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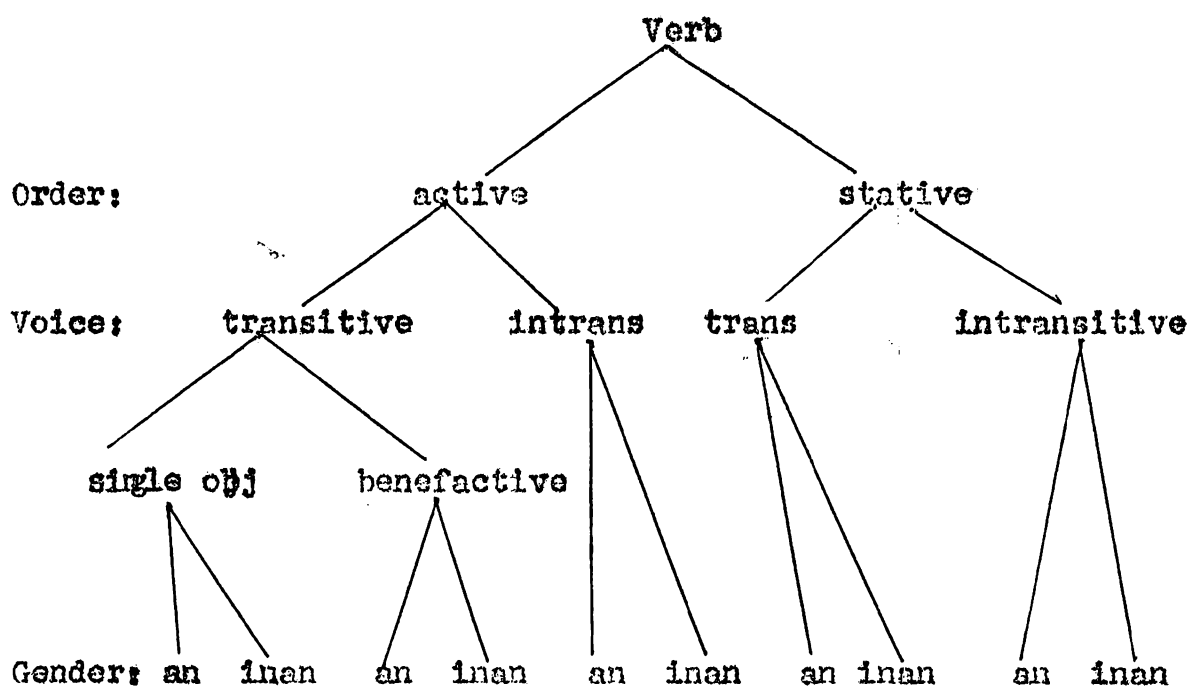
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Verb Classes: A verb may be the predicate constituent of a clause and is not a nominal. Every verb is either active or stative in order. An active verb may be inflected for tense; a stateive verb may not. Every verb is either transitive or intransitive in voice. A transitive verb may take an object; an intransitive verb may not. Active transitive verbs are of two types; those which take a single object, and those which take two objects; benefactive. Furthermore, all verbs are either animate or inanimate in gender. A transitive verb is animate if the object is animate; it is inanimate if the object is inanimate. An intransitive verb is animate if the subject is animate; it is inanimate if the subject is inanimate. The following chart diagrams the 10 resultant classes of verbs.



Examples of the ten resultant verb classes follow;

Active transitive single object animate: cu²ŋing²⁴ jiúung²⁴
he gives/ children/
He gives children.

Active transitive single object inanimate: cu²r²³ cuu³.
he gives/ money/
He gives money.

Active transitive benefactive animate: cu²ŋing²³ jiúung²⁴ crúu⁴.
he gives/ children/crosses/
He gives children crosses.

Active transitive benefactive inanimate: cu²r³ jiúung²⁴ cuu³
he gives/ children/ money/
He gives children money.

Active intransitive animate: ca²tŋng² jiúung²⁴.
he fell/ child/
The child fell.

Active intransitive inanimate: ca²tŋ² cún²⁴
it fell/ the rock/
The rock fell.

Stative transitive animate: cu²ŋing²⁴ Juu³.
he knows/ Julia/
He is acquainted with Julia.

Stative transitive inanimate: cu²fir²⁴ ni²cui⁴
He knows/ Oaxaca/
He is acquainted with Oaxaca.

Stative intransitive animate: 'iuu³ing³
He is inside.

Stative intransitive inanimate: 'iu²⁴
It is inside.

a. Order: The latter two categories consist of words which may function as descriptive adjectives. An active verb may be derived from a stative verb by the activizing prefix /li²/. For example, the verb, cu²fir² 'he is acquainted' is made active and inflected in the following manner:

ni²li²cufir² 'he will get acquainted'

ca²li²cufir² 'he became acquainted'

Some stative verbs can be made active by the causative prefix. For example, the stative verb, 'mɛ³ 'it is sharp', can become the active verb jɪ²'mɛ⁴e 'I sharpen it'; or the stative verb, tɪɪŋ² 'he is able', can become active verb jɪ²tɪɪŋ 'he studies or learns'.

A stative verb may be derived from an active verb by the stativizing prefix. For example, the active verb, cúŋg'² guoor², 'he marries', can become the stative verb, sɪ²cúŋg'² guoor² 'he is married'; or the active verb, ca²'lée'² 'it broke', can become the stative verb, sɪ²le'²³ 'it is broken'.

b. Voice: Some intransitive verbs may be made transitive by the same causative prefix that makes stative verbs active. For example, gíŋg³ 'he is angry' becomes jɪ²gíŋ³nrɪ 'I am bothering him'.

c. Gender: Transitive verbs agree in gender with the direct object, as the indirect object is always animate; intransitive verbs agree in gender with the subject. Related animate-inanimate verb pairs tend to reflect their gender difference in the vowel of the verb stem, and/or a final nasal in the animate verbs. For example:

ca²tɔ'² 'it fell'

ca²tɔŋ'² 'he fell'

cuɔr²³ cuu³ 'he gives money'

cuɔŋ'²⁴ jɪuŋ²⁴ 'he gives children'

Verb inflection: When describing verb inflection, it is convenient to classify verb stem syllables as to those which are checked by glottal stop and those which are open, as well as those which are nasal final and those which are vowel final.

Examples of the four resultant verb syllable classes follow:

- (-nasal -glottal stop) cuŋ² bé⁴ 'Bob is running'
 (-nasal /glottal stop) gɔ²³ bé⁴ 'Bob is eating'
 (/nasal -glottal stop) dséeng² bé⁴ 'Bob is dancing'
 (/nasal /glottal stop) sing²⁴ bé⁴ 'Bob is standing'

a. Person-number: Person and number of the subject is marked in the verb by person affixes in conjunction with tone, but the two are separate systems. The affixes are treated here and the tone system on pages . There are six person-number combinations which can be distinguished for any verb: first person singular, first person plural, second person singular, second person plural, third person human (which includes heavenly bodies and religious objects), and 3rd person animal. Following are four sample verbs in the present tense, demonstrating the six person-number markers.

	-nasal -glottal stop to raise (something)	-nasal /glottal to stand(thing)	/nasal gglottal to turn (something around)	/nasal /glottal to become frightened
3rd human	séer ²	sí ¹ r ²	yáaing ²⁴	fɔɔ́ing ¹³
3rd animal	sée ²⁴ rɛ ¹	sí ¹ 2rɛ ¹	yáan ²⁴ ne ¹	fɔɔ́n ¹² ne ¹
2nd sing	see ¹³	sí ¹ 2	yáan ²²	fɔɔ́n ¹²
2nd plur	see ² na ¹	sí ¹ 2na ¹	yaan ³ na ¹	fɔɔ́n ¹³ na ¹
1st sing	sée ²⁴ e	sí ¹ 2i	yaan ³	fɔɔ́n ¹ n ²⁴
1st plur	see ³ naa ¹ see ³ ee ¹	sí ¹ 2naa ¹ sí ¹ 2ii ¹	yaan ³ naa ¹	fɔɔ́n ¹²³ naa ¹

Third person human is marked differently for -nasal verbs than for /nasal verbs. On -nasal verbs the third person is marked by an /r/ following the verb stem. On /nasal verbs the third person is marked by an /i/ in the verb stem immediately preceeding the final velar nasal. The verb is not marked for 3rd person

when the subject of the clause is explicitly stated immediately following the verb, nor when the interrogative pronoun or the demonstrative pronoun is present. For example:

(marker present) dsér³ 'he will go'

(subject explicitly stated immediately following)

dsé³ Bé⁴ 'Bob will go'

(interrogative pronoun) &I³⁴ dsé³ 'Who will go'

(demonstrative pronoun) seeng² dsea² 'i² dsé³

'there are people who will go'

Third person animal is also marked differently for -nasal verbs than for /nasal verbs. On -nasal verbs animal is marked by the syllable /rɪ'/ following the verb stem. On the /nasal verbs animal is marked by the syllable /ne'/ (nɪ' is some speakers) following the verb stem. The nasal of the stem is the alveolar nasal. The animal marker is absent in the same situations as described above for the third person marker.

Second person singular is marked by a glottal stop following the verb stem. In the case of /glottal stop verbs, nothing is added. The nasal of the stem of /nasal verbs is the alveolar nasal. Second person plural is marked by the syllable /na'/ following the verb stem.

The marker for first person singular is less defined than the other markers. On -glottal stop verbs it is an extra mora of length. On /glottal stop verbs, the vowel or nasal of the stem is repeated after the glottal stop. (On /nasal /glottal stop verbs in which the vowel of the stem is only one mora of length, the order of the nasal and the glottal stop is transposed, so that the arrangement is : (C) V ' n. This is seen in the pair of verbs, fɛ'n² 'I am lazy' in contrast with fɛn'²³n 'I am tired'.

First person plural is marked by the syllable /naa'/ following the verb stem. The nasal of the stem of /nasal verbs is the alveolar nasal. An alternate means of indicating first person plural is possible on -nasal verbs and even on some /nasal verbs. Instead of the marker /naa'/, the vowel of the stem is re-articulated, with a double mora of length and a light glottal stop closure. For example, the two forms meaning 'we went' are: ngó³naa', and ngó³oo'; the two forms of 'we are saying' are: fé²naa' and fé²ee'.

It will be noted that tone also plays an important part in distinguishing person and number. However, tone cannot be predicted from the person-number markers, nor can they be predicted from the tone. The two operate independently but both are necessary to the correct form of the verb. The following matrix displays the person-number markers.

	-Nasal-glottal	-nasal/glottal	/nasal-glottal	/nasal/glottal
1st sing	-V	-V	-n	-n
1st pl	-naa'	-naa'	-naa'	-naa'
	-VV'	-VV'	-VVn'	-VVn'
2nd sg	'	∅	'	∅
2nd pl	-na'	-na'	-na'	-na'
3rd human	-r	-r	-i-	-i-
3rd animal	-ri'	-ri'	-ni'	-ni'

A few verbs distinguish number apart from person in 3rd person. This is done by suppletion. In such cases, the 1st and 2nd persons are also distinguished for plural. An example is the set of verbs meaning 'to fall'.

ca ² tø'n ²	'I fell'	ca ² jiún' ² naa'	'we fell'
ca ² tø'n' ²	'you fell'	ca ² jiún' ²³ na'	'you all fell'
ca ² tø'ing' ²³	'he fell'	ca²jiún'²³na'	ca ² jiúing' ² 'they fell'
ca ² tø'n' ² ne'	'it (animal) fell'	ca ² jiún' ² ne'	'they (animal) fell'

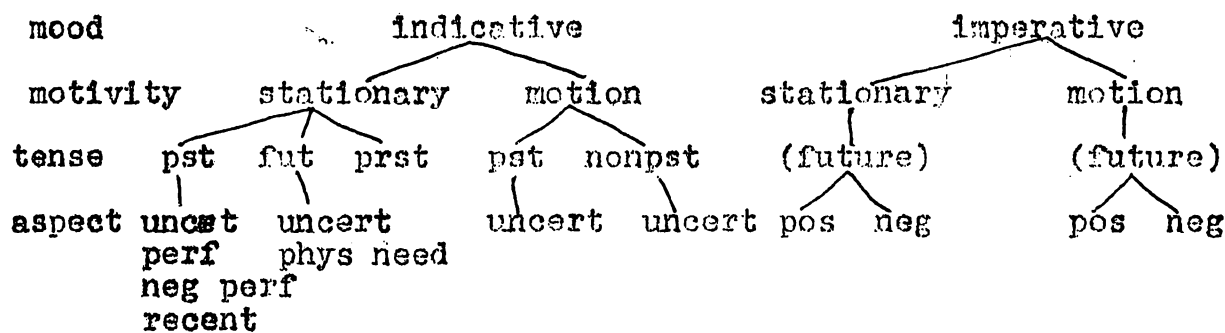
Other verbs, particularly those associated with going and coming, have a plural suffix on the verb stem to indicate plural number in conjunction with the second and third persons. On second person and 3rd animal, the regular person-number marker follows the plural suffix, but it is not present for the 3rd person. Following is an example:

dsér ³	'he will go'	dsi ² lfiŋ ³	'they will go'
dsé ³ rɪ ¹	'it (animal) will go'	dsi ² lfiŋ ³ ne ¹	'they (animals) will go'
guó ¹ ⁴	'you will go'	guɪ ² lfiŋ ³ na ¹	'you all will go'
nɪl ² ⁴	'I will go'	dsé ⁴ naa ¹ or dsé ⁴ eo ¹	'we will go'

b/ tense: Active verbs are inflected for mood, motivity, tense, and aspect. Mood is either indicative or imperative. Motivity is either stationary or motion. Motion indicates that there is movement toward or away from the place of speech; no movement is indicated in stationary. Indicative motion can be conjugated for two periods in tense: past and non-past. The former indicates action that was completed in time past. The latter indicates action not yet completed. Indicative stationary can be conjugated for three tenses: past, future, and present. Present indicates action in progress at present or a habitual action. Neither the stationary nor the motion motivity of the imperative mood is conjugated for periods of time; the time is always future in both cases. However, the two motivities of the imperative are either positive or negative in aspect. The positive commends action, whereas the negative prohibits action. Indicative verbs have a wide variety of possible aspects as stated below, but do not have to be marked for any aspect. The aspect of uncertainty may apply to any motion verb and to stationary verbs in future or past time. Certain present stationary verbs may have the aspect of

physical need. Past stationary indicative verbs may have (besides the aspect of uncertainty) these aspects: perfect, negative, perfect, imperfect, and recent completion.

The following chart diagrams the intersecting categories of mood, motivity, tense, and aspect.



The present stationary indicative tense is the basic tense upon which the other indicative mood tenses are based. It consists the verb stem with one of a set of typical tone patterns. (as for the tenses, a person-number marker is also present.)

There is a small set of verbs for which there is an aspect of physical need, which is indicated by the two-syllable prefix, (ja²li³). For example, ja²li³gu¹in²⁴ 'I am sleepy' (gu¹in²⁴ 'I will sleep).

The future stationary indicative tense is usually signaled by a change of tone or the verb stem from that of present time. When ~~there~~ there is no tone change, a time word in the clause may indicate future time. In some verb paradigms there is a change in the vowel of the verb stem from that of present time. Sometimes this vowel change is in all persons and numbers; sometimes it is in the third person and the first person-plural; sometimes it is only in first person plural. In referring to future time, there is often

an aspect of uncertainty, which is indicated by the prefix /ni²/. Sometimes it seems necessary to use the uncertainty aspect prefix to insure the understanding that future time is indicated.

The past stationary indicative tense is signaled by the prefix /ca/, and/or a tone change on the verb stem. If past time is clearly indicated by a tone change, the prefix is optional.

In a few cases in which the shape of the entire verb stem changes between present and past time, the prefix is never used. For example, nfi²⁴i 'I will go'; ngó³o 'I went'. In some verb paradigms there is a change of vowel in the verb stem from that of present time. Sometimes this vowel change is in all persons and numbers; more often it is only in second person.

A number of aspects can be indicated in past time. When the aspect of uncertainty is indicated, the prefix /ni²/ precedes the past time prefix, as in ni²ca²lɛ¹r² gɛfi²⁴ 'I believed he killed a squirrel'.

The perfect aspect implies a state of completion which might be indicated in English by the words 'have already'. The perfect prefix, nɛ⁴ or ná⁴ may co-occur with the past time prefix, or may occur alone on the verb stem. When it co-occurs with the past time prefix, it precedes the past time prefix. For example nɛ⁴ca²gɔ¹ʒ³ or nɛ⁴ gɔ¹ʒ³ 'I have already eaten'.

The negative perfect aspect implies that the action of the verb has never been done, at least not within the stated or implied time limit. The negative perfect aspect prefix mɛ² replaces the past time suffix and cannot co-occur with it. The negative ja² automatically precedes any verb which has the negative perfect aspect prefix. For example, ja² mɛ² ngór³ 'he has never gone.' lɛ¹ɛ²⁴ ja² mɛ² mɛ³n 'na² 'I have not seen you for a long time.'

The recent completion aspect is indicated by the prefix /lɛ³/, which, when used, replaces the past time prefix ka². With the aspect o

of recent completion, a time word or phrase indicating recent time is necessary. For example, $ni^4cu^{23}bi\ la^2\ cu^{3}g$ 'Just a bit ago I gave it'. One verb at least has a different tone on the verb stem for the recent completion aspect than for regular past time: $gui^3ee\ ng^2or$ 'yesterday he went' but $ni^2cu^{23}bi\ la^2\ ng^{23}or$ 'just a bit ago he went'.

The future/present motion indicative tense is signaled by a prefix, one of a set of typical tone patterns (sometimes the same as the future stationary tense), and often a change in the vowel of the verb stem from that of the present stationary tense. These prefixes have been derived from the verb meaning 'to go (someplace away from home),' as can be seen by the following:

prefix	derived from
ni^2 first person sing	ni^2i^{24} 'I will go'
gu^4 2nd person sing	gu^4o^{14} 'you will go'
dsi^2 third person	ds^3er 'he, they will go'
dsi^2 1st person plur	$ds^4e^{4}nan$ 'we will go'
gu^4 second person plur	$gu^4i^{4}li^{24}n^{24}ne$ 'you all will go'

A verb in the future/present motion tense is often preceded by the corresponding verb meaning 'to go'; for example $ds^3er\ dsi^2j^{23}m^2er^{23}$ 'He will go to go make...'.
 When the aspect of uncertainty is indicated, the prefix / ni^2 / precedes the motion prefix, as in $ni^2dsi^2j^2e^{23}ing^{23}$ 'I suppose he will go ahead'.

The past motion indicative tense is signaled by a prefix and sometimes a tone change from the future/present motion tense. The prefix inflects for person and number, as follows:

prefix	derived from
ng^6 1st person sing	ng^6o^3 'I went'
gu^6 2nd person sing	gui^6ee^{13} 'you went'
ng^6 3rd person	ng^6or^2 'he, they went'

ngó ³ 1st person plural	ngó ³ naa' 'we went'
guí ² 2nd person plural	guí ² ííí ³ na' 'you all went'

A verb in the past motion tense is also often preceded by the corresponding verb meaning 'to go', for example; ngór³ ngó²jmér²³ 'He went to make.'. However this appears to cause no change in meaning.

Motion is indicated in some stative intransitive inanimate verbs as well as for active verbs. For future and present tense, the prefix /dsí²/ (same as for 3rd person), precedes the verb stem. For past tense, the prefix /ngó²/ (as for 3rd person) precedes the verb stem. For example dsí²to'24 ngú²³ 'it holds meat, meat will be put into it,' ngó²to'23 ngú²³ 'meat was put into it'.

The positive stationary imperative tense is based on the past stationary indicative tense of the second person. On -glottal stop verbs, the glottal stop which is the second person singular marker is not present in the positive imperative tense for second person singular. Sometimes the imperative is one mora of length shorter than the past indicative, but generally the tone pattern is the same as for the past indicative.

The negative stationary imperative tense is the same as the future stationary indicative tense of the second person, with the addition of the negative ja² preceding the verb.

The positive motion imperative is the same as the positive stationary imperative, with the addition of the motion prefix guí². The negative motion imperative is the same as the non-past motion indicative, with the addition of the negative ja² preceding the verb.

A sample verb in the second person singular, inflected for all possible tenses follows:

Present stationary indicative jmoo'2 you are making, make

future stationary indicative	jmée' ⁴	'you will make'
past stationary indicative	(ca ²) jmee' ²	'you made'
perfect past stationary indic	ní ⁴ jmee' ²	you have already made'
Negative perfect past stationary indica	ja ² ní ² jmee' ²	you have never made'
recent past stationary indicative	ní ²³ cu' ⁴ bí la ² jmee' ²	you just made'
non past motion indicative	guí ⁴ jmée' ²⁴	you will go to go make'
past motion indicative	guí ² jmee' ²	you went to make'
positive stationary imperative	jmee' ²	make it
neg stationary imperative	ja ² jmée' ²	do not make it
Positive motion imperative	guí ² jmee' ²	go make it
Neg motion imperative	ja ² guí ⁴ jmée' ²⁴	do not go make it.

c. mode: Any verb may have one or two of the seven mode suffixes. When a verb has a mode suffix, the person-number marker is on the mode suffix instead of on the verb stem.

Following are samples of each of the seven modes. The first three are derived from free forms of similar meaning; the final four are not. The first five are quantitative in meaning, whereas the final two express a mental state.

- 1) repetitive níí²⁴tú⁴u 'I am going again' derived from the numeral tú² 'two'
- 2) momentary níí²⁴teá⁴a 'I am going for a little while' (derived from ~~from the adverbial~~ the adverbial teá² 'a short while')
- 3) diminutive níí²⁴jiu³ 'I'm going a little' (in this case referring to distance) (derived from the quantifier jiu²⁴ 'little bit, few')
- 4) augmentative níí²⁴gí⁴í 'I am going more (in this case referring to distance)
- 5) continuative bíí²⁴bí⁴í 'I am still going on'
- 6) affirmative níí²⁴baa³ 'yes, I'm going'
- 7) volitive níí²⁴duu³ 'I intend to go'

Except for the volitive, which occurs only with future tense, the modes can occur with any tense.

The inflection for person and number on the modes fall into two classes: those which are inflected like the repetitive mode, and those which are inflected like the affirmative mode. The former group includes the repetitive, momentary, augmentative, and continuative modes. The latter group includes the affirmative, diminutive, and volitive modes. As sample paradigm from each of the two classes, inflected for all the person-number combinations, follows:

níi²⁴tú⁴u 'I am going again'
~~níi²⁴~~ guó⁴tú⁴' 'you are going again'
 dsé³túr³ 'he is going again'
 guí²líin³tú³u 'you all are going again'
 dsé⁴tú³u 'we are going again'
 dsi²líin²túr³ 'they are going again'
 dsé³tú³ri 'it (animal) is going again'
 dsi²líin²tú³ri 'they (animals) are going again'

níi²⁴baa³ 'yes, I'm going'
 guó⁴bá⁴ 'yes, you are going'
 dsé³brí 'yes, he is going'
 dsé²báa³a 'yes we are going'
 guí²líin³bá³a 'yes, you all are going'
 dsi²líin³brí 'yes, they are going'
 dsé³brí 'yes, it (animal) is going'
 dsi²líin³brí 'yes, they (animals) are going'.

Two modes may co-occur on a verb stem. In this case it is the final mode which is marked for person and number. For example:
 píng⁴gí⁴jiú⁴ 'you are a little smaller'.

The affirmative mode may co-occur with any of the modes which are quantitative in meaning, and is always second in the sequence. The diminutive mode may occur following either the augmentative or the continuative mode.

d. Focus: A verb may also be marked for focus. Animate intransitive stative verbs, and other verbs inflected for third person who subject is stated in the clause are marked for focus by labialization. Examples of some comparable non-focus and focus forms follow:

non-focus	focus	
fe'2 'ná ²³	féb'2 'ná ²³	The house is big;
ngáng'3 'í ⁴ ná ²	ngám'3 'í ⁴ ná ²	That person went home.
ni ² gi ³ Ri ² caa ³ foto	ni ² gib ³ Ri ² caa ³ foto	Dick will take pictures

All other verb forms are marked for focus by the affirmative mode suffix. Examples of some comparable non-focus and focus forms follow:

non-focus	focus	
fén'23	fén'23bá'4	You are old
ca ² fán'n ²³	ca ² fám'23baa ³	'I became frightened'

Paradigms: Every Chinantec verb form is of a given gender (animate or inanimate), voice (transitive or intransitive) and order (active or stative). It is also inflected for person and number. Furthermore, it is inflected for mood (indicative or imperative,) for motivity (stationary or motion), and for time, (present, future, past). Some forms are also conjugated for aspect (uncertainty, perfect, negative perfect, recent completion, physical need for indicative forms; and positive or negative imperative forms). In addition, mode and focus are possible for all verb forms.

Gender, voice, and order are marked by the overall shape of the verb form. Person and number are determined by person-number markers and by the tone of the verb stem. Mood, motivity, and tense are marked by prefixes, the vowel of the verb stem, and the tone of the verb stem. Aspect is marked by prefixes for indicative forms; by

the vowel and tone of the verb stem, plus or minus presence of the negative *ja²* for imperative forms. Mode is determined by a mode suffix. Focus is marked by a focus marker or the affirmative mode suffix. chart displaying all of this is on the following page.

a. Vowel change: The vowel of the verb stem is one of the determining factors for tense. The vowel inventory of the language is as follows

i	u	ɨ	u
e		ø	
ea		a	

The common pattern of vowel change within a paradigm is from a back or central vowel to a front vowel. These changes are; *ɨ* to *i*, *u* to *u*, *ø* to *e*, *o* to *e*, *a* to *e*, *a* to *ea*. Rare paradigms include a vertical change rather than a horizontal change of vowel position in *e* to *ea*, and a shift from a back vowel to a central rather than front vowel in *o* to *a*.

The most common pattern of vowel change is represented by the shaded area in the following chart. Any of the common vowel changes can occur in this pattern. Nearly one-third of all vowel changes follow this pattern.

	1st sing	2nd sing	3rd/animal	1st pl	2nd pl
present	X	X	X	X	X
future	X	X	X	X	X
past	X	X	X	X	X
non past mot	X	X	X	X	X
past mot	X	X	X	X	X
imperative		X			X

If the future and past tense of the third person are included in the shaded area, another 24 % of all vowel change is accounted for. Only the change of *u* to *u* does not follow this pattern. About 7% of all vowel changes follow a pattern in which the future and past time of third person is in the shaded area, but the future and past

V = ± neg		± certainty		± time		± motion		± nucleus		± modale person		± person / tense		± subject	
-4		-3		-2		-1		+ nucl		+1		supradix		+2	
jā ²	'not'	ni ² -	'believe _{for} '	ca ² -	(past)	ni ² -	(1sg)	dv		MSI		Trans-modal	{-V·}	(1sg)	
jō ²	'no longer'	{ni ² -}		{ni ² -}	(future)	gu ² -	(2sg)	ta		{-tu}	(repetitive)	T-modal	{-V·p st ·}	(1pl)	
jō ²	'no longer'	{ni ² -}		{ni ² -}		gu ² -	(2sg)	ti		{-ta}	(momentary)	-V ⁴ V	(1sg)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	ai		{-g+}	(argumentative)	-V ³ P3	(2sg)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	i		{-b+}	(convention)	-V ³ r3	(3sg)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	ai		MSII		√ ³ VV ¹	(1,2-pl)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	ai		{-ji ² }	(diminutive)	-√ ³ r+r	(animal)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	ai		{-ba}	(affirmative)	-√ ² r+r	(animal)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	ai		{-du}	(volitive)	-√ ² r+r	(animal)		
jā ⁴	(Interrogat)	{ni ² -}		{ni ² -}		du ² -	(1sg)	ai							

tense of first person plural is not in the shaded area. Thus, nearly two-thirds of all vowel change is accounted for in the following chart.

	1st sing	2nd sing	3rd/animal	1st pl	2nd pl
present	X	X	X	X	X
future	X	X	X	X	X
past	X	X	X	X	X
non-past mot	X	X	X	X	X
past mot	X	X	X	X	X
imperative		X			X

Three less common patterns account for another 25% of the vowel changes. One of these patterns involves only the change from o to e and from u to a. The present time is o or u for all persons, and all other times are e or a respectively for all persons. The other two patterns occur in the paradigms of verbs for which there are no motion forms. In one pattern the present and future of all persons have one vowel in the stem for all persons, and the past time has another vowel for all persons. The second pattern has one vowel in the stem for present and past time, and another vowel for future time.

b. Tone change: The tone pattern of the verb stem is one of the marking factors for person-number and tense. The language has a wide variety of tone patterns on verbs, and the percentage of verb paradigms which follow a given pattern distribution is relatively small. Out of 240 verbs studied, (these were all active transitive inanimate or animate, or active intransitive animate verbs; since active intransitive inanimate verbs do not inflect for person, and stative verbs do not inflect for tense, these two groups were not included in this part of the study), eleven pattern distributions, or paradigm classes, were found, averaging between 6 and 7 verbs per

class. These eleven paradigm classes account for only 74 verbs, or less than one third of the verbs studied.

Verbs which are /glottal stop have the glottal stop in every form throughout the entire paradigm. Verbs which are -glottal stop in every form do not have a glottal stop on any form, with the exception of the indicative forms of second person singular, as final glottal stop is the person marker for second person singular indicative. The length of the vowel in the verb stem may be one, two, or extended to three moras of length within the same paradigm. A high tone pattern is typical of future stationary tense for first and second persons, and a low, short, ballistic tone pattern is typical of the future stationary tense of third person. Other person-number and tense combinations are more varied.