

Apalaí Verb Structure

Preliminary Analysis

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0. Introduction

This paper is an analysis of the verb structure of Apalaí¹ following the Tagmemic approach. Included in the paper is a description of the three significant layers of the verb: the core layer, the stem layer, and the complete word layer. Verb types are described in terms of a two dimensional matrix consisting of an horizontal axis of transitivity versus a vertical axis of dependence. (see Chart I.) The affixes of the stem and word are divided into morpheme classes to which are assigned reference numbers. Century classes 100 and 200 are derivational prefixes and suffixes respectively. Century classes 300 and 400 are inflectional prefixes and suffixes respectively.

1. Core Layer

The Apalaí verb core is composed of a single root or a combination of roots. There are five principal types of cores depending on the kind of roots on which they are based and on their potentiality for derivational and inflectional affixation. These five types are the neutral, the intransitive, the transitive, the non-transitive, and the stative cores.

1.1. The neutral core has five subtypes:

- a. noun: eperu 'fruit'; kane 'woof'
- b. proform:² zo- 'meat food'; ā- 'seat'; ema- 'hand'; pu'- 'foot'
- c. ideophone:³ ko' 'call'; ta'ta 'clap'
- d. neutral verb: -py- 'bathe'; -kurika- 'wash'
- e. neutral: purapura- 'soft'

1.2. The intransitive core

anyry- 'dry'; ny'- 'sleep'

1.3. The transitive core has four subtypes

- a. transitive root: ako'- 'cut'; ene- 'see'
- b. noun + transitive root: esema + ka- 'path' + 'separate'='ditch'
- c. proform+transitive root: zua' + ka- 'viscera' + 'separate'='eviscerate';
-pu' + pixkuno- 'foot'+ 'press'='step on one's foot'
- d. transitive root + transitive root: ene + ku'- 'see' + 'try'='try to see'

1.4. The non-transitive core

a- 'do' or 'say' This is the only member of its class. (see Sec. 4.4)

1.5. The stative core

a- 'state of being' This is the only member of its class. (see Sec. 4.5.)

2. Stem Layer

The verb stem consists of a verb core with or without derivational affixes. Derivational affixes are discussed first in order to facilitate understanding of verb stem subdivision. Class 100 affixes are derivational prefixes, while Class 200 affixes are derivational suffixes.

2.1. Derivational affixes of the stem

Class 210 derivational suffixes:

- 211. -ma 'transitivizer' occurs with the intransitive core, neutral core c.
- 212. -ta 'produce' occurs with the following to express intransitive stems: neutral core a. and c. and e.
- 213. -to 'place' occurs with the neutral core a. to express transitive stems.
- 214. -pa 'give' occurs with the neutral core b. to express transitive stems.

Class 220 derivational suffix:

- 221. -zomo 'repetitive' occurs optionally on all stems.

Class 230 derivational suffix:

- 231. -no 'transitivizer' occurs with intransitive stems.

Class 240 derivational suffix:

- 241. -po 'causativizer' occurs with transitive stems. If an intransitive stem is to be causativized, it first must be transitivized with /-no'/.

Class 250 derivational suffix:

- 251. -pito 'initiative' occurs optionally on all stems.

Class 260 derivational suffixes:

- 261. -ke 'cessative'⁴ occurs optionally on all stems.

A possibility of up to two morphemes of Class 220-260 may occur in the verb stem. The order of occurrence is indicated by the number assigned each suffix. Because Classes 220, 250 and 260 occur optionally on all stem types, they will not be included below in the discussion of stem division.

Class 110 derivational prefixes:

- 111. e- 'intransitivizer/reflexive' occurs with neutral stems.
- 112. at- ~ os- ~ ox- ~ ot- 'intransitivizer/reflexive' occurs with transitive.
at- occurs preceding /a/ initial verb stems: at-ako 'cut oneself'
os- occurs preceding /e/ initial verb stems: os-ere 'surprise'
ox- occurs preceding /i/ initial verb stems: ox-iny'ma 'cause oneself to sleep' (said of child with pacifier)
ot- occurs elsewhere: ot-u'na 'cure oneself'

2.2. Verb stems

There are five principal types of verb stems: transitive stems, intransitive stems, neutral stems, non-transitive stem, and stative stem. The transitive and intransitive stems have subtypes.

Transitive stem has 3 subtypes:

a) Transitive stem₁:

transitive core: -tapa- 'hit'; -pu'pixkuno- 'step on one's foot'

intransitive core + 211: anyry-ma- 'dry it'; ny'-ma- 'sleep him'

neutral core a. + 213: -kane'-to- 'place the woof'

neutral core b. + 214: zo-pa- 'meat feed'

neutral core c. + 211: -ko'-ma- 'call (object)'

b) Transitive stem₂:

intransitive stem + 231: -rowota-no'- 'cause him to be crazy'

c) Transitive stem₃:

transitive stem + 241: -kumano'-po- 'cause water to rise'; ene-po- 'cause to see' (show)

Neutral stems:

neutral core d: -py- 'bathe'; -pipo'- 'beat'

Non-transitive stem:

non-transitive core: a- 'do' or 'say'

Stative stem:

stative core: a- 'state of being'

Intransitive stems have two subtypes:

a) Intransitive stem₁:

intransitive core: anyry- 'dry'; yto- 'go'

neutral core a. + 212: eperu-ta- 'fruit produce'; konopo-ta- 'rain produce'

neutral core c. + 212: ko'-ta- 'yell'

neutral core e. + 212: purapura-ta- 'soften'

b) Intransitive stem₂:

112 + transitive stem: os-ema'tuy'- 'shake hands among themselves'

111 + neutral core: e-py- 'bathe'; e-kurika- 'wash oneself'

3. Complete Word Layer

The complete word layer of Apalaí verbs consists of verb stems plus inflectional affixes. The verb word is described in terms of a two-dimensional matrix featuring transitivity versus dependence. The horizontal axis includes transitive, intransitive, non-transitive, and stative categories as vectors. The vertical axis consists of major vectors of independent and dependent. The independent vector is divided into declarative, declarative oblique, imperative, completive. The dependent vector is divided into negative and aspect. The inflectional affixes of the word are divided into prefixes and suffixes. Class 300 affixes are inflectional prefixes. Class 400 affixes are inflectional suffixes. The following abbreviations are used in the matrix:

P = person marker; A = stem; tr = transitive; nu = neutral; Pl = plural; T = tense; intr = intransitive; nt = non-transitive; sa = stative; I = imperative; I' = imperative prime; Neg = negative; Ap = aspect.

INDEPENDENT	Declarative	TRANSITIVE	INTRANSITIVE	NON-TRANSITIVE	STATIVE
		±P:310 ^s +S:tr/nu ±Pl:410 +T:420 n-anypito-ase he (it)-begin to lift up-r.p.	+P:350 +S:int ±Pl:410 +T:420 my-paka-no you-wake-i.p.	+P:350+S:nt±Pl:410 +T:420 n-yka-no he-say-i.p.	+P:350+S:sa ±Pl:410 +T:420 ase I am
	Oblique				
	Imperative	±P:320 +S:tr y-se me-like	±P:330+S:tr/nu±Pl:410+I:430 ±I':440 ku-ene-to-ko-se us-look at-Pl.-imperative	+S:int±Pl:410+L:430 +I':440 ony' -ko sleep-imperative	+S:nt±Pl:410+I:430 ±I':440 kax-ko say/do-imperative
Completive	+completor:340 +S: all types +Completive:450 t-ouzomo-se 'pulled up again'				
DEPENDENT	Negative	+P: 350 +S:tr/nu +Neg: 470 an-aomu'ma-ra any-carry up-not	+S:int+Neg:470 oe'zomo pyra come again not	+S:nt+Neg:470 ka-ra do-not	+S:sa+Neg:470 ka-ra not of the substance of
	Aspect	±P:360+S:tr/nu+Pl:410 +Ap:460 ku-ene'-tori-ko us-bring-pl.-ing	+S:int±Pl:410+Ap:460 ori' -sasaka die-about to	+S:nt+Ap:460 a-ko do-ing	+S:sa+Ap:460 ka-se to be

Chart I

3.1. Inflectional suffixes of the word layer

Class 410 inflectional suffix occurs with verb stem Class A and Class Bx (see Sec. 4.3):

411. -to ∞ -tori 'plural'

-to occurs in the declarative and imperative verbs co-occurring with 2nd person prefixes,

m-oe'-to-u 'you-come-pl.-immediate pt',

otu'-to-ko-se '(you) eat-pl.-imperative markers',

-tori occurs in the dependent aspect continuative,

ku-ene'-torī-ko 'us-bring-pl.-continuative'.

Class 420 inflectional suffix:

421. -u ∞ -no 'immediate past' (i.p.),

-u occurs with verb stem Class A and Class Bx when 2nd person is pluralized,

m-py-to-u 'you-bathe-pl.-i.p',

-no occurs with verb stem Class A and Class Bx,

n-epuka-no 'he-fall-i.p'.

422. -ase 'recent past' (r.p.) occurs with verb stem Class A and Class Bx,

n-ene'-to-ase 'he-climb down-r.p'.

423. -ne 'distant past' (d.p.) occurs with verb stem Class A and Class Bx,

kyn-oe'-ne 'he-arrived-d.p'.

424. -ko 'historical past' (h.p.) occurs with verb stem Class A and Class Bx,

ori-ko '(he) create-h.p'.

Class 430 inflectional suffix occurs with verb stem Class A and Class Bx:

431. -ko 'strong positional imperative' aro-ko '(it) take-imp',

432. -ta 'strong motion imperative' aro-ta '(it) go take-imp',

433. -xi 'permissive' aro-xi '(it) take-(with you permission)'.

Class 440 inflectional suffix occurs with verb stem Class A and Class Bx.

441. -se 'weak command' occurs following morphemes 431 or 432 and changes the meaning from strong command to weak command,⁶

otu'-ko-se (colloquial meaning of: 'Come on, have a bite to eat with us.').

Class 450 inflectional suffix occurs with verb stem Class A and Class Bx.

451. -se 'completive' occurs with stems to express completion,

t-ori'-se 'dead'.

Class 460 inflectional suffix:

461. -nōko ∞ -~ko 'continuative',
-nōko occurs with verb stem Class B subtype x,
ori '-nōko 'dying',
-~ko occurs with verb stem Class A,
ikurikā-ko 'it-washing'.
462. -īse 'abortive' occurs with verb stem Class A and Class Bx:
epuka-īse '(he) fall-almost',
oriky-īse '(he) die-almost'.
463. -sasaka 'incompletive' occurs with verb stem Class A and Class Bx:
ori '-sasaka '(he-is) die-about'.
464. -se 'purpose' occurs with verb stems Class A and Class Bx:
epy-se 'bathe-for the purpose of'.

Class 470 inflectional suffix:

471. -ra pyra 'negation',
-ra occurs with /a/final verb stem Class A,
an-aomu'ma-ra 'any-(he is) carry up-not',
pyra occurs elsewhere as a phrase level particle with verb stems Class A and Bx,
oe' pyra mana 'come not he-has'.

3.2. Inflectional prefixes of the word layer

Class 310 inflectional prefixes manifest the optional⁷ subject-object tagmeme of the independent declarative transitive verb, and are composed of the following members:

subject-object prefix when 3rd/3'rd⁸ person object is involved with:

1st person = 311.	#- ~ y-	ako 'no	'I cut him.'
2nd person = 312.	m- ~ my- ~ mu-	m-ako 'no	'You cut him.'
1st and 2nd = 313.	s- ~ sy- ~ su-	s-ako 'no	'We(incl.) cut him.'
3rd person = 314.	n- ~ ny- ~ nu-	n-ako 'no	'He cut him.'

subject-object prefix when 3rd person subject is involved with:

1st person = 315.	j- ~ jy-	j-ako 'no	'He cut me.'
2nd person = 316.	o- ~ a- ~ ~	ako 'no	'He cut you.'
1st and 2nd = 317.	ky- ~ ku-	ku-ako 'no	'He cut us(incl.)'
3'rd person = 318.	n- ~ ny- ~ nu-	n-ako 'no	'He cut him.'

Other Relationships:

1st and 2nd involved in subject-object relationship:

319. ky- ~ ku- ~ k- ku-eneno 'I saw you.' or 'You saw me',
1st person and 3rd person (1st person exclusive) involvement is expressed by a
free pronoun yna,
yna noe'no 'We(excl) arrived'.

Class 320 inflectional prefixes manifest the optional object tagmeme of the declarative oblique transitive verb. The subject of this verb is indicated by a prefix to the auxiliary verb in a verb phrase construction. The members are as follows:

- | | | | | | |
|------|--------------|-------------|-----------------------|---------------------|----------------|
| 321. | y- ~ j- | 1st person | y-se mana | 'me-like he (is)' | 'He likes me.' |
| 322. | o- ~ a- | 2nd person | a-warō ase | 'you-know I (am)' | 'I know you.' |
| 323. | i- ∞ z- ∞ #- | 3rd person | i-se | 'it-want' | 'I want it.' |
| 324. | ky- ~ k- | 1st and 2nd | ky-zamaro
kynexine | 'us-like he (d.p.)' | 'He liked us.' |

Class 330 inflectional prefixes manifest the optional object tagmeme of the imperative transitive verb. The members are as follows:

- | | | | | |
|------|-------------------|------------|-----------|--------------|
| 331. | ky- ~ ku- | 1st person | ku-ene'ko | 'me-look at' |
| 332. | i- ∞ t- ∞ z- ∞ #- | 3rd person | apoiko | '(it) grab' |

Class 340 inflectional prefix manifests the obligatory completor tagmeme of the completive verb.

- | | | | | |
|------|----------------|-------------|----------|-------|
| 341. | t- ~ ty- ~ tu- | 'completor' | t-ako'se | 'cut' |
|------|----------------|-------------|----------|-------|

Class 350 inflectional prefixes manifest the obligatory object tagmeme of the negative transitive verb. The subject of this verb also is indicated by a prefix to the auxiliary verb in a verb phrase construction. The members are as follows:

- | | | | | |
|------|------------------|---|---------------|---------------------|
| 351. | j- ~ jy- | 1st person | jy-pipo' pyra | 'me-hit not' |
| 352. | o- ~ a- ~ ã- | 2nd person | o-kurika-ra | 'you-wash-not' |
| 353. | on- ~ ony- ~ an- | This prefix, which means '(not) any', co-occurs with the
Negative suffix 471 and substitutes for the bound object.
an-apoi pyra 'any-grasp not' | | |
| 354. | ky- ~ ku- ~ k- | 1st and 2nd | ky-pipo' pyra | 'us(incl.) hit not' |

Class 360 inflectional prefixes manifest the optional object tagmeme of the Aspect Verbs. The members are as follows:

- | | | | | |
|------|-------------------|-------------|--------------|--------------------|
| 361. | j- ~ jy- | 1st person | j-esekāko | 'me-biting' |
| 362. | o- ~ a- ~ ã- | 2nd person | ã-moripāko | 'you-teaching' |
| 363. | i- ∞ t- ∞ z- ∞ #- | 3rd person | i-kurikāko | 'it-washing' |
| 364. | ky- ~ ku- ~ k- | 1st and 2nd | ky-pipo'nōko | 'us(incl) hitting' |

Class 370 inflectional prefixes manifest the obligatory subject tagmeme of the intransitive verb. The members are as follows:

371.	jy- ~ ju- ~ j- ~ #-	1st person	jy-ny'no	'I slept.'
372.	(m- ~ my- ~ mu-) ⁹ ∞ o-	2nd person	m-oe'no o-ny'no	'You-came.' 'You slept.'
373.	(n- ~ ny- ~ nu-) ∞ kyn- ¹⁰	3rd person	n-epukano	'He-fell.'
374.	s- ~ sy- ~ su-	1st and 2nd	su-mūtano	'We-bled.'

The inflectional affixes of the non-transitive verb and the stative verb will be discussed below in the section on allomorphs.

4. Allomorphs

4.1. Allomorphs of derivational prefixes and inflectional suffixes

Allomorphs of the derivational prefixes and the inflectional suffixes were explained under section 2.1. and 3.1. respectively.

4.2. Allomorphs of the inflectional prefixes

Phonologically defined alternation is quite common in the prefix allomorphs of the verb stem and obeys the following rules:

1. alternation o- ~ a- ~ Ṽ- of the second person prefixes of transitive verbs is conditioned by the morphophonemic rule of vowel harmony:
a- occurs with Ca initial verb stems. a-ware 'you know',
Ṽ- occurs with /a/ or /o/ initial verb stems, āmoripa- 'you-teach',
o- occurs elsewhere. o-eseka 'you-bite' (the following alternations are conditioned by the form of the stem.).
2. alternation k- ~ ku- ~ ky- 1st and 2nd person relationships in transitive verbs:
k- occurs with /u/ initial stems, k-uaro 'us-know',
ku- occurs with vowel initial stems, ku-ene 'ko 'me-bring',
ky- occurs with consonant initial stems, ky-zamaro 'us-like'.
3. alternation #- ~ y- morpheme 311:
#- occurs with vowel initial stems, eneno 'I saw him',
y- occurs with consonant initial stems, y-pipo'no 'I hit him'.
4. alternation y- ~ j- morpheme 321:
y- occurs with consonant initial. y-se 'me-like',
j- occurs with vowel initial. j-uaro 'me-know'.
5. alternation j- ~ jy- morphemes 315, 357 and 361:
j- occurs with vowel initial stems, j-ako'no 'He cut me',
jy- occurs with consonant initial stems, jy-pipo'no "He hit me'.
6. alternation ony- ~ an- ~ on- negative prefix:
ony- occurs with consonant initial stems, ony-pipo' pyra 'any-hit not',
an- occurs with /a/ initial stems, an-apoi pyra 'any-grasp not',
on- occurs elsewhere, on-ena 'ka-ra 'any-finish not'.

7. alternation *jy- ~ ju- ~ j- ~ #-* 1st person subject of intransitive verbs:
jy- occurs with CV other than Cu initial stems, *jy-ny'no* 'I-slept',
ju- occurs with Cu initial stems, *ju-mūtano* 'I-bled',
j- occurs with /u/ initial stems, *j-urakanase* 'I-hunted (for game)',
 #- occurs elsewhere, *oe'no* 'I came'.
8. alternation *my- ~ mu- ~ m-* 2nd person subjects in verb stems:
my- occurs with CV other than Cu initial stems, *my-pakano* 'You-woke up',
mu- occurs with Cu initial stems, *mu-kurikano* 'You-washed (it)',
m- occurs elsewhere. *m-ako'no* 'you-cut(it)'.
9. alternation *ny- ~ nu- ~ n-* of the 3rd person subjects:
ny- occurs with CV other than Cu initial stems, *ny-ny'no* 'He-slept',
nu- occurs with Cu initial stems, *nu-mūtano* 'He-bled',
n- occurs elsewhere, *n-epukano* 'He fell'.
10. alternation *sy- ~ su- ~ s-* 1st and 2nd persons subject of verb stems:
sy- occurs with CV other than Cu initial stems,
sy-ny'no 'We(incl) slept',
su- occurs with Cu initial stems, *su-kurikase* 'We(incl) washed(it)',
s- occurs elsewhere, *s-urakanase* 'We (incl) hunted'.
11. alternation *ty- ~ tu- ~ t-* morpheme 341:
ty- occurs with CV other than Cu initial stems, *ty-pipo'se* 'beat',
tu- occurs with Cu initial stems, *tu-mūlase* 'slept',
t- occurs elsewhere, *t-oe'se* 'arrived'.

4.3. Allomorphs of the stem

Morphologically defined alternation occurs with some inflectional prefixes.

1. Transitive verb stems may be classified as to which allomorph of the third person object prefix they occur.

<i>i-</i>	class <u>i</u> verb stems:	<i>-kurika-</i> ;	<i>ikurikāko</i>	'washing it'
<i>t-</i>	class <u>t</u> verb stems:	<i>-uo-</i> ;	<i>tuono</i>	'killed'
<i>z-</i>	class <u>z</u> verb stems:	<i>-uru-</i> ;	<i>zuruko</i>	'conversing'
<i>#-</i>	class <u>r</u> verb stems:	<i>ene-</i> ;	<i>eneko</i>	'seeing (it)'
2. Intransitive verb stems may be classified as to which allomorph of the 2nd person subject prefix they occur.

<i>m-</i>	class <u>m</u> verb stems:	<i>-oe'</i> ;	<i>moe'no</i>	'You came.'
<i>o-</i>	class <u>o</u> verb stems:	<i>-ny'</i> ;	<i>ony'no</i>	'You slept.'

3. Verb stems also may be classified as verb stem Class A (open class) or verb stem Class B (closed class). Verb stem Class B is divided into subtypes x and y. Verb stem allomorphs occurring in Class Bx are stem allomorphs ending in a glottal stop or a nasalized vowel. Verb stem allomorphs occurring in Class By are allomorphs ending in -ky, -ty, -py, or -my. Class By allomorphs co-occur with the recent past tense morpheme 422. or with the abortive aspect morpheme 462. Class Bx allomorphs occur elsewhere.

<u>Class B, subtype x</u>	<u>Class B, subtype y</u>	<u>Meaning</u>
oe' -	oepy-	'come'
ny' -	nyky-	'sleep'
-ō-	-ony-	'eat' (meat-type food)
etÿ-	etymy-	'be drunk'
ena' -	enapy-	'eat' (veg.-type food)
anÿ-	anymy-	'lift'
osema' -	osematy-	'wash hands'
-o' -	-oky-	'eat' (bread-type food)

4. Verb stems initiating in zu- alternate to w- when occurring with the 2nd person prefix markers, zuaro 'He knows'; a-warō 'You-know.'
5. Verb stems initiating in wθ alternate to u- when occurring with consonant initial prefix markers: wa- 'dance'; j-ua 'I-dance.'
6. Verb stems initiating in e- alternate to o- prefixed to the stem when occurring with t- prefixes: epy- 'bathe'; t-oepyse 'bathed'.
7. Intransitive verb stems initiating in consonants alternate to o- or a- prefixed to the stem when occurring in the imperative: ny' - 'sleep'; ony' ko '(you) sleep (imper.)'; wa- 'dance'; awako '(you) dance (imper.)' (Phonological alternation of /o/ with /a/ obeys rule 1. under section 4.2.)

4.4. Paradigm of the non-transitive declarative verb

A paradigm of the non-transitive declarative verb is listed below to facilitate the illustration of its inflectional and stem allomorphs.

Immediate past tense:	yka-no	I said or did
	m-yka-no	you said or did
	n-yka-no	he said or did
	s-yka-no	we(incl.) said or did
Recent past tense:	ase	I said or did
	m-ase	you said or did
	n-ase/m-ano	he said or did
	set-ase	we(incl.) said or did

Distant past tense:	yka-ne	I said or did
	m-yka-ne	you said or did
	k-yka-ne	he said or did
	s-yka-ne	we(incl.) said or did

4.5. A paradigm of the declarative stative verb

A paradigm of the stative declarative verbs listed below to facilitate the illustration of its inflectional and stem allomorphs.

Present tense:	ase	I am
	m-ase	you are
	m-ana	he is
	set-ase	we(incl.) are
Present perfect:	ake-ne	I was
	m-ake-ne	you were
	kyn-ako	he was
	set-ake-ne	we(incl.) were
Emphatic/question:	'a- (no)	I am or am I?
	'm-a- (no)	You are or Are you?
	'n-a- (no)	He is or Is he?
	'set-a- (no)	we(incl.) are or are we(incl.)?

NOTES

1. The Apalaí language is spoken by some 100 persons living along the Parú River in the northeastern part of the State of Pará in Northern Brazil. Data for this study were gathered during field work conducted in the years 1962-1965, under the auspices of the Museu Nacional of Rio de Janeiro, Brazil, in accordance with its contract with the Summer Institute of Linguistics. The tribal work was facilitated by the assistance of the Serviço de Proteção aos Índios. For further information on Apalaí phonology and noun structure see: Edward and Sally Koehn, Notas Sobre a Língua Apalaí (in process of publication by the Museu Paraense Emílio Goeldi, Belém, Brazil.)

I am indebted to Dr. Irvine Davis for his help in the analysis of the verb structure and in the organization and presentation of the data. Also I am indebted to my husband, Edward Henry Koehn, for the framework of the analysis and for his suggestions throughout the writing of this paper.

The work was facilitated by frequent reference to a concordance of 28,000 morphemes from Apalaí texts made on the IBM 1410 computer at the University of Oklahoma by the Linguistic Information Retrieval Project of the Summer Institute of Linguistics and the University of Oklahoma Research Institute, and sponsored by Grant GS-934 of the National Science Foundation.

2. A proform is a shortened construction of the noun it represents. The noun represented may be either an obligatorily possessed or an optionally possessed noun. pu'- is the proform representing puru 'foot'; zo- represents zoty 'meat food'.

3. An ideophone is an uninflected onomatopoeic word used to express action. The action may be expressed by the ideophone alone or by the ideophone plus the auxiliary verb or by a regularly inflected verb. moru' 'chew'; itu' 'spit'; sururu 'tickle'.
 4. In the data there is one occurrence of a reversative. -maka. apuru'-maka 'open (the curtain)' from apuru- 'close'.
 5. The subject-object tagmeme of the declarative transitive is described as optional in the 3rd person in that the 3rd person bound prefix is replaced by the occurrence of a free object on the clause level. papa n-eneno 'Father saw it.'; papa pape eneno 'Father saw the paper.'; pape eneno 'He saw it.' Other alternatives are: Describe the tagmeme as obligatory by positing a zero 3rd person prefix co-occurring with a free object. Or: Describe the tagmeme as clause level with the filler as either free object or bound object prefix. O: o/o-
- With the description of the tagmeme as optional occurrence, the obligatory occurrence of the object tagmeme in the dependent negative is highlighted.
6. The data are insufficient at present to support a clear analysis of the hortative.
 7. See footnote #5.
 8. 3' refers to a second third person involved.
 9. A very few intransitive verb stems occur with both allomorphs of prefix 372 in fluctuation. m-eremiano 'You sang.'; o-eremiano 'You sang.'
 10. kyn- occurs in the distant past tense as the third person prefix.
kyn-oe'ne 'He arrived.'