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The Piro (Arawak) Language

By

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DISSERTATION

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PREFACE

This description presents the phonological and grammatical structure of the Piro language. The structural analysis was made according to the tagmic 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 acknowledgment 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 Agwaitía, 1947

Rafael Zapata C. in Agwaitía, Huau, and Belén,
1948-1953

Hortensia Cesario de Zapata in Huau and Agwaitía,
1948-1953

Juan Sebastián P. in Bufe Pozo and Yarinacocha,
1949-1961

Tereza Montes de Sebastián in Huau, Bufe 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 Bufe Pozo, 1954

Moran Zumaeta B. in Bufe 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.

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BIBLIOGRAPHY

General Linguistics

Chomsky, Noam

1957. Syntactic Structures. The Hague.

Hockett, Charles F.

1958. A Course in Modern Linguistics. New York.

Nida, Eugene

1949. Morphology, the Descriptive Analysis of Words.
Second Edition. University of Michigan Publication, Linguistics, 2.

Pickett, Velma Bernice

1960. "The Grammatical Hierarchy of Isthmus Zapotec,"
Language, vol. 36, no. 1 (Part 2), pp. 9-101.

Pike, Kenneth L.

Language in relation to a unified theory of
human behavior. Glendale, California.

1954. Part I

1955. Part II

1960. Part III

The Piro Language

Alvarez, P. Ricardo

1960. Los Piro. Lima.

Carrasco, Francisco

1901. "Principales palabras del idioma de las tribus de infieles Antis, Piros, Conibos, Sipibos," Boletín de la Sociedad Geográfica de Lima, vol. 11, pp. 205-211.

Insley, Jeanne Forrer de

1957. "Sambo. Un Cuento Piro," Folklore Americano, no. 5, pp. 155-168.

Izaguirre, Bernadino

- 1922-1929. "Historia de las misiones Franciscanas, y narración de los progresos de la geografía en el oriente del Perú," vol. 13, pp. 349-381.

Matteson, Esther

1949. "Notas sobre etnobotánica de los indios piro," Boletín Indigenista, vol. IX, no. 1, pp. 84-93.
1951. "Piro Myths," Kroeber Anthropological Society Papers (Berkeley), no. 4, pp. 37-87.
1954. "The Piro of the Urubamba," Kroeber Anthropological Society Papers, no. 10, pp. 25-99.
1954. "Piro Phonemes and Morphology," Kroeber Anthropological Society Papers, no. 11, pp. 17-59.
1955. "Analyzed Piro Text: a Boy and a Jaguar," Kroeber Anthropological Society Papers, no. 12, pp. 22-44.

Matteson, Esther and Pike, Kenneth L.

1958. "Non-Phonemic Transition Vocoids in Piro
(Arawak)," *Miscellanea Phonetica*, no. III,
pp. 22-30.

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
+/ <u>±</u> /-	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).
/	medium 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).

Ptn.	potentiality expression in clause (213).
r.	root.
redup.	reduplication.
s.	singular (212.1,242.3).
S	subject (211).
SAP	subject appositive (212.1).
SComp	subject complement (212.1).
S. Coax.	Coaxing sentence (118,221.2).
S. Decl.	declarative sentence (118,221.2).
S. Exclam.	exclamatory sentence (118,221.2).
S. Impv.	imperative sentence (118,221.2).
S. Inter.	interrupted sentence (118,221.1).
S.Q.	interrogative sentence (118,221.2).
sp.	species.
suf.	suffix.
tr.	transitive (221,231,241).
-U	u ~ i in vowel harmony (154).
V	short vowel (142).
V.	long vowel
-V-	retention of any preceding vowel. Before a suffix not so marked, the preceding vowel is lost (153).
vb.	verb (241).
vbl.	verbal.
Voc.	vocative or familiar reference (213).
w.	wide.

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.
- 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

	predicate of a clause; a noun phrase which may be substituted for the suffix.
phrase	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 "Portmanteau Levels," Language, 1960, p. 5.
postpositive	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.
predicate	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.
prepositive	One of a set of two preclitics: <i>ma</i> Privative; <i>pa</i> "one, another."
stem	See theme.
subject	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.

theme, stem, base

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 group¹ 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:

tsr¹up¹oth¹imā¹ tkōt¹pū¹kāt²kā¹↓. "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 nkašitša||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. wālē¹ hīmā¹ nīkxēt¹wā¹ kšōtērū¹↓. 2. hāpnū¹-
hīmākmākā¹ rūsānātēwāt¹nītnākā². 3. wānēhīmākō¹ wālēhīmāk-nī-
kyānāt¹nākū²↓. 4. pnūhīmākmākā² rāyōklēwhīmātānāt²kānā²↓.
5. wānē¹ hīmā¹ tšīnā², hī² pā¹ tsrū¹ nīkālūtūnān¹.īhē²↓,

- c. Low level register with relaxation, meaning relief or indifference. $\rightarrow$ p¹byā¹hnū¹hī¹mā¹-
ktā¹ hī¹ hōwū¹kānānū¹ktālū¹ wā¹ kšīyāt¹kā¹. "thank goodness, the rainbow was now not far away."
- d. High level register, meaning concern on the part of the speaker. $\rightarrow$ tsrūy¹akā¹m¹kā¹ pō-
nōtk¹akī¹nī². "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: $\rightarrow$ wā¹ šānī¹rāwā¹ tšī¹nkā¹-
nwā¹ tsrūnī². (wā Connective, šānīrawa Proper Noun, tšīnkani "said to be," wā tsrūni "the ancestor") "he, the ancestor, was called Shanirawa."
- f. Rapidly falling register, meaning apology.
 $\rightarrow$ hā¹ wā¹ txānī¹tkā² hī² wā¹ kāpkāk¹lērū¹nē²↓.
"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:

^{1 1 1 1 1 2 1}
→ wane hīma kanikamtā. tyehimannunwa

^{1 1 1 2 1↓}
ruptšitšle hōnu. "they climbed up there.

it was a place where the water was tearing
away the land."

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. ^{1 1 1 1 2 1↓}
wane hīma rītāna. "thus
they did."

- b. Small interval indicating subdued or sup-

pressed emotion or indifference. ^{1 1 1 1}
hiyāhni wā

^{2 1 1 1 2 1↓}
nānkāyhaletāna. "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.

^{1 1 1 1 1 2 1↓}
tšinhimātlo wā runro. "...he said to his mother."

c. Large interval indicating excitement or lack

of restraint. txáko² náto¹ práni². "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."

seyeni 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 tutxrewatinitka, 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 ritxpoktapana, katlikhimamtanatka //.

"whatever on earth happened to him; he slipped."

Optional nonfinal pause indicates hesitation:

nso honru hima // nso honru hima / wa. //
 tsahxeta /. "with the juice of the large genipa,
 it is said -- the large genipa, it is said --,
 uh,-- she painted him."

118. 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

Class	Corresponding Grammatical Unit	Meaning	Identifying Contour
1	S. Decl. or S. -final cl.	Closure Inconclusive- ness Suspense Series, Anti- cipation	
1a			2 - 1↓
1b			2 - 1
1c			1 - 1
1d			2 - 2
2	S. Impr.	Imperative	2 - 2
3	S. -initial cl.	Association of predication	2 - 2
4	S. Q.	Question	2 - 2
5	S. Coax.	Coaxing	1 - 2
6	S. Exclam.	Calling, Exclamation	1 - 2, 1 - 3, 1 - 2↑, 1 - 3↑
7	S. Inter.	Interruption	1 - 1

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. ¹r¹a¹suk²akt¹ā¹↓. "they ran in all directions."
- 1b. Inconclusiveness. tw¹ ks¹axi²rō¹. "she's black."
- 1c. Suspense. r¹umēp-s¹āplēw¹lēxētā¹. wā¹nē
nētyā¹nā sūt¹xōnē¹. psō¹ swāx¹i rūphūxēwnā¹.
"he shouted again. then I saw the women.
he appeared just a little way off."
- 1d. Series, Anticipation. nīkpō¹thimāt¹nā².
rūr¹himāt²nā². "they ate heartily; they drank."
wā¹lē hīmā¹ rālīt¹xyā²nā². "that overcame them."
2. Imperative. txāwāk¹nī pūsānātētā¹n.ō². "now
you plant a field for me."
3. Association of Predication. hīyā¹.hīm¹nī¹
rāl-sāxrūrētīnīt¹kānā², kōstšē¹.kāšrēhīmātā¹-
nāt¹kā¹ xēxī²nē¹. "therefore when they were

through pacing in a circle, the men took up their weapons."

¹ ¹ ¹ ¹ ¹ ¹ ² ²; ¹ ¹ ¹ ¹ ¹ ¹ ¹ ¹
wānē himā rōnōtyālūnā; hī himā howukāktānwā

² ¹↓. "then they looked at it; they were not far from the rainbow."

4. Question. ¹ ¹ ¹ ¹ ¹ ¹ ¹ ¹
hī hē pālūkā yāntā-mūtškonkā-

² ² klētā? "do you want to wrestle?"

5. Coaxing. ¹ ¹ ¹ ¹ ¹ ¹ ² ¹ ¹
ptsōtsōtāximkā wetān.ī!! "let us

have just a little peek." ¹ ¹ ¹ ² n.īkānūtšī. "let me eat."

6. Calling, Exclamation. ¹ ¹ ¹ ¹ ¹ ¹
wā. kāyīnrēthimā-

¹ ¹ ¹ ¹ ² tanāktātkaļu.! "he bewitched him!"

7. Interruption. ¹ ¹ ¹ ¹ ¹ ¹ ¹ ¹
mākhīmāktā kāmtšī nā--.

"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.

²māk¹tā yī¹xnā¹kō¹nā¹ || ²tā¹wū. "but he was listening
to us."

Otherwise the word with which it occurs is emphasized.

¹hī || ¹yā¹hī¹ wā || ²kā¹t¹lū¹ wā || ²tšī¹tšī¹. "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.

... kī¹n-šī¹kālē^{2 2}, m¹tšī¹r-šī¹kālē^{2 2}, kšō¹ter-šī¹-

^{2 2}kālē ... wā yā¹hō¹t¹nā¹ ... "... they attempted
the howler monkey's song, the spider monkey's
song, the deer's song ..."

^{1 1 1}wā¹lā¹pū¹k¹lū¹ hī¹mā^{2 2}, wā kō¹w¹tšō¹h¹xē¹tā^{1 1} hī¹t¹kō¹m¹hā^{1 2} k^{2 1}sātē.

"in the summer, it is said, he always fished
on the sandy bank of a pond." The quali-
fication is the phrase wālapuklu hima "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:

klā¹tā². nī²txā¹! "I am very white!"

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

hwū¹. "O.K."

hē³·! Cry of surprise.

štē². Vocative or call, "Little Sister."

hō².. "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 occurrence, the subclasses resulting from them are not particularly 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 symbolization 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) ¹nso "genipa."
- (2) ¹walo "rabbit."
- (3) ru¹txitxa "he observes taboo"
- (4) ¹tšiyah¹hata "he cries."
- (5) ¹salwayeh¹kakna "they visit each other."
- (6) ¹petšitš¹hima¹tlona "they say they stalk it."
- (7) ¹ruslu¹notin¹tkana "their voices already changed."
- (8) ¹saplewhima¹mtana¹tnaka "they say he went along"

screaming again"

- (9) 'kaxru.'kakhimanatatkana "they were joking together then, it is said"
- (10) 'rumkahetkohimtapanatkana "it is said that they were perhaps unfortunately asleep as they were going along"
- (11) 'yantamutškonkakhapkahimatana "next, it is said, they wrestled"
- (12) 'košpakhitsškaphimatana'ktatka'luna "then, it is said, someone removed his intestines"
- (13) 'xema'nšinikankakhetkohimatatkana "it is said that maybe they conferred then"
- (14) 'tapaluška'nawathimananumtanatnaka "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:

hi-to-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:

¹*mamuhkakya*¹*huplu*, potentially ¹*ma* ¹*munkakya*¹*huplu*

(*ma* prepos. Privative) "in order that he should not tell it."

¹*suput*-*hima*, potentially *suputa* ¹*hima* (*hima* postpos. "it is said") "the edge of the clearing it is said."

¹*maptsir*-*kamalexite*, potentially *maptsiri*

¹*kamalexite* (genitive plus head) "the boa's magic herb."

¹ral-saxrur¹etini¹tkana, potentially ¹rali

¹saxrur¹etini¹tkana (auxiliary plus verb)

"when they had finished pacing in a circle."

¹howuka-ya, potentially howuka ¹ya (howuka

"far," ya "he went") "he went far away."

ra¹nikwa ka¹hont¹si, potentially ra¹nika ¹wa

ka¹hont¹si (ranika "he took," wa "the,"

ka¹hont¹si "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 resulting in an identical cluster of voiced continuant consonants, 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 following 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. Apparently 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 coterminous 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,² 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: $\underline{+C^3} \underline{+C^2} +C^1V$. 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 [h.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 [nts^əko].

In the foregoing paragraphs, the syllables are described as open.³ 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."

/ranika/ [ranika] "he takes."

/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

i	i•	u	u•
e	e•	o	o•
a	a•		

CONSONANT

Obstruent

Stop	p	t		k
Affricate		ts	tʃ	tx
Fricative		s	ʃ	x

Nasal spirant

h

Flap

Lateral		l
Retroflex		r

Voiced continuant

Nasal	m	m•	n	n•
Oral	w	w•		y y•

/reneka/ [reneka] [rɛnɛka] "he gives."

/rene·ka/ [rene·ka] [rɛne·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/ [patĩ] "father."

/rutaka/ [rītaka] [rītakə] "he put."

/ruta·ka/ [rīta·ka] [rīta·kə] "he was put."

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

/putu/ [pītĩ] "firefly."

/repuka/ [repīka] "he summons."

/repu·ka/ [repī·ka] "he is summoned."

/hwu/ [h^əwĩ] "O.K."

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

/potu/ [potĩ] [pUtĩ] "very."

/ranoka/ [ranoka] [ranUka] "he suns."

/rano·ka/ [rano·ka] [ranU·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 C¹ 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], /tš/ [tš] and /tx/ [tx]:

- /hitsa/ [hitsa] "its cord."
- /katšo/ [katšo] "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):

- /tsolya/ [tsol¹ya] "squash," but /psolu/ [p^əsoli]
- /tširetu/ [tšireti] "palm sp." but /tšireta/ [t^əšireta] "she hurries."
- /txirna/ [txirna] "it blazes," but /txirha/ [t^əxirha] "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^əpatate] "my guava."

/wtškotute/ [wtš^əkotute] "our cebus monkey."

/ptxripite/ [p^ətx^əripite] "your small parrot."

The fricatives are alveolar and alveopalatal sibilants /s/ [s] and /š/ [š], and the palatal spirant /x/ [x]:

/sexre/ [sex^əre] "noise."

/šehi/ [šehi] "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/ [hiyah^əni] "therefore."

/hwu/ [h^əwi] "O.K."

A voiced nasalized velar fricative allophone [ɣ] occurs preceding the voiceless palatal fricative /x/, and a voiced velar nasal [ŋ] occurs preceding /k/:

/hxema/ [ɣxema] "you pl. hear."

/ruhxeta/ [rĩgxeta] "he always answers."

/hkawa/ [ŋkawa] "you bathe."

/ruknohka/ [rĩk^ənoŋka] "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 [r] except after /n/ where a voiced alveolar stop varies with voiced retroflexed alveopalatal sibilant [ʒr] with a retroflexed offglide, especially preceding /o/:

/wala/ [wala] "she."

/netlu/ [net^əlĩ] "I see him."

/ruru/ [rĩrĩ] "his father."

/runro/ [rĩŋdɔ] [rĩŋʒ^ro] "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 /m·/ [m·]; alveolar nasals /n/ [n] and /n·/ [n·]; bilabial oral continuants /w/ and /w·/ with rounded high back close vocoid allophones [w] and [w·] varying freely toward the mid back position before consonants and back and central vowels, and unrounded or very slightly rounded bilabial fricative allophones [ɸ] [ɸ·] preceding front vowels; and palatal oral continuants /y/ [y] and /y·/ [y·]:

/merewata/ [merewata] "he is willing."
 /m·eretu/ [m·eretɪ] "one who is unwilling."
 /xema/ [xema] "he hears."
 /xem·aka/ [xem·aka] "he would hear."
 /nika/ [nika] "he eats."
 /n·ika/ [n·ika] "I eat."
 /tʃina/ [tʃina] "he says."
 /tʃin·a/ [tʃin·a] "they say."
 /wuhene/ [wuhene] "his child."
 /w·uhene/ [w·uhene] "our child."
 /rawa/ [rawa] "he takes."
 /raw·u/ [raw·ʉ] "he takes us."
 /weyawata/ [beyawata] "he deceives."
 /w·eyawata/ [b·eyawata] "we deceive."
 /kihleyi/ [kih^əleyi] "you are well."
 /kihley·i/ [kih^əley·i] "it is good for you."

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/ [w^əpow^ərat^əli] "we clean it."

/wyimyi/ [wⁱyimⁱyi] "we imitate you."

/whene/ [w^əhene] "... 's child."

/kownoka/ [kow^ənoka] "he turns back."

/ymatši/ [yⁱmatši] "boil."

/hiypuhata/ [hiyⁱpīhata] "to sparkle."

/hiyhi/ [hiyⁱhi] "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

C^1 and C^2 of C^1 , C^2C^1 and $C^3C^2C^1$ margins. Affricates and fricatives do not occur in the C^3 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 C^1 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 [ɣ] 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

c^2	c^1
p	k t ts tʃ tx s ʃ x h l r m n w y
k	p t ts tʃ tx s ʃ x h l r m n w y
t	p k ʃ x h l r m n w y
ts	p k t x h l r m n w y
tʃ	p k t h l r m n w y
tx	p k t s ʃ h l r m n w y
s	p k t ts tʃ tx h l r m n w y
ʃ	p k t ts tʃ tx h l r m n w y
x	p k t tx h l r m n w y
h	k x l r m n w y
l	p k t ts tʃ tx s ʃ x h m n w y
r	p k t ts tʃ tx s ʃ x h m n w y
m	p k t ts tʃ tx s ʃ x h l r n w y
n	p k t ts tʃ tx s ʃ x h r m w y
w	p k t ts tʃ tx s ʃ x h l r m n y
y	p k t ts tʃ tx s ʃ x h l r m n w

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.⁵

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, ʃ .25, s .24

Affricate tʃ .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 vocoid⁶ of phonologically conditioned timbre, such as [y¹] [t^θ]. 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.

	Phonemic symbol	Nonsyllabic allophones	Syllabic allophones
Stop	p	p	p ^ə , p ^ɛ , p ⁱ
	t	t	t ^ə , t ^ɛ , t ⁱ
	k	k	k ^ə , k ^ɛ , k ⁱ , k ^ɪ , k ^I , k ^o
Affricate	ts	ts	tʂ, ts ^ɛ , ts ^ə , ts ⁱ
	tʃ	tʃ	tʃ ^ə , tʃ ^ɛ , tʃ ⁱ , tʃ ^I
	tx	tx	tx ^ə , tx ^ɛ , tx ⁱ , tx ^I
Fricative	s	s	ʃ, s ^ə
	ʃ	ʃ	ʃ, ʃ ^ə , ʃ ⁱ , ʃ ^I
	x	x	x, x ^ə , x ⁱ , x ^I
Nasal Spirant	h	h	ɸ, ɸ, h ^ə , h ^ɛ , h ⁱ , h ^I , h ^o , h ^ɔ
Flap	l	l	l, l ^ə , l ⁱ
	r	r, d, ʒ ^r	r _ɪ
Voiced Continuant	m	m	m, m ^ə , m ⁱ
	n	n	n, n ^ə , n ⁱ
	w	w, b	w, w ^ə , w ⁱ
	y	y	y, y ⁱ

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- "you," pawata "make a fire": *ppawata > pawata
"you make a fire."

t- "she," tšiyahata "to weep": *ttšiyahata > tšiyahata "she weeps."

nika "he eats," -ka Passive: *nikka > ni·ka
"he is eaten."

hitsrukate "... 's chief," -tšī Absolute: *hi-
tsrukattšī > hitsruka·tšī "chief."

xitxi "... 's foot," -tšī Absolute: *xitxtšī >
xi·tšī "foot."

kose-ta "to pull," -xe "always": *kosxe-ta >
ko·seta "to always pull."

hira "to drink," -Le Relational, -Vta Potential
Theme Closure: *hirreta > hi·reta "to drink."

kahwakpira- "respect," -LU Enity: *kahwakpirLU >
kahwakpi·ru "respect."

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

t- "she," saplewata "shout": tsaplewata [tsa-
p^əlewata] "she shouts."

t- "her," saplo "aunt": tsaplo [tsap^əlo] "her
aunt."

When /x/ precedes /tʃ/, the /x/ is replaced by /s/.

ksaxi "black," tʃixi "earth," -LU individual:
*ksaxtʃixiLU > ksastʃixiri "black earth."

If the consonants are identical voiced continuants,
they are replaced by the corresponding long voiced contin-
uant; 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": *ruhhi-mata > ru·himata [ru·himata] ~ [rughimata] "it is said that he answers."

saha-ta "he smears on," hetko "maybe": *sahhetko-ta > sa·hetkota [sa·het^ə kota] ~ [saghet^ə kota] "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> rutlirewata "it characteristically fades."
 katšipe "selfish," -VLU Individual: *katšipeLU>
 katšiperu "selfish person."
 saxru-ta "entwine," -Le Relational: *saxruLeta>
 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."

hapoka "arrive," -Lewa Characteristic, -ka Passive,

-Le Relational: khapoklewakleru ~ kapoklewakleru "illegitimate suitor."

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,
 -LU "him," -Vwa "yet": netya "I see there,"
 netanu "I am going to see," netlu "I see him,"
 netawalu "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 -LU "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: mpoyoliti "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.⁷

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 +O +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 O3 "it"). "I attach feathers to it."

hita mexitlu (hita "I," mexita "to attach feathers to," -LU O3 "it"). "I attach feathers to it."

kašri nmexitla (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:

noprakatkayl (noprakatkay "now my pet," -yl O2 "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 intransi-
tive 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

	S	O	P
Cl. I	+S		intr. vb.
Cl. II	+S	+O	tr. vb.
Cl. III		+O	non-vb.

rusurna himuwatatšri (rusurna "he went downstream,"
 himuwatatšri "a happy man"). "he went down-
 stream, 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 occu-
 pational:

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- 01 "I," ximleka "to boil,"
 -kaka 22, -LU 03 "it"). "I caused it to boil."
 nyohlotkaklu (n- 01 "I," yohlota "to spear,"
 -kaka 22, -LU 03 "him"). "I cause him to spear
 (something)."

nkopruhxitxlu (n- 01 "I," kopruha- "to cross the
 river," -xitxa 24, -LU 03 "him"). "I had him

cross the river."

nunkaxitxlu (n- 01 "I," hinka "to shoot," -xitxa
24, -LU 03 "him, it," "I ordered him to shoot,"
or "I had it shot."

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

nasukyalu (nasuka "I fled," -ya 42, -LU 03
"him"). "I fled from him."

numuwyehtlu (numuwata "I was happy," yehi
"concerning," -Vta 21 Potential Theme Closure,
-LU 03 "him"). "I was happy about him."

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

rukamrurewatno (r- 03 "he," hi- 002, kamrurewata
"to work," -no 01 "me"). "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:

kowimatkana tšopuyane (ø-...-na 07 "they,"

kowimtatka "to blow a signal horn," tšo-
puyane "Amahuaca Indians"). "the Amahuaca
Indians blew their signal horns."

sato sutxni-kotx-hima mtur-pot-himni hipna-
natka ylitš-when·i (sato "one," sutxni-ko-
tx-hima "female also, it is said," mtur-po-
t-himni "the very youngest, it is said," hi-
pnanatka "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," homka-
himtatkalu "followed him," hitxoluru "a multi-
tude," 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, without 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 interpreted here, the interpretation of discontinuous constructions 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 subject appositive in that the noun phrase of the subject complement 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:

kahontši ritxa (kahontši "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·tši xihlokatka (hitsruka·tši "chief,"
 Ø- 03 "he," xihlokatka "to have now entered").
 "he has now become chief."

More than one SComp may occur in a clause:

kahontši ritxa, kayinrewakler-potu (kahontši
 "witch doctor," r- 03 "he," hitxa "to be," ka-
 yinrewakler-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 reneklū mturu (kewe "dog," reneka "he gave,"
 -LU O3 "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 reneklū kewe (mturu "little boy," reneka
 "he gave," -LU O3 "it," kewe "dog").
 reneklū mturu kewe.
 reneklū kewe mturu.

In the last two examples -LU O3 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 comple-
ment 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."
tšitšī wpawata (tšitšī "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-himninka haluk-hinkalewletni wa
 niktši (ha wa "but," mtur-himninka "the boy,
 it is said, with frustrated intention,"
 haluk-hinka...letni "wanted to shoot," -Lewa-
 Intransitivizer, wa Article, niktši "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 re-
 gard to inanimate objects:

wan-a tsrutške hapoka (wan-a "they," pl., tsrutške
 proper n.s., hapoka "to arrive," -- no number in-
 dication). "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 con-
 structions: exclamatory (Exclam), vocative (Voc), con-
 nective (Cn), hesitation (Hes), potentiality (Ptn), mood

Chart 6. Optional clause-nucleus constructions

Construction	Type of phrase	Distribution
S _{Ap}	n.	Cl. I, Cl. II
S _{Comp}	n., adj.	Cl. I
O ₂	n.	Cl. II
O _{Ap}	n.	Cl. II, Cl. III
O _{Comp}	n., adj.	Cl. II
P _{Ap}	n.	Cl. I

(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")? "grand-
 father, where are you going?"

šte hiru, puptyakan·otši (šte hiru "younger
 relative's father," puptyakan·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 kostšekamtniktatkalu mhenoklu papni
 (hiyahni "then," kostšekamtniktatkalu "he
 somehow grabbed it for a moment with detri-
 mental results," mhenoklu "the jaguar,"
 papni "papa who is now dead"). "then papa
 somehow grabbed the jaguar."

seyeni hima repur-hima ranika (seyeni "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 re-
 turned him from there."

hiyahni pa hohnehimatnakni wa wa kloxta hima
 klana hima koxwakxeta (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 raplihimamtanatika tposne (ha "and," rapli-
himamtanatika "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 ritxkana (wane "then," hima "it
is said," hike "nothing," ritxkana "was done
to them"). "nothing was done to them then."

wane hima ritxxeta (wane "thus," hima "it is said,"
ritxxeta "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."

kanawayaya psol-yetšno himako wane hima romkamta-
 tyanatkaluna wa makluxni molene (kanawayaya
 "in a canoe," psol-yetšno "all night,"
 himako "all night long, it is said," wane
 "thus," hima "it is said," romkamtatyanatkaluna
 "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: yimaklewatatšri tšinanu nkoseka (yimaklewatatšri "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."

+Ac 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 yahotkakamtatkana hiyalu-yma

kewe (hiyahni "then," netanuko "my very sight," yahotkakamtatkana "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 tumananu, rapokini wa tkatši,
 pšinitsonu wane rawa (hiya·himni "there-
 fore, it is said," wa Cn., tumananu "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-pinre-
 tinitkalu "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↓:

males'-himatkalu wa ksātu^{2 1↓}. "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:

tó¹tó^{1↑}! The citation form is Toto, a proper name.

mamá¹lé³! The citation form is mama "mama," to which the suffix -Le Endearment has been added.

šte ¹h²ma·! (šte "little brother," h²ma "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:

katšiklētāy·! ¹"it was so cold!"

klu -- klu-ksatē¹tā·y^{2-3↑} kamtš²i nanwak-h²ma^{1↓}! "such beaches as there were in the demon's stomach!"

yā^{3↑} papāpā¹·, papāpā^{3↑}·! "oh, it's papa, it's papa!"

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

hē² hē² hē² hē². Sound of a monkey chattering.

hā¹hā¹hā¹hā^{3↑}. Sound of a rooster crowing.

hā¹ntō²xx. (Low register.) Sound of body flying through the air.

hā²lā¹lā¹lā¹lā¹. (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:

²₁ hōwā. "so that's how it is."

¹₂ hwū ²₁ kōtxā. "O.K."

³₁ hīhī↓. "yes."

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

²₂ halikākā ? "really?"

²₀ hō? "oh, I don't know. what might it be?"

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

²₂ hitšikākā. "wait!"

²₁ tekālī. "come here!"

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

²₁ ten-himā↓. "(he was) tall, it is said."

²₁ tsru pōtū↓. "(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 kamtš¹i kotxa yineru pitxka ritx²ā¹↓.)

klunerukōk²tā¹↓. "(and the demon also be-
came like a person.) Whatever person."

kamtš¹i nanwak-hima rapokanāt²kā¹↓.) hitōkō²↓.

"(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:

hā¹ wā¹--. "and --."

klu -- waa -- repū²rū¹↓--. "what -- and --
his younger brother --."

Discourse closure. A particle phrase or a noun phrase with the basic sentence contour:

seyokāt²kā¹↓. "it is finished."

walē²-pxē¹↓. "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 tkotpukātkā²₁↓. "just
once she opened it wide."

rasukhimatatnaka^{2 1↓}. "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:

hinaka pyanu^{2 1}? "where are you going?"

hinaka kanikamtya^{2 2↑}? "where did it go up the bank?"

hi he paluk-hetletaplu nōpxi^{2 1}? "don't you want to see my house?"

klunerhe paluka^{2 1↓}? hi he paluka yanta-mutškonkaklētā^{2 1↓}?
"what do you want? do you want to fight?"

wale kotxa yānu^{2 2↑}? "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-tkomhātā²· ritxhimātā²1↓: "the pool was
very round!"

hi pso-nan-himaktālū²1↓: "how big it was!"

nyi-himnitka takīnī¹3↑: "these were gulls!"

wa· kayinrethimatanaktatkālū¹3!: "he worked
magic against him!"

wa yineru xiknaxrošēhī¹2!: "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:

pnikapānū.^{2 2} (High register) "go and eat."

pšini-tsonutš-punapānū^{2 1↓}. "come for just a moment."

puknokanutkālu^{2 1↓}. "throw it out."

petanun·a noprān.^{2 2} "see my domesticated animals."

panikanutkalo mtšīrā^{2 1↓}. "bring the spider monkey."

potškepī^{2 1↓}. "keep still."

teyakāpyī.^{2 2} "hurry up."

hit-kotxa hapakāpā^{2 1↓}. "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 -tšī 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:

puyokatkēwā^{1 2}. "come on, wake up."

ptsotsotaxinka wetan.¹². "please let us see just a
little bit."

wonotan.imkatnaka.¹². "we'd like to look out again."

pnikapewa²¹↓. "eat."

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

kluner-petapa¹², sosa¹².[↑]? "what did you see, brother-in-law?"

The coaxing sentence is combined with the exclamatory:

hnikatkewaka.¹²! "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 > 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:

kšoter-hima wane tš²ina¹↓, "hita tey²ka¹↓.

pkas²inšimtan.o txako¹↓." "the deer said,
'I am very swift. grab my tail. be sure.'

"walaniko tuy²lakanā¹ta↓," tš²inhimā¹ta↓. "'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, palitxin²ipa¹↓.

"I'll go and show you, so that you will believe."

Cl. I, privative. petšitšhimatlona, tma masuki-

²nipa^{1↓}. "they laid wait for it so that it would not escape."

Cl. II, positive. nuna nunkaky²pyi^{1↓}. "I have come in order to tell you."

Cl. II, privative. wale hixretlu hike ma nuna-

²tyanūplū^{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 -2 contour, and the sentence-final clause has one of the sentence contours listed in the foregoing section. The 2 -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 pkamakatin²ipn², pxipowatanru wa naxi²l¹↓.
 "if you kill me, extract the heart from
 my body."
- b. ha wa wane ma mitxkanatkanhetko-him²ak²,
 wa rušatkaphetkohimatanun²akl¹↓. "if he
 doesn't do thus, maybe he will grab it."
- c. ha wa ruhitzkoklun-him² manewhim²at¹↓. "and
 if he is answered, he metamorphoses himself."
- d. klu-hiwak-himakt²an², wale-pot-himako tko-
 stšekananumty²al¹↓. "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-hitx²anw¹ kaxpomyolutu hetin²ip¹↓.
 "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 predominate 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-maklutinitnā²ka^{1↓}, satu makluxitka²ka^{1↓}.

"then if someone else reached puberty, another had become a young man."

ruslunotinitkā²nā², yinuwakxe hi-retlūnā²ka^{1↓}, ha wa

ralitxin-potu-nanūknā²ka^{1↓}. "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 (ruslunotinitkā²₂); the second clause (yinuwakxe hi·retlūnā²₁↓), which is the independent clause, has basic sentence closure contour, though followed by another dependent clause including the morpheme -ini.

Frequently an independent clause preceding another independent 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 hitakātkā²₂, wa nikxitxhimatatkānā²₁↓.

"when the river turtle had laid its eggs,
they were commanded to eat."

sat-hima tsru hnunro wa rapokletanwa maklūxnī²₂,

ruylahimatkānā²₁↓. "if a young man committed
adultery with some older man's wife, he was
killed."

hi wane rītxā²₂, rushimatkana raxtxihī²₁↓. "if this
was not done, herb magic was worked against
him behind his back."

wane hima ruyakatyātka²₂, wa rawa-hnunrohimatana-

tkaluná.^{2 1} "he came from there, and they went
and got his wife."

ha wa khiraklérú,^{2 2} kapkaklérú^{2 1}↓. "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 wuhenewatíní^{2 2} (2) rutxítxna^{2 1}↓ (3) ptowru-

nanuka kyowrut-himā^{2 1}// (4) wa wuhenewatinin·a tsrun·^{2 2}1/
 (5) hi wa yotalxētā^{2 2}/ (6) ruklūhnā^{2 1}↓// (7) hi hitško
 yanrēnā^{2 2}// (8) hi wa klunerukokta rētnā^{2 2} (9) ha wa
 klunerukokta rētnā^{1 1} (10) yowrewata mtūru^{2 1} (11) tšiyahāta^{2 1}↓.

(1) 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 a-
 bout (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 de-
 termine 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) ptowru-nanuka kyowrut-hima. (4) wa wuhenewatinin³a tsrun·1, (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 dis-
cussion 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.

231. 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:

kšiyoxru "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 ka-
malexit-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, hwa-
tšin·i "those who live"). "those who re-
side 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--kašretahimanta kašre (kostše·kašre-tahimanta "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?"

kluner-petapa, šte hiru? "what did you go to see, little one's father?"

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

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

Exception: tseklu sahi·xi pnikapanu. "Partridge, 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 kamtšī "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 niktšī
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 kwa-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 apposition to two nouns within the noun phrase which is the object 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 "whomever he loved."

In the following sentence a clause is in apposition

to the possessor in a noun phrase which serves as the object 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 prepositive occurs only in Phrase a, or in Phrase c when the head is a noun c(1) 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 margin 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 affixed 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 ob-
 ject "him," sutxo "female"). "he had two
 daughters, it is said."

In the first example, with the object affixed to the postpositive, the sequence whenhimlu 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:

hi pa serota. "not just slightly red."

hi 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," hwi "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 level⁸; 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

	Subject +/-S-00	+Theme	Condi- tional +/-60	Aspect +/ <u>±</u> 70	Time <u>±</u> 80	Interest +/-90	Attitude +/-100
Obligatory to sentence classes		Intran- sitive	61 -Vnu	72 -Vpa		91 -V > e 92 -Vwa	101 -Vtš1 102 -he 103 -VLI 104 -y.
Obligatory to clause classes	01 02 03 04 05 06 07	Intran- sitive	61 -Vnu 62 -V > i + -ni			92 -Vwa	
Optional			61 -Vnu	71 -Vna 73 -ni 74 -Vko 75 -Vka 76 -Vmka ~ -maka 77 -Vkta	81 -Vtka 82 -Vtnaka 83 -Vwa		

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 O-00, subject to conditions described in Section 211.

The affixes of the subject class S-00 and of the object class O-00 are shown in Section 241.6, Chart 11, Pronominal Person Affixes.

Chart 8. Transitive Verb Inflection

	Subject +/-S-00	+Theme	Condi- tion +/-60	Aspect +/ <u>+</u> 70	Time <u>+</u> 80	Interest +/-90	Object +/-0-00	Attitude +/-100
Obligatory to sentence classes		Tran- sitive	61 -Vnu	72 -Vpa		91 -V > e 92 -Vwa		101 -Vtš <i>i</i> 102 -he 103 -VLI 104 -y.
Obligatory to clause classes	01 02 03 04 05 06 07	Tran- sitive	61 -Vnu 62 -V > i + -ni				01 02 03 04 05 06 07	
Optional			61 -Vnu	71 -Vna 72 -Vpa 73 -ni 74 -Vko 75 -Vka 76 -Vmka ~ -maka 77 -Vkta	81 -Vtka 82 -Vtnaka 83 -Vwa			

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 O-03 "him"). "let him alone."

šimšitanu (ø- 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 O-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 O-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 Affirmative 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 following the morphemes of Classes 70, 80, 90, 0-00, and 100. The occurrence of both -Vko 74 Emphatic and -Vka 75 Affirmative with verbs is rare.

The affixes of Class 70 are illustrated by the following 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 O-01 "me"). "in order that he repay me."

puyolikiniko (p- S-02 "you," hiyolika intr. "to go hunting," -V > i + -ni Conditional, -Vko 74). "just when you go hunting."

papkapiniklu (p- S-02 "you," hapkapa "to catch," -V > i + -ni 62 Conditional, -Vko 74, -LU O-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 O-03 "him"). "I would have given medicine to him."

kawakta (Ø- S-03 "he," kawa intr. "to bathe," -Vtka 77). "he somehow, somewhere bathed."

tkataktalu (t- S-04 "she," kata tr. "to bathe," -Vtka 77, -LU O-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 O-03 "him"). "then he released him."
- tutxownatnaka (t- S-04 "she," hitxowna intr. "to
become fat," -Vtnaka 82). "she became fat again."
- tniklokatnaklu (t- S-04 "she," nikloka tr. "to
swallow," -Vtnaka 82, -LU O-03 "him"). "she
swallowed him again."
- ralhawa (r- S-03 "it," halha intr. "to burn,"
-Vwa 83). "it is still burning."
- nušīnikawalu (n- S-01 "I," hišīnika tr. "to
think about," -Vwa 83, -LU O-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 successively in the order of their listing. The two Classes of suffixes are separated because of the occurrence of the object affixes O-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
81 "now," -V> e 91, -Vwa 92 "let's go now."
wetkotxeru or wetkotxewalu (w- S-05 "we," heta
tr. "to see," kotxa postpositive "also," -V> e
91, -Vwa 92, -LU O-03 "it"). "let's have a look
at it."

100 Attitude

101 -Vtš1 Polite form, Participial

102 -he Question

103 -VLi ~ VLe following -he, and optionally follow-
ing -e elsewhere. Endearment.

104 -Vy. Exclamatory

nyanutš1 (n- S-01 "I," ya intr. "to go," -Vnu 61

Anticipatory, -Vtš1 101). "I'm going now."

penekan•otš1 (p- S-02 "you," heneka tr. "to give,"

-Vnu 61 Anticipatory, -no O-01 "me," -Vtš1 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."

panikanutkawuri (p- S-02 "you," hanika tr. "to
take," -Vnu 61 Imperative, -Vtka 81 "now,"
-wu 0-05 "we," -VL1 103). "oh please take
us now."

rawhipukhohnenatat kay• (r- S-03 "he," hwahipukho-
hnenata 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

POSITION CLASSES								
		Accompani- ment +/ <u>+</u> 000	+Stem	Causation +/-20	Modification <u>+</u> (+30	Causation +20)	Direc- tion +/ <u>+</u> 40	Voice +/-50
Distribu- tion Classes	Intr. -Tr.		Intr.	22 -kaka	31 n. 33 -Lewa-	22 -kaka		51 -ka 52 -ko 53 -na... 92 -wa 54 -V > i + -na
	T r a n s.	002 hi-	Tr.	22 -kaka 23 -Vha 24 -xitxa	32 yehi	22 -kaka . 23 -Vha 24 -xitxa	42 -ya	
	N e u t r a l	001 m-		21 -Vta	32 postpos. 34 -Le- 35 -xe- 36 -Vna- 37 -m-	21 -Vta	41 -Vpa 42 -ya	

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 obligatorily 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: myoptotini (yoptotini vb. II "when to receive") "when not to receive."

Prefix hi- O2 Accompanitive, Associative is used not only of joint activity but also of objects utilized:

tomkalnama tumuphuxewna (tomkalnama "her wrap-around skirt," t- S-O4 "she," hi- O2 Associative, hiphuxewna "to appear"). "she appeared wearing her wrap-around skirt."

When hi- O2 precedes a verb I, a morphophonemic change of the base-initial hi- to mu- occurs (See Section 150 Morphophonemics):

himuhkakleta (hihkakleta "to tell about"). "to tell about in conversing."

When hi- OO2 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

with, help."

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 0-04 "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:

hikluhatlošhimananumta (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. Dis-

tributive, -m- 37 Transitory, -Vta 21 Potential

Theme Closure) "it is said that he only lay un-

der the arched canoe cover as he went along."

pohimewaxripnata (pohimewa-"to sound," xri 31 n.

"nose," pna 31 n. "hole," -Vta 21 Potential

Theme Closure) "to snore."

hiphuxewnayehxenata (hiphuxewna "to appear," yehi

32 postpos. "near," -xe- 35 "always," -Vna- 36

Temporal, -Vta 21 Potential Theme Closure) "to

always have appeared near during a certain period of time."

ruptxa•kaklewatna (r- S-07, "they," hiptxaka "to help," -kaka 22 Reciprocal, -Lewa- 33 Characteristic, -Vta 21 Potential Stem Closure). "they characteristically helped each other."

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 O-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 obligatory. 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 examples:

yoxixpahimanatkan•a (Ø- ... -na S-07 "they,"
 yoxi- "to mash," xpa 31 n. "paste," hima 32
 postpos. "it is said," -na 36 Temporal, -Vta
 21 Potential Theme Closure, -ka 51 Passive,
 -Vna 71 Detrimental effect). "it is said they
 were then unfortunately mashed to a paste."
 yohimxitxkana (Ø- ... -na S-07 "they," yohima-
 "to hide," -xitxa 24 Mandatory, -ka Passive).
 "they were commanded to hide."
 yaphohnenatna (Ø- ... -na S-07 "they," yapa "to
 walk," hohne 32 postpos. Expanse, -na 36 Tem-
 poral, -Vta 21 Potential Theme Closure).
 "they were walking on and on."
 ruphuxewnayehlewhimata (r- S-03 "he," hiphuxewna
 "to appear," yehi 32 postpos. "in the presence
 of," -Lewa- 33 Characteristic, hima 32 postpos.
 "it is said," -Vta 21 Potential Theme Closure).
 "it is said that he customarily appeared to
 people."

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 crosscut, 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."

rumunkakyehxitxiko intr. (r- S-03 "he," hi- 002
Accompanitive, -kaka 22 Causative, yehi 31
postpos. "to," -xitxa 24 Mandatory, V > 1 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."

yohimlewata intr. (Ø- S-03 "he," yohima-, -Lewa-
33 Characteristic, -Vta 21 Potential Theme Clo-
sure) "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 tran-
sitivizing. It is optionally intransitivizing with a plu-
ral 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 runa (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 O-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," hitxaša-"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* An-

ticipatory, *honuka* postpos. "especially") "in

contrast, to be sick."

hiykotankotxlu (*hiykota* "to counsel," *-Vnu 61*

Anticipatory, *kotxa* postpos. "also," *-LU 0-03*

"him"). "to also counsel him."

retwamonutkaltšinanwu (*r- S-03* "he," *hetwamonuta*

"to pity," *-ka 51*, here, without semantic value,

-1- probably from -LU 15 Infinitive, tšinanu
 "sake, account," -wu O-05 "us.") "because
 he pities us."

retkoklunu (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 O-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 marked as intransitive or transitive in the lexicon.

Stem classes set up on the basis of internal composition are not consistently correlated with the distribution classes, although the great majority of the stems of a certain 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 subdivided 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 decade 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."

yohluka "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."

heta "to see."

Base b + 10:

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

"to ignite."

salewna (*sale*- Base b "to punish," -Vwna

Chart 10. Verb Stem and Base

Stem, Base Class	Base Composition	Free Stem Composition	Bound Stem Composition
a	vb. r.,	+ Base ¹⁰	- - - - -
b	vb. r., vb. r. + prefix, redup. r. + prefix	+ Base + 11, 12, 13, 14	+Base, +Base + 15, 16, 17
c	n.III, n. III + prefix, redup. nIII + prefix	+ Base + 11, 13, 14	+Base, +Base + 15, 16, 19
d	n.II	+Base + 12, 13	+Base, +Base + 15, 18, 19
e	n.I	+Base + 13	+Base, +Base + 15, 18, 19
f	adj.	+Base + 11, 12, 13	+Base + 15
g	particle		+Base
h	postpos., postpos. + prefix	+Base + 11	+Base + 16

"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 (tšikle 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:

hahapitsa- (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.

tš^hihe- "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."

kamyō- (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."

hapkata- (hapka 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."

hiphuxe- (hi- Base prefix "action, usually intransitive," -phu- vb. r. "to reveal," -xe- 35) "to appear."

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."

1. -mlo- vb.r. "to crush"; a. hamlo- tr. "to chew in order to soften"; b. hakamlo- tr. "to grind"; c. himlo- intr. "to be shattered," tr. "to shatter"; d. ximlo- tr. "to mash to powder"; k. yomlo- tr. "to pound with a stone."
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. hakapruru- intr. "to roll"; c. hipruru-
 intr. "to revolve"; e. kapruru- tr. "to roll,
 as between fingers"; g. sapruru- 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."
9. -tspa- vb. r. "to separate, turn aside"; c. hitspa- intr. "to leave", tr. "to turn or set aside"; e. katspa- tr. "to straddle"; f. kotspa- tr. "to separate, scatter, divide"; h. sutspa- tr. "to cut up."
10. -txri- vb. r. "to remove"; b. hakatxri- tr. "to drive away"; c. hitxri- intr. "to go away"; g. satxri- tr. "to sweep."
11. tškehi n. III "mash"; a. hatskehi- intr. "to be crumpled, mashed"; i. šatskehi- 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. tšraxi n. III "fragment"; c. hitšraxi- tr.
 "to dice, cut into bits, slice"; j. šitšraxi-
 tr. "to cut, slice"; k. yotšraxi- 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 mis-
 construe."
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. kamyō- 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: natšinerun·i (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 rušitšna "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

Subject Prefixes with Verb Classes S-OO		Object Suffixes O-OO	Possessive Prefixes with Noun Classes OO		
I	II		I	II	III
01 n-	n-	-no	n-	n-	no-
02 p-	p-	-yi	p-	p-	pu-
03 r-	Ø-	-LU ~ -ni	Ø-	Ø-	hi-
04 t-	t-	-Lo ~ -ni	t-	t-	to-
05 w-	w- ~ ha-	-wu	w-	w-	wu-
06 h-	h-	-hi	h-	h-	hi-
07 r-...-na	Ø-...-na	-na	Ø-...-na	Ø-...-na	hi-...-na

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 "grand-

mother": naxiro "my grandmother," raxirna

"their grandmother."

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

wuhen-a "their child."

With hapo n. III "footprint": nohapo "my foot-

print," 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 OO and in Theme, in the first two columns. The Possessive Prefix Class OO is obligatory with noun Class a under circumstances explained in Section 242.2. No pronominal prefix occurs with Class b. The Subject Prefix S-OO 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

Noun Class	Pronominal Prefix +/-00	Theme	Location +40	Aspect +70	Time +80	Interest +90	Object +/-0-00	Attitude +100
n.a.	00 Possessive 01 02 03 04 05 06 07	a	42 -ya	71 -Vna 72 -Vpa 73 -ni 74 -Vko 75 -Vka 76 -Vmka ~ -maka 77 -Vkta	81 -Vtka 82 -Vtnaka 83 -Vwa	93 -La~ -Le	01 02 03 04 05 06 07	101 -Vtš ^ŷ i 102 -he 103 -VLi~ -VLe 104 -ta ~ -tay.
n.b.		b						
n.c.	S-00 Subject 01 02 03 04 05 06 07	c						

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 -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 -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 satuna (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 (hetatšri "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."

80 Time

81 -Vtka "now, then, next in succession"

82 -Vtnaka "again"

83 -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. Exclam-
atory

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, -Vkta 77 Generalizer,
-Vtka 81 "now," -wu 1 pl. 05) "we (are) un-
fortunately somewhere on the edge of the
lake now."

wan·akaktatkani (wan·a "they," -Vka 75 Affirmative,
-Vkta 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

Theme Class	Stem	Genitive 30	Absolute 29
a	a		
	b 1	34, 38, 39	
b	b 1,2		
	a		29
	b 1	34, 38, 39	29
c	c		

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

- 34 -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 -tš^hi 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."

tšokore (tšokoru 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: tšokoru (Stem b) "harpoon."

yhaltš^hi (yhale Stem a, -tš^hi 29) "someone's eye."

tšokortš^hi (tšokoru Stem b "harpoon," -V>e 34,

-tš^hi 29) "someone's harpoon."

tumlexnetš^hi (tumlexi Stem b "flute," -ne 38,

-tš^hi 29) "someone's flute."

ximeka·tš^hi (ximeka Stem b "manioc," -Vte 39,
-tš^hi 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 (kahli 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. 01 "my," xema "tapir," -Vte 39
Genitive of ownership, tpali n. III "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 Individual, and add the Genitive suffix -Vte 39:

nkatpalirite (n- Ol "my," tpali n. III "leg")

"my leg (of an animal)."

nkahwurute (hwa 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- O4 "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- Ol "my," kwa n. III "platform,"

-Le 34 Genitive of product) "my platform."

Since Theme c is identical with Stem c, the illustrations will be given below in Section 242.3.

242.3. The noun stem comprises a base which is obligatory in all classes, and stem affixes of Classes 10, 20, and 30, whose occurrence distinguishes certain subclasses of stems.

Stem classes a, b, and c contrast in their distribution 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 b1 and b2. Stem b1 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 b1 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 b1. 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 b1.

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

Stem	Base	10	20	30	20	postpos.
a, b1	(1) a(1), b(1)					
	(2) a(2), b(2)					waka
	(3)	10				
	(4)		20			
	(5)			34		
	(6) compound					
b2	(7) n.		28			
	(8) adj.	17				
	(9)		20			
	(10)	10	20			
	(11)			34	25	
	(12)					waka
	(13) adjective + adj., n.	16				
	(14) adjective + n.		20			
	(15) adjective + vb.			34		
	(16) adverb	15	20			
	(17) particle		22			
	(18) postpos.	15	26			
	(19)		26			
	(20) prepos. + n.	15	26			

- 20 Number and Gender
- 22 -kaka "each"
- 25 -VLU/o ~ -LU following -Vnu 61 Anticipatory Individual
- 26 -VtU/o Individual, Privative
- 27 -Vne Plural of homogeneous groups of human beings or animals, especially large animals.
- 28 -Vnu Possessed object
- 29 -tš^hi ~ -Vtš^hi 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 b1 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 b1. hmu "custard apple."

(2) Noun Base a(2), b(2) and the postpositive waka "time, place, manner":

Stem a. txiwaka (txi n. base "back," waka postpos.) "magic power."

Stem b1. hawaka (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. mkalu (mka n. base, -LU 15) "clothing";
tamnu (tama n. base "row," -nu 16) "side, edge."

Stem b1. 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 -Vtš1 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"; tkatš1 (tka- n. base, -Vtš1
29) "sun."

(5) Noun Base a(2), b(2) and -Le 34 Genitive of pro-
cess 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 fol-
lowing 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," tšpatate
 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 ob-
 ject": 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 construc-
 tion 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":

howuknu (howuka adj. "long," -nu 16) "length";
 mšiknu (mšiko adj. "not strong, hard," -nu 16)
 "softness, fragility"; matšinmenu (matšino
 adj. "painless," -menu 17) "cause of painless-

ness, anesthesia"; kayroklemenu (kayrokle
adj. "deceitful," -menu 17) "cause of de-
ceitfulness, grass stalks"; hitškomenu
(hitško adj. "strong," -menu 17) "cause
of strength, medicine."

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,"

(poniko "rich").

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 (kpitxo "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":

potš^ykewaka (potš^yke "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."

muhlenkatu (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."

kokoymalune (koko n. "uncle," yma postpos.

"with," -LU 15, -Vne 27) "those with uncle."

(19) A compound of a noun and the postpositive mihxe

"not thus, without," plus the suffix -VtU 26 Individual,

Privative or -Vne 27 Plural:

hipramihxetu (hipra n. "his domesticated animal,"

mihxe postpos. "without," -VtU 26) "without

his domesticated animal."

(20) A compound of the prepositive pa with a noun

theme plus the suffix -LU 15 Entity and -VtU 26 Individ-

ual, Privative or -Vne 27 Plural:

papokolutu (pa postpos., poko n. theme "arrange-

ment," -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 b1. 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)."

wan'a "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)":

tye 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.; hin'a 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 hepko txamkoxe (hepi "two," kotxa postpos.
"also," mkoxe adj. "homogeneous")
- 5 pamyō (pa prepos. "one, another," myō "hand")
- 6 patsruxire (pa prepos. "one, another," tsru
"big one," xi "finger," -Le 34 Genitive)
- 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 plu-
 ral pronoun stem or a noun stem whose referent is a per-
 son or animal, especially a large animal, and which in-
 cludes 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 Em-
 phatic:

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

Stem	Base		10	20	30	20	postpos.
(1)	Positive active vb. stem	vb.affix	10				
(2)	inflect- ed vb.	62	15				
(3)	inflect- ed vb.	61		20			
(4)	vb. theme			29 +			
(5)	vb. theme			20	30	20	
(6)	vb. theme	42					waka
(7)	Positive passive vb. theme	42+52	15				
(8)	vb. theme	52+klu	16				
(9)	vb. theme	51	15	20			
(10)	vb. theme	42+52					waka
(11)	Privative active vb. theme		10				
(12)	inflect- ed vb.	60		26			
(13)	vb. stem				34		
(14)	vb. stem				34	20	
(15)	vb. theme	42					waka
(16)	Privative passive vb. theme	50		20			
(17)	vb. theme	42+52					waka

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."

yot^ŷsihnu (yot^ŷsiha- "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 saxruklu (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 -Vtš^ŷi 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":

hitxownatš^ŷri "the one who has become fat,"
 hitxownatš^ŷine "the ones who have become fat,"
 hitxownatš^ŷrone "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 > i 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:

ruhithkoklunu (ruhithko "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":

kašānatkaluru "one who has been treated

with herbs," kašānatkalune "those who

have been treated with herbs," kašana-

tkalurone "women who have been treated

with herbs," (kašānatka "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":

niklokikowaka (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 character-
ization 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 nikamtanutu (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":

mumatale (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, option-
ally 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:

metkatu "one who lacks sight," metkane

"those who lack sight," metkatone "women who lack sight," (metka- "to lack sight," -VtU 26, -Vne 27).

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-

fication 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 hitxownastonpotunatatšri "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.¹¹ 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(1).
The prefix ho- and the suffix -pe- occur only in Base b(1).

Base a(1):

myo (myo n.r.) "hand."
hoho (ho- n.r.) "space over or on."
hisa (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) "grand-father," 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."
 tšitš^ŷi (tš^ŷi- n.r.) "fire, firewood."
 hiwru (hi- base prefix, -wru n.r. "whirling")
 "snow."
 hoyetš^ŷno (ho- base prefix, yetš^ŷi- "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:

maš^hi- Base a and mš^hi Base b in maš^hire Stem a
and mš^hiri Stem b "comb."

supe- Base a and spe- Base b in superi- Stem
a(3) and speri Stem bl (3) "palm sp."

š^hote- Base a and kš^hote- Base b in š^hoteru- Stem
a(4) and kš^hoteru Stem bl(4) "deer."

hitš^hima Base a and tš^hitš^hi Base b with Stems
a(1) and bl(1), homophonous with the
bases, "fire, firewood."

hiso- Base a and nso Base b with Stems
a(1) and bl(1), 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 hirukotatš^hri "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:

hirukotaprahiṃanata (verb theme "to be said
to have been taking care of domestic
animals") in hirukotaprahiṃanataṭṣri "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

howukanatkawu (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."

powranka (powra "clean," -Vmka Optative,
 Frustrative) "supposed to be clean."

malešaktalu (maleša "empty, vain, void, non-
 existent," -Vtka 77 Generalizer, -LU 0-03
 "it") "it (is) something empty."

80

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."
 kapkaglewa (kapkagle "capable in hunting," -Vwa
 "yet") "yet capable in hunting."

90

kšinikanmakla (kšinikanu "intelligent," -maka
 76 Frustrative, -La 93 Calls attention to
 the head word) "very intelligent, but with-

out the desired result."

100

kpitxnutš^ŷi (kpitxnu "thick," -tš^ŷi 101 Polite
form) "thick, please."

powrayhere (powra "clean," -yi 0-02 "you,"
-he 102 Question, -Le Endearment) "(are)
you clean, dear?"

ksaxitš^ŷratata[•] (ksaxitš^ŷrata "having one side
black," -ta 104 Exclamatory) "having one
side black!"

kihle-pxitay[•] (kihlep^ŷxi "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."

poltsalne (pole adj. base "green," tsalne n.

Theme a "... 's fishnet") "having a green

fishnet" and mpoltsalne "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 over-
take," -Le 34) "not capable as a hunter."

kšimahakle (k- 003, šimahaka- vb. theme "to
fish," -Le 34) "engaged in fishing."

hohiynumsakleru (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:

teno "high."

šiko "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-* OO1 Privative in the theme:

msaxi "not black"; cp. *ksaxi* "black."

m·ere "unwilling"; cp. *xmere* "willing."

Besides these two common constructions, there are some irregular adjective base formations. *kayaho* "alienated, 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 distribution 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."
txaninpatkalu (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, -Vka 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

hewitši (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 infrequent 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?"

mutš*ı* and mutšinanu "previously."

wane "there, then, thus."

txani and txawakni "now, today."

The derivation of these adverbs is uncertain, except for that of mutš*ı* and mutšinanu which are probably related to the particle hitš*ı* "not yet" (m- 001 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."

hikta "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

Particle	<u>±</u> 70	<u>±</u> 80	<u>±</u> 90	<u>±</u> 00
hihi	75 -Vka 76 -Vmka 77 -Vkta			
hike		81 -Vtka 83 -Vwa		03 -ni
hiphuta	76 -maka		93 -La	03 -ni
seyoka	76 -maka 77 -Vkta	81 -Vtka		03 -ni
txako	75 -Vka			

hethonuka (heta vb. theme "to see," honuka

postpos. "especially") "possibly."

hiphuta (hi- n. base affix, phuta postpos.

"apparently") "apparently."

seyoka (seyo cn. "but," -ka 75 Affirmative)

"it is finished."

halukta (halu exclam., -kta 77 Generalizer)

"maybe."

The particle patako has a correspondent pakatako (pa prepos. "one," kata n. "time," -ko 74 Emphatic) in the Manchineri dialect; the form patako has not been otherwise analyzed.

246. 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," -Vkta 77 Generalizer) "but
however it happened."

seyne (seyo "but," -ni 03 "it") "but."

seyneimka (seyne "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 wane adv. "then, there,
thus" and pnute n. theme a "... 's farness")
"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."

pitxka 3 "like."

pxa 3 "only."

poko 2 "how, manner, arrangement."

potu 1 Intensive.

yehi 1 "near, in the presence of, for the
benefit of, concerning."

yma 3 "with."

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 O3 "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:

kampiranye·himatkalu (kampirana "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 postpositives 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 postpositive 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 "detri- mental 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 $\underline{+C^3} \underline{+C^2} +C^1 +V \underline{+} y$ 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.

⁶The 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 [rĩtx¹rika] "he withdraws," and rutxirika [rĩtxirika] "he strains"; pwanata [p^owanata] "you were staying," and powanata [powa-nata] "you were wrapping."

⁷As 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.

⁸With an intransitive verb stem which includes the derivative Reflexive suffix -na 53, however, the inflectional suffix -Vwa 92 is obligatory.

⁹This treatment of the morphemes was suggested by, but does not follow, Pickett's classification of words "by diagnostic slot occurrence," (Pickett, 1960, p. 22).

¹⁰Regarding the simultaneous treatment of a single morpheme as root, base, theme, and verb, see Pike, 1960, p. 5, "Portmanteau Levels."

¹¹Treated 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.

¹²Numbers 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 [p^əto] "... 's group."
 ptšowi [p^ətšobi] "an edible root."
 pxi [p^əxi] "... 's house."
 phuru [p^əhĩrĩ] "wealthy and famous person."
 hikteha [hik^əteha] "his tear."
 hiktxi [hik^ətxi] "his starch."
 hipsolu [hip^əsolĩ] "its size."
 rethota [ret^əhota] "he coughs."

The voiceless syllabic components [ɨ] [ɪ] vary freely with voiceless schwa [ə] in the cluster /kx/:

- kxep^ətšɨ [k^əxep^ətšɨ] [k^ɨxep^ətšɨ] [k^ɪxep^ətšɨ]
 "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 [ɪ] than [ə] :

tlahwa [t^əlah^əwa] "toad."

tnika [t^ənika] "she eats."

pwanu [p^əwan^ĩ] "you are going to reside."

pyanu [p^ɪyan^ĩ] "you are going to go."

putre [p^ĩt^əre] "your sore."

retmaka [ret^əmaka] "he would see."

retwu [ret^əw^ĩ] "he sees us."

retyi [ret^ɪyi] "he sees you."

The voiced syllabic component [o] varies freely with [ə] in some words with clusters /km/, /kw/, and /pw/:

kmatsuru [k^əmats^ĩr^ĩ] [k^omats^ĩr^ĩ] "fierce."

kwuhenru [k^əw^ĩhend^ĩ] [k^ow^ĩhend^ĩ] "having children."

pwalolu [p^əwalol^ĩ] [p^owalol^ĩ] "yellow."

The basic syllabic component of an affricate preceding an obstruent, and preceding the nasal spirant, is voiceless schwa [ɘ] :

kotspalata [kots^ɘpalata] "to divide."

tškotu [tš^ɘkot^ĩ] "cebus monkey."

tšpitšpi [tš^ɘpitš^ɘpi] "bird sp."

satxpata [satx^əpata] "to weave."

petšitšxeta [petšitš^əxeta] "he always lies
in wait."

mritx-šikale [m^əritx^əšikale] "song of the
peccary."

tšhe·tši [tš^əhe·tši] "loud speaking."

yotsha [yots^əha] [yotsha] "to sew."

katšhalu [katš^əhalī] "vinegar."

yotxhika [yotx^əhika] "to collide."

When /ts/ precedes an obstruent the voiceless schwa varies freely with syllabification of the second segment of the affricate:

tskantši [ts^əkantši] [tškantši] "saliva."

hitskaha [hits^əkaha] [hits^əkaha] "his saliva."

The basic syllabic component of an affricate preceding a voiced consonant is a voiced schwa [ə], except before /y/, where the syllabic component is more frequently [i]:

tsru [tsrī] "big one."

tšlitšlixē [tš^əlitš^əlixē] "willow-like bush sp."

putxrikanu [pīt^əxrikanī] "go away!"

katslu [kats^əlī] "cane."

hitsmapi [hits^əmapi] "his shred."

katswexiru [kats^əwexirī] "overripe fruit."

tsyi [ts^əyi] [tsⁱyi] "bird sp."

potsya [pots^əya] [potsⁱya] "succulent."

In the clusters /txr/ and /tšr/ the syllabic components [i] and [ɪ] vary freely with [ə]:

txripi [tx^əripi] [txⁱripi] [txⁱripi] "small parrot."

hitšraxi [hitš^əraxi] [hitšⁱraxi] [hitšⁱraxi]

"its fragment."

The basic syllabic component of a fricative preceding an obstruent, and preceding the nasal spirant, is the syllabification of the fricative:

skotši [ʃkotši] "the base of a tree."

hisko [hiʃko] "its base."

šte [ʃte] "little brother."

toštexi [toštexi] "button."

nostsi [noʃtsi] "place at my side."

yoxtxita [yoʃtxita] "he changes course."

rawasha [rawaʃha] "it scorches."

košha [koʃha] "he demolished."

ruxha [rɪʃha] "he searched."

In the cluster /xp/ the syllabification of the fricative varies freely to [i]:

xpiro [xpɪro] [xɪpiro] "lizard."

kaxpa [kaxpa] [kaxɪpa] "mud."

The basic syllabic component of a fricative preceding a voiced consonant is voiced schwa [ə], except that

before /y/ the syllabic component most frequently varies to [i]:

- slota [s^əlota] "clam."
 yosnuka [yos^ənuka] "to sprout."
 hiswutu [his^əwIti] "its curved beak."
 hišlata [hiš^əlata] "its overhanging part."
 hošni [hoš^əni] "it is a forest."
 šyo [šⁱyo] "bat."
 xralu [x^ərali] "bloody."
 xnako [x^ənako] "ear."
 xwepi [x^əbepi] "mordacious fish sp."

The syllabic component varies freely to syllabification of the fricative in the clusters /šw/ and /šm/:

- šwamkalo [šwamkalo] [š^əwamkalo] "spider sp."
 hišmopre [hišmop^əre] [hiš^əmop^əre] "heart."

It varies to syllabification of the fricative and [i] and [I] in the clusters /xn/ and /xm/:

- noxnako [nox^ənako] [noɣnako] [noxⁱnako]
 [nox^Inako] "my ear."
 xmerno [x^əmeɾno] [ɣmeɾno] [xⁱmeɾno] [x^Imeɾno]
 "I am willing."

It varies to [i] and [I] in the clusters /šr/, /šn/, /xr/, and /xw/:

- kašri [kaš^əri] [kašⁱri] [kaš^Iri] "arrow."

hošni [hoš^əni] [hošⁱni] [hoš^Ini] "it

is a forest."

noxri [nox^əri] [noxⁱri] [nox^Iri] "my nose."

koxwaka [kox^əwaka] [koxⁱwaka] [kox^Iwaka]

"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 [g] and [n] occur. The syllabic component with these obstruents is syllabification of the consonant segment:

hxema [g_ɪxema] "you pl. hear."

romkahxeta [romkag_ɪxeta] "he follows."

hkawa [ŋ_ɪkawa] "you pl. bathe."

rahka [raŋ_ɪka] "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 [kih^əlerɪ] "a good one."

hrantši [h^ərantšɪ] "blood."

hmu [h^əmɪ] "anona."

hnika [h^ənika] "you eat."

kahwuru [kah^əwɪrɪ] "flower."

hahyo [hahⁱyo] "mosquito."

The voiced schwa varies on rare occasions to voiceless

schwa:

hnika [h^ənika] [h^ɛnika] "you eat."

Similarly there is occasional variation of the syllabic component [i] to [ɨ] before /y/:

hyatka [hⁱyat^əka] [h^ɨyat^əka] "you are going now."

In a few words voiced [o] and voiceless [ɔ] vary freely with the voiced schwa:

hmahatya [h^əmahatiya] [h^ɔmahatiya] [h^omahatiya]
"you lack."

hmu [h^əmɨ] [h^ɔmɨ] [h^omɨ] "anona."

In one word only, [a] has been found in free variation with the schwa and [o]:

hwu [h^əwɨ] [h^ɔwɨ] [h^owɨ] "O.K."

The basic syllabic component of a flap preceding any other consonant is syllabification of the consonant segment:

polta [poɭta] "macaw sp."

perka [peɾka] "you wash."

ral-tšinreta [raɭtšɨndeta] "he finished saying."

hirtšɨ [hiɾtšɨ] "father."

ral-xihlokleta [raɭxi^əlok^əleta] "he finished entering."

rurxeta [riɾxeta] "he always drinks."

talha [taɭha] "she peels."
 mturhi [mtĩɾhi] "you are small."
 ralna [raɭna] "it flies."
 nurmaklu [nĩɾmak^əlĩ] "I would drink it."
 salwata [saɭwata] "he visits."
 mturyi [mtĩɾyi] "you are a child."

The syllabification of the consonant segment varies to voiced schwa in the cluster /lh/:

kolha [koɭha] [kol^əha] "rubber."

It varies to [i] in the cluster /ly/:

tsolya [tsoɭya] [tsolⁱya] "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 [mtenotĩ] "short."
 npika [npika] "I am afraid."
 wtuplata [wtĩp^əlata] "we sit down."
 ruykota [rĩykota] "he counsels."
 kamtši [kamtši] "demon."
 pantši [paŋtši] "house."
 wtxirika [wtxirika] "we kindle."

- heytsi [heytsi] "low bench."
 mšikotu [mšikoti] "soft."
 hinši [hinši] "its tail."
 rawxeta [rawxeta] "he always stays."
 kayxetu [kayxeti] "small waterfowl."
 mhanuruto [mhanĩrito] "one who does not have
 a husband."
 nhanunro [phanĩndo] "my wife."
 kawhuta [kawhĩta] "he threatens."
 toyhi [toyhi] "her tooth."
 pimri [pimri] "another."
 runro [rĩndo] "his mother."
 mwenutu [mwenĩti] "cheap."
 myotsi [miyotsi] "hand."
 nwamonuwata [nwamonĩwata] "I am sad - "
 runya [rĩniya] "he came from."
 wmahatya [wmahatiya] "we lack."
 wyoptota [wiyo^optota] "we receive."
 ylitša [ylitša] "tree sp."
 ruynumsata [rĩynumsata] "he converses."
 tkoywuka [t^okoywĩka] "she makes an alcoholic
 beverage."
 kamla [kam^ola] "termite."
 himnu [him^onĩ] "snake."

nmahatya [n^əmahati^əya] "I lack."
 retinwa [retin^əwa] "he will see himself."
 wawlo [waw^əlo] "wild star apple."
 rawrakte [raw^ərak^əle] "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 [mkatš^əri] [m^əkatš^əri] "cloth."
 mhenoklu [mhenok^əli] [m^əhenok^əli] "jaguar."
 nwanu [nwan[̃]] [n^əwan[̃]] "I will stay."
 mritxi [mritxi] [m^əritxi] "peccary."
 mwakatu [mwakat[̃]i] [m^əwakat[̃]i] "that which is not."
 ralha [ralha] [ral^əha] "he burns himself."
 wtuplata [wtip^əlata] [w^ətip^əlata] "we sit down."
 wtseruwna [wtseri[̃]wna] [w^ətseri[̃]w^əna] "we grow."
 rawxeta [rawxeta] [raw^əxeta] "he always stays."
 wnika [wnika] [w^ənika] "we eat."
 whirukota [whiri[̃]kota] [w^əhiri[̃]kota] "we control."

There is occasional variation from the syllabification of /y/ to [i] and [e] before another consonant:

hayni [hayni] [hayⁱni] [hay^əni] "ant sp."
 heytsi [heytsi] [heyⁱt[̃]si] [hey^ət[̃]si] "low bench."

There is also variation to [o] and [u] in the clusters /nw/ and /wh/, and to [i] in /wh/ and to [u] in /tš/:

nwatka [nwat^əka] [n^əwat^əka] [n^owat^əka] [n^uwat^əka]

"I stayed then."

whene [w^əhene] [w^əhene] [wⁱhene] [w^ohene] [w^uhene]

"... 's child."

wtškotute [wtš^əko^tite] [w^ətš^əko^tite] [w^utš^əko^tite]

"our cebus monkey."