is) a big one."} \]

Afterthought following a completed sentence. A noun phrase with the basic sentence contour. In the following
Illustrations the completed sentence is enclosed in parentheses; the afterthought is not enclosed:

(ha wa kamtši kotxa yineru pitxka r*txld.)

klunerukökta. "(and the demon also became like a person.) Whatever person."

kamtši nanwak-hima rapokanätka. hitokō. "(he arrived in the demon's stomach.) inside."

Interrupted sentences. Any sequence of morphemes other than a complete clause, with a final 1-1 contour or a basic sentence contour, apparently depending upon whether or not the interruption is anticipated in time for normal closure:

ha wa. "and."

klu - waa - repúrd. "what - and -

his younger brother --." Discourse closure. A particle phrase or a noun phrase with the basic sentence contour:

seyokatkä. "it is finished."

wale-pxe. "that is all."

As indicated by the heading, this fragment occurs only at or near the end, or intended end, of a discourse.
221.2. Sentences whose nuclei consist of clauses are classified, on the basis of intonation contours and/or identifying morphemes, as declarative (S. Decl.), interrogative or question (S.Q.), exclamatory (S. Excl.), imperative (S. Impv.), and coaxing (S. Coax.). Either the identifying morpheme or the identifying intonation contour is obligatory to the determination of the sentence class. The occurrence of the identifying intonation contour is frequent enough to be characteristic of the class. Modifications of the basic sentence intonations which are pertinent to the determination of sentence classes, are limited to the penultimate and ultimate syllables of the clause, except in exclamatory sentences. Description of the intonation contours in this section, therefore, will be limited to those syllables. For details of the entire contours see Section 110.

The sentences of these classes may be simple or complex. We will first consider the simple sentence comprising one clause plus intonation.

**S. Decl.** The sentence comprises a clause with the basic sentence intonation. It is marked by a period.

pa kat-himni tsru-yak-hima tkotpukātkā. "just once she opened it wide."
rasukhimatatnaka↓↑. "he fled again."

S.Q. The sentence comprises a clause which optionally includes an interrogative noun (klu "what," katu "who," hiklu "when," etc.), the interrogative adverb (hinaka "where"), an interrogative particle (hi, hi he), or the interrogative suffix -he 102. The intonation is penultima 2, ultima 2 ~ 2↑, optionally if an interrogative morpheme has been included in the clause; otherwise, obligatorily. When the intonation is the basic sentence contour, the final down glide is frequently lacking. The interrogative sentence is marked by a question mark:

2↓↑ hina ka pyna? "where are you going?"

2↑ hina ka kanikamtya? "where did it go up the bank?"

hi he paluk-hetletaplu 2↑ 1↑? "don't you want to see my house?"

2↓↑ klunerhe paluka? hi he paluka yanta-mutškonkakleta? "what do you want? do you want to fight?"

2↑ 2↑ wale kotxa yānu? "is he also going?"

S. Excl. The clause optionally includes the exclamatory particle hi, or suffix -ta ± -y. 104. The intonation is penultima 1 and ultima 2, 2↑, 3, 3↑, or 2-3↑, the
higher pitch corresponding to the intensity of the exclamation. The exclamatory intonation is usually simultaneous with either the final syllable of a word to be emphasized or the two final syllables of the clause, rarely with a non-final morpheme. If an exclamatory morpheme is included in the clause, the exclamatory contour is optional; otherwise, it is obligatory. The occurrence of the exclamatory particle or suffix without the exclamatory intonation is rare; however, the occurrence of the exclamatory intonation without the exclamatory morpheme is common:

poprolo-tkombata^2.2^ rixhima^2.1^! "the pool was
very round!"

hi pso-man-himakta^2.1^! "how big it was!"

nyi-himnitka takini^1.2^! "these were gulls!"

wa. kayinrethimatanakta^1.2^! "he worked
magic against him!"

wa yineru xiknazro^1.2^! "the man crashed
into the foliage!"

S. Impv. The clause includes the morpheme -Vnu 61
with verbs or -pa 72 with other word classes. The intona-
tion is optionally the contour 2-2:

\[ \text{pni\-k\-\text{ap\-\text{an}u}. (High register) "go and eat."} \]

\[ \text{p\-\text{s\-n\-i-t\-\text{om\-u,t\-\text{a,t\-\text{u}}-p\-\text{n\-a,p\-\text{an}u). "come for just a moment."} \]

\[ \text{p\-\text{k\-u\-n\-o\-n\-\text{k\-a,t\-\text{k\-a,l\-\text{u}}. "throw it out."} \]

\[ \text{p\-\text{e\-t\-a\-n\-\text{a\-n\-j\-o\-n\-\text{a}}} \text{\-\text{a\-n\-j\-o\-n\-\text{a}}. "see my domesticated animals."} \]

\[ \text{p\-\text{n\-i\-k\-a\-n\-\text{u,t\-\text{k\-a,l\-\text{k\-a,l\-\text{u}}. "bring the spider monkey."} \]

\[ \text{p\-\text{o\-t\-\text{k\-\text{e\-p\-y\-i}}} \text{\-\text{a}}} \text{\-\text{a}}} \text{\-\text{a}} \text{\-\text{a}}. "keep still."} \]

\[ \text{t\-\text{e\-y\-a\-k\-\text{a\-p\-y\-\text{i}}} \text{\-\text{a}}} \text{\-\text{a}} \text{\-\text{a}}. "hurry up."} \]

\[ \text{h\-\text{i\-t\-\text{-k\-o\-t\-\text{\-x\-a\-h\-a\-p\-\text{a}}} \text{\-\text{a}}} \text{\-\text{a}}} \text{\-\text{a}} \text{\-\text{a}} \text{\-\text{a}}. "take me along too."} \]

S. Coax. The clause optionally includes a vowel change to -e- stem final or in a suffix, or -wa 92 or -t\-s\-i 101, all of which are polite forms indicating the personal interest of the speaker. The intonation is the contour 1 - 2 optionally if a coaxing morpheme is included in the clause; otherwise obligatorily:

\[ \text{p\-\text{u\-y\-o\-k\-a,t\-\text{k\-e\-w\-\text{a}}} \text{\-\text{a}}} \text{\-\text{a}}. "come on, wake up."} \]
"please let us see just a little bit."

"we'd like to look out again."

"eat."

Occasionally a sentence combines, within one clause, features of two of the foregoing classes. The interrogative is combined with the exclamatory:

"what did you see, brother-in-law?"

The coaxing sentence is combined with the exclamatory:

"eat now!"

As previously stated, the sentences which comprise these classes may be simple or complex.

There is no restriction on the occurrence of the clause classes or subclasses in any position in any sentence class. The only syntactical distributional limitation is that the purpose morpheme does not occur in the same clause with a morpheme which marks a sentence as imperative or coaxing. A few morphological restrictions are involved; for instance, the passive and reflexive suffixes are mutually exclusive with one another and with inflectional suffix \(-V \rightarrow i + -ni\) 62 Conditional, and are added only to a transitive verb theme.
221.3. The simple sentence consists of one clause, plus one intonation contour such as those in the illustrations above.

In direct quotations, the clause which introduces the quotation regularly has the intonation of sentence closure. It is therefore regarded as a simple sentence, complete in itself, although punctuated in the conventional way here for the reader's convenience:

\[\text{kšoter-hima wane tśi}^{2}{}_{1}^{\downarrow}, \ "\text{hita tey}^{2}{}_{1}^{\downarrow}.\]

\[\text{pkašinšimtan-ō txāko}^{2}{}_{1}^{\downarrow}.\] "the deer said, 'I am very swift. Grab my tail. Be sure.'"

"walaniko tuylakan^{2}{}_{1}^{\downarrow}," tśinhti^{2}{}_{1}. "'she was hitting that very one,' he said."

221.4. The coordinate sentence consists of two or more clauses, one of which includes the suffix -Vpa 72 Purpose. The sentence has only one intonation contour, the basic sentence contour. In this case the entire sentence, not the clause corresponds to the rhythm group. The clause boundary is here marked by the punctuation. There are four types of purpose clauses:

Cl. I, positive. nekakhitapanyi, palitxinipa^{2}{}_{1}^{\downarrow}.

"I'll go and show you, so that you will believe."
Cl. I, privative. petšitšimatlon, tma masuki-nípa\textsuperscript{2} \textsuperscript{1}. "they laid wait for it so that it would not escape."

Cl. II, positive. nuna nunkaky\textsuperscript{2}pyl\textsuperscript{1}. "I have come in order to tell you."

Cl. II, privative. wale hixretlu hike ma muma-tyanúplu\textsuperscript{2} \textsuperscript{1}. "he restricted it in order that no one should know it."

221.5. The complex sentence consists of two or more clauses plus a corresponding number of intonation contours, or of one or more clauses and one or more sentence fragments plus a corresponding number of intonation contours. At least one of the clauses is obligatorily an independent clause. The others are independent clauses, dependent clauses, or sentence fragments. A special intonation is obligatory: the prefinal clauses have a 2\textsuperscript{-2} contour, and the sentence-final clause has one of the sentence contours listed in the foregoing section. The 2\textsuperscript{-2} intonation contour marks the non-final clause of a complex sentence, not necessarily the dependent clause; a dependent clause may precede or follow an independent clause in a complex sentence. The following are illustrations of complex sentences including the dependent clauses of Classes a, b, c, and d
of Section 211.3:

a. wa pkamakatin²p句子, pxipowatanru wa n²x₁⁺. "if you kill me, extract the heart from my body."

b. ha wa wane ma mitxkanatkanhetko-him²mkk², wa ruṣatkapetkohimatanunmkk¹l₁. "if he doesn't do thus, maybe he will grab it."

c. ha wa ruhitkoklun-him² manewhim²l₁. "and if he is answered, he metamorphoses himself."

d. klu-hiwak-himakt²ni, wale-pot-himako tko-stšekanganumty²kl₁. "whatever the name is, that's exactly what she pronounces."

Exceptions to the intonation contour marking complex sentences are rare. In the following sentence in which a dependent clause, marked by inclusion of the morpheme -ini, occurs in the modification construction, the first clause has the contour 2 - 1 without the final down glide:

wane txak-hitx²nw¹ kaxpomylutu hetin²p₁⁺. "be sure you do that if you meet Hand-whistler!"

In this example, the lack of the 2 - 2 contour, typical of
a complex sentence, is the more noticeable since the first clause is imperative, and the predominating imperative intonation contour is also 2 - 2. The reason in this case is probably the elision of -u before the article wa in hitxanwa (hitxanu wa). The article wa forms a phonological unit with the following, not the preceding, word except after an elided vowel. In this case, wa is grammatically the initial word in the second clause, although phonologically it is the final syllable of the first clause.

A very few instances have been found of basic sentence closure contour 2 - 1↓ with the first clause of a complex sentence which includes one of the morphemes typical of the dependent clause:

hiya·-himni sat-maklutinitnākə1↓, satu makluxitkə1↓. "then if someone else reached puberty, another had become a young man."

ruşlunotinitkə1↓, yinuwakxe hi-retlunə1↓, ha wa ralitxin-potu-nanukə1↓. "when their voices changed they began to drink it, and until they had fully reached puberty."

In the second of these two examples, two dependent clauses and one independent clause constitute a sentence. The first
clause is marked with the 2 - 2 intonation (ruslunotinitkăn̂û;)
the second clause (yinuwakxe hi·retltîn̂û), which is the indepen
dent clause, has basic sentence closure contour, though
followed by another dependent clause including the morpheme
ıni.
Frequently an independent clause preceding another indepen
dent clause of close semantic relationship is found
with the intonation contour of a dependent clause. The
clauses so related are considered to constitute a complex
sentence:
supruhima hitak̂îka, wa nik̂itxhimatatk̂än̂û.
"when the river turtle had laid its eggs,
they were commanded to eat."
sat-hima tsru hnuñro wa rapokletanwa makiux̂î,
ruylahimatkàn̂û. "if a young man committed
adultery with some older man's wife, he was
killed."
hi wane rîtxa, rushimatkan̂a raxtxihi. "if this
was not done, herb magic was worked against
him behind his back."
wane hima ruyakatŷktka, wa rawa-hnuñrohimatana-
tkal₂₃₁. "he came from there, and they went
and got his wife."

ha wa khirakleru₂₂, kapkakleru₂₁\. "and if one was
an habitual herb drinker, he was an able
hunter."

In the foregoing examples, the correlation of the intonational and semantic relationship between the clauses of each sentence is much the same as that of the complex sentence with a dependent clause identifying the sentence as complex. Nevertheless, the positing of such clauses as belonging to complex sentences, leads to serious problems of segmentation of sentences. Homophonous with the contour which marks the prefinal clause of a complex sentence, are intonation contours marking series or anticipation. Furthermore, the imperative sentence optionally has a 2 - 2 contour. It is primarily the problem due to these homophonous intonation contours that is referred to previously as resulting in indeterminacy of sentence boundaries.

A sequence of clauses which presents problems of segmentation into sentences is now presented, with the pertinent pitches and with pauses, although pauses occur clause-final as well as sentence-final.

(1) wa wuhewatin₂₂ (2) rutxitx₂₁ (3) ptowru-
When a child is born to them (2) they observe taboo (3) all kinds of things are said to be taboo (4) when the ancestors had children (5) they did not move about (6) they lay down (7) they took no strenuous walks (8) they did not look at various types of things (9) and they looked at various types of things (10) the child was injured by their not observing taboo (11) it cried.

In the above sequence of clauses, one problem is to determine whether or not the 2-2 of clauses (5), (7), (8) marks a complex sentence, or whether it marks a series, or anticipation. If it represents a series, then the break made in the series by clause (6) would lead us to assume that clauses (5) and (6) are more closely related than are the other clauses of the sequence of contour 2-2.

Clause (3), having the 2-1 contour without the down glide, is interpreted as belonging to a simple sentence, on the basis of frequency of structural sequence, and logical coherence. Complex sentences of three clauses, such as (3), (4), and (5) would constitute, are much less frequent than sentences of two clauses. The logical coherence between (4)
and (5) is greater than that between (3) and (4). The placement of pause, so far as it is significant, favors this interpretation. Clause (4) is dependent and with (5) forms a complex sentence, as evidenced by the penultima 2, ultima 2 contour on the clause including the morpheme -ini. The 2 - 1 of clause (3) is thus interpreted as 2 - 1 with overriding non-grammatical contour 2 - 1.

In clause (9) the 1 - 1 contour is interpreted as suspense intonation overriding the 2 - 2 which is, in this instance, assumed because of the presence of -kta, to mark the non-final clause of a complex sentence.

A distinction is made between the 2 - 2 contour of clause (8) which includes the morpheme -kta, and the obscured 2 - 2 contour assumed for clause (9) on the basis of a logical coherence only. "They did not see various things, but they saw various things," is not logically coherent, although the structure itself would be acceptable. One might say, "hi wa klunerukokta retna, ha wa klunerukokta xemna." "They did not look at various things, but they listened to various things."

The 2 - 2 contour of clause (9) having been determined as marking a series rather than a complex sentence, the other clauses with the 2 - 2 contour are similarly treated.
The status of the clauses (10) and (11), as a complex sentence or two simple sentences, also, cannot be determined formally. The 2 - 1 contour of clause (10) may indicate such a close relationship between clauses as is marked by semi-colon or colon in English, or it may indicate non-grammatical indefiniteness, incompleteness, or indecision. The choice of interpretation as a complex sentence here is arbitrary.

Thus the sentences are established by formal and semantic criteria as shown by the punctuation:

(1) wa wuhenewatini, (2) rutxitxna. (3) ptowrunanuka kyowrut-hima. (4) wa wuhenewatinin:i
    tsrumi, (5) hi wa yotalxetna. (6) rukluhna.
    (7) hi hitško yanrena. (8) hi wa klunerukokta
    retna. (9) ha wa klunerukokta retna, (10) yowrewata mturu; (11) tšiyahata.

(1) When a child was born to them, (2) they observed taboo. (3) It is said that all sorts
    of things were taboo. (4) When the ancestors had a baby, (5) they did not move about. (6)
    They lay down. (7) They did not exert themselves by walking. (8) They did not look at
    various kinds of things. (9) And when they did look at various kinds of things, (10) the child
was injured by the failure to observe taboo; (11) it cried.

No formal segmentation between the sentence and discourse occurs in Piro. There is a sporadic grouping of a sequence of sentences with series intonation, or a sequence of sentences with suspense intonation, but no formal grammatical or intonational marking and no recogniz­able paragraph structure. The paragraph which will be found in written Piro merely divides the discourse semanti­cally or arbitrarily for the convenience of the reader.

222. The discourse, the highest level of Piro syntax considered in this paper, comprises an obligatory body plus an optional opening and an optional closure. The discourse boundaries are marked by long pause occasioned by isolation, change of speakers, or a non-linguistic situation. There are a variety of conventional opening and closing phrases and clauses, which are illustrated below. These conventional phrases and clauses often involve the use of the verb hitxa "to be, do, act." Variations and combinations of the phrases and clauses shown in the illustra­tions, and the additions of specific details are common.

Typical opening expressions are the following:

wane ritxna pimrine. "this is what some did."
pa pirana nunkakletanu. "I will tell you about something else."
wane ritxa. "thus it was."

wane ritxa-piranatanwa ... "that's the way it was with ..."

mutšikawa hima ... "long ago, it is said ..."

Typical closure expressions are the following:

seyokatka. "it is finished now."

waneko rušin-piranata. "right there the discussion of it ends."

waneko yoptuka-piranatatka wa wale. "right there that comes to an end."

wane hima ritxna. "that's the way they were."

wale-pxe nunkakyi. "I am telling you only that."

wale-pxe. "that is all."

230. The phrase is the syntactic construction which is commonly distributed in the clause. A phrase comprises an obligatory head consisting of a word or series of words of one word class, plus a margin consisting of the words and phrases listed in Sections 231 to 238 below. The phrase contrasts with the clause in not including a predicate.

Major classes of phrases are designated by the word class which is the head of the phrase: noun phrase, verb phrase, adjective phrase, adverb phrase, hesitation phrase, connective phrase, particle phrase, and exclamatory phrase.
The verb phrase occurs as the predicate of Cl. I and Cl. II. It comprises an obligatory head which is a verb, and a margin in which two optional items occur. The first is a modifier consisting of the article wa or the preclitic ma Privative. The second is an auxiliary or a verb serving as an auxiliary.

The formula of the verb phrase is as follows:
+modification +auxiliary +head. The formula is illustrated by the following examples:

himatheta (himata "to know," heta "to see").
"to discern."

wa haluka kawleta (wa article, haluka "to want," kawleta "to bathe").
"to want to bathe."

hali yixnakleta (hali "to be through," yixnakleta "to listen").
"to be through listening."

ma mal-yixnakletinitipa (ma Privative, m- Privative, hali "to be through," yixnakletinitipa "listening").
"to not be through listening."

ya ... hwapanu (ya "to go," hwapanu "bring").
"to go and bring."

A verb phrase is intransitive or transitive in correspondence with the class of the verb occurring in the head of the phrase, unless an auxiliary occurs in the phrase. When an auxiliary occurs, the phrase is transitive.
if the stem of the verb occurring in the head is transitive, or if it is preceded by a transitive auxiliary:

hama yonhaleta intr. (hama intr. aux. "to tire," yonhaleta intr. "to paint"). "to tire of painting."

hama hetleta tr. (hama intr. aux. "to tire," hetleta tr. "to see"). "to tire of seeing."

yopnuha yaleta tr. (yopnuha tr. "to ward off," yaleta intr. "to go"). "to prevent (some one) from going."

The verb haluka "to want" functions as an intransitive auxiliary, although it is transitive as an independent verb:

haluka yaleta intr. (haluka intr. "to want," yaleta intr. "to go"). "to want to go."

232. The noun phrase, as stated in Sections 212 and 213, occurs as the S, O, P, SAP, SComp, O2, OAP, OComp, PAP, Mod, Ac, and Ag constructions of the clause. The selection of noun phrases which may occur as a particular one of these constructions is semantically and collocationally, but not grammatically, limited. External distribution does not, therefore, determine subclasses of the noun phrase. Rather, the phrases contrast in the lists of nouns which occur in the phrase head, and also in
the obligatory items which occur in the phrase margin.

In Phrase a the obligatory head is a noun of Class a, and in the margin a genitive is obligatory. The formula is +genitive +head. The genitive may be either a noun phrase preceding the head, or a pronominal prefix to the head word:

mturu hanuru (mturu "the child," hanuru "...'s brother-in-law"). "the child's brother-in-law."

ranuru (r- 03 "his," hanuru "...'s brother-in-law"). "his brother-in-law."

wale nama (wale "his," nama "mouth"). "his mouth."

hinama (hi- 03 "his," nama "mouth"). "his mouth."

In Phrase b only the head is obligatory. It comprises a noun or series of nouns of Class b:

kšiyoxxru "alligator."

In Phrase c the obligatory head is a noun of Class c, which is a verbal noun. In the margin occur optional constructions parallel to the constructions which would occur with the verb as a finite verb serving as the predicate of Cl. I or Cl. II. This is similar to the phrases "lawn mower" and "algebra teacher" in English, except that in Piro the normal clause order is preserved in the phrase. Sub-
ject, object, and modification constructions have been found in Phrase c:

sotlu hwiyawaka (sotlu "stone" S, hwiyawaka "place where is"). "a place of stones."

ptowru kamalexit-hima himretatšri (ptowru kamalexit-hima "all kinds of the magic herb" O, himretatšri "one who keeps"). "one who keeps all kinds of the magic herb."

peslu hetmenu (peslu "dolphin" O, hetmenu "that which causes to see"). "that which causes one to see dolphins."

mtur-himni kniklewakler-himni (mtur-himni "poor child, it is said" O, kniklewakler-himni "detrimental eater, it is said"). "the one who eats children."

kokha hwatšin-i (kokha "Purus River" Mod, hwatšin-i "those who live"). "those who reside on the Purus River."

For a description of the noun classes mentioned above, see Section 242.

Semantic and collocational restrictions on the occurrence of noun phrases in the clause were mentioned above, and are here described briefly.

The predicate appositive is infrequent, and has been
found only consisting of noun phrases referring to concrete objects:

kostše*•kašretahimamta kašre (kostše•kašre-
tahimamta "he picked up his arrows while moving," kašre "his arrow" PAp). "he seized his arrows as he went."

The vocative construction, with few exceptions, is limited to those phrases whose head comprises a vocative noun, proper noun, or adjective noun.

Vocative noun: totu•hinaka pyanu? "grandfather, where are you going?"
kloner-petapa, šte hiru? "what did you go to see, little one's father?"

Proper noun: ylitša puyokatkewa. "Ylicha, wake up."

Adjective noun: maxnakotu (sometimes shortened to maxna in scolding) punanutši. "you deaf one, come here."

Exception: tseklu sahi’xi pnikapanu. "Part-ridge, eat the little fruit."

The numeral and genitive have not been found in the vocative position in the margin of a phrase.

The accompanitive and agent constructions have not been found with phrases of which the heads are nouns with
abstract or inanimate referents.

A phrase whose head is a series of nouns has not been found as the predicate of Cl. III.

The optional elements of the noun phrase are shown in their preferred order in the following formula:

+potentiality  +negative  +article  +demonstrative  +(+numeral  +(-genitive)/prepositive  +head  +postpositive  +modification. More than one modification construction may occur. The order of the prepositive immediately preceding the head in the formula, and of the postpositive immediately following the head, is fixed.

A phrase to illustrate each of the elements of the phrase margin is given below:

+potentiality: halukta wale "maybe he."
+negative: hi kašriko "not an arrow."
+article: wa tsrun-i "the ancestors."
+demonstrative: tye kamtši "this demon."
+numeral: sato kanawa "one canoe"; wane pexnu "that many."
+genitive: wan-ako hnuru "their own husbands."
+prepositive: pa prika "another morning."
+postpositive: malemyol-hima "the one-handed one, it is said."
+modification: tsru hipowha-spu "the edge of the lake, the big one."
Following is a noun phrase whose head is a series of nouns:

kšoterni, mritxni, pexrini "deer, peccary, agouti."

In the following noun phrase, the head is a series of phrases:

hi ritxyawak-himakokta, halukta wa niktši retyawakhimako, wa mtšira retyawakako
"whatever he was doing, it is said, maybe (at) his seeing an animal, maybe (at)
his seeing a spider monkey."

Any construction in the margin, other than the article, prepositive, or postpositive, may be a phrase rather than a single word. In demonstrative and numeral phrases the margin of the included phrase consists only of the article wa, and/or a postpositive or postpositives:

wa nyi hima hepi xexine "these, it is said, two men." (The included phrase is wa article, nyi "these," hima "it is said.")

In a phrase included within the genitive or modification construction, the entire formula of phrase-margin constructions may optionally occur. In the following illustration, a phrase serving as a genitive is enclosed in parentheses:
wa tye hima (wa sato kwamonur-potu sutxo)

whene "this one it is said (a certain
very poor woman's) child."

In the included phrase occur the article wa "a," the
numeral sato "one," the modification construction kwamo-
monur-potu "very poor one," and the head of the genitive
phrase sutxo "woman"). The modification construction
within the genitive phrase comprises a phrase consisting of
a noun kwamonuro "poor one," plus the postpositive potu
"very."

Clauses are occasionally found as elements of noun
phrases. In the following sentence a clause is in appo-
sition to two nouns within the noun phrase which is the ob-
ject of a clause:

sutxo hir-himakta ralukxeta wale, wala hima
tkohetkoha (sutxo "a woman," hir-himakta
"whomever," ralukxeta "he loved," wale "he,"
wala "she," hima "it is said," tkohetkoha "she
transformed herself into the likeness of").
"she transformed herself into the likeness
of whatever woman he loved."

The included clause is hir-himakta ralukxeta wale "whom-
ever he loved."

In the following sentence a clause is in apposition
to the possessor in a noun phrase which serves as the ob-
ject of a clause:

kin-šikale, mtšir-šikale, kšoter-šikale ...
kluner-himakta ran-atna, wale šikal-hima
wa yahotna (kin-šikale "the song of the
howler monkey," mtšir-šikale "the song of
the spider monkey," kšoter-šikale "the song
of the deer," ... kluner-himakta "whatever,
it is said," ran-atna "they had an appetite
for," wale "that," šikal-hima "that song, it
is said," wa Connective, yahotna "they
attempted"). "they tried the songs of the
howler monkey, the spider monkey, the deer ...
whatever they had an appetite for."

There are a few restrictions on the occurrence of the
constructions in the margin of the noun phrase. The pre-
positive occurs only in Phrase a, or in Phrase c when the
head is a noun c(l) which includes -LU 15 Infinitive or
-nu Abstract. In Phrase b the demonstrative does not occur
in a phrase in which the head is a pronoun, and only the
postpositive and modification constructions occur in the mar-
gin when the head of the phrase is an interrogative noun.

When the predicate of a Cl. III is a noun followed by
a postpositive, the suffixal object may optionally be af-
fixed to the noun or to the postpositive:
hepi when-himlu, sutxo, or hepi whenru hima, sutxo (hepi "two," whene n. "child," hima postpos. "it is said," -LU 03 suffixal object "him," sutxo "female"). "he had two daughters, it is said."

In the first example, with the object affixed to the postpositive, the sequence whenhimmu has one primary word stress as if it were a compound. In less rapid speech it varies to whene himlu, with two primary word stresses and a pause between the noun and postpositive. The sequence is therefore considered to comprise two phonological words by definition. See Section 120. It is accordingly treated here as a phrase.

233. The adjective phrase occurs as the SComp, OComp, and Mod constructions of all classes of clauses as well as the predicate of Cl. III. The obligatory head is an adjective; the optional items which occur in the margin are the negative hi, the article wa, the prepositive pa "one, another," and a postpositive or postpositives:

hì pa serota. "not just slightly red."

hì wa ten-kotxa "not high also."

234. The adverb phrase occurs as the Mod construction of all classes of clauses, as well as the predicate of Cl. III. The obligatory head of the phrase is an adverb; the
optional items which occur in the margin are the negative hi, the article wa, and a postpositive or postpositives:

hi wa hewi pot-himako (hi negative, wa article, hewi Head of phrase "here," potu postpos. Intensifier, himako postpos. "it is said").

"not right here, it is said."

235. The hesitation phrase occurs in the clause margin. The obligatory head is a hesitation word. Optionally the article wa, and a postpositive or postpositives occur in the margin of the phrase, but only when the head includes some form of the pronoun klu "what":

wa kloxta hetko (wa article, kloxta head < klu "what do you call it?" hetko postpos.

"maybe"). "the what do you call it maybe."

236. The particle phrase occurs in the Ptn, M, and Mod constructions within the clause. It comprises an obligatory head which is a particle, plus an optional margin in which a postpositive or postpositives occur:

hik-hetko (hike particle "not," hetko postpos.

"maybe"). "maybe not."

Only the particles hi Negative, Exclamatory, Interrogative, hihi "yes," hike "no," hiphuta "apparently," hwu "O.K.," patako "perhaps," seyoka "it is finished," tekali "come," and txako "be careful" occur with postpositives, and then only with the postpositives hetko "maybe," hima "it is said," and kotxa "also."
237. The connective phrase occurs within the clause. It comprises an obligatory head, which is a connective, plus an optional margin containing a postpositive:

mak-hima (maka "but," hima "it is said").
"but it is said."

238. The exclamatory phrase comprises an exclamatory word or series of repetitions of an exclamatory word:

hayale. "ouch!"
he he he "look!" "watch out!"

240 - 250. A word is a unit which is distributed in phrases. It is composed of a theme, and one or more of the inflectional affixes numbered 00, 60, 70, 80, 90, and 100. The inflectional affixes are not obligatory on the morphological level; i.e., they are not obligatory to the internal composition of any word class, although some are obligatory to the external distribution of certain subclasses.

The morphological word coincides with the phonological word described in Section 120.

Word classes contrast in external distribution and in composition. They are verb (vb), noun (n), adjective (adj.), adverb (adv.), particle (particle), connective (cn.), prepositive (prepos.), postpositive (postpos.), exclamatory word (exclam.), onomatopoetic word (onomat.), and one article.
241. The verb is identified in external distribution by its occurrence as the head of the verb phrase which occurs in the predicate of Cl. I and Cl. II, and in composition by the optional inclusion of the postpositive in the stem preceding the affixes of Causation Class 20.

The major classes of verbs are the intransitive (int.) and transitive (tr.) classes, which contrast externally in their distribution in phrases which serve as the predicate of the intransitive clause Cl. I, and the predicate of the transitive clause Cl. II. They also contrast internally in both derivation and inflection.

241.1. The inflected verb of the intransitive class will be described first, beginning with an examination of Chart 7.

The decade number on the chart designates a position class of affixes. The decade with the digit designates a particular affix, and at the same time indicates the order or preferred order of the affixes.

The horizontal lines on the chart mark distribution classes: those which are obligatory to sentence classes⁹, those which are obligatory to clause classes, and those which are optional.

The plus signs marking obligatory classes in this chart refer to obligatory occurrence in the sentence and clause
**Chart 7. Intransitive Verb Inflection**

<table>
<thead>
<tr>
<th>Subject +/-S-00</th>
<th>+Theme</th>
<th>Conditional +/-60</th>
<th>Aspect +/-70</th>
<th>Time +/-80</th>
<th>Interest +/-90</th>
<th>Attitude +/-100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Obligatory to sentence classes</strong></td>
<td>Intransitive</td>
<td>61 -Vnu</td>
<td>72 -Vpa</td>
<td>91 -V &gt; e</td>
<td>92 -Vwa</td>
<td>101 -Vtš1 102 -he 103 -VLI 104 -y.</td>
</tr>
<tr>
<td>01</td>
<td>02</td>
<td>03</td>
<td>04</td>
<td>05</td>
<td>06</td>
<td>07</td>
</tr>
<tr>
<td><strong>Obligatory to clause classes</strong></td>
<td>Intransitive</td>
<td>61 -Vnu</td>
<td>62 -V &gt; i + -ni</td>
<td></td>
<td></td>
<td>92 -Vwa</td>
</tr>
<tr>
<td>01</td>
<td>02</td>
<td>03</td>
<td>04</td>
<td>05</td>
<td>06</td>
<td>07</td>
</tr>
<tr>
<td><strong>Optional</strong></td>
<td></td>
<td>61 -Vnu</td>
<td>71 -Vna 73 -ni 74 -Vko 75 -Vka 76 -Vmka ~ -maka 77 -Vkta</td>
<td>81 -Vtka 82 -Vtnaka 83 -Vwa</td>
<td>81 -Vtka 82 -Vtnaka 83 -Vwa</td>
<td></td>
</tr>
</tbody>
</table>


classes labeled in the column at the left. Conditions of occurrence of Position Classes 60, 70, 90, and 100 with sentence classes are given in Sections 221.4 and 221.5. Conditions of occurrence of Position Class 00 with clause classes are given in Section 211; of Position Class 60 with clause classes, in Section 211.3. Position Class 90, suffix -Vwa 92 is obligatory with a theme which includes the derivative Reflexive suffix -na 53 whose obligatory occurrence in a clause class is described in Section 211.1. Notice that the suffix -Vnu 61 may occur in all three of the distribution classes.

In order to avoid duplication of materials that are the same for both the intransitive and transitive classes of verbs, definitions and details of the particular affixes are reserved to be given following the discussion of Chart 8, Transitive Verb Inflection, below.

Chart 8 summarizes the analysis of the inflection of the transitive class of verbs. It is identical with Chart 7, except for the obligatory occurrence of a transitive theme, and of the object 0-00, subject to conditions described in Section 211.

The affixes of the subject class S-00 and of the object class 0-00 are shown in Section 241.6, Chart 11, Pronominal Person Affixes.
### Chart 8: Transitive Verb Inflection

<table>
<thead>
<tr>
<th>Subject +/-S-00</th>
<th>+Theme</th>
<th>Condition +/-60</th>
<th>Aspect +/-+70</th>
<th>Time +80</th>
<th>Interest +/-+90</th>
<th>Object +/-+0-00</th>
<th>Attitude +/-+100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Obligatory to sentence classes</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Transitive</td>
<td></td>
<td>61 -Vnu</td>
<td>72 -Vpa</td>
<td>91 -V&gt; e</td>
<td>92 -Vwa</td>
<td>101 -Vtši</td>
<td>102 -he</td>
</tr>
<tr>
<td>Obligatory to clause classes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 02 03 04 05 06 07</td>
<td></td>
<td>Transitive</td>
<td>61 -Vnu</td>
<td>62 -V&gt; i + -ni</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>61 -Vnu</td>
<td>71 -Vna</td>
<td>72 -Vpa</td>
<td>81 -Vtka</td>
<td>73 -ni</td>
<td>82 -Vtnaka</td>
<td>74 -Vko</td>
<td>83 -Vwa</td>
</tr>
</tbody>
</table>
The suffixes of Conditional Class 60 are -Vnu 61 Anticipatory, Imperative, and -V > i + -ni 62 Conditional:

pšikalwatanu (p- S-02 "you," šikalwata intr. "to sing," -Vnu 61) "sing!"
petašatanru (p- S-02 "you," hetašata tr. "to let alone," -Vnu 61, -LU 0-03 "him"). "let him alone."
šimšitanu (q- S-03 "he," šimšita intr. "to whistle," -Vnu 61). "he is going to whistle."
ratšpotanro (r- S-03 "he," hatšpota tr. "to suck," -Vnu 61, -Lo 0-04 "her"). "he is going to suck on her."
wumyekini (w- S-05 "we," himyeka intr. "to be startled," -V > i + -ni 62). "when we are startled."
tepukinri (t- S-04 "she," hepuka tr. "to summon," -V > i + -ni 62, -LU 0-03 "him"). "if she summons him."

These affixes are mutually exclusive, and do not occur with a theme which includes derivative affixes of Class 50.

The suffixes of optional Class 70 are the following:

71 -Vna ~ -na following 61 and preceding 81. Intensifier of action or effort, detrimental effect
72 -Vpa~ -pa preceding 80. Purpose, change of state
73 -ni "solemn, unfortunate, dead, no longer in
existence, past"
74 -Vko Emphatic
75 -Vka Affirmative
76 -Vmka~ -maka following consonant cluster.
   Subjunctive, Optative, Frustrative
77 -Vkta Generalizer

The affixes of Class 70 may occur successively. The
order is most frequently that indicated by the digits, but
there are optional variations. The suffix -Vka 75 Affirma­
tive is listed with Class 70 because of its partial analogy
to -Vko 74, and because its position in this class marks the
first potential order of its occurrence. Its distribution
varies freely, so that it has been found preceding and fol­
lowing the morphemes of Classes 70, 80, 90, 0-00, and 100.
The occurrence of both -Vko 74 Emphatic and -Vka 75 Affirm­
ative with verbs is rare.

The affixes of Class 70 are illustrated by the follow­
ing examples:

rupnana (r- S-03 "he," hipna intr. "to die,"
   -Vna 71). "he died."
wuylakanru (w- S-05 "we," hiylaka tr. "to hit,"
   -Vna 71, -LU 0-03 "him"). "we hit him."
rapnutyapno (r-S-03 "he," hapnutya tr. "to repay to," -Vpa 72, -no 0-01 "me"). "in order that he repay me."
"just when you go hunting."
papkapi̊niklu (p-S-02 "you," hapkapa "to catch,"
-V > i + -ni 62 Conditional, -Vko 74, -LU 0-03 "him"). "just when you catch him."
nyatkaka (n-S-01 "I," ya intr. "to go," -Vtka 81 "now," -Vka 75). "I'm going now."
pawatmaka (p-S-02 "you," pawata intr. "to make a fire," -maka 76). "I would have made a fire."
npinitmaklu (n-S-01 "I," pinita tr. "to give medicine to," -maka 76, -LU 0-03 "him"). "I would have given medicine to him."
kawakta (Ø-S-03 "he," kawa intr. "to bathe,"
-Vkta 77). "he somehow, somewhere bathed."
tkataktålu (t-S-04 "she," kata tr. "to bathe,"
-Vkta 77, -LU 0-03 "him"). "she somehow, somewhere bathed someone."

The suffixes of Time Class 80 are the following:
81 -Vtka "now, then, next in succession"
82 -Vtnaka "again"
83 -Vwa "yet"
The affixes of Class 80 are mutually exclusive:
rasukatka (r- S-03 "he," hasuka intr. "to flee,"
-Vtka 81). "he has already fled."
kaspukatkalu (Ø- S-03 "he," kaspuka tr., -Vtka
81, -LU 0-03 "him"). "then he released him." tutxownatnaka (t- S-04 "she," hitxowna intr. "to
come fat," -Vtnaka 82). "she became fat again."
tniklokatnaklu (t- S-04 "she," nikloka tr. "to
swallow," -Vtnaka 82, -LU 0-03 "him"). "she
swallowed him again."
ralhawa (r- S-03 "it," halha intr. "to burn,"
-Vwa 83). "it is still burning."
ušinikawalu (n- S-01 "I," hišinka tr. "to
think about," -Vwa 83, -LU 0-03 "it"). "I'm
still thinking about it."

Suffixes of both Interest Class 90 and Attitude Class
100 are obligatory to sentence classes. They may occur suc-
cessively in the order of their listing. The two Classes
of suffixes are separated because of the occurrence of the
object affixes 0-00 between them with transitive verbs.
Each class is listed below, followed by examples:

90 Interest
91 -V > e Interest on the part of the speaker
92 -Vwa ~ -wa with Anticipatory Reflexive
Concern of speaker, Reflexive
hayatkewa (ha- S-05 "we," ya intr. "to go," -Vtka 91 "now," -V e 91, -Vwa 92 "let's go now."

twotxeru or twotxewalu (w- S-05 "we," heta tr. "to see," kotxa postpositive "also," -V e 91, -Vwa 92, -LU 0-03 "it"). "let's have a look at it."

100 Attitude
101 -Vtši Polite form, Participial
102 -he Question
103 -VLi~VLe following -he, and optionally following -e elsewhere. Endearment.

104 -Vy· Exclamatory

nyanutši (n- S-01 "I," ya intr. "to go," -Vnu 61
Anticipatory, -Vtši 101). "I'm going now."

penekan·otši (p- S-02 "you," heneka tr. "to give," -Vnu 61 Anticipatory, -no 0-01 "me," -Vtši 101).
"give it to me please."
papokhe (p- S-02 "you," hapoka intr. "to arrive," -he 102)? "you have arrived?"
puknokluhe (p- S-02 "you," hiknoka tr. "to abandon," -LU S-03 "him," -he 102)? "did you abandon him?"

wsalewnanatanatkali (w- S-05 "we," salewnanata intr.
"to have been suffering," -Vna 71 Detrimental, -Vtka 81 "now," -VLi 103). "we have been suffer-
ing now."


rawhipukhohnenatatkay* (r- S-03 "he," hwahipukhohnenata intr. "to take one's death temporarily for a long time," -Vtka 81 "then," -Vy* 104). "he was unconscious for a very long time."

The suffix -Vy* Exclamatory is limited almost entirely to the speech of a few old men; it is not frequent. It has not been noted with the transitive verbs, but should be expected.

241.2. Both the intransitive and the transitive verb themes are shown in Chart 9. In the vertical columns are listed the classes of stems and the position classes of affixes which occur with them. Between the horizontal lines are shown cross-cutting distribution classes of intransitivizing, transitivizing, and neutral affixes whose occurrence determines the major classes of the verbs, the intransitive and transitive classes.

We will consider first the position classes of affixes shown in the vertical columns. The system of decade numbering is the same as that already described for Charts 7 and 8: the decade number designates the position class of the
Chart 9. Verb Theme, Intransitive and Transitive

<table>
<thead>
<tr>
<th>POSITION CLASSES</th>
<th>Accompaniment +/−000</th>
<th>+Stem</th>
<th>Causation +/−20</th>
<th>Modification +(+30)</th>
<th>Causation +20</th>
<th>Direction +/−40</th>
<th>Voice +/−50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intr.</td>
<td></td>
<td>Intr.</td>
<td>22 -kaka</td>
<td>31 n. 33 -Lewa−</td>
<td>22 -kaka</td>
<td>51 -ka</td>
<td>52 -ko</td>
</tr>
<tr>
<td>-Tr.</td>
<td></td>
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<td></td>
<td></td>
<td>53 -na...</td>
<td>92 -wa</td>
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<td></td>
<td>54 -V&gt;i</td>
<td>+ -na</td>
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<td>Distribution</td>
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<tr>
<td>Trans. Classes</td>
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</tr>
<tr>
<td>Trans.</td>
<td>002 hi−</td>
<td>Tr.</td>
<td>22 -kaka</td>
<td>32 yehi</td>
<td>22 -kaka</td>
<td>41 -Vpa</td>
<td>42 -ya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23 -Vha</td>
<td>23 -Vha</td>
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<td>24 -xitxa</td>
<td>24 -xitxa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>001 m−</td>
<td></td>
<td>21 -Vta</td>
<td>32 postpos. 34 -Le− 35 -xe− 36 -Vna− 37 -m−</td>
<td>21 -Vta</td>
<td>41 -Vpa</td>
<td>42 -ya</td>
</tr>
</tbody>
</table>

135
affixes; the decade with the digit designates a particular affix and indicates its preferred order of occurrence.

Position classes 000, 30, 40, and 50 are not obligatory to the internal composition of the theme. Class 20 is obligatory with bound stems. See Section 241.3. As indicated by the chart, it is obligatory following the optional Class 30 with either bound or free stems. When Class 30 follows a bound stem, Class 20 is obligatory only following Class 30. It may, however, optionally precede and follow Class 30 simultaneously, but the same affix may not occur in both positions. The suffix -Vta 21 does not occur immediately following a free stem. Examples follow the description of Class 30 below.

Affixes of Class 000 are the following:

000 Accompaniment
001 m- Privative
002 hi- Accompanitive, Associative

The verb including m- 001 Privative is obligatory preceded by the prepositive ma Privative with which it is semantically redundant. The prepositive does not occur before a verb of prefixal Class I (Section 241.6) without the prefix m- 001 Privative:

ma metkanu (vb. I "to be going to see") "to not be going to see."
ma mumatyanu (himatyanu vb. I "to be going to
know") "not to be going to know."
The prefix m- is optional before verbs of Class II: myo-
ptotini (yoptotini vb. II "when to receive") "when not
to receive."
Prefix hi- 02 Accompagnitive, Associative is used not
only of joint activity but also of objects utilized:
tomkalnama tumuphuxewna (tomkalnama "her wrap-
around skirt," t- S-04 "she," hi- 02 Asso-
ciative, hiphuxewna "to appear"). "she ap-
peared wearing her wrap-around skirt."
When hi- 02 precedes a verb I, a morphophonemic change of
the base-initial hi- to mu- occurs (See Section 150 Mor-
phophonemics):
himuhkakleta (hihkakleta "to tell about"). "to
tell about in conversing."
When hi- 002 precedes the verb II nika "to eat," -m- is
added following the prefix:
himnika "to eat with."
When the prefix precedes the verb II tšiyahata "to cry,"
-mu- is added:
himutšiyahata "to cry for."
With other verbs of Class II the morphophonemic change to
-mu- does not occur:
hikamrurewata (kamrurewata "to work") "to cooperate
The prefix hi- 002 is a Class I subject prefix. See Section 241.6.

The prefixes of 00 are not mutually exclusive but may occur in combination:

mumnikyanu (m- 001 Privative, hi- 002 Accompani­
tive with -m- preceding nikyanu "to be going
to eat"). "not to eat with."

Affixes of Class 20 are the following:

20 Causation
21 -Vta ~ -ta after -m- 37 ~ -Vtša in certain words
when in sequence with palatal phones. Poten­
tial Theme Closure
22 -kaka Causative, Reciprocal
23 -Vha Sinister Hortatory
24 -Vxitxa Mandatory, Proxy

The suffixes of Class 20 are mutually substitutable, but not mutually exclusive. Potentially in every situation Class 20 may be represented by any of them, and each can be elicited freely. In actual usage, however, -Vta 21 Potential Theme Closure represents the class in over ninety per cent of its occurrences. It is often used of repetitive action in contrast to -Vka 11 Semelfactive (See Verb Stem, Section 241.3, below) although it does not of itself mean
repetitive action:
  kotputa "to open repeatedly."
  kotpuka "to open once."

Suffixes -Vha 23 Sinister Hortatory and -Vxitxa 24 Mandatory, Proxy are very infrequent, perhaps due to semantic restrictions.

Examples of the occurrence of Position Class 20 are as follows:
  tšokoruhata (tšokoruha- Bound Stem, -Vta 21 Potential Theme Closure) "to harpoon."
  tšokoruhkaka (-kaka 22 Causative) "to cause to harpoon."
  wtšokoruhahanro (w- S-05 "we," -Vha 23 Sinister Hortatory, -Vnu 61 Anticipatory, -Lo O-04 "it").
    "let's harpoon it."
  tšokoruhxitxa (-xitxa 24 Mandatory, Proxy) "to have someone harpoon something."

Affixes and incorporated items of Class 30 are the following:

30 Modification
31 Incorporated noun
32 Incorporated postpositive
33 -Lewa- Characteristic
34 -Le- Relational
35 -xe- Continuative, Frequentive
36 -Vna Temporal
37 -m- Transitory

One incorporated word or one suffix, or a combination of incorporated words and suffixes may occur simultaneously as one construction. Theoretically the only limitation to the number is unwieldiness. Actually, although five morphemes have been found occurring simultaneously in texts, one morpheme occurs with the greatest frequency, and two with the next greatest frequency, etc. The suffix order is usually that indicated by the digits in the chart:

hiklухатлошимананумта (hikluha "to lie down," tlo 31 n. "arched canoe covering," ša 31 n. "only a specified condition, and nothing more," hima 32 postpos. "it is said," nanu 32 postpos. Distributive, -m- 37 Transitory, -Vta 21 Potential Theme Closure) "it is said that he only lay under the arched canoe cover as he went along."
always have appeared near during a certain period of time."


The occurrence of -Le- Relational is discussed and illustrated under the "Minor Theme Class 2" below.

Suffix -xe- 35 "always" is occasionally repeated for emphasis:

hi xemxexeta (hi "not," xema "to hear," -xe- 35, -Vta 21 Potential Theme Closure). "to have never, never heard."

The suffix -m- 37 Transitory is obligatorily followed immediately by -Vta 21 Potential Theme Closure, whether other suffixes of Class 20 occur or not:

hasukamtkaka (hasuka "to flee," -m- 37 Transitory, -Vta 21 Potential Theme Closure, -kaka 22 Causative) "to cause to run."

Affixes of Class 40 are the following:

40 Location
41 -Vpa Motion to or from
42 -ya ~V>i ~V>i + -ya "to, at, from, by,"
for the benefit of, with reference to"

The affixes of Class 40 are not mutually exclusive, but occur together in the order indicated by the digits. When -Vpa occurs with a verb, the noncontiguous preceding vowel is lost, unless the vowel loss would result in a cluster of three consonants, or unless the -Vpa immediately follows a stem of only two syllables:

rapkapyalo (r- S-03 "he," hapoka "to arrive,"
-Lo 0-04 "she") "it came and arrived there where she was."

herkapa (herka "to wash") "to go and wash."
kawapa (kawa "to bathe") "to go and bathe."

When -ya 42 occurs with a verb the preceding vowel is not retained, except after a stem-final consonant cluster, in which case the alternate -V> i + -ya occurs:

herkiya (herka "to wash") "to wash there."

Preceding the Passives 51 and 52 the alternate -V> i occurs:

hixhika (hixha "to hunt") "to be hunted for."

Affixes of Class 50 are the following:

50 Voice
51 -ka Passive
52 -ko Anticipatory Passive
53 -na Reflexive
54 -V> i + -na Anticipatory Reflexive
The affixes of Class 50 are mutually exclusive. With
-na 55 Reflexive, the suffix -Vwa 92 Reflexive is obliga-
tory. Affixes of Class 50 are added only to a transitive
theme. Examples are as follows:

homkahitka (homkahita "to follow") "to be followed."
hiwakatko (hiwakata "to name") "to be going to
be named."
hiylaknawa (hiylaka "to hit") "to hit oneself."
hiylakinwa "to be going to hit oneself."

All of the position classes of the theme may occur
simultaneously:

rumapokxetika (r- S-03 "he," hi- 002 Accompani-
tive, hapoka "to arrive," -xe- 35 "always,"
-Vta 21 Potential Theme Closure, V >i + -ya
42 Locative, -ka 51 Passive) "it is always
arrived with there" for "it is always
brought there."

Theoretically, all of the affixes of all of the position
classes could occur simultaneously, except for the affixes
of Class 50 which are mutually exclusive; however, not more
than five affixes occur commonly in the theme. A few of
the typical combinations may be seen in the following ex-
amples:
It is of special interest here, as we turn to consider the distribution classes marked by the horizontal lines on Chart 9, that intransitivizing, transitivizing, and neutral items occur simultaneously in the theme. In the last example above, ruphuxewnayehlewhimata "it is said that he cus-
tomarily appeared to people, "the stem is intransitive. It will be seen by comparison with Chart 9 that yehi 32 is transitivizing, -Lewa- 33 is intransitivizing, hima 32 and -Vta 21 are neutral.

The classes of intransitivizing, transitivizing, and neutral affixes are simultaneous with, but cross-cut, the position classes shown in the vertical columns. One member of one distribution class in each theme determines the major verb theme class to be intransitive or transitive. In the absence of intransitivizing or transitivizing affixes, it is determined by an intransitive or a transitive stem. Otherwise it is determined by whichever intransitivizing or transitivizing affix is last in linear order in the theme. Any preceding intransitivizing or transitivizing item is thereby neutralized. In the example in the preceding paragraph, the last in linear order of the intransitivizing or transitivizing affixes is -Lewa- 33, which is intransitivizing. The theme ruphuxewnayehle-whimata is therefore intransitive.

Following are a few more of the possible combinations with an intransitive stem:

hina (~muna following an affix of Class 000) "to come."
runa intr. (r- S-03 "he," hina) "he came."
rumunru tr. (r- S-03 "he," hi- 002 Accompanitive, hina, -LU 0-03 "him"). "he came with him."
rumunkakychixitxiko intr. (r- S-03 "he," hi- 002 Accompanitive, -kaka 22 Causative, yehi 31 postpos. "to," -xitxa 24 Mandatory, V > i 42 "concerning," -ko 52 Anticipatory Passive). "he is to be commanded to be caused to come to someone with someone concerning something."

Additional combinations are given with a transitive stem:

yohima- "to hide." yohimatlu tr. (Ø- S-03 "he," yohima-, -Vta 21 Potential Theme Closure, -LU 0-03 "him") "he hid him."
yohimlewa intr. (Ø- S-03 "he," yohima-, -Lewa-33 Characteristic, -Vta 21 Potential Theme Closure) "he habitually hides (things)."
yohimlewxitxlu tr. (Ø- S-03 "he," yohima-, -Lewa-33 Characteristic, -xitxa 24 Mandatory, -LU 0-03 "him"). "he commands him to habitually hide (things)."

In the third vertical column, the suffix -kaka 22 is listed twice, once as intransitivizing, and again as transitivizing. It is optionally intransitivizing with a plural subject, and indicates reciprocal action. It is op-
tionally transitivizing with a plural subject, and always transitivizing with a singular subject, and has the meaning of "Causative."

In the next-to-the-last vertical column, the suffix -ya 42 is listed as both transitivizing and neutral. The suffix -ya is a locative and benefactive which may be assumed to refer to either a location or an object; hence to be optionally neutral or transitivizing. In the clause ru-na (r- S-03 "he," hina intr. "to come") "he came," the predicate is an intransitive verb. The clause may be expanded to wane runya (wane "there," runa "he came," -ya 42 Locative) "he came there," with the predicate still an intransitive verb. The -ya 42 may, however, optionally be interpreted as transitivizing, so that the predicate is a transitive verb: wane runyalo with the addition of the object -Lo 0-04 "her," "he came to her there."

Thus the major classes of verb themes are the Intransitive Class identified by an intransitive stem or by an intransitivizing affix, and the Transitive Class identified by a transitive stem or a transitivizing affix as shown in Chart 9 above.

There are also five minor theme classes not shown in the Chart, which crosscut major classes.

The first of these is the auxiliary theme, identified
by a special list of verb roots, and by its external distribution as the auxiliary of the verb phrase. There is a limited list of special auxiliary forms: he "for the first time," hali "to finish," hama "to tire," himle "to bungle." Along with these, the minimal theme of any semantically suitable verb minus Causation Class 20, potentially functions (is distributed) as an auxiliary verb theme: haluka "to want to," ya "to go to," yinuwaka "to begin to," hitxas-"to pretend to."

The second minor class differs from the major classes only in the obligatory occurrence of the suffix -Le- 34 which indicates syntactic dependence, and in its distribution in the head of a verb phrase with an auxiliary or with any verb serving as an auxiliary other than ya "to go" or himata "to know."

The third minor class, an intransitive verb theme, shares the distribution of the second as the head of a verb phrase with an auxiliary or with any verb other than ya "to go" or himata "to know" serving as an auxiliary. In composition it is identified by the anomalous sequence -ko 52 Anticipatory Passive, -Vta 21 Potential Theme Closure:

raluka himatkota (r- S-02 "he," haluka "to want," himata "to know," -ko 52, -Vta 21) "he wanted to be known."
The fourth minor class, including both transitive and intransitive themes, comprises a few standardized anomalous constructions which have specialized meaning, in which postpositives occur among the inflectional affixes of Causation Class 20. These are sequences involving potu postpos. Intensifier and the inflectional suffix -Vko 74 Emphatic, usually with the meaning of "until"; honuka postpos. "especially," usually with the meaning of "in contrast"; kotxa postpos. "also"; klu postpos. "time"; and waka postpos. "time, place, manner." The noun tšinanu "sake, account" also occurs in this position:

rapokpotunanuko, rapokinpotunanuko, rapokinpotuko
(r- S-03 "he," hapoka "to arrive," V > i + -ni
62 Conditional, potu postpos. Intensifier,
nanu postpos. Distributive, -Vko 74 Emphatic)
"until he arrives."

yayitxanhonuka (yayitxa "to be sick," -Vnu 61 Anticipatory, honuka postpos. "especially") "in contrast, to be sick."

hiykotankotxlu (hiykota "to counsel," -Vnu 61 Anticipatory, kotxa postpos. "also," -LU O-03 "him"). "to also counsel him."

retwamonutkaltšinanwu (r- S-03 "he," hetwamonuta "to pity," -ka 51, here, without semantic value,
-l- probably from -LU 15 Infinitive, tiinanu "sake, account," wu 0-05 "us.") "because he pities us."
retkolklu (r- S-03 "he," heta "to see," -ko 52 Anticipatory Passive, klu postpos. "time,"
-Vnu 61 Anticipatory) "he having been seen."
The theme in which the postpositive waka occurs is optionally a verb or a verbal noun theme. The word of which it is the theme may occur in a noun phrase in, for example, the construction which expresses modification in a clause, or it may occur in the predicate position and have an object affixed:

nikyawaka (Ø- S-03 "he," nika "to eat," -ya 42 "at," -waka "place"). "the place where he eats."

nikyawaklu (-LU 0-03 "it") "he ate it in that place."
The fifth minor class is the privative theme identified by the occurrence of the prefix m- 001. The privative verb theme is not frequent. It characteristically includes -ka, which is apparently suffix 51 but without passive meaning, and/or one of the suffixes of Class 60:

ma mupnakanuwa (Ø- S-03 "he," ma prepos. Privative, m- 001 Privative, hipna "to die," -ka 51, -Vnu 61 Anticipatory, -Vwa 83 "yet") "before he died."
hma metkamkalu (h- S-06 "you," ma prepos. Priva-
tive, m- 001 Privative, heta "to see," -ka 51, 
-mka 76 Frustrative, -LU 0-03 "him"). "you 
would not have seen him."

241.3. The verb stem, which is included in the theme, 
has been listed in the preceding section as intransitive or 
transitive. This intransitive-transitive classification of 
stems is based primarily on their ultimate distribution in 
the inflected verb or in the clause. The stem distribution 
class is not formally marked; each stem is therefore mark­
ed as intransitive or transitive in the lexicon.

Stem classes set up on the basis of internal composi­
tion are not consistently correlated with the distribution 
classes, although the great majority of the stems of a cer­
tain composition class may belong to one or the other of 
the distribution classes. Only a few small subclasses are 
consistently either intransitive or transitive.

On the basis of internal composition and distribution 
in the theme then, there are two main classes of stems: 
free stems and bound stems. Each of these is further sub­
divided on the basis of the list of bases which occur in 
combination with particular stem affixes.

The stem suffixes are of Position Class 10, the de­
cade being part of the same numbering system described for 
the verb theme and inflection. Stem Formative Class 10
precedes Theme Class 20 in order. The suffixes are as follows:

10 Stem Formative
11 -Vka Semelfactive
12 -Vwna Intransitive State
13 -Vta ~ -Vtša Stem Formative
14 -ha Cessation
15 -Vwa- Intransitive
16 -ta- Detailed action
17 -sa- Profuse action
18 -Vha- "to hunt, gather"
19 ko- "to take away"

The free stem comprises either a head in which Base a occurs, or else a head in which Base b, c, d, e, f, g, or h occurs, plus a Stem Formative suffix 11, 12, 13, or 14.

The suffix -Vka 11 is generally, but not always, semelfactive in meaning:

hatspika "to sip once"; cp. hatspita "to sip repeatedly."

kamruka "to touch"; cp. kamruta "to make, do."
yohloka "to prick, pierce repeatedly"; yohlota "to pierce once, harpoon, spear."

Suffix -Vta 13 Stem Formative which varies to -Vtša
in certain verbs with noncontiguous tš or š, is homophonous with -Vta 21 Stem Closure, but contrasts in not being substitutable by any of the morphemes of Causation Class 20, and in not following the incorporated items and affixes of Modification Class 30.

The various classes of bases occur with the suffixes of Class 10 as shown in the following Chart 10, in which the comma is to be read "or."

The letters in the left column designate classes of bases and corresponding classes of stems. Within each of these classes a subclass of bases corresponds to each affix of Class 10; i.e., a separate list of each class of Base occurs with each affix. For instance, suffix 11 occurs, not with all members of Base b, but only with a subclass of Base b. This subclass overlaps heavily with the subclasses of Base b which occur with suffixes 12, 13, and 14.

Examples of the free stems follow:

Base a:

tšina "to say."

hwa "to be in a location."

hetå "to see."

Base b + 10:

txirika (txiri- Base b "to rub," -Vka 11)

"to ignite."

salewna (sale- Base b "to punish," -Vwna
<table>
<thead>
<tr>
<th>Stem, Base Class</th>
<th>Base Composition</th>
<th>Free Stem Composition</th>
<th>Bound Stem Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>vb. r.,</td>
<td>+ Base$^{10}$</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>b</td>
<td>vb. r., vb. r. + prefix, redup. r. + prefix</td>
<td>+ Base + 11, 12, 13, 14</td>
<td>+Base, +Base + 15, 16, 17</td>
</tr>
<tr>
<td>c</td>
<td>n. III, n. III + prefix, redup. n. III + prefix</td>
<td>+ Base + 11, 13, 14</td>
<td>+Base, +Base + 15, 16, 19</td>
</tr>
<tr>
<td>d</td>
<td>n. II</td>
<td>+ Base + 12, 13</td>
<td>+Base, +Base + 15, 18, 19</td>
</tr>
<tr>
<td>e</td>
<td>n. I</td>
<td>+ Base + 13</td>
<td>+Base, +Base + 15, 18, 19</td>
</tr>
<tr>
<td>f</td>
<td>adj.</td>
<td>+ Base + 11, 12, 13</td>
<td>+Base + 15</td>
</tr>
<tr>
<td>g</td>
<td>particle</td>
<td></td>
<td>+Base</td>
</tr>
<tr>
<td>h</td>
<td>postpos., postpos. + prefix</td>
<td>+ Base + 11</td>
<td>+Base + 16</td>
</tr>
</tbody>
</table>
"to suffer."

_saleta_ (sale- Base b "to punish," -Vta 13) "to punish."

_hamha- (hamo- Base b "to be absent, lost," -ha 14) "to be absent, lost."

Base c + 10:

_hapoka_ (hapo Base c "path," -Vka 11) "to arrive."

_tšikleta_ (tšike Base c "shade," -Vta 13) "to shade."

_xepha_ (xepa Base c "louse," -ha 14) "to pick and bite a louse."

Base d + 10:

_sexrewna_ (sexre Base d "noise," -Vwna 12) "to be noisy."

_hanunrota_ (hanunro Base d, -Vta 13) "to take as wife."

Base e + 10:

_hepleta_ (heple Base e "lid," -Vta 13) "to cover with a lid."

Base f + 10:

_seproka_ (sepro Base f "deranged, immoral," -Vka 11) "to seduce."

_hitxowna_ (hitxo Base f, "much," -Vwna 12) "to fatten."
poptšita (poptši Base f "soft," -Vta 13)
"to soften."

Base h + 10:

kayehika (kayehi- Base h "near," -Vka 11)
"to approach."

Bound stems are those with which Causation Class 20 is obligatory in the theme. This stem includes a head which comprises Base b, c, d, e, f, g, or h. With a subclass of each of these base classes, except f, no stem affix occurs. With other subclasses of each base, a stem affix is obligatory, as shown in Chart 10. The stem formative affixes 15, 16, 17, 18, 19 occur in the stem, each with a different subclass of each of the bases.

There is a great deal of overlap among the subclasses of each Base Class. An example of each subclass follows.

Bound stem b:

hahxi- (Base b) "to ask."

hemewa- (heme- Base b, -Vwa- 15) "to heat."

tsapta- (tsapo- Base b "to have a muscle cramp,"
-ta- 16) "to have repeated cramps, to have an epileptic seizure."

hepomsa- (hepom- Base b "to inquire," -sa- 17)
"to cross-question, examine."

Bound stem c:
powa- (Base c "body") "to wrap."
weyawa- (weya Base c "a lie," -wa- 15) "to tell a lie."
poxta (poxi Base c "mound, heap," -ta- 16) "to make a series of heaps."
kopxi- (ko- 19, pxi Base c "house") "to take away one's house."

Bound stem d:
kašana- (Base d "herbs") "to practice herb magic against."
sexrewa- (sexre Base d "noise," -Vwa- 15) "to make a noise."
kokašretwa- (ko- 19, kašretwa Base d "bow") "to take away one's bow."
xpiroha- (xpiro Base d "lizard," -Vha- 18) "to hunt lizards."

Bound stem e:
lahapitsa- (Base e "vine") "to beat with vine."
hin*ewa- (hin*e Base e "rain," -Vwa 15) "to be in the rain."
kohahaxre- (ko- 19, hahaxre Base e "stick") "to take a stick away from."
haproha- (hapro Base e "parrot sp.," -Vha 18) "to hunt parrots of a certain species."
Bound stem f:

serowa- (sero Base f "red," -Vwa- 15) "to ripen."

Bound stem g:

hihi- (Base g "yes") "to answer, assent."

Bound stem h:

hapkata- (hapka Base h "next in succession")

"to be next in order."

A few free stems occur with the stem suffixes:

yawna (ya Stem a "to go," -Vwna 12) "to fall over."

nikawna (nika Stem a "to eat," -Vwna 12) "to come to an end."

nikata (nika Stem a "to eat," -Vta 13) "to terminate."

heneksa- (heneka Stem a "to give," -sa-bound-stem suffix) "to distribute."

hapiksa- (hapika Stem b "to share," -sa-bound-stem suffix) "to distribute."

241.4. As shown on Chart 10, the verb base which constitutes the head of the verb stem comprises a number of classes which contrast in composition but do not contrast sharply in distribution.

Base a is a free verb root:

heta "to see."

nika "to eat."
Base b comprises three subclasses: (1) a bound verb root.

tšihe- "to scold."
meyi- "to please."
(2) a bound verb root plus a prefix (See list of prefixes at the end of this section).

hamla- (ha- "action by mouth," -mla- vb. r. "to break or pull off") "to bite, tear off with the teeth."
yotpu- (yo- "action by instrument," -tpu- vb. r. "to open") "to pry open."
(3) a reduplicated verb root plus a prefix of the list below.

himrumru- (hi- "action, usually intransitive," -mru- vb. r. "to sparkle") "to sparkle."
himlemle- (hi- "action, usually intransitive," -mle vb. r. "to throb") "to palpitate."

Base c comprises three subclasses which correspond to those of Base b: (1) a noun of Prefixal Class III (See Section 241.6).

yomle (n. III "grave") in yomleta (-Vta 21, Potential Theme Closure) "to push against an enclosure in an attempt to escape."
powa (n. III "body") in powata (-Vta 21 Poten-
tial Theme Closure) "to wrap."

(2) a noun of Class III plus a prefix from the list below.

- yoyhi- (yo- "action by instrument," yhi n. III "tooth") "to make barbs."

- kamyo- (ka- "action," myo n. III "hand") "to stir by hand."

(3) a reduplicated noun of Class III plus a prefix from the list below.

- hixpaxpa- (hi- "action, usually intransitive," xpa n. III "fluid") "to boil as a thick fluid."

- kapluplu- (ka- "action," plu n. III "branch") "to walk on long tenuous legs."

Base d comprises a noun of Prefixal Class II with or without a genitive suffix:

- kolha (n. II "rubber tree") in kolhata (-Vta 21 Potential Theme Closure) "to extract rubber."

- tšoktšote- (tšoktšo n. II "malaria," -Vte 39 Genitive) in tšoktšotewata (-Vwa- bound-stem affix, -Vta 21 Potential Theme Closure) "to have malaria."

Base e comprises a noun of Prefixal Class I with or without a genitive suffix:

- hatšitšo (n. I "nettle") in hatšitšota (-Vta 21 Potential Theme Closure) "to spank with nettles."
hin*e- (hina n. I "rain," -ne 38 Genitive) in
hin*eta (-Vta 13) "to cause rain by violating
taboo."

Base f comprises an adjective:
poniko (adj. "rich") in ponikota (-Vta 13)
"to enrich."
šiko (adj. "hard, durable") in šikowa- (-wa-
bound-stem suffix) "to be durable."

One member of Base f includes a prefix ha- from the list
below:

hasero- (ha- Base prefix, action, usually by mouth,
sero adj. "red") "to redden."

Base g is a class of only one member, a particle:
hihi (particle "yes") in hihita (-Vta 21 Poten-
tial Theme Closure) "to assent, answer."

Base h is a class of only two members, each compris-
ing a postpositive plus an affix:
kayehi- (ka- Base prefix, "action," yehi postpos.
"near") "to approach."
hapskata- (hapska postpos. "next in succession,"
-ta bound-stem suffix) "to be next in order."

Within the base classes described above there are a few
irregularities. Verb theme suffixes -Le- 34 Relational, and
-xe- 35 "always" occur sporadically, that is, infrequently
and non-systematically, apparently without their usual semantic value:

himsale- (hi- Base prefix "action, usually intransitive," -ma- vb. r. "to sound," -sa- bound-stem suffix, -Le- 34) "to speak quietly."

hiyahole- (hi- Base prefix "action, usually intransitive," yaho- vb. r. "to measure," -Le- 34) "to diminish."

hahixe- (hahi- vb. r. "to be sick," -xe- 35) "to be sick."


A few passive morphs also occur in these verb bases. Passive morphs are those which are isolated by the identification of roots and affixes, and which are unique or too infrequent to establish identity of their own:

-xi- in koxiphyawa- (ko- Base prefix, phya n. III "vapor," -Vwa- bound-stem suffix) "to stay awake."

-te- in himtute- (hi- Base prefix, -mtu- vb. r. "to injure") "to injure."

A very few bases are compounds of two verb roots, or a verb base plus a root. In these, the base class is deter-
mined by the class of the second element:

hetwamonu- (heta Base a "to see," wamonu- Base b "to be pitiful, poor, sad") Base b "to pity."
himatheta (hima Base c, -ta 13, "to know," heta Base a "to see") Base a "to discern."

An examination of the various illustrations and charts in the preceding section will show that most verb roots and affixes end in -a. The -a is treated as a part of the root or affix, not as a separate morpheme, on the assumption that its occurrence in this position is due to its being the commonest vowel. It is also common root-final in other word classes, though less so than in the verb.

The base prefixes mentioned above are listed here in alphabetical order with approximate definitions. For none of these prefixes is the meaning consistent and specific.

a. ha- "by mouth" 1, 4, 5, 6, 8, 10, 11, 14, 15, 17, 21
b. haka- "involving stepping or violence" 1, 3, 4

c. hi- Usually intransitive. 1, 2, 3, 5, 6, 7, 8, 9, 10, 13, 14, 17, 18, 19, 20, 21
d. xi- "by hand" 1, 2, 14, 19
e. ka- "action" 3, 4, 16, 20
f. ko- Usually transitive. 2, 4, 7, 8, 15, 19
g. sa- "placing of objects" 3, 10, 12, 16
h. su- "severance" 5, 9, 17, 21
i. ša- "to fold" 6, 8, 11, 12
j. ši- "separation" 6, 7, 13, 18
k. yo- "by instrument" 1, 2, 3, 4, 5, 7, 8, 13, 14, 15, 19, 21

Numbers following each prefix correspond with illustrations which follow the list. In order to show the contrasting meanings of the prefixes, as many as possible have been given with each verb root introduced. The roots are indicated by numbers; the prefixes, by letter. The intransitive or transitive classification of each base in the illustrations is indicated by "intr." or "tr."


2. -prala- probably a reduplicated vb.r. "to unfold, stretch out"; c. hiprala- intr. "to be unfolded, open up"; d. xiprala- tr. "to unfold, open up"; f. koprala- tr. "to unfold, open up"; k. yoprala- tr. "to cut or rip in order to open or spread out."
3. -pruru- reduplicated vb. r. "to roll, revolve"; 
b. hakapru- intr. "to roll"; c. hipru- 
intr. "to revolve"; e. kapru- tr. "to roll, 
as between fingers"; g. sapru- tr. "to make 
a roll"; k. yopruru- tr. "to make a hole by 
rotating a tool with the point against a surface."

4. -stše- vb. r. "to put on, take up from"; a. 
hastše- intr. "to be stuck in or on, as a 
 canoe on a log"; b. hakastše- tr. "to press 
down"; e. kastše- tr. "to lay one surface flat 
on another"; f. kostše- tr. "to take out, take 
up, pronounce"; k. yostše- tr. "to put on the 
fire."

5. -sta- vb. r. "to cut, tear, break"; a. hasta- 
tr. "to saw, split, bite off, cut"; c. hista- 
tr. "to cut"; h. susta- tr. "to cut, break"; 
k. yosta- tr. "to cleave."

6. -štšo- vb. r. "to bend"; a. haštšo- tr. "to 
bite in order to flex or bend"; c. hištšo- intr. 
"to bend but not break"; i. šaštšo- intr. "to 
fold double"; j. šištšo- tr. "to crush or break 
over."

7. -špi- vb. r. "to loosen, peel off"; c. hišpi- 
intr. "to be loosened, peel off"; f. košpi-
tr. "to untie"; j. šišpi- tr. "to peel off bark"; k. yošpi- tr. "to strip off a small amount of bark by means of an instrument."

8. -špo- vb. r. "to peel"; a. hašpo- tr. "to nip off skin, abrade with the teeth"; c. hišpo-intr. "to peel, to suffer shock"; f. košpo- tr. "to pull clothing up over the head to remove it"; i. šašpo- tr. "to roll up (sleeves, etc.,)"; j. šišpo- tr. "to peel, pluck"; k. yošpo- tr. "to scrape off."


10. -txri- vb. r. "to remove"; b. hakaxri- tr. "to drive away"; c. hitxri- intr. "to go away"; g. satxri- tr. "to sweep."

11. tškehi n. III "mash"; a. hatškehi- intr. "to be crumpled, mashed"; i. šatškehi- tr. "to crumple, press."

12. tšpale n. III "valley, space between"; g. satšpale- tr. "to place a forked stick over"; i. šatšpale tr. "to mark, blaze."
13. tēraxi n. III "fragment"; c. hitēraxi-tr. "to dice, cut into bits, slice"; j. šitēraxi-tr. "to cut, slice"; k. yotēraxi-tr. "to split, cleave."

14. kna n. III "stick, pole, beam"; a. hakna-tr. "to break by biting"; c. hikna-intr. "to be cut, broken"; d. xikna-tr. "to break"; k. yokna-tr. "to break by piercing, to misconstrue."

15. mexi n. III "wing, feather"; c. himexi-intr. "to moult, be plucked"; f. komexi-tr. "to pluck a wing"; mexi-tr. "to attach feathers to"; k. yomexi-tr. "to pluck a wing by using an instrument."

16. myo n. III "hand"; e. kamyo-tr. "to mix, stir with the hand"; g. samyo-tr. "to hand over, deliver."

17. stono n. III "container, trunk of a body"; a. hastono-tr. "to tear apart, break apart with the teeth"; c. histono-tr. "to have a body ..."; h. sustono-tr. "to break, tear up."

18. škata n. III "rough, jagged end left by a fracture"; c. hiškata-intr. "to break un-
evenly"; j. šiškata- tr. "to break off roughly, make a ragged break in."

19. tama n. III "row, file, column"; c. hitama- intr. "to line up, to be in line"; "to put in order, line up"; d. xitama- tr. "to escape by breaking through a wall"; f. kotama-tr. "to break in, break through a wall"; tama- tr. "to align"; k. yotama-tr. "to break through a wall in order to escape."

20. txi n. III "back"; c. hitxi- tr. "to carry on the back"; e. katxi- tr. "to turn ones back toward."

21. tsre n. III "sore"; a. hatsre- tr. "to bite repeatedly leaving a sore"; c. hitsre- intr. "to have a sore"; h. sutsre- intr. "to scratch"; yotsre- tr. "to scratch with an instrument."

241.5. The verb root is a single morpheme. It is classified as intransitive or transitive, or as belonging to both intransitive and transitive classes, on the basis of its distribution in intransitive and transitive bases.

241.6. The set of seven morphemes which constitute the pronominal person affixes occur as the inflectional subject and object of the verb, genitive of the noun, and object of the noun, adjective, and adverb. The occurrence
of sets of allomorphs with particular verb and noun themes determines Prefixal Classes I and II of verbs, and I, II, and III of nouns. The prefixal class of each verb and noun stem is given in the lexicon.

Chart 11 shows the distribution of the allomorphs in the various constructions. Translations are as follows: 01 first person singular, 02 second person singular, 03 third person masculine singular, 04 third person feminine singular, 05 first person plural, 06 second person plural, 07 third person plural.

The variants -ni 0-03, 0-04, and 0-07 occur with nouns in phrases which are found in the predicate of Cl. III: natšineruní (natšineru "member of the Hungry division of the tribe," -Vne 27 Plural, -ni 0-07 "they were the Hungry People."

The Class II noun theme -šitšo "daughter" occurs with irregular third person masculine singular and third person plural possessive affixes: nšitšo "my daughter," but rušitšo "his daughter" and rušitša "their daughter."

Since, with the above exception, the personal pronominal affixes occur with complete regularity in the Position Class 00, they are listed in detail only here.

Following are illustrations in the first person singular and third plural of each of the allomorphs:
Chart 11. Personal Pronominal Affixes

<table>
<thead>
<tr>
<th>Subject Prefixes with Verb Classes S-00</th>
<th>Object Suffixes O-00</th>
<th>Possessive Prefixes with Noun Classes 00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I</td>
</tr>
<tr>
<td>01 n-</td>
<td>-no</td>
<td>n-</td>
</tr>
<tr>
<td>02 p-</td>
<td>-yi</td>
<td>p-</td>
</tr>
<tr>
<td>03 r-</td>
<td>-LU ~ -ni</td>
<td>Ø-</td>
</tr>
<tr>
<td>04 t-</td>
<td>-Lo ~ -ni</td>
<td>t-</td>
</tr>
<tr>
<td>05 w~ ha-</td>
<td>-wu</td>
<td>w-</td>
</tr>
<tr>
<td>06 h-</td>
<td>-hi</td>
<td>h-</td>
</tr>
<tr>
<td>07 r-...-na Ø-...-na</td>
<td>-na</td>
<td>Ø-...-na Ø-...-na hi-...-na</td>
</tr>
</tbody>
</table>
Subject prefixes and object suffixes with homkahita vb. I "to follow": nomkahitna "I follow them," romkahitnona "they follow me."

With tomha vb. II "to call": ntomhana "I call them," tomhanona "they call me."

Possessive prefixes with haxiro n. I "grandmother": naxiro "my grandmother," raxirna "their grandmother."

With wuhene n. II "child": nwuhene "my child," wuhena "their child."

With hapo n. III "footprint": nohapo "my footprint," hihapna "their footprint."

Object suffix with haxiro n. I "grandmother": raxirnona "I am their grandmother."

With hitško adj. "strong": hitškona "they are strong."

With hewi adv. "here": hewno "I am here."

242. The noun is identified externally by its distribution in the noun phrase (Section 232), and internally by its occurrence with the affixes listed below in Section 242.2.

Its major classes are those which occur as heads of the contrasting noun phrase classes: Noun a occurs as the head of Phrase a; Noun b occurs as the head of Phrase b;
Noun c occurs as the head of Phrase c. These classes are differentiated not only by the inflection, but by the composition of the noun theme, stem, and base as well.

The noun comprises a theme which is obligatory, and inflectional affixes which are not obligatory to the composition of the word, but, as will be seen in the following paragraphs, are obligatory to its distribution in certain situations.

242.1. The inflection of the three classes is shown in a composite Chart 12, The Inflected Noun, below.

Notice that the three classes differ only in regard to the Pronominal Prefix Class 00 and in Theme, in the first two columns. The Possessive Prefix Class 00 is obligatory with noun Class a under circumstances explained in Section 242.2. No pronominal prefix occurs with Class b. The Subject Prefix S-00 is obligatory with noun Class c, under circumstances explained in Sections 211, 232, and 242.2. The object suffix is obligatory with all three noun classes in phrases which serve as the Cl. III predicate, under circumstances explained in Section 211.

A comparison of Chart 12 with Charts 7 and 8 will show how closely the inflectional affixes of the noun parallel those of the verb.

The sets of allomorphs of the pronominal affixes of
Chart 12. The Inflected Noun

<table>
<thead>
<tr>
<th>Noun Class</th>
<th>Pronominal Prefix +/-00</th>
<th>Theme</th>
<th>Location +/-40</th>
<th>Aspect +/-70</th>
<th>Time +/-80</th>
<th>Interest +/-90</th>
<th>Object +/-0-00</th>
<th>Attitude +/-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>n.a.</td>
<td></td>
<td></td>
<td>42 -ya</td>
<td>71 -Vna</td>
<td>81 -Vtka</td>
<td>93 -La~</td>
<td>01 -Vtši</td>
<td>101 -Vtši</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>72 -Vpa</td>
<td>82</td>
<td>-Le</td>
<td>02 -he</td>
<td>102 -he</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>73 -ni</td>
<td>-Vtnaka</td>
<td></td>
<td>03 -VLi~</td>
<td>103 -VLi~</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>74 -Vko</td>
<td>83 -Vwa</td>
<td></td>
<td>04 -VLe</td>
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</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>75 -Vka</td>
<td></td>
<td></td>
<td>05 -ta</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>76 -Vmka</td>
<td></td>
<td></td>
<td>06 -ta</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>~ -maka</td>
<td></td>
<td></td>
<td>07 ~ -tay~</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>77 -Vktla</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>n.b.</td>
<td></td>
<td></td>
<td>b</td>
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<tr>
<td>n.c.</td>
<td></td>
<td></td>
<td>c</td>
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<tr>
<td>n.b.</td>
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<tr>
<td>n.c.</td>
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<td>n.c.</td>
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</tbody>
</table>
Classes 00, S-00, and O-00 are shown in Chart 9 in Section 241.6.

Details and illustrations of the affixes of the remaining classes are given below.

40 Location
42 -Vya "to, for, at, by, from, with, for the benefit of"
wanhaya (wanha "edge of the river") "from the water's edge."
totuya (totu "grandfather") "by grandfather.
tšokoruya (tšokoru "harpoon") "with a harpoon."

70 Aspect
71 -Vma~ na following 53 and preceding 81.
Intensifier of action or effort, detrimental effect
72 -Vpa~ -pa preceding 80. Purpose, change of state
73 -ni "solemn, unfortunate, dead, no longer in existence, past"
74 -Vko Emphatic
75 -Vka Affirmative
76 -Vmka~ -maka following consonant cluster.
Subjunctive, Optative, Frustrative
77 -Vkta Generalizer
Affixes of class 70 are not mutually exclusive but two or three may occur in the same construction simultaneously:

- hi satunə (hi Negative particle, satu "one,"
  -Vna 71) "not a single one."
- pantšipa (pantši "house," -Vpa 72) "the house that is to be built."
- walapni (walapu "summer," -ni 73) "the past summer."
- hetatšriko (hetašri "one who saw," -Vko 74) "an actual witness."
- pexnuka (pexnu "number," -Vka 75) "really that many."
- hapomka (hapo "trail," -Vmka 76) "that which was to have been a trail."
- yonalukta (yonalu "ocelot," -Vkta 77) "some ocelot or other."
- totupnikmaka (totu "grandfather," -Vpa 72, -ni 73, -Vko 74, -maka 76) "it would have been poor grandfather himself."

Time

-Vtka "now, then, next in succession"
-Vtnaka "again"
-Vwa "yet"
The affixes of class 80 are mutually exclusive:
kan·iphyalutka (kan·iphyalu "wind," -Vtka 81) "wind now."
paktšatnaka (paktša "hawk," -Vtnaka 82) "hawk again."
mturuwa (mturu "child," -Vwa 83) "yet a child."

90 Interest
93 -La ~ -Le Calls attention to the head word.

Only one affix of Interest Class 90, the affix -La ~ -Le occurs with the noun.

sutxla (sutxo "woman") "woman indeed"; kamowla (kamowa "dove") "the very dove."

100 Attitude
101 -tši Polite form, Coaxing
102 -he Question
103 -VLi ~ -VLe following -he, and optionally following -e- elsewhere. Endearment, Flourish.

104 -ta ~ -tay* in the speech of some men. Exclamatory

The affixes of Class 100 are not mutually exclusive; however, the only frequent combination is that of -he 102 Question with -VLi ~ -VLe 103 Endearment or Flourish:

psalwuhapretši (psalwuhapre "your paddle") "your paddle, please."
hisurhe (hisure "its leaf") "its leaf?"
wumolhere (wumole "our relative") "our dear relative?"

Following are examples of the cooccurrence of various position classes with the noun:

hiyekmakla (hiyeka "guan," -maka 76 Optative, -La 93 Calling attention to the head word) "a guan no less (but it escaped)."

košitšinerunpatkani (košitšinerune "members of the Bird division of the Piro tribe," -pa 72 Change of state, -Vtka 81 "then," -ni 3 pl. 07) "those who are now going to be Bird people."

hipowha-spu-wnahanaktatkawu (hipowha "lake," spu "lip," wnaha "edge of the water," -Vna 71 Detrimental effect, -Vtka 77 Generalizer, -Vtka 81 "now," -wu 1 pl. 05) "we (are) unfortunately somewhere on the edge of the lake now."

wan-akaktatkani (wan-a "they," -Vka 75 Affirmative, -Vtka 77 Generalizer, -Vtka 81 "then") "it (is) some of them now."

242.2. The noun theme comprises a stem, which is obligatory in all classes, and derivative affixes, which are obligatory to certain subclasses, as shown in Chart 13 below.
Chart 13. The Noun Theme

<table>
<thead>
<tr>
<th>Theme Class</th>
<th>Stem</th>
<th>Genitive 30</th>
<th>Absolute 29</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b 1</td>
<td>34, 38, 39</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>b 1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a</td>
<td></td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>b 1</td>
<td>34, 38, 39</td>
<td>29</td>
</tr>
<tr>
<td>c</td>
<td>c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Theme a is identified by its association with obligatory genitives. Its external distribution is in noun Class a which occurs as the head of noun Phrase a, in which a genitive word or affix is obligatory. See Section 232. In the composition of Theme a with stems other than the partitive genitive Stem a, the affixal Genitive Class 30 is obligatory.

Theme b contrasts with Theme a in external distribution in noun Class b which occurs in noun Phrase b, in which a genitive word or affix does not occur. It also contrasts with Theme a in composition. When a Stem b occurs, the affixal Genitive Class 30 is not obligatory. If the affixal Genitive Class 30 occurs, or if Stem a occurs, then the Absolute Affix 29 is obligatory.

Nearly all noun themes of prefix Class III, as well as some nouns of prefix Classes I and II are themes of Class a.

Theme c occurs in noun Class c, which occurs in noun Phrase c. This is the theme of the verbal noun. It is not associated with any genitive word or affix, but with the Subject Prefix S-00 as in Cl. I and Cl. II. See Section 211.

The nominal affixes of Class 30 are the following:

30 Genitive
-Le ~ V> e following -LU 15 Infinitive, Entity. Genitive of process or product
38 -ne Genitive of utilization
39 -Vte Genitive of ownership

The nominal affix -tši 29 Absolute changes the class of a noun theme in such a way that it is ultimately distributed in a phrase which does not have a genitive word or affix.

Illustrations of the Theme classes follow the order of Chart 11.

Theme a: yhale (yhale Stem a "eye,"
"...'s eye."
čokore (čokoru Stem b "harpoon," -V>e 34)
"...'s harpoon."
tumlexne (tumlexi Stem b "flute," -ne 38)
"...'s flute."
ximekate (ximeka Stem b "manioc," -Vte 39)
"...'s manioc."

Theme b: čokoru (Stem b) "harpoon."
yhaltši (yhale Stem a, -tši 29) "someone's eye."
čokortši (čokoru Stem b "harpoon," -V>e 34, -tši 29) "someone's harpoon."
tumlexnetši (tumlexi Stem b "flute," -ne 38, -tši 29) "someone's flute."
ximeka·tši (ximeka Stem b "manioc," -Vte 39, -tši 29) "someone's manioc."

The affixes of Class 30 are mutually exclusive; i.e., they do not occur simultaneously, but certain noun stems occur with various of the genitive suffixes:

kahle, kahline, kahlite (kahl Stem b "clay," -V > e 34, -ne 38, -Vte 39) "...'s clay."

The genitive suffixes -Le 34, -ne 38, and -Vte 39 may have been derived by vowel change to -e- from derivational suffixes -LU 15 Infinitive, Entity, -nu 16 Abstract, and -Vtu 26 Individual, Privative. For further information regarding these suffixes, see Section 242.3.

The semantic distinction among the three genitives is not clear-cut nor consistent.

Secondary possession is not uncommon, particularly with Class III nouns. The usual method of expressing ownership of a Class III item not primarily related to the owner is to name the primary possessor as possessed by the owner and add the Class III item:

nxemate tpali (n. Ol "my," xema "tapir," -Vte 39 Genitive of ownership, tpali n. Ill "leg")

"my leg of a tapir."

An alternate method is to form an adjective by adding to the Class III noun the prefix ka- 004 "having a certain
attribute or belonging to a class," and then nominalize
the adjective by the addition of the suffix -VLU 25 In-
dividual, and add the Genitive suffix -Vte 39:

nkatpalirite (n- 01 "my," tpali n. III "leg")
"my leg (of an animal)."

nkahlwurute (hwu n. III "flower") "my flower."
For a number of stems of Class III, secondary possession
is indicated in an arbitrary manner which is noted in the
lexicon. Examples are:

tomexite or tomexne (to- 04 "her," mexi n. III
"feather," -Vte 39 Genitive of ownership,
-ne 38 Genitive of utilization) "her feathers"
(of the woman); tomexi "her feathers" (of
the fowl).

nokwale (no- 01 "my," kwa n. III "platform,"
-Le 34 Genitive of product) "my platform."

Since Theme c is identical with Stem c, the illus-
trations will be given below in Section 242.3.

242.3. The noun stem comprises a base which is ob-
ligatory in all classes, and stem affixes of Classes 10,
20, and 30, whose occurrence distinguishes certain sub-
classes of stems.

Stem classes a, b, and c contrast in their distri-
bution in the different classes of noun theme, as has
been shown in Section 242.2, especially in Chart 13, above. Stem b is further subdivided into bl and b2. Stem bl regularly occurs optionally with genitive affixes in Theme a. Stem b2 regularly occurs only without genitive affixes and in Theme b. Exceptions are the cases in which a stem has a specialized reference in addition to the meaning of the base and affixes, as in serolo which means "a ripe one" and refers specifically to a plantain of a particular species.

The composition of noun stems a and b is shown in Chart 14.

Stems a and bl do not differ in composition except in the classes of bases; i.e. the list of bases of Stem a is a separate list from that of the bases of Stem bl. With a few exceptions the nouns of prefixal Class III are nouns of Stem a. Comparatively few nouns of Prefixal Classes I and II are nouns of Stem a. The same sets of affixes occur in Stem a and Stem bl.

The nominal affix Classes 10 and 20 are as follows:

10 Classification
15 -LU Infinitive, Entity
16 -nu Abstract
17 -menu Cause
18 -Vpi Instrument

The affixes of Class 10 are mutually exclusive.
Chart 14. Noun Stems a, b

<table>
<thead>
<tr>
<th>Stem</th>
<th>Base</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>a, b1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1)</td>
<td>a(1), b(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2)</td>
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<td>25</td>
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<tr>
<td>(15)</td>
<td>adjective + n.</td>
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<tr>
<td>(16)</td>
<td>adjective + vb.</td>
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<td>(17)</td>
<td>adverb</td>
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<td>(18)</td>
<td>particle</td>
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<td>(19)</td>
<td>postpos.</td>
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<td>(20)</td>
<td>prepos. + n.</td>
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</tbody>
</table>
Number and Gender

-kaka "each"

-VLU/o~-LU following -Vnu 61 Anticipatory Individual

-VtU/o Individual, Privative

-Vne Plural of homogeneous groups of human beings or animals, especially large animals.

-Vnu Possessed object

-tši~-Vtši before 20 in Stem c. Absolute.

The affixes of Class 10 are mutually exclusive.

Suffixes of Class 20 are not mutually exclusive, except for -VLU 25 and -VtU 26. Suffix -Vne 27 Plural may optionally replace or occur simultaneously with suffixes 25 and 26 in certain subclasses of Stem b and Stem c, as explained in the following detailed description of classes. In certain stem classes, Position Class 20 precedes Position Class 30, and in other classes, Position Class 20 follows Position Class 30. This is reminiscent of the order of Position Classes 20 and 30 in the verb.

For suffixes -VLU 25 and -VtU 26 Individual, Privative, feminine forms ending in -o occur. Restricted only by semantic appropriateness, the feminine forms have the same distribution as the masculine. They will
not be shown in the following pages except when one actually occurs in an example.

Class 30 has been described above in Section 242.2 as characteristically occurring in Position Class 30 in the theme. Only the suffix -Le 34 Genitive of process or product occurs in the noun base.

For each subclass (that is, composition class) of Stem a and b, there is a corresponding list of bases. The composition of Stem a and b with their subclasses, as shown by numbered horizontal lines on Chart 12, is illustrated below.

(1) Noun Base a(1), b(1):

   Stem a.  xi "seed, small member."
   Stem bl.  hmu "custard apple."

(2) Noun Base a(2), b(2) and the postpositive waka "time, place, manner."

   Stem a.  txiwa (txi n. base "back," waka postpos.) "magic power."
   Stem bl.  hawa (ha n. base "water," waka postpos.) "upstream."

(3) Noun Base a(2), b(2) and the suffix -LU 15 Entity, or -nu 16 Abstract:

   Stem a.  mka (mka n. base, -LU 15) "clothing."
   tamnu (tama n. base "row," -nu 16) "side, edge."
   Stem bl.  tšalu (tša- n. base, -LU 15) "fish net."
   himnu (him- n. base, -nu 16) "snake."
(4) Noun Base a(2), b(2) and -VLU 25 Individual, -VtU 26 Individual, Privative, or -Vtši 29 Absolute:

**Stem a.** hepuru (hepu- n. base, -VLU 25)
"younger sibling";
ptšotu (ptšo n. base "dirt, scar," -VtU 26) "tangle."

**Stem bl.** tšokoru (tšoko- n. base, -VLU 25
"harpoon";
tškotu (tško- n. base, -VtU 26)
"cebus monkey";
tkatsi (tka- n. base, -Vtši 29) "sun."

(5) Noun Base a(2), b(2) and -Le 34 Genitive of process or product:

**Stem a.** tsnale (tsna- n. base, -Le 34) "clod."

**Stem bl.** katsonale (katsona- n. base, -Le 34)
"aquatic animal sp."

(6) A compound of two or more nouns:

**Stem a.** myoxi (myo n. base "hand," xi n. theme
"small member") "finger."

The elements of the preceding compound may be either stems or themes, since Theme a and Stem a are homophonous. In the following example the first member is a stem; the following members are assumed to be stems, but may as well be themes.

**Stem b.** hiyekhitškasahmuna (hiyeka n. stem "guan,"
hitškasahi n. stem "gizzard" from hitška n.)
stem "excrement" and sahi n. stem "globe," muna n. stem "tree") "gizzard-of-a-guan tree"; xematspatate (xema n. stem "tapir," tspatate n. theme with -Vte 39 Genitive) "tapir's guava" or "wild guava."

Subclasses of Stem b2 follow.

Most of the subclasses of Stem b2 are productive; that is, the base comprises a member of a major class of words rather than of a limited list of such words.

(7) A theme plus the affix -Vnu 28 "possessed object": hirunu (hiru n. theme "...'s father," -Vnu 28) "that which belongs to ...'s father"; hitanu (hita n. theme "I," -Vnu 28) "that which is mine."

Theoretically any noun theme may occur in the construction which constitutes the base of this subclass, but actually animate nouns do so much more frequently than inanimate.

(8) An adjective theme and -nu 16 Abstract or -menu 17 "cause":


Any adjective, positive or privative, may occur in the construction which forms the base of this subclass.

(9) An adjective theme plus -VLU 25 Individual if the base is positive (not privative), and -VtU 26 Individual, Privative, if the base is privative, that is, if the privative prefix m-~ ma- occurs in the base. See Section 243. Every adjective theme in either a positive or a privative form may occur in the base of this subclass. Examples of both the positive stems and the corresponding privative stems are given:

šikolu "hard object," mšikotu "that which is not hard" (šiko adj. "hard," -VLU 25, -VtU 26).

kaptšolu "that which is dirty, scarred," maptšotu "that which is clean, unmarred," (kaptšo adj. "dirty, scarred," -VLU 25, -VtU 26).

When the referent of Stem b2 (9) is a person or large animal, -Vne 27 Plural usually follows -VLU 25, but replaces -VtU 26:

ponikolune "rich ones," mponikone "poor ones,"
One member of this subclass is an exception:

hektutu (hektu adj. with positive base "ugly, evil," -VtU 26 Individual, Privative)
"ugly one, evil one."

The occurrence of the Privative suffix is probably due to association with the privative form muhletu (kihle adj. "good," -VtU 26) "evil one."

(10) An adjective theme plus -nu 16 Abstract and -VLU 25 Individual or -LU 15 Entity, and -VtU 26 Individual, Privative:

kpitxnuru (kpit xo "thick," -nu 16, -VLU 25)
"that which has the quality of thickness."

tseylutu (tseyo "very small," -LU 15, -VtU 26)
"small object."

There are few members of this class.

(11) An adjective theme plus the suffix -Le 34 Genitive of process or product, and -VLU 25 Individual. Only one member of this subclass has been found:

popukaleru (popuka "mortal," -Le 34, -VLU 25)
"fish sp., which appears to be dead when resting."

(12) An adjective theme and the postpositive waka "time, place, manner":

(poniko "rich").
potškewaka (potške "quiet," waka) "quiet place, deep jungle."

ksamenuwaka (ksamenu adj. "having ghosts," waka) "habitation of ghosts."

(13) A compound of two adjective themes, or an adjective theme and a noun theme, plus the suffix -nu 16 Abstract:

ksaxpolnu (ksaxi adj. theme "black," pole adj. theme "blue, green," -nu 16) "dark blue, dark green."

tenhanu (teno adj. theme "deep," ha n. theme "water," -nu 16) "depth of water."

(14) A compound of an adjective theme and a noun Theme or Themes a, plus the suffix -VLU 25 Individual if the base is positive, or -VtU 26 Individual, Privative, if the base is privative:

hitxoyhiro (hitxo adj. theme "many," yhi n. Theme a "tooth," -VLU 25) "that which has many teeth, shad."

seroplošehiro (sero adj. theme "red," plo n. Theme a "umbilicus," šehi n. Theme a "foliage," -VLU 25) "red umbilical clump, fish sp."

muhlemkatu (muhle adj. theme "not good," mka n. Theme a "clothing," -VtU 26) "one who is poorly dressed."
There are two irregular members of this class in which the noun stem affix does not occur:

seroxi (sero adj. theme "red," xi n. Theme a "small member") "nose ornament."

seroxiproxi (sero adj. theme "red," xi n. Theme a "small member," proxi n. Theme a "disc") "coin, money."

By far the most common distribution of the adjective root (Section 243) is in the adjectival noun. An examination of the description of noun phrases in Section 232 will show how the sememe of the adjective root is generally carried, not by an adjective modifying a noun, but by an adjectival noun in apposition to the head noun of the phrase.

(15) A compound of an adjective theme and a verb stem, plus the suffix -Le 34 Genitive.

powrasatxrire (powra adj. theme "clean," satxri-vb. stem "to sweep") "a clean sweeping."

kihlehetle (kihle adj. theme "good," heta vb. stem "to see") "a favorable opinion."

(16) An adverb plus the suffix -LU 15 Entity and -VtU 26 Individual, Privative or -Vne 27 Plural:

hewirune (hewi adv. "here," -LU 15, -Vne 27) "those who are here."
waneyaluto (wane adv. "there," -ya 42 "to, for," -LU 15, -Vto 26) "woman who possesses."

(17) A particle plus the suffix -kaka 22 "each."
There is only one member of this class:
halikaka (hali particle "truly," -kaka 22) "truth."

(18) A compound of a noun and the postpositive pitxka "like" or yma "with," plus the suffix -LU 15 Entity and -VtU 26 Individual, Privative or -Vne 27 Plural:
rurupitxkalutu (ruru n. "his father," pitxka postpos. "like," -LU 15, -VtU 26) "one who is like his father."

(19) A compound of a noun and the postpositive mihxe "not thus, without," plus the suffix -VtU 26 Individual, Privative or -Vne 27 Plural:

(20) A compound of the prepositive pa with a noun theme plus the suffix -LU 15 Entity and -VtU 26 Individual, Privative or -Vne 27 Plural:
papokolutu (pa postpos., poko n. theme "arrangement," -LU 15, -VtU 26) "settlement, community."
papowalutu (pa postpos., powa n. theme "trunk, soft body," -LU 15, -VtU 26) "men's long robe."

Within Stem Class b2 are a few minor distribution subclasses. These subclasses are minor in that they are distinguished only by a few minor restrictions in distribution at various levels, and, in the case of some, by their occurrence in paradigms which differentiate person, number, and gender. In composition the stems of some of these subclasses resemble the composition classes of Stem bl. Others are irregular compounds of prepositives and postpositives with noun roots. The distribution subclasses are the pronoun, numeral, interrogative noun, vocative noun, and collective noun.

The pronoun is only slightly restricted in distribution. In the margin of a phrase whose head is a pronoun, no demonstrative occurs. In a noun theme whose stem contains a pronoun, the Genitive Position Class 30 does not occur. The plural suffix -Vne 27 does not occur in the stem.

There are six sets of pronouns with person, number, and gender implicit in the stem.

The first set consists of personal pronouns:

hita "I, me, my."
pitxa "you, you, your (singular)."
wale "he, him, his."
wala "she, her, her."
witxa "we, us, our."
hitxa "you, you, your (plural)."
wana "they, them, their."

These stems resemble Stem bl (1).

The second set consists of demonstrative pronouns which refer to "this, that, these, or those (near)":

tyæ m.s.; twu f.s.; nyi pl.

The third set consists of demonstrative pronouns which refer to "that or those (distant)":
tuxra m.s.; toxra f.s.; naxra pl.; waxra Indefinite.

The fourth set consists of demonstrative pronouns which refer to something distant that is heard but not seen:
tuka m.s.; toka f.s.

The stems of the second, third, and fourth sets correspond to Stem bl (1).

The fifth set consists of interrogative pronouns meaning "which?":
hiru m.s.; hiro f.s.; hina pl.

The sixth set consists of relative or interrogative pronouns meaning "what":
klu m.s.; klo f.s.; kla without gender; kna pl.

The stems of the fifth and sixth set correspond to
Stem bl (4).

The numeral is identified by, but not limited to, its occurrence in the numeral position in the noun phrase. The numerals from 1 to 10 are shown in the following list:

1. satu or satupxe (satu "one, another," pxe postpos. "only")
2. hepi
3. mapa
4. hepkotxamkoxe (hepi "two," kotxa postpos. "also," mkoxe adj. "homogeneous")
5. pamyo (pa prepos. "one, another," myo "hand")
7. payokhipre (pa prepos. "one, another," yokhi "pointer," pi "rod," -Le 34 Genitive)
8. yokhipi (See 7)
9. mturuxi (mturu "small one," xi "finger")
10. pamole (pa prepos. "one, another," mole "member of the tribe")

Numbers above ten comprise combinations of numerals from one to ten.

The stem of numeral 1 resembles Stem bl (4); stems of numerals 2 and 3, that of Stem bl (1); those of 4, 6, 7, 8, and 9 that of Stem bl (6). Those of 4, 5, 7, and
10 are irregular in the inclusion of the prepositive or postpositive in the stem.

There is a derived noun based on the numeral. It comprises the numeral plus the affix -LU 15 Entity, and -VtU 26 Individual, Privative or -Vne 27 Plural:

mapalutu (mapa numeral "three," -LU 15, -VtU 26) "a tripartite unit."

The interrogative noun occurs only phrase-initial in phrases which occur in the nucleus of the clause in clause-initial position. The interrogative noun does not occur with inflectional Position Classes 30 and 40. The interrogative nouns are hiklu (hi Interrogative particle, klu postpos. "time"), a stem of irregular formation, "when?" and katu, corresponding to Stem bl (4), "who?" "whose?" or "whom?"

The vocative noun is identified by its occurrence in the phrase which serves as the vocative of a clause or sentence. It is not limited to this distribution but its occurrence elsewhere is nonlinguistically restricted to conversation with children, near relatives, or others on a familiar basis. The vocative stems comprise, for the most part, either noun stems with specialized meaning, or a reduplicated syllable of the noun stem referring to a relative. Following are examples:
šte ("rim of a slight depression," often used of an ornamental edging) "younger relative."

hexha ("scrotum") "boy."

yeye (yehwaklu/o "older brother, sister") "older brother or sister."

koko (hikoxiru "uncle") "uncle."

papa (patu voc. "uncle," obsolete for "father") "papa."

The collective noun most frequently occurs in the modification construction within the clause, although it is not limited to that construction. It comprises a plural pronoun stem or a noun stem whose referent is a person or animal, especially a large animal, and which includes the suffix -Vne 27 Plural. This stem as well as the pronominal stem occurs with stem-final -kaka 22 "each."

The stem is followed by the suffix -LU 15 Entity. It usually occurs with the inflectional suffix -Vko 74 Emphatic:

witxkakluko (witxa "we," -kaka 22, -LU 15, -Vko 74) "we among ourselves."

mhenoklunkakluko (mhenoklu "jaguar," -Vne 27, -kaka 22, -LU 15, -Vko 74) "jaguars among themselves."

The composition of noun Stem c is shown in Chart 15.
### Chart 15. Noun Stem c

<table>
<thead>
<tr>
<th>Stem</th>
<th>Base</th>
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<th>30</th>
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<td>30</td>
<td>20</td>
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<tr>
<td>(6)</td>
<td>vb. theme</td>
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<td></td>
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<tr>
<td>(7)</td>
<td>Positive passive vb. theme</td>
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<tr>
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<td>vb. theme</td>
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<tr>
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</table>
The classes of affixes which occur in Stem c are the same as those described for Stems a and b above. The base is a verb stem or theme, or an inflected verb. The appropriate form of every verb may occur as the base of each of the subclasses of Stem c. In certain subclasses particular verb theme affixes or inflectional affixes are obligatorily included in the verb form, as shown in the chart.

The subclasses of Stem c, as shown by the numbered horizontal lines on Chart 15, are divided into four groups on the basis of the verb stem or theme or inflected verb that occurs in the base. In subclasses (1) through (6) the base is a positive active verb; in subclasses (7) through (10), a positive passive verb; in subclasses (11) through (15) a privative active verb; in subclasses (16) and (17), a privative passive verb. A privative verb form is one which includes the theme prefix m-. 001 Privative; a positive verb form is one which does not include this prefix.

The items which occur in the subclasses of Stem c are shown in the following paragraphs.

(1) A positive active verb stem plus the suffix -LU 15 Infinitive in a noun stem meaning "action or state referred to by the verb," -nu 16 Abstract in a noun stem meaning "the concept of the action of the verb," -menu 17
Cause in a noun stem meaning "the source or cause of the action of the verb," or -Vpi Instrument in a noun stem meaning "the instrument with which the action of the verb is performed":

saxruklu (saxruka "to turn," -LU 15) "turn, bend, esp. the bend of a river."
yotšihnu (yotšiha- "to dazzle," -nu 16) "dazzling brightness."
hipnamenu (hipna "to die," -menu 17) "cause of death."

histakapi (histaka "to cut," -Vpi 18) "knife."

When the subject of the verb occurs with a stem which includes -LU 15 or -Vpi 18, the Genitive suffix -Le 34 is obligatory:

wale saxrukle (wale "it," saxruklu "turn,
-Le 34) "its turn."
hita histakapre (hita "I," histakapi "knife,
-Le 34) "my knife."

(2) A positive active inflected verb which includes -V > i + ni 62 Conditional plus the suffix -LU 15 Infini­tive. The noun stem means "the state of being character­ized by the action of the verb":

numatinri "when I know," -LU 15) "my state of knowing."
(3) A positive active transitive inflected verb which includes -Vnu Anticipatory, plus either the suffix -VLU 25 Individual or -Vne 27 Plural or, with feminine individuals, optionally both. The noun stem means "object of the action by the subject":

nyohimatanru (nyohimatanu "I anticipate hiding," -VLU 25) "the one I hide,"
nyohimatanune (nyohimatanu, -Vne 27) "the ones I hide," nyohimatanrone (nyohimatanu, -VLo 25, -Vne 27) "the female ones I hide."

(4) A positive active verb theme plus the suffix -Vtši 29 Absolute plus either -VLU 25 Individual or -Vne 27 Plural, or, with feminine individuals, optionally both. The noun stem means "one who performs the action or is characterized by the state of the verb":

hitxownatšri "the one who has become fat,"
hitxownatšine "the ones who have become fat,"
hitxownatšrone "the girls who have become fat," (hitxowna "to become fat," -VLU 25, -Vne 27)

(5) A positive active transitive verb theme plus either -xe 35 Continuative (See Section 241.2). in a noun stem meaning "the one from whom the subject of the
verb receives the passive action of the verb," or -Le 34 Genitive on a noun stem meaning "recipient of the action of the verb," and either -VLU 25 Individual or -Vne 27 Plural, or, with feminine individuals, optionally both:

kaspukxeru "the one who released him,"

kaspukxene "those who released him,"

kaspukxerone "the women who released him,"

(kaspuka "he releases," -xe 35, -VLU 25, -Vne 27).

yimakleru "one who is taught," yimaklene "those who are taught," yimaklerone "women who are taught," yimaka "to teach," -Le 34, -VLU 25, -Vne 27).

(6) A positive active verb theme which includes -ya 42 "in," plus the postpositive waka "time, place, manner." The noun stem means "the time, place, or manner of the action of the verb":

kawyawaka (kawya "to bathe in," waka postpos. "place") "bathing place."

(7) A positive passive verb theme which almost always includes -V 42 "with reference to" and obligatorily includes -ko 52 Anticipatory Passive, and the suffix -LU 15 Infinitive. The noun stem means "passive action
referred to by the verb":

hiwakatikolu (hiwakatiko "to be named," -LU 15) "to be named," "one's being named."

(8) A compound consisting of a positive passive verb theme which includes -ko 52 Anticipatory Passive, with the postpositive klu "time, era," plus the suffix -nu 16 Abstract. The noun stem means "the passive action of the verb's having occurred," and is usually translated by a clause with a verb in the pluperfect:

ruhitkoklunu (ruhitko "he is to be answered," klu "time," -nu 16) "when he had been answered."

(9) A positive passive verb theme including -ka 51 Passive, plus the suffixes -LU 15 Infinitive and either -VLU 25 Individual or -Vne 27 Plural, or, with feminine individuals, optionally both. The noun stem means "the subject of the passive action of the verb":

kašanatkaluru "one who has been treated with herbs," kašanatkalune "those who have been treated with herbs," kašanatkaluronone "women who have been treated with herbs," (kašanatka "treated with herbs," -LU 15, -VLU 25, -Vne 27).

(10) A positive passive verb theme which includes -V > i 42 "in" and -ko 52 Anticipatory Passive, plus the
postpositive waka "time, place, manner." The meaning of the noun stem is "the time, place, or manner of the passive action of the verb":

niklokiwaka (niklokiko "he was to be swallowed there," waka postpos.) "where he was swallowed."

(11) A privative active verb theme plus the suffix -nu 16 Abstract in a noun stem meaning "lack of characterization by the action or state of the verb" or -menu 17 Cause in a noun stem meaning "cause of lack of the action or state of the verb":

moyaknu (moyaka- "to not be durable," -nu 16) "quality of not being durable."

myayitxmenu (myayitxa- "to not be sick," -menu 17) "cause of not being sick."

(12) A privative active verb theme which includes either -Vnu 61 Anticipatory in a noun stem that means "lack of having performed the action of the verb," or -V >i + ni 62 Conditional in a noun stem that means "the state of not being characterized by the action of the verb," plus the suffix -VtU 26 Individual, Privative:

tma nikamtanu (tma nikamtanu- "she does not anticipate eating," -VtU 26) "her not having consumed."
wma muhkakiniti (wma muhkakini- "if we do not tell," -VtU 26) "our state of not telling."

(13) A privative active verb stem plus the suffix -Le 34 Genitive. The noun stem means "lack of the action of the verb":

mumatle (mumata- "he does not know," -Le 34)
"his lack of knowledge."

(14) A privative active verb stem plus the suffixes -Le 34 Genitive and either -VtU 26 Individual, Privative or -Vne 27 Plural, or with feminine individuals, optionally both. The noun stem means "one who lacks the action or state of the verb":

metletu "one who fails to see," metlene
"those who fail to see," metletone
"women who fail to see," (meta- "to not see," -Le 34, -VtU 26, -Vne 27).

(15) A privative active verb theme which includes -ya 42 "in," plus the postpositive waka "time, place, manner." The noun stem means "time, place, or manner of lack of action of the verb":

myayitxyawaka (myayitxya- "he was not sick there," waka postpos.) "the way he was not sick."

(16) A privative passive verb theme including -ka 51 Passive but apparently without passive meaning, in a
noun stem with the meaning of "one who does not perform the action of the verb," or including -ko 52 Anticipatory Passive in a noun stem with the meaning of "one who does not receive the passive action of the verb," plus either the suffix -VtU 26 Individual, Privative or -Vne 27 Plural, or, with feminine individuals, optionally both:


metkotu "one who is invisible," metkone "those who are invisible," metkotone "invisible women," (metko- "not to be seen," -VtU 26, -Vne 27).

(17) A privative passive verb theme which includes -V >i 42 "in," and -ko 52 Anticipatory Passive plus the postpositive waka "time, place, manner." The meaning of the noun stem is "time, place, or manner of lack of passive action of the verb":

mapkakikowaka (mapkakiko- "it is not to be caught," waka postpos.) "the times (not instances) when it was not caught."

The foregoing descriptions and Chart 13 show only items obligatorily included in the verb theme. The Modi-
ification Position Class 30, optional to the verb theme, may also be included, represented by incorporated nouns, postpositives, and affixes. The example given for Stem (5) above, hitxownatšri "the one who has become fat," could, for example, be expanded to hitxownastonpotunatšri "the one whose trunk was becoming very fat" (hitxowna "to become fat," stono "trunk of the body," potu postpos. Intensifier, -Vna 36 Temporal, -Vta 21 Potential Stem Closure).

242.4. The noun base comprises Bases a, b, and c corresponding to noun Stem a, b, and c.

There are two subclasses of Base a. Base a(1) occurs only in Stem a(1). It comprises either a head construction in which a noun root or reduplicated root occurs, or else a head construction in which a noun root or reduplicated root plus one of the base affixes listed below occurs. Base a(2) occurs in Stem a in all subclasses other than (1). It comprises a noun Root a.

The base affixes are hi-, ho-, -hi often "head, prominent part," -ko, -ma, -na, -no, -pe-, and -ta which often refers to a delineated space. Except for -hi and -ta, the affixes are too vague in meaning to be defined, and except for these two, none is frequent in occurrence. Examples of the occurrence of the affixes will be found with the illustrations of Base a(1) and Base b(1) below. The
suffixes -ko, -ma, and -ta occur only in Base a(l).
The prefix ho- and the suffix -pe- occur only in Base b(l).

Base a(l):
myo (myo n.r.) "hand."
hoho (ho- n.r.) "space over or on."
hiba (hi- base prefix, -sa n.r. "herb")
"herb magic."
šehko (šehi n.r. "foliage," -ko base suffix)
"bushy hair."
skoma (sko n.r. "base of a tree," -ma base suffix)
"circumference of the foot of a tree."
twana (twa n.r. "bow," -na base suffix)
"stem of a frond."
špino (špi- n.r. "upper edge," -no base suffix)
"furrow between drainage ditch and house."
sputa (spu n.r. "lip," -ta base suffix)
"edge of a clearing."

Base a(2):
mka- (n.r.) in mkalu "clothing."
hepu- (n.r.) in hepuru "little brother."

A small number of bases which belong to Class a and which semantically are kinship referents, distinguish a masculine base marked by a suffix -t- from a feminine base
not so marked:

hatxi- Base a(2) in hatxiru Stem a(3) "grandfather," contrasting with haxi- Base a(2) in haxiro Stem a(3) "grandmother."

meknatxi- Base a(2) in meknatxiru Stem a(3) "woman's potential mate or brother-in-law," contrasting with meknaxi- Base a(2) in meknaxiro Stem a(3) "man's potential mate or sister-in-law."

For the masculine-feminine contrast of -ru and -ro, see the list of suffixes of stem Class 30 in Section 242.3 above.

There are eight subclasses of Base b. Base b(1) occurs only in Stem b(1). It comprises either a head which is a noun Root b or a reduplicated Root b, or else a head which is a noun Root b or reduplicated Root b plus one of the base affixes listed above. Base b(2) occurs in Stems a(2) to (6) inclusive. It comprises a head which is a noun Root b or reduplicated Root b. Base b(3) occurs in Stems b(8) to (12) inclusive. It comprises an adjective theme. Base b(4) occurs in Stems b(13) and (14). It comprises a compound of two adjectives or an adjective and a noun. Base b(5) occurs in Stem b(15). It comprises an adverb theme. Base b(6) occurs in Stem b(16). It
comprises a particle. Base b(7) occurs in Stems b(17) and (18). It comprises a postpositive. Base b(8) occurs in Stem b(19). It comprises a compound of a prepositive and a noun.

**Base b(1):**

- hmu (n.r.) "custard apple."
- tšitši (tši- n.r.) "fire, firewood."
- hiwru (hi- base prefix, -wru n.r. "whirling") "snow."
- hoyetšno (ho- base prefix, yetši- "darkness," -no base suffix) "night."
- yokhi (yoka- n.r. "extension," -hi base suffix) "pointer."
- sana (sa- n.r. "herb," -na base suffix) "planted field."
- šimpe- (šima n.r. "fish," -pe- base suffix) in šimperi "fish trap."

**Base b(2):**

- putso (n.r.) in putsotu "electric eel."
- haha- (ha- n.r. "wood") in hahalu "wooden weapon."

**Base b(3):**

- klata (adj. theme "white") in klatalu "white person."

The derivative suffix -kaka 22 "each" is optionally af-
fixed, and a postpositive is optionally incorporated following Base b(3) when it occurs in Stem b(9):

- mtenkakatu (mtenotu "that which is short," -kaka 22) "each short one."
- kihlepoturu (kihleru "a good one," potu postpos. Intensifier) "an excellent one."
- kihlepotkaklu (kihleru "a good one," potu postpos. Intensifier, -kaka 22) "each excellent one."

Base b(4):

- katšinsero- (katšino adj. theme "painful," sero adj. theme "red") in katšinsernu "blood-redness."
- kataxha- (kataxi adj. theme "shining," ha n. theme "water") in kataxhalu "shining water."

Base b(5):

- wane (adv. theme "there") in wanerutu "that which exists."

Base b(6):

- hali (hali particle "truly") in halikaka "truth."

Base b(7):

- yma (postpos. "with") in ymalutu "one who is with."

Base b(8):

- panšinikanu- (pa prepos. "one," nšinikanu n.)
theme "mind") in panšinikanurune "those who are unanimous."

A few bases have alternate forms Base a and Base b:

- maši- Base a and maši Base b in mašire Stem a and mširi Stem b "comb."
- supe- Base a and spe- Base b in superi- Stem a(3) and speri Stem bl (3) "palm sp."
- šote- Base a and kšote- Base b in šoteru- Stem a(4) and kšoteru Stem bl(4) "deer."
- hitšima Base a and tšitši Base b with Stems a(l) and bl(l), homophonous with the bases, "fire, firewood."
- hiso- Base a and nso Base b with Stems a(l) and bl(l), homophonous with the bases, "genipa."

See Section 151, Morphophonemics: hs > ns.

Base c comprises a verb theme:

- hirukota (vb. theme "to take care of, rule") in hirukotatšri "one who cares for, an official."

A review of Chart 9, Section 241.2, will show the potential modifications of the verb theme. Notice that an incorporated noun or incorporated postpositive may be included within the verb theme:
hirukotaprahimanata (verb theme "to be said to have been taking care of domestic animals") in hirukotaprahimanata-tāri "one who was said to have been taking care of domestic animals."

242.5. The noun root is a single morpheme. It is classified as Root a or Root b on the basis of its distribution in Base a, Base b, or, as explained in the next to the last paragraph of the preceding section, both Base a and Base b.

243. The adjective is identified by its distribution. It is limited in syntactical constructions to phrases which occur in subject and object complements, and the predicate of Cl. III. In morphological constructions it is limited to occurrence in the adjective noun, where its distribution is most frequent, and to rarer occurrence in the base of a verb.

The inflected adjective comprises an obligatory adjective theme plus inflectional affixes which are not obligatory to the composition of the adjective, but are obligatory to its distribution in certain situations, as described below.

243.1. The inflectional affixes of the adjective comprise optional Position Classes 40, 70, 80, 90, and 100, and Position Class 00 which is obligatory with Cl. III under circumstances described in Section 211. These
position classes are very similar to those of the verb and noun, as will be seen by referring to Chart 7, Section 241.1 and Chart 12, Section 242.1. The system of numbering is the same.

A description of Position Class 00 will be found in Section 241.6. The affixes of the other position classes are the following:

40 Location
42 -Vya "to, for the benefit of"

70 Aspect
71 -Vna~ -na following 53 and preceding 80. Intensifier of action or effort, detrimental effect
72 -Vpa~ -pa preceding 80. Purpose, Change of state
73 -ni "solemn, unfortunate, dead, no longer in existence, past"
74 -Vko Emphatic
75 -Vka Affirmative
76 -maka~ -Vmka following a consonant cluster. Subjunctive, Optative, Frustrative
77 -Vkta Generalizer
80  Time
81  -Vtka "now, then, next in succession"
82  -Vtnaka "again"
83  -Vwa "yet"

90  Interest
93  -La ~ -Le Calls to attention to the head word

100  Attitude
101  -tši Polite form
102  -he Question
103  -VLi ~ -VLe following -he, and optionally elsewhere after -e-, Endearment, Flourish
104  -ta ~ -tay* in the speech of some men. Exclamatory

As with the verbs and nouns the affixes of Class 70 are not mutually exclusive, but occur in the order indicated by the digits; the affixes of Class 80 are mutually exclusive; the affixes of Class 100 are not mutually exclusive, but are not frequently found in combination. Following are examples of each of these classes:

40

kihley·i (kihle "good," -Vya 42 "for the benefit of," -yi 0-02 "you") "good for you."

70

howukanatkwu (howuka "far," -Vna 71 with
detrimental effect," -Vtka 81 "already," -wu 0-05 "we") "we (were) unfortunately already far away."

potškepyi (potške "quiet," -Vpa 72 Change of state, -yi 0-02 "you") "you (be) quiet."

maxnakniri (maxnako "deaf, disobedient," -ni 73 "unfortunate," -LU 0-03 "he") "he (is) unfortunately disobedient."

powramka (powra "clean," -Vmka Optative, Frustrative) "supposed to be clean."

malešaktalu (maleša "empty, vain, void, non-existent," -Vkta 77 Generalizer, -LU 0-03 "it") "it (is) something empty."

hitškotkalu (hitško "strong," -Vtka 81 "now," -LU 0-03 "he") "he (is) well now."

kaptšotnaklu (kaptšo "dirty," -Vtnaka 82 "again," -LU 0-03 "he") "he (is) dirty again."

kapkaklewa (kapkakle "capable in hunting," -Vwa "yet") "yet capable in hunting."

kšinikanmakla (kšinikanu "intelligent," -maka 76 Frustrative, -La 93 Calls attention to the head word) "very intelligent, but with-
out the desired result."

100

kpitxnutši (kpitxnu "thick," -ši 101 Polite form) "thick, please."

powrayhere (powra "clean," -yi 0-02 "you,"
-he 102 Question, -Le Endearment) "(are)
you clean, dear?"

ksaxitšratata (ksaxitšra "having one side black," -ta 104 Exclamatory) "having one side black!"

kihle-pxitay (kihlepxi "being a beautiful house,"
-tay 104 Exclamatory) "being a beautiful house!"

The occurrence of the Classes 90 and 100 is infrequent except in certain standardized sequences.

243.2. The adjective theme is divided into three classes on the basis of composition. There are no contrasts in distribution.

In the theme the following prefix classes occur:

001 m~ma~ preceding theme of n. III.
Privative

003 k~ka~ preceding theme of n. III.
Possessing an attribute or belonging to a class.
004 ho- Extensive

Theme 1 comprises an obligatory adjective base and, except with bases having initial m-, the optional prefix m- 001 defined above:

sero "red," pomlo "crumbly."
muši "tasteless."
msero "lacking redness," mpomlo "not crumbly."

Theme 2 comprises a compound of an adjective base and a noun Theme a, and except with bases having initial m-, the optional prefix m- 001:

poye*haxi (poyehi adj. Base 1 "firm," haxi n. Theme a "...'s heart") "sad, grieving," and mpoye*haxi (m- 001) "not sad, not grieving."
poltšalne (pole adj. base "green," tšalne n. Theme a "...'s fishnet") "having a green fishnet" and mpoltšalne "not having a green fishnet."

Theme 3 comprises the noun Theme a plus a prefix m- ~ ma- 001, k- ~ ka- 003, ho- 004, or both m- 001 and ho- 004:

mayhi (ma- 001, yhi n. a III "...'s tooth") "toothless."
kayhi (ka- 003) "having teeth."
hoyhi (ho- 004) "long-toothed."
moyhi (m- 001, ho- 004) "short-toothed."
kahale (k- 003, hahale n. a. I "...'s wooden weapon") "having a wooden weapon."
kmasne (k- 003, masu n. a. II "...'s gourd bowl") "having a gourd bowl."
kpoloxite (k- 003, poloxite n. a. II "...'s basket") "having a basket."

Theme 4 comprises a verb theme plus a prefix m-001, k- 003, ho- 004, or both m- 001 and ho- 004, plus the suffix -Le 34 Genitive:

mapkakle (m- 001, hapkaka vb. theme "to overtake," -Le 34) "not capable as a hunter."
kšimahakle (k- 003, šimahaka- vb. theme "to fish," -Le 34) "engaged in fishing."
hoiynumsakleru (ho- 004, hiynumsaka- vb. theme "to converse," -Le 34) "long-winded."
mohiynumsakle (m- 001, ho- 004, hiynumsaka vb. theme "to converse," -Le 34) "not long-winded."

The verb theme may optionally include -ka 51 Passive, but without passive meaning. If the verb theme includes -Lewa 33 Characteristic, -ka 51 is obligatory:

kaškale or kaškakle (k- 003, haška- vb. theme "to bite," -Le 34) "having a bite or sting,"
or kaškalewakle (including -lewa- 33 Characteristic) "mordacious."

When the prefix k- 003 precedes the theme of a verb of Prefix Class I, the initial h- of the verb is optionally retained or dropped:

kapoklewakle or khapoklewakle (k- 003, hapoklewaka- vb. theme "to customarily arrive,"
-Le 34) "recurrent."

Informants previously, in 1947 and following years, specified that any verb cited retained or lost the initial h-. Now they usually offer the two forms consciously in free variation. The former distinction between verbs which dropped and verbs which retained h- (phonetically a voiceless or voiced nasalized spirant) probably reflects a historical distinction between nasalized and oral spirants which have since fallen together. The few nouns based on adjective Theme 4 in which h- has been consistently heard, are so shown in the lexicon.

243.3. The adjective base comprises two main classes, and several irregular constructions.

The base of the first class consists of only an adjective root:

tenō "high."

šikō "hard."
The base of the second class consists of an adjective root plus the prefix po- Intensive, k- Having a quality, m- Lacking a quality, or x- which is probably a palatalization of k-. The meanings which have been ascribed to these prefixes are actually vague approximations. A separate subclass of roots occurs with each prefix:

- pokte (-kte- adj. r.) "hard, stiff, firm."
- pomlo (-mlo- adj. r.) "crumbly."
- klata (-halata adj. r.) "white."
- ksaxi (-saxi adj. r.) "black."
- mupa (adj. r. not isolated) "light, not heavy."
- muši (adj. r. not isolated) "tasteless."
- xmere (-mere adj. r.) "willing, eager."

The base prefix k- or x- is dropped following m- Ool Privative in the theme:

- msași "not black"; cp. ksaxi "black."
- m.e.re "unwilling"; cp. xmere "willing."

Besides these two common constructions, there are some irregular adjective base formations. Kayaho "alleviated, decreased" contrasts with the regular Base I construction kyaho "measured" (-yaho adj. r.). A few bases include suffixes apparently borrowed from other word classes:

- ptseru (ptse- adj. r., -LU 15 Entity) "funny."
potlika (po-, -tli- adj. r., -ka) "faded."

potskiha (po-, -tski- adj. r. -ha, See Section 241.3.) "breakable."

pomtuwaka (po-, -mtu- adj. r. "injurious,"
       -waka postpos. "manner") "easily angered."

kpitxnu (k-, pitxo- adj. r., -nu 16 Abstract)
       "thick."

kpitxowaka (k-, pitxo- adj. r., -waka postpos.
       "manner") "fat."

A few adjective bases comprise a postpositive plus
an adjective base prefix or ho- 004 Extensive:

poyehi (po-, yehi postpos. "near, concerning")
       "firm, well-established."

honanu (ho- 004, nanu postpos. Distributive)
       "of long duration"; hoyaka (ho- 004, yaka
       postpos. "status") "durable"; xinanu (xi-,
       nanu postpos. Distributive) "having eaten
to the full."

244. The adverb is identified by its distribution
in phrases which constitute modification constructions of
the clause and predicates of Cl. III, and its distribu-
tion in the base of noun Stem b(16).

The inflected adverb comprises an obligatory adverb
theme plus optional inflectional affixes. The inflection
is very similar to that of the adjective, Section 243.1.

244.1. The inflectional affixes of the adverb comprise Position Classes 40, 70, 80, 90, 00, and 100. Position Class 00 is obligatory to an adverb occurring in an adverbial phrase in the predicate of Cl. III under circumstances described in Section 211.

Position Class 00 has been described in Section 241.6. The affixes of the other position classes are the following:

40 Location
42 -Vya "to, at, from, of, by, for"

70 Aspect
71 -Vna~ -na following 53 and preceding 81. Intensifier of action or effort, detrimental effect
72 -Vpa~ -pa preceding 80. Purpose, change of state
73 -ni "solemn, unfortunate, dead, no longer in existence, past"
74 -Vko Emphatic
75 -Vka Affirmative
76 -maka~ -Vmka following consonant cluster. Subjunctive, Optative, Frustrative
77 -Vkta Generalizer
80  -Vtka "now, then, next in succession"
82  -Vtnaka "again"
83  -Vwa "yet"

90  Interest
93  -La Calls attention to the head word

100 Attitude
101  -tši Polite form
102  -he Question
103  -VLi ~ -Vle Endearment, Flourish

Following are illustrations of each class:

40
waneyno (wane "there," -ya 42 "for," -no 01 "I") "I have."

70
waneyanatkana (wane "there," -Vya 42 "for,"
   -Vna 71 "unfortunate," -Vtka "then," -na 07 "they") "then they had to their sorrow."

   txanimpatkalu (txani "now," -ni 73 "unfortunate,"
   -pa 72 "purpose," -Vtka 81 "now," -LU 03 "it")
   "and now for this one" (common comment before shooting).

   txaniklaka (txani "now," -Vko 74 Emphatic, -La
93 Calls attention to the head word, -Vka 75
Affirmative) "now is the time."
mutšinanmakakta (mutšinanu "previously," -maka
76 Subjunctive, -Vkta 77 Generalizer) "(it
would have been) sometime previously."

80
hawlatka (hawla "over there"; -Vtka 81 "now")
"over there now."
hewitnaka (hewi "here," -Vtnaka 82 "again")
"here again."
wanewa (wane "there," -Vwa 83 "yet") "there
still (is)."

90
wanetkala (wane "there," -tka 81 "already,"
-La 93 Calls attention to the head word)
"right there already."

100
hewiši (hewi "here," -tši 101 Polite form)
"here, if you please."
hawlalhe, hawlalhere (hawla "over there," -LU
03 "it," -he 102 Question, -VLe Endearment)
"is it really over there?"

The occurrence of Position Classes 90 and 100 is in-
frequent except in certain standardized sequences.
244.2. The list of adverbs is very limited:

hapakapa "taken along."

hawla "over there."

hewi "here."

hinaka "where, where?"

mutši and mutšinanu "previously."

wane "there, then, thus."

txani and txawakni "now, today."

The derivation of these adverbs is uncertain, except for that of mutši and mutšinanu which are probably related to the particle hitši "not yet" (m- OOl Privative, nanu postpos. Distributive, Past time); and txani and txawakni (-ni probably 73 "no longer in existence," waka postpos. "time").

The adverb hapakapa does not occur in the modification construction.

245. The particle is identified by its frequency in sentence fragments, and by its distribution in mood and potentiality constructions within clauses, and by its limited inflection. Some of the particles occur with no inflection whatever; others have a limited selection of inflectional affixes, as described below.

The particles are the following:

hali "truly."
halukta "maybe."
hethonuka "possibly."
hi Exclamatory, Interrogative, Negative.
hi he Interrogative.
hitši "not yet."
hitšikaka "wait a minute."
hihi "yes."
hike "no."
hhta "maybe."
himka "although, perhaps."
hiphuta "apparently."
ho "I don't know."
howa "so that's how it is."
hwu "O.K."
patako "maybe."
seyoka "it is finished."
tekali "come here."
txako "be careful."

245.1. Only the following particles occur with inflection: hihi "yes," hike "no," hiphuta "apparently," seyoka "it is finished," and txako "be careful." Occurrence of the inflectional position classes with these particles is restricted, and there are further restrictions as to the occurrence of particular members of the position classes.
Chart 16 shows the entire affixation of the particle. The meanings of these affixes are as follows: 75 -Vka Affirmative, 76 -maka -Vmka Optative, Frustrative, 77 -Vkta Generalizer, 81 -Vtka "now, then," 83 -Vwa "yet," 93 -La Calls attention to the head word.

245.2. The themes of most of the particles consist of particle roots. The following particles are composed of a particle root plus a derivational or inflectional affix of the noun or verb:

hitši (hi particle Negative, -tši 29 n. Theme affix, Absolute) "not yet," and hitšikaka (-ka-ka 22 vb. theme Causative) "wait."

hikta (hi particle Interrogative, -Vkta 77 Generalizer) "maybe."

himka (hi particle Negative, -Vmka Frustrative) "although, perhaps."

howa (ho particle "I don't know," -Vwa 92 Interest on the part of the speaker) "so that's how it is."

The particle hihi "yes" is probably a reduplication of hi particle Negative. The final syllable -ke of hike "no" has not been identified.

The following particles contain a root other than a particle root:
Chart 16. Particle Inflection

<table>
<thead>
<tr>
<th>Particle</th>
<th>+70</th>
<th>+80</th>
<th>+90</th>
<th>+00</th>
</tr>
</thead>
<tbody>
<tr>
<td>hihi</td>
<td>75 -Vka</td>
<td></td>
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The connective is identified by its distribution only in the phrase which serves as a connective of a clause or sentence, and by its inflection which is even more restricted than that of the particle.

A complete alphabetic list of the connectives is given below in Section 246.2.

246.1. The connectives which occur with inflection are shown here in the combinations which have been found:

hiyahni (hiyaho- cn., -ni 03 "it") "therefore, then."

hiyahoktala (-Vkta 77 Generalizer, -La 93 Calls attention to the head word) "correctly."
makakta (maka "but," -Vkt a 77 Generalizer) "but however it happened."

seyni (seyo "but," -ni 03 "it") "but."

seynimka (seyni "but," -Vmka 76 Frustrative) "but rather than that which might have been expected."

wanepnutetnakni (-Vtnaka "again," -ni 03) "and then again."

wanepnutla (-La 93 Calls attention to the head word) "and then!"

wanepnuteko (-Vko 74 Emphatic) "right then."

Examples have been given for all combinations which have been found of the connectives other than wanepnute "then."

This connective occurs with all of the affixes of Classes 70, 80, and 90, and with -ni 03; only a few examples of its inflection have been given.

246.2. The derivation of the connectives is extremely irregular:

ha (cn.r.) "and, but."

ha wa (frequent sequence of two connectives) "and, but."

hatši (cn.r. plus suffix -tši 29 Absolute) "but."

hiyaho (cn.r. yaho- "measure" plus derivational n. or vb. prefix hi-) "then, therefore."
hiyaka (negative particle hi, postpos. yaka "status") "but not."
maka (cn.r. which is the same morpheme as that of the inflectional suffix -maka 76 Sub-junctive, Optative, Frustrative) "however, but, on the contrary."
seyo (cn.r.) "but."
wa (cn.r.) "and, but."
wanepnute (compound of waneadv. "then, there, thus" and pnute n. theme a "...'sfarness") "furthermore, and then."
yahlu (cn.r. yaho- "measure" plus suffix -LU 15 Entity) "although."

247. **The prepositive** is identified by its occurrence in the verb phrase and adjective phrase, immediately preceding the head word with which it forms a phonological unit with one stress. There are only two prepositives, each a simple prepositive root: pa "a, one, another," and ma Privative. They are not inflected.

248. **The postpositive** is identified by its distribution. It never occurs as the head of a phrase, but always occurs in the margin following the head word with which it optionally forms one phonological word, that is, a stress unit with one primary stress.
The postpositives comprise three distribution classes determined by the classes of phrase in which they occur. Those of Class 1 occur with verbs, nouns, adjectives, particles, and connectives; those of Class 2, with verbs only; those of Class 3, with nouns only. For details of their occurrence, see Section 241 through 246. Following is an alphabetical list of the postpositives with the class of each indicated by the appropriate number:

- hapka 1 "first, next, in succession."
- hetko 1 "maybe."
- hima 1 "it is said."
- hnapu 1 "beforehand, suddenly."
- hohne 2 "expansive of time or space, universal."
- honru 3 "special, principal."
- honuka 2 "especially, principally, rather."
- kawa 3 "period of time following."
- kawtšinanu 3 "by" (oath).
- klu 3 "epoch, time, era."
- mihxe 3 "that which is not thus, without."
- mnu 3 Transitory.
- nanu 1 Distributive.
- nšinikanu 1 "almost."
- penute 3 "space in front of one, opposite one."
- phuta 1 "apparently."
248.1. The inflection of the postpositive is parasitic; it is associated semantically with the head word, not with the postpositive. When a postpositive follows a head word in a phrase, the inflection appropriate to the head word may optionally be affixed to the postpositive. The head word plus the postpositive and its affixes may optionally be pronounced as one stress unit or as two stress units. In the following illustrations of the affixation of postpositives with the various word classes, each example is shown as it happened to be recorded, either as only one phonological word, or as two phonological words.

Nouns with inflected postpositive:

mhenoklu hetkokatkani (mhenoklu "tiger," hetko postpos. "perhaps," -Vka 75 Affirmative, -Vtka 81 "now," -ni 03 "it") "maybe now it (is) a tiger."

wan’ a hapka hetkopni (wan’ a "they" hapka postpos.)
"next," hetko postpos. "maybe," -Vpa 72
Change of state, -ni 03 "it") "they (will
be) next maybe."

Adjective with inflected postpositive:
kapiranye·himatkalu (kapirana "known, of
reputation," yehi postpos. "concerning,"
hima postpos. "it is said," -Vtka 81
"then," -Lu 03 "he") "he (was of)
reputation then they say."
teyakayakpatkayi (teyaka "swift," yaka postpos.
"status," -pa 72 Change of state, -Vtka 81
"now," -yi 02 "you") "hurry up."

Adverb with inflected postpositive:
wanehim·akatkalo (wane "there," hima postpos.
"it is said," -maka 76 Subjunctive, -Vtka 81
"then," -Lo 04 "she") "she (would have been)
there then."
hewi pothimako (hewi "here," potu postpos.
Intensifier, hima postpos. "it is said,"
-Vko Emphatic) "right here it is said."

Particle with inflected postpositive:
hi·himaka (hihi "yes," hima postpos. "it is
said," -Vka 75 Affirmative) "indeed, it is
said."
hiphuthetkomka (hiphuta "apparently," hetko postpos. "perhaps," -Vmka 75 Subjunctive)
"it appears that it may be that."
Connective with inflected postpositive:
hiya·himni (hiyaho- Particle, hima "it is said,"
-ni 03 "it") "therefore it is said."
makhimakta (maka "but," hima "it is said,"
-Vkta 77 Generalizer) "but in general it is said."
seyniphutamka (seyni "but," phuta postpos.
"apparently," -Vmka Subjunctive) "but it appears that it may be that."

248.2. The derivation of the postpositive is very irregular. Each of the following appears to comprise only a postpositive root:
kawa "period of time following."
klu "epoch, time, era."
mihxe "that which is not thus, without."
penute "space in front of one, opposite."
pitxka "like."
yma "with."
yehi "near, in the presence of, for the benefit of, concerning."

A more complicated derivation might be conjectured for
some of these, but has not been proved. Three of the post-
positives comprise each a noun theme a III:

hima (n. "sound") "it is said."
hohne (n. "day, sphere, time") "expansive
of time or space, universal."
poko (n. "village, arrangement") "how, manner,
arrangement."

A number of postpositives comprise each a postposi-
tive root plus one of a variety of affixes:

honuka (honu- postpos. r., -Vka 75 Affirmative)
"especially, principally, rather."

honru (honu- postpos. r., -LU 15 Entity)
"special, principal."

mnu (m- postpos. r., the same morpheme as the
verb theme suffix -m- 37 Transitory)
Transitory.

nanu (na- postpos. r., -nu 16 Abstract)
Distributive.

phuta (phu- postpos. r., -ta perhaps the same
morpheme as the noun base suffix -ta)
"apparently."

potu (po- postpos. r., the same morpheme as
the adjective prefix po- Intensive)
Intensifier.
hnapu (hna- postpos. r., -pu derivative suffix "season") "beforehand, suddenly."

The postpositive kawtšinanu "by" (an oath) is a compound of the postpositive kawa "period of time following" and the noun tšinanu "sake."

The derivation of the remaining two postpositives is doubtful. The postpositive hetko "maybe" perhaps contains the verb heta "to see," and the affix -ko 52 Anticipatory Passive. The postpositive hapka "first, next, in succession" may be related to noun Theme a III hapo "path" or to the verb hapoka "to arrive."

249. The exclamatory word is identified by its distribution which is limited to the exclamatory phrase which occurs in the sentence fragment or in a clause, and by its occurrence without inflection. In general the exclamatory word comprises an exclamatory root:

he Surprise
ši "well, you don't say!"

Exceptions are klanko (kla pron. "what," n- Vna 71 "detrimental effect" or -ni 73 "unfortunate," -ko probably -Vko 74 Emphatic with irregular loss of preceding vowel) "almost" or "a close shave!" and ksano (k- 003 "possessing an attribute," -sano v.r. "to be pretentious") "what's the idea!"
251. The onomatopoetic word is identified by its distribution only in onomatopoetic sentence fragments, and by its occurrence without inflectional affixation. Onomatopoetic words consist of series of imitative syllables: ho ho ho "baying of a dog"; tsne tsne tsne "tinkle of a fringe of seeds."

252. The article is identified by its distribution only in the article position in the noun phrase. It comprises the article root wa, and is homophonous with the connective wa.
FOOTNOTES

1These phonological units parallel the hyperphonemes of Pike in Language, 1955, p. 41. He describes the hyperphoneme as a "phonological unit which is larger or higher ranking than a phoneme and which is a member of the hierarchy." Thus the phoneme is distributed in a larger unit, which is in turn distributed in a still larger unit, etc.

2The analysis of the syllable, as indeed the entire phonological analysis, is based on impressionistic recording. Machines for analysis have not been available on the field.

3The extrasystematic syllable $+_C^3 +_C^2 +C^1 +V + y$ occurs in exclamation in the dialect of some. It is a borrowing from Quechua.

4A mutually intelligible dialect spoken on the frontier of Brazil, on the Acre and Iaco Rivers.

5An informant who had become aware of certain grammatical patterns insisted on the writing of a long
consonant in a cluster in the word himunripahkakanatatšine, and it is printed as "gimun·ri-pagkakanatachine" in the Piro New Testament; however, neither he nor other Piro pronounce the phone with length in this word.

The treatment of the transition vocoid as a component of the consonant phoneme was suggested in conversation in 1955 by Dr. Kenneth L. Pike. He compared the phenomenon with the variations in a consonant due to the effect of a following vowel. The analogy between the syllabification of the fricatives and voiced consonants and the occurrence of the transition vocoid reinforces the argument in favor of this analysis.

These predictable transition vocoids, which are here interpreted as syllabic components of the consonant phonemes, contrast with the corresponding vowel phonemes in their lenis character, complete lack of stress, and shortness, and in the high frequency of free fluctuation among them and between them and syllabification of the first consonant of a cluster. Contrasts between vowel phonemes and the syllabic components of the consonant phonemes are shown in the following pairs of words: rutxrika [rītx ري] "he withdraws," and rutxirika [rītxir ري] "he strains"; pwanata [p⁰wan ري] "you were staying," and powanata [p⁰wan ري] "you were wrapping."
As stated in the preface, the analysis underlying this description is based on the tagmemic model presented in Kenneth L. Pike's three volumes of "Language." Although consistent with tagmemic analysis, the presentation of the entire grammatical structure in terms of the relationship of its units to the three basic types of clauses was in part due to the influence of Chomsky's "Syntactic Structures" in which the whole structure is derived from "kernel sentences."

I am indebted, too, to various colleagues of the Summer Institute of Linguistics for suggestions made by them during discussions of tagmemic theory, and particularly to Eugene E. Loos who read the draft of the tagmemic analysis of the syntax and morphology, and made many helpful suggestions.

With an intransitive verb stem which includes the derivative Reflexive suffix -na 53, however, the inflectional suffix -Vwa 92 is obligatory.

This treatment of the morphemes was suggested by, but does not follow, Pickett's classification of words "by diagnostic slot occurrence," (Pickett, 1960, p. 22).
10 Regarding the simultaneous treatment of a single morpheme as root, base, theme, and verb, see Pike, 1960, p. 5, "Portmanteau Levels."

11 Treated separately, one of the base affixes, due to its indefiniteness of meaning and low frequency of occurrence, might be considered a passive morph associated with the root in forming the base. Since, however, all of the base affixes occur in the same prefix and suffix positions, they are treated as a class of base affixes. See Pike 1954, pp. 88, 126.

12 Numbers following affixes will serve to identify them in the Morphology, Section 240.
APPENDIX

Components of Syllabic Consonant Allophones

A general statement regarding the syllabification of consonants and a chart of syllabic allophones were given in Section 145 of Chapter I: PHONOLOGY. The details of the syllabification of each class of consonant are presented in the following paragraphs.

The basic syllabic component of a stop preceding an obstruent, and preceding the nasal spirant, is voiceless schwa [ə]:

pto [pəto] "...'s group."
ptšowi [pətšowi] "an edible root."
pxi [pəxi] "...'s house."
phuru [pəhũrũ] "wealthy and famous person."
hikteha [hipəteha] "his tear."
hiktxi [hik Minority text]
hipsolu [hip Minority text] "its size."
rethota [ret Minority text] "he coughs."

The voiceless syllabic components [ᵊ] [ᵊ] vary freely with voiceless schwa [ə] in the cluster /kx/:

kxeptši [kᵊxep Minority text] [kᵊxep Minority text] [kᵊxep Minority text] "armpit."
The basic syllabic component of a stop preceding a voiced consonant is a voiced schwa [ə], except before /y/, where the syllabic component is more frequently [i] than [ə]:

tlahwa [təlahəwa] "toad."

tnika [tənika] "she eats."

pwanu [pəwanɭ] "you are going to reside."

pyanu [pɨyanɭ] "you are going to go."

putre [pɨtɭre] "your sore."

retemaka [retemaka] "he would see."

retwu [retemi] "he sees us."

retyi [retɭyi] "he sees you."

The voiced syllabic component [ɔ] varies freely with [ə] in some words with clusters /km/, /kw/, and /pw/:

kmatsuru [kəmatsɭɭ] [kɨmatsɭɭ] "fierce."

kwuhenru [kəwɭɭhendɭ] [kɨwɭɭhendɭ] "having children."

pwalolu [pəwalolɭ] [pɨwalolɭ] "yellow."

The basic syllabic component of an affricate preceding an obstruent, and preceding the nasal spirant, is voiceless schwa [ŋ]:

kotspalata [kotsŋpalata] "to divide."

tškotu [tšŋkotɭ] "cebuse monkey."

tšpitšpi [tšŋpitšpi] "bird sp."
satxpata [satx^pata] "to weave."
petšitxeta [petšitx^eta] "he always lies in wait."
mritx-Šikale [m^ritx^Šikale] "song of the peccary."
tšhe\-tši [tš^he\-tši] "loud speaking."
yotsha [yots^ha] [yotsha] "to sew."
kats^halii [katS^halii] "vinegar."
yotxhika [yotx^hika] "to collide."

When /ts/ precedes an obstruent the voiceless schwa varies freely with syllabification of the second segment of the affricate:

tskantši [ts^ka^ntši] [tška^ntši] "saliva."
hitskaha [hitškaha] [hits^kaha] "his saliva."

The basic syllabic component of an affricate preceding a voiced consonant is a voiced schwa [\, \,], except before /y/, where the syllabic component is more frequently [i]:

tsrui [tsr\] "big one."
tšlitšlixe [tš^litš^lixe] "willow-like bush sp."
putxrikanu [px^rikana] "go away!"
katslu [kats^li] "cane."
hitsmapi [hits^mapi] "his shred."
katswexiru [kats^wexir\] "overripe fruit."
tsyi [ts³yi] [tsi³yi] "bird sp."
potsya [pots³ya] [pots¹ya] "succulent."

In the clusters /txr/ and /tshr/ the syllabic components [i] and [I] vary freely with [e]:

\[
\text{txr} \text{pi} [\text{tx}³\text{r} \text{pi}] [\text{tx}¹\text{r} \text{pi}] "small parrot."
\text{hitš} \text{r} \text{x} \text{i} [\text{hitš}³\text{r} \text{x} \text{i}] [\text{hitš}¹\text{r} \text{x} \text{i}]
"its fragment."
\]

The basic syllabic component of a fricative preceding an obstruent, and preceding the nasal spirant, is the syllabification of the fricative:

\[
\text{skotši} [\text{ş} \text{kotši}] "the base of a tree."
\text{his} \text{ko} [\text{hiş} \text{ko}] "its base."
\text{š} \text{te} [\text{ş} \text{te}] "little brother."
\text{toš} \text{t} \text{e} \text{x} \text{i} [\text{toş} \text{t} \text{e} \text{x} \text{i}] "button."
\text{n} \text{o} \text{s} \text{t} \text{s} \text{i} [\text{noş} \text{t} \text{s} \text{i}] "place at my side."
\text{yoxt} \text{x} \text{t} \text{i} \text{t} \text{a} [\text{yoxt} \text{x} \text{t} \text{i} \text{t} \text{a}] "he changes course."
\text{raw} \text{a} \text{sha} [\text{rawa} \text{sha}] "it scorches."
\text{k} \text{o} \text{š} \text{ha} [\text{koş} \text{ha}] "he demolished."
\text{r} \text{ux} \text{ha} [\text{rix} \text{ha}] "he searched."
\]

In the cluster /xp/ the syllabification of the fricative varies freely to [i]:

\[
\text{xpi} \text{ro} [\text{xpiro}] [\text{x}³\text{piro}] "lizard."
\text{kax} \text{pa} [\text{kaxpa}] [\text{kax}¹\text{pa}] "mud."
\]

The basic syllabic component of a fricative preceding a voiced consonant is voiced schwa [e], except that
before /y/ the syllabic component most frequently varies to [i]:

slota [slota] "clam."
yosnuka [yosnuka] "to sprout."
hiswutu [hiswutu] "its curved beak."
hišlata [hišlata] "its overhanging part."
hošni [hošni] "it is a forest."
šyo [šyo] "bat."
xralu [xralu] "bloody."
xnako [xnako] "ear."
xwepi [xwepi] "mordacious fish sp."

The syllabic component varies freely to syllabification of the fricative in the clusters /św/ and /śm/:

śwamkalo [swamkalo] [śwamkalo] "spider sp."
hišmopre [hišmopre] [hišmopre] "heart."

It varies to syllabification of the fricative and [i] and [I] in the clusters /xn/ and /xm/:

noxnako [noxnako] [noxnako] [noxnako] [noxnako] [noxnako] "my ear."
xmerno [xmerno] [xmerno] [xmerno] [xmerno] [xmerno] [xmerno] "I am willing."

It varies to [i] and [I] in the clusters /šr/, /šn/, /xr/, and /xw/:

kašri [kašri] [kašri] [kašri] "arrow."
hošni [hoʃn̥i] [hoʃn̥i] [hoʃn̥i] "it is a forest."
noxri [noxɔri] [noxɔri] [noxɔri] "my nose."
koxwaka [kɔxɔwaka] [kɔxɔwaka] [kɔxɔwaka] "he annoys."

The nasal spirant, as stated in Section 143, occurs preceding only the two obstruents /x/ and /k/, and with these the voiced allophones [ɡ] and [n] occur. The syllabic component with these obstruents is syllabification of the consonant segment:

hxema [ɡxema] "you pl. hear."
romkahxeta [ʁɔmkaʁxeta] "he follows."
hkawa [ŋkawa] "you pl. bathe."
rahka [ʁaŋka] "it swells."

The basic syllabic component of the nasal spirant before a voiced consonant is voiced schwa [ə], except that before /y/ the syllabic component usually varies to [i]:
kihleru [kihɔl̥erɪ] "a good one."
hrantši [hɔrantʃi] "blood."
hmu [hɔmɪ] "anona."
hnika [hɔnɪka] "you eat."
kahwuru [kahɔwɪɾɪ] "flower."

The voiced schwa varies on rare occasions to voiceless
schwa:

hnika [hʰnika] [hʰnika] "you eat."

Similarly there is occasional variation of the syllabic component [i] to [ɪ] before /y/:

hyatka [hiyatka] [hiyatka] "you are going now."

In a few words voiced [o] and voiceless [ɔ] vary freely with the voiced schwa:

hmahatya [h⁰mahatya] [homahatya] [homahatya]
"you lack."

hmu [h⁰mɪ] [ho)mɪ] [ho)mɪ] "anona."

In one word only, [a] has been found in free variation with the schwa and [o]:

hwu [h⁰wɪ] [ho)wɪ] [ho)wɪ] "O.K."

The basic syllabic component of a flap preceding any other consonant is syllabification of the consonant segment:

polta [polta] "macaw sp."
perka [perka] "you wash."
ral-tɕinreta [raltɕɪndeta] "he finished saying."
hirtɕi [hirtɕi] "father."
ral-xihlokleta [ralxih⁰lok⁰leta] "he finished entering."
rurxeta [rɨr̩xeta] "he always drinks."
talha [təlha] "she peels."
mturhi [m tỳr̩hi] "you are small."
ralna [ralna] "it flies."
nurmaklu [nɨɾmakɬɪɭ] "I would drink it."
salwata [salwata] "he visits."
mturyi [m tỳr̩ẙi] "you are a child."

The syllabification of the consonant segment varies to voiced schwa in the cluster /lh/:
kolha [kəlha] [kolɬha] "rubber."
It varies to [i] in the cluster /ly/:
tsolya [tsɔlyə] [tsol̥iya] "squash."

The basic syllabic component of a voiced continuant preceding any other consonant is syllabification of the consonant segment, except in the clusters /ml/, /mn/, /nm/, /nw/ (word medial), /wl/, and /wr/ in which the syllabic component is voiced schwa, and before /y/ where the syllabic component is [i]:
mtenotu [mtenotɪ] "short."
npika [ŋpika] "I am afraid."
wtuplata [wɬɪpɬələta] "we sit down."
ruykota [rɬykota] "he counsels."
kamtši [kaɾtʃi] "demon."
pantši [paɾtʃi] "house."
wtxirika [wɬtxirika] "we kindle."
heytşi [heytşi] "low bench."

mšikotu [mšikotţi] "soft."

hinşi [hinşi] "its tail."

rawxeta [rawxeta] "he always stays."

kayxetu [kayxeti] "small waterfowl."

mhanuruto [mhanirito] "one who does not have a husband."

nhanunro [mhanîndo] "my wife."

kawhuta [kawhîta] "he threatens."

toyhi [toyhi] "her tooth."

pimri [pîmri] "another."

runro [rîndo] "his mother."

mwenutu [mwenîti] "cheap."

myotşi [miyotşi] "hand."

nwamonuwata [nwamonîwata] "I am sad."

runya [rîniya] "he came from."

wmahatya [wormahatiya] "we lack."

wyoptota [wyopîtotota] "we receive."

ylitşa [ylîtsha] "tree sp."

ruynumsata [rîynumsata] "he converses."

tkoywuka [tîkoywîka] "she makes an alcoholic beverage."

kamla [kamîla] "termite."

himnu [himîni] "snake."
nmahatya [n⁷mahati⁷ya] "I lack."
retinwa [retin⁷wa] "he will see himself."
wawlo [waw⁷lo] "wild star apple."
rawrakle [raw⁷rak⁷le] "lightning."

There is free variation between syllabification of the consonant segment and voiced schwa in the word-initial clusters /mk/, /mh/, and /nw/, and either word-initial or medial clusters /mr/, /mw/, /lh/, and /w/ followed by an alveolar obstruent or by /n/ or /h/:

mkatšri [mkatš⁷ri] [m⁷katš⁷ri] "cloth."
mhenoklu [mhenok⁷li] [m⁷henok⁷li] "jaguar."
nwanu [nwan⁷] [n⁷wan⁷] "I will stay."
mritxi [m⁷ritxi] [m⁷ritxi] "peccary."
mwakatu [mwakati] [m⁷wakati] "that which is not."
ralha [ral⁷ha] [ra⁷ha] "he burns himself."
wtplata [w⁷tlp⁷lata] [w⁷tlp⁷lata] "we sit down."
wtseryuna [wtsery⁷na] [w⁷tsery⁷na] "we grow."
rawxeta [raw⁷xeta] [raw⁷xeta] "he always stays."
wnika [wn⁷ika] [w⁷nika] "we eat."
whirukota [whir⁷kota] [w⁷hir⁷kota] "we control."

There is occasional variation from the syllabification of /y/ to [i] and [e] before another consonant:

hayni [hay⁷ni] [hay⁷ni] [hay⁷ni] "ant sp."
heytši [heytši] [heytš⁷i] [heytš⁷i] "low bench."
There is also variation to [o] and [u] in the clusters /nw/ and /wh/, and to [ʕ] in /wh/ and to [u] in /tʃ/:

\[
\text{nwatka} \quad \text{n\textsuperscript{w}at\textsuperscript{o}ka} \quad \text{n\textsuperscript{w}at\textsuperscript{e}ka} \quad \text{n\textsuperscript{o}wat\textsuperscript{e}ka} \quad \text{n\textsuperscript{u}wat\textsuperscript{e}ka}
\]

"I stayed then."

\[
\text{whene} \quad \text{w\textsuperscript{e}hene} \quad \text{w\textsuperscript{h}hene} \quad \text{w\textsuperscript{w}hene} \quad \text{w\textsuperscript{u}hene}
\]

"...'s child."

\[
\text{wt\textsuperscript{s}kotute} \quad \text{w\textsuperscript{s}kot\textit{e}te} \quad \text{w\textsuperscript{t}s\textit{e}kot\textit{e}te} \quad \text{w\textsuperscript{u}t\textit{s}kot\textit{e}te}
\]

"our cebus monkey."