

# **Phonemic Statement of Paresí**

**Preliminary Version**

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Anápolis – GO  
2010\***

\* The original version of this paper was made available in 1964 as No. 143 of the Arquivo Linguístico (Summer Institute of Linguistics, Brasília, DF). This is an edited version, modified in various ways to make it more readable and clearer; but the original data and analyses have been faithfully maintained.

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### 0. INTRODUCTION

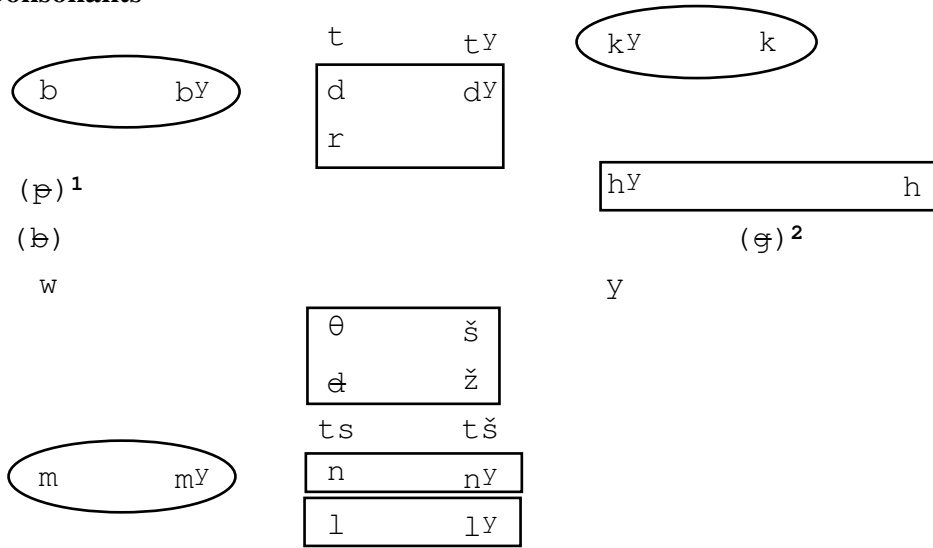
The Paresí is a small tribe of Indians inhabiting the Serra dos Parecis in northern and western Mato Grosso at 14°-14°30" S. Latitude and 58°-60° W. Longitude. Presently there are around 300 speakers of the language, few of whom can be said to be bilinguals. Nearly all these live on the above-mentioned plateau, although a few of them have left the ancestral lands and now reside at Barra do Bugre, Utiariti, and Vilhena.

There are at least two dialects, that spoken by the remnants of the Cachiniti and Wáimare, now few in number, and that spoken by the majority, the Koxárini. The former inhabit the eastern portion of the tribal region, the latter the western, with the division taking place roughly at the headwaters of the Rio do Sangue. Living in the region which comprises the continental divide between the Amazon and Paraguay systems, their dozen or so villages are located along the banks of the small streams which spring out of the plains.

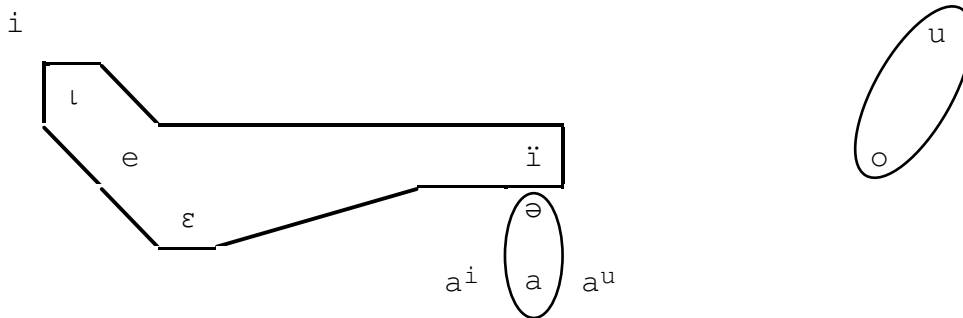
The data were obtained in field trips from 1960-62, the principle informants being Antônio João of the village of Tanórehana and João Paulo Xakíxokai of the village of Aotoli.

# 1. CHART OF THE PHONES

## 1.1 Consonants



## 1.2 Vowels



## 1.3 Lexical Stress '

<sup>1</sup> In a few speakers' dialects [p] and [b] replace the sequence [hw]. Phonemically, they are /hu/.

<sup>2</sup> A few speakers sometimes substitute [ɸ] for [θ] or [ɬ]. Phonemically, it is /ɬ/.

## 2. INTERPRETATION

### 2.1 Are [i], [y], [u], and [w] consonants or vowels?

#### 2.1.1 The non-suspect CV patterns are V and CV:

[' <u>o</u> ne]	water	[ <u>n</u> o'hinʏo]	my neck
[a' <u>h</u> o]	species of tree, shrub	[ma' <u>k</u> a]	hammock

**2.1.2** The suspect material includes the sequences C<sup>w</sup>V, V<sub>u</sub>C, C<sub>y</sub>V, and V<sub>i</sub>C:

[ɛ <sup>w</sup> ima]	child	['t <sub>y</sub> ama]	bark
['ma <sup>i</sup> dita]	he fears	['ha <sup>u</sup> t <sub>y</sub> a]	your fingernail

**2.1.3** The solution of C<sub>y</sub>V. As section 5.1 shows C<sub>y</sub> is manifested by the following phones: [m<sub>y</sub>], [d<sub>y</sub>], [l<sub>y</sub>], [t<sub>y</sub>], [n<sub>y</sub>], [k<sub>y</sub>], and [h<sub>y</sub>].

With the exception of [t<sub>y</sub>] each can be shown to be an allophone of its respective non-palatalized counterpart, as is done in 5.1. All these therefore are interpreted as complex units; [t<sub>y</sub>], which contrasts with [t], is also interpreted as a complex unit, to avoid introducing a new syllable pattern, CCVV, /tyua/ as in i't<sub>y</sub>uakuli, 'his shoulder', or CVVV, /tiua/ as in i't<sub>y</sub>uakuli, 'his shoulder', if it were considered as either a consonant or a vowel.

**2.1.4** The solution of C<sup>w</sup>V, V<sub>u</sub>C, and V<sub>i</sub>C:

**2.1.4.1** First possible solution:

[w], [u], and [i] are parts of complex units. Since C<sup>w</sup> contrasts with C, there would then be the following new phonemes:

/t <sup>w</sup> /	/'t <sup>w</sup> ahiya/	long ago
/k <sup>w</sup> /	/ku' <sup>w</sup> ki/	species of hawk
/t <sub>y</sub> <sup>w</sup> /	/i't <sub>y</sub> <sup>w</sup> akuli/	his shoulder
/ɛ <sup>w</sup> /	/'ɛ <sup>w</sup> ima/	child
/h <sup>w</sup> /	/'h <sup>w</sup> are/	species of fruit
/s <sup>w</sup> /	/'nis <sup>w</sup> a/	I enter
/m <sup>w</sup> /	/ɛu'm <sup>w</sup> iɛkeru/	name of a woman
/n <sup>w</sup> /	/e'n <sup>w</sup> ahi/	post of a house
/l <sup>w</sup> /	/nuku'l <sup>w</sup> aku/	my throat
/b <sup>w</sup> /	/'b <sup>w</sup> i'nanure/	name of a man
/a <sup>u</sup> /	/'ha <sup>u</sup> lu/	species of fruit
/a <sup>i</sup> /	/'t <sub>y</sub> a <sup>i</sup> ri/	hill

This is an unrealistically large number of new phonemes.

**Contrast between C<sup>w</sup> and C**

['it <sup>w</sup> a]	/'itua/	['nita]	/'nita/
	it came off		he says
['ha <sup>u</sup> k <sup>w</sup> a]	/'haukua/	['ka <sup>u</sup> ka]	/'kauka/
	(the hen) sitting		he arrived

### Contrast between C<sup>w</sup> and C

[i't <sup>w</sup> akoli]	/i't <sup>w</sup> akoli/	[i't <sup>w</sup> ako]	/i't <sup>w</sup> ako/
	his shoulder		his stomach
[' <sup>w</sup> imYa]	/' <sup>w</sup> imYa/	['šima]	/' <sup>w</sup> ima/
	child		your clothes
['h <sup>w</sup> are]	/'h <sup>w</sup> are/	['hare]	/'hare/
	fruit (sp)		and so on
['nis <sup>w</sup> a]	/'nis <sup>w</sup> a/	['niša]	/'niša/
	I enter		he eats
[ <sup>w</sup> o'm <sup>w</sup> i <sup>w</sup> okero]	/ <sup>w</sup> o'm <sup>w</sup> i <sup>w</sup> okero/	[no'm <sup>w</sup> ixakore]	/no'm <sup>w</sup> ixakore/
	a woman		I said thus
[e'n <sup>w</sup> ahi]	/e'n <sup>w</sup> ahi/	[e'n <sup>w</sup> an <sup>w</sup> onhi]	/e'n <sup>w</sup> an <sup>w</sup> onhi/
	post of a house		handle
[noko'l <sup>w</sup> ako]	/noko'l <sup>w</sup> ako/	[iki'l <sup>w</sup> ako]	/iki'l <sup>w</sup> ako/
	my throat		in his nose
[b <sup>w</sup> i'n <sup>w</sup> anore]	/b <sup>w</sup> i'n <sup>w</sup> anore/	[bi'k <sup>w</sup> oto]	/bi'k <sup>w</sup> oto/
	a man		a boy

#### 2.1.4.2 Second possible solution:

[w], [u], and [i] are consonants, and therefore would appear thus:

/tw/	/' <sup>w</sup> t <sup>w</sup> ahiya/	long ago
/kw/	/'ku' <sup>w</sup> k <sup>w</sup> i/	species of hawk
/t <sup>w</sup> /	/i't <sup>w</sup> akoli/	his shoulder
/ <sup>w</sup> /	/' <sup>w</sup> imYa/	child
/hw/	/'h <sup>w</sup> are/	species of fruit
/sw/	/'niš <sup>w</sup> a/	I enter
/mw/	/ <sup>w</sup> o'm <sup>w</sup> i <sup>w</sup> okero/	name of a woman
/nw/	/e'n <sup>w</sup> ahi/	post of a house
/lw/	/noko'l <sup>w</sup> ako/	my throat
/bw/	/b <sup>w</sup> i'n <sup>w</sup> anore/	name of a man
/aw/	/'h <sup>w</sup> are/	species of fruit
/ay/	/'t <sup>w</sup> ayri/	hill

This gives three new syllable patterns, CCV, VC, and CVC; it also gives a unique distribution for /w/ and another unique distribution for /y/.

### 2.1.4.3 Third possible solution:

They may be considered as vowels:

/tu/	/' <u>t</u> uahiya/	long ago
/ku/	/ku' <u>k</u> ui/	species of hawk
/tYu/	/i' <u>t</u> Yuakuli/	his shoulder
/ɛu/	/' <u>ɛ</u> uima/	child
/hu/	/' <u>h</u> uare/	species of fruit
/su/	/' <u>n</u> isua/	I enter
/mu/	/ɛu' <u>m</u> uiɛukeru/	name of a woman
/nu/	/e' <u>n</u> uahi/	post of a house
/lu/	/nuku' <u>l</u> uaku/	my throat
/bu/	/ <u>b</u> ui'nasure/	name of a man
/au/	/' <u>h</u> aulu/	species of fruit
/ai/	/' <u>t</u> yairi/	hill

This gives two new syllable patterns, CVV and VV. There are also unique distributions for /u/ and /i/.

### 2.1.4.4 Fourth possible solution:

The [u] in CuV is a vowel and the [u] and [i] of VuC and ViC are parts of complex units. The list above would then appear as follows:

/tu/	/' <u>t</u> uahiya/	long ago
/ku/	/ku' <u>k</u> ui/	species of hawk
/tYu/	/i' <u>t</u> Yuakuli/	his shoulder
/ɛu/	/' <u>ɛ</u> uima/	child
/hu/	/' <u>h</u> uare/	species of fruit
/su/	/' <u>n</u> isua/	I enter
/mu/	/ɛu' <u>m</u> uiɛukeru/	name of a woman
/nu/	/e' <u>n</u> uahi/	post of a house
/lu/	/nuku' <u>l</u> uaku/	my throat
/bu/	/ <u>b</u> ui'nasure/	name of a man
/a <sup>u</sup> /	/' <u>h</u> a <sup>u</sup> lu/	species of fruit
/a <sup>i</sup> /	/' <u>t</u> y <sup>a</sup> iri/	hill

This solution gives two new vowel phonemes, making a total of 6. It gives one new syllable pattern, CVV, and gives a unique distribution to /u/.

### 2.1.4.5 The fourth solution is the most aesthetically pleasing to the author and is adopted.

**2.2 Are [ts] and [tš] single complex phonemes or two phonemes?**

**2.2.1** The non-suspect patterns are V and CV (section 2.1.1).

[' <u>o</u> ne]	water	[ <u>no</u> 'hin <sup>Yo</sup> ]	my neck
[ <u>a</u> 'ho]	species of shrub	[ma' <u>ka</u> ]	hammock

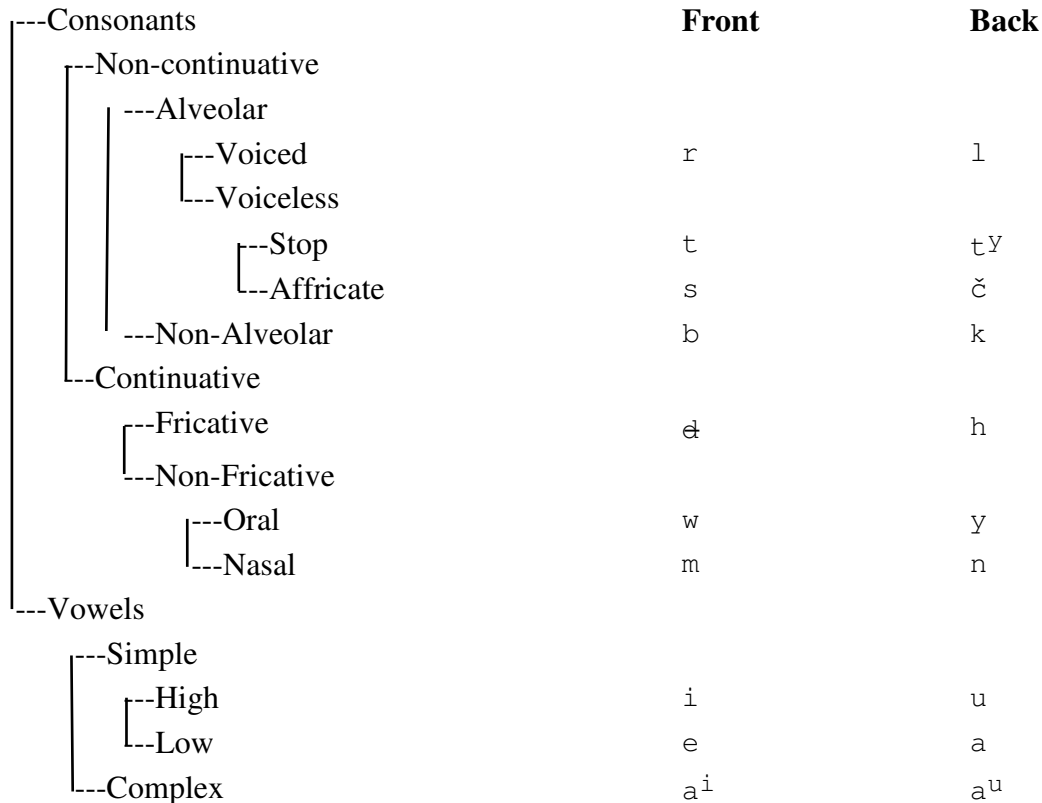
**2.2.2** One additional pattern was adopted, CVV. (section 2.1.3.4).

/' <u>tuahiya</u> /	long ago	/' <u>bui</u> 'nanure/	name of a man
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**2.2.3** To comply with these patterns, V, CV, and CVV, tš and ts are interpreted as single complex units, /s/ and /č/.

/mi' <u>s</u> aɖere/	fine	/'hi <u>č</u> i/	cricket
/' <u>o</u> nese/	headwaters	/č <i>i</i> ' <u>ho</u> a <u>č</u> i/	jaboticaba
/ha' <u>l</u> ais <u>u</u> a/	he jumps	/ha' <u>l</u> ai <u>č</u> u <i>i</i> ta/	he is jumping

**3. CHART OF THE PHONEMES**



Lexical Stress '

## 4 PHONEMES IN CONTRAST

### 4.1 Consonants

#### 4.1.1 Introductory

In section 4.1.2 each consonant phoneme is contrasted with the other thirteen, the environments being noted below for the 24 sets of contrasts. In most of the sets there is one or more illustrations or examples out of the fourteen which may not conform fully to the environment. However, it is better to have, say, eleven or twelve good contrasts within a set, and two or three which may be only partial contrasts, rather than to make the environment more inclusive (and less specific) and arrive at fourteen poorer contrasts. Further still, the partial contrasts, although proving nothing by themselves, do reinforce the good contrasts obtained elsewhere.

1	initial	'Ca <sup>1</sup>	13	medial	'(C)aCV <sub>x</sub>
2	"	'Ci	14	"	'(C)iCV <sub>x</sub>
3	"	'(C)aCV	15	"	'(C)iCi
4	"	'(C)iCi <sup>2</sup>	16	"	'(C)aCa
5	"	'(C)iCV <sub>x</sub>	17	"	'(C)aCi
6	"	Ca	18	"	(C)iCi
7	"	Ci	19	"	(C)uCa
8	"	(C)a'Ca	20	"	(C)iCi
9	"	(C)i'Ci	21	"	(C)iCV <sub>x</sub>
10	"	(C)i'Ca	22	final	Ca
11	"	(C)u'Ca	23	"	Ci
12	"	(C)u'Ci	24	"	CV, stressed or unstressed special cases

<sup>1</sup> (C) - any consonant  
V - any vowel

C - the consonant under attention  
V<sub>x</sub> - any vowel except i

<sup>2</sup> i before C can also be a<sup>i</sup> as in sets 4, 5, 9, 10, 14, 15, 18, 20, and 21.

#### 4.1.2 Consonants in contrast

	<b>/b/</b>	<b>/w/</b>	<b>/m/</b>
1	/' <u>b</u> aba/ father	/' <u>w</u> aɛulu/ fox	/' <u>m</u> aɛa/ soft
2		/' <u>w</u> iya/ sweet	

	<b>/b/</b>	<b>/w/</b>	<b>/m/</b>
3	/' <u>b</u> aba/ father	/' <u>ɔ̄</u> wi/ thin	/'t <u>y</u> ama/ bark
4	/' <u>n</u> ibiru/ wolf		/' <u>i</u> miti/ cloth
5		/ti' <u>w</u> ɔ̄ulu/ a woman	/' <u>ɔ̄</u> uima/ child
6	/ba' <u>l</u> ɔ̄uku/ bottle	/wa' <u>l</u> ise/ rubber	/ma' <u>l</u> amala/ plant (sp)
7		/wi' <u>s</u> uma/ we make	/mi' <u>s</u> ɔ̄ere/ fine
8	/ta' <u>b</u> ula/ fox (sp)	/ɔ̄a' <u>w</u> ati/ ax	/ɔ̄a' <u>m</u> ata/ sling to carry infants
9	/ti' <u>b</u> iyuse/ a certain headwaters		/' <u>i</u> mi'li/ point
10		/hi' <u>w</u> awita/ you alone	/' <u>w</u> i'mahiyase/ heart
11	/nu' <u>b</u> usune/ my pocket	/nu' <u>w</u> alahi/ my vein	/' <u>n</u> u'maseni/ my garden
12	/ti' <u>b</u> iyuse/ a certain headwaters	/' <u>m</u> u'wisati/ firewood	/' <u>ɔ̄</u> u'miku/ Sunday
13	/' <u>n</u> u'ta <u>b</u> aluni/ my cheek	/'ha' <u>l</u> awa/ macaw	/'tu'ta <u>m</u> enere/ straight
14		/'a' <u>l</u> iwa/ large hawk	/'i' <u>n</u> ima/ cloth
15			/'u' <u>l</u> imiti/ snake (sp)
16	/' <u>m</u> aka' <u>b</u> unya <u>n</u> u/ hammock cord	/'u' <u>l</u> awa <u>h</u> i/ rope, string	/'wa <sup>i</sup> ' <u>k</u> uama <u>k</u> are/ monkey (sp)
17		/'ha' <u>n</u> awina/ Juruena	/' <u>o</u> miri/ wild, angry
18			/' <u>ɔ̄</u> uimilihi/ little finger
19		/'ta' <u>h</u> alawa <u>n</u> a/ cockroach	/'hi' <u>s</u> emakita/ you are sleeping
20			/' <u>b</u> wimili/ cowskin
21			/' <u>ɔ̄</u> u'luimune/ a certain man

	<b>/b/</b>	<b>/w/</b>	<b>/m/</b>
22	/' <u>baba</u> /	/' <u>awa</u> /	/' <u>hinama</u> /
	father	leave it alone!	two
23		/' <u>ɬawi</u> /	/nu't <u>imi</u> /
		thin	my fire
24		/ka' <u>we</u> /	/ka' <u>ma</u> <sup>i</sup> /
		dizzy	sun
	<b>/t/</b>	<b>/tʲ/</b>	<b>/r/</b>
1	/' <u>tahure</u> /	/' <u>tʲama</u> /	
	tree (sp)	bark	
2	/' <u>taha</u> /		
	cold		
3	/' <u>hatita</u> /	/' <u>atʲatʲatʲa</u> /	/' <u>huare</u> /
	one	tree bark	fruit (sp)
4			/' <u>čuri</u> /
			a certain woman
5	/' <u>tiyita</u> /	/' <u>nitʲani</u> /	/' <u>huira</u> /
	he is crying	my child	clean, smooth
6	/t <u>a</u> ' <u>haɬalu</u> /		
	tree (sp)		
7	/t <u>i</u> ' <u>mena</u> /		
	heavy		
8	/tu't <u>akure</u> /	/nu't <u>ʲakure</u> /	/wa' <u>rekuahu</u> /
	punctured	my liver	waterhole
9	/wi't <u>ima</u> /		/č <u>i</u> ' <u>ririkare</u> /
	our fire		ocelot
10	/i't <u>ahiti</u> /	/wi't <u>ʲakure</u> /	/ki' <u>rane</u> /
	legband	liver	small
11	/tu't <u>akure</u> /	/ɬu't <u>ʲare</u> /	
	punctured	deer	
12	/nu't <u>i</u> hu/		/č <u>i</u> ' <u>ririkare</u> /
	my face		ocelot
13	/ku' <u>lata</u> /	/nu' <u>natʲure</u> /	/ɬu' <u>nare</u> /
	lesser rhea	my brother-in-law	panther
14	/maisa ni'č <u>itare</u> /	/i' <u>nitʲuli</u> /	/na' <u>huiratʲa</u> /
	I do not give	adult animal	I clean...

	<b>/t/</b>	<b>/tʏ/</b>	<b>/r/</b>
15	/ka'h <u>iti</u> / hand		/nami'l <u>irikene</u> / I hold it
16	/ta'ka <u>taka</u> / hawk (sp)	/'at <u>ʏatʏ</u> uaku/ fork in tree	/wi't <u>ararase</u> / knee
17	/'ha <u>tita</u> / one		
18	/ka'h <u>ititini</u> / ring		/'ma <u>irit</u> a/ he fears
19	/'na <sup>i</sup> <u>čuta</u> / I sneeze	/'muku <u>tʏa</u> / he hit	/nu't <u>ʏakure</u> / my liver
20	/u'li <u>miti</u> / snake (sp)		/'u <u>miri</u> / wild, angry
21	/ne'ma <u>kita</u> / he is sleeping	/na'ka <sup>i</sup> <u>sitʏa</u> / I fill	/'ta <u>kuira</u> / hen
22	/ɬa'ma <u>ta</u> / sling to carry infants	/'na <sup>i</sup> <u>čutʏa</u> / I am hoeing	/nu't <u>era</u> / I drink
23	/'nu <u>ti</u> / my fingernail		/i'h <u>iniri</u> / his back
24		/na't <u>ʏu</u> / I, me	/wa <u>ɬu</u> 'ri/ a certain youth
	/' <u>tukita</u> / he takes it	/' <u>tʏukita</u> / he is sitting	
	<b>/l/</b>	<b>/y/</b>	<b>/n/</b>
1	/' <u>latanase</u> / small can		/' <u>nama</u> <sup>i</sup> kuhare/ I am sad
2			/' <u>nimi</u> / my shirt
3	/' <u>nali</u> / there	/' <u>wayure</u> / he knows	/'ɬa <u>ne</u> / he goes
4		/' <u>iyiti</u> / flower	/' <u>inira</u> / little, small
5		/' <u>niyakutini</u> / shadow	/' <u>hinama</u> / two
6			/' <u>na</u> 'keru/ mother-in-law

	<b>/l/</b>	<b>/y/</b>	<b>/n/</b>
7			/ni'risati/ louse
8	/ha'lata/ comb	/ka'yalahare/ rotten	/hu'nuti/ bee
9	/iki'lihi/ edge, border		/i'nima/ his shirt
10	/wi'lululi/ buzz-button	/hi'yaya/ you see	/ki'natya/ forceful, hard
11	/ku'lata/ lesser rhea	/ka'yalahare/ rotten	/ɛu'nare/ panther
12	/u'limiti/ snake (sp)		/nu'ninise/ my tongue
13	/na'talatene/ I fenced it in	/ɛa'luye/ a certain man	/nu'kanu/ my arm
14		/ka'ɛiyahare/ what a thing!	/nu'hinu/ my neck
15	/ha'liliti/ beads		/i'hiniri/ his back
16	/ha'lalakua/ torn	/'kayada/ dirty	/na'wenakali/ my village
17	/'makaliru/ darkness		/na'tunita/ I am walking
18	/'ɛuimilihi little finger		/'ka <sup>ɨ</sup> miniti/ cloud
19	/'čisula/ scissors		/tihu'nure/ fly (sp)
20	/imi'li/ its skin	/'makiyita/ very early	/na <sup>ɨ</sup> kinikisa I rub
21	/nuki'laku/ nostril	/'makiye/ night	/ha'nawina/ Juruena
22	/'amala/ light	/'waya/ poalha	/'hihina/ your house
23	/'čuhali/ name of a man		/'ityani/ his son
24	/wimi'li/ skin		

	<b>/s/</b>	<b>/č/</b>	<b>/ɖ/</b>
1			/' <u>ɖ</u> ane/ he goes
2		/' <u>č</u> ihali/ beetle	/' <u>ɖ</u> itʏani/ your son
3	/' <u>m</u> ase/ meadow	/' <u>h</u> ači/ your stomach	/' <u>ɖ</u> ada/ older sister
4	/' <u>h</u> a <u>i</u> sani/ his son /' <u>a</u> <u>i</u> sare/ killer	/' <u>h</u> i <u>č</u> i/ cricket /' <u>a</u> <u>i</u> čuta/ sneeze	/' <u>ɖ</u> i <u>ɖ</u> ihure/ tree (sp)
5	/' <u>č</u> isula/ scissors	/na <u>i</u> čutʏa I hoe	
6	/s <u>a</u> ba'ri/ a certain youth	/č <u>a</u> 'bewa/ hat	/ <u>ɖ</u> a'lakakua/ four
7		/č <u>i</u> 'nise/ cat /' <u>i</u> čara/ hoe	/ <u>ɖ</u> i'hene/ your back
8	/' <u>h</u> a <u>s</u> eru/ your grandmother /' <u>w</u> i'su/ we, us	/' <u>k</u> a <u>č</u> ulu/ dog /' <u>i</u> ču/ hoe	/' <u>k</u> a' <u>ɖ</u> ali/ wet
9	/' <u>h</u> i'čisa/ hard	/' <u>h</u> i'čitʏu/ your grand-daughter	/' <u>h</u> i' <u>ɖ</u> imaluni/ your younger sister
10	/' <u>i</u> 'sakure/ thick	/' <u>i</u> 'čara/ hoe	/' <u>n</u> i' <u>ɖ</u> akita/ I shoot
11	/' <u>m</u> i'sa <u>ɖ</u> ere/ thin, flimsy		/' <u>n</u> u' <u>ɖ</u> ani/ I go
12		/' <u>k</u> u'č <u>i</u> we/ bird (sp)	/' <u>k</u> u' <u>ɖ</u> iye/ partridge
13	/' <u>w</u> i' <u>k</u> asahe/ leg		/' <u>t</u> a' <u>h</u> a <u>ɖ</u> alu/ tree (sp)
14	/' <u>m</u> u' <u>w</u> isati/ firewood	/' <u>n</u> a' <u>h</u> i <u>č</u> ita/ I sweep	
15		/' <u>n</u> u' <u>k</u> i <u>č</u> i/ my foot	/' <u>n</u> u' <u>k</u> ue <u>ɖ</u> ita/ I laugh

	<b>/s/</b>	<b>/č/</b>	<b>/ǣ/</b>
16	/nu'ka <u>sa</u> he/ my leg	/'ha <u>č</u> aku/ in your stomach	/wi'tara <u>ǣ</u> ase/ adam's apple
17	/ǣuku' <u>la</u> siti/ buttonhole	/'ka' <u>č</u> i <u>h</u> aliye/ buggy	/'ka <u>ǣ</u> i'yani/ well, I'll be..!
18	/'wa'ka <sup>i</sup> <u>s</u> itYa/ we fill	/'wa'hi <u>č</u> ita/ we sweep	/'ǣi <u>ǣ</u> ihure/ tree (sp)
19	/'ǣum <u>u</u> se/ beiju		/'huku <u>ǣ</u> a/ lake, slough
20		/'wa'ni <u>č</u> ita/ we eat meat	
21	/'aw <u>i</u> sa/ soon		
22	/'me'n <u>e</u> se/ anaconda	/'ka <u>č</u> a/ box	/'nuka <u>ǣ</u> a/ manioc juice
23	/'nuka'n <u>a</u> se/ my mouth	/'ha <u>č</u> i/ in your stomach	/'nu'timala <u>ǣ</u> i/ my blood
24	/'wi' <u>s</u> u/ we, us		

	<b>/k/</b>		<b>/h/</b>	
1	/'ka <u>t</u> aǣere/ cornmush		/'ha <u>t</u> eku/ deep	
2	/'ki <u>y</u> ere/ black		/'hi <u>m</u> a/ your shirt	
3	/'a <u>k</u> u/ there		/'ma <u>h</u> a/ no	
4	/'i <u>k</u> i'li/ point		/'i <u>h</u> iri/ wax	
5	/'ni <u>k</u> are/ OK		/'i <u>h</u> uti/ tail	
6	/'ka' <u>l</u> ure/ large		/'ha' <u>l</u> alakua/ torn	
7	/'ki' <u>n</u> atYa/ hard		/'hi' <u>h</u> ene/ your back	
8	/'ma <u>k</u> aliru/ night		/'a' <u>h</u> uǣa/ wolf	
9	/'i' <u>k</u> inuǣa/ downstream		/'hi' <u>h</u> inu/ your neck	
10	/'wi' <u>k</u> anu/ arm		/'hi' <u>h</u> use/ your leg	
11	/'nu'ka <u>k</u> a <sup>i</sup> hehare/ I am tired		/'ku' <u>h</u> ase/ fish	
12	/'nu' <u>k</u> i <u>č</u> i/ my foot		/'nu' <u>h</u> ina <sup>i</sup> / my friend	
13	/'tu'ta <u>k</u> ure/ punctured		/'ki' <u>h</u> are/ tired	
14	/'i'ti <u>k</u> ulahu/ shirtfront		/'na' <u>h</u> ihena/ I eat meat	

	<b>/k/</b>		<b>/h/</b>	
15	/iki'lihuli/	nose	/'ka <sup>i</sup> sihitya	fill
16	/ha'nakati/	seeds	/na'tyahaka/	I tramp on
17	/ni'ɬakita/	I shoot	/'ahiti/	bones
18	/'kalikini/	today	/'ihiri/	wax
19	/'tʲaluka/	bites	/'kakuha/	climbs
20	/na'hutikisa/	I show	/kahi'hiye/	lightning
21	/'a <sup>i</sup> rika/	pass gas	/'uwihuku/	a certain village
22	/ma'laka/	pull up	/'waha/	long
23	/nu'naki/	I am hungry	/ku'ɬuhi/	a lizard
24	/ma'ka/	hammock	/u'hi/	fruit (sp)

## 4.2 Vowels

### 4.2.1 Introductory

In similar manner to that used with the consonants (4.1) each vowel phoneme is contrasted with the other five vowel phonemes, the environments being noted below for the 30 sets of contrasts. As with the consonants, not every example conforms fully with the stated environment, but the vast majority do.

1	initial	syllable	'hVh <sup>1</sup>	16	medial	syllable	s/čVh
2	"	"	'hVt	17	"	"	Vku
3	"	"	'hVɬ	18	"	"	'CVk
4	"	"	'CVt	19	"	"	'CVs
5	"	"	Vy	20	"	"	Vtʲ
6	"	"	'Vhi	21	"	"	kV
7	"	"	'Vnasal	22	"	"	palatal V palatal
8	"	"	'Vtʲ	23	"	"	tVt
9	"	"	nasal V' nasal	24	"	"	lV
10	"	"	kVs	25	"	"	Vn
11	"	"	'CVk	26	final	syllable	Vna
12	medial	"	tVnasal	27	"	"	Vhi
13	"	"	'ɛV	28	"	"	tV
14	"	"	'hVn	29	"	"	nV
15	"	"	Vnasal	30	"	"	wV

- <sup>1</sup> V - Vowel in question  
C - Any consonant

#### 4.2.2. Vowels in Contrast

	<b>/i/</b>	<b>/e/</b>	<b>/a/</b>
1	/hi'hinu/ your neck	/'henukutʲua/ you rest	/'hahe/ your bone
2	/'hitʲu/ your mother	/'hete/ gourd	/'hati/ house
3	/'hiči/ cricket	/'heɛe/ your father	/'haɛene/ ask him

	<b>/i/</b>	<b>/e/</b>	<b>/a/</b>
4	/' <u>i</u> te/ intensive	/' <u>e</u> te/ smelly	/' <u>h</u> uate/ monkey (sp)
5	/' <u>k</u> iyere/ black	/' <u>n</u> eyare/ my name	/' <u>w</u> ayure/ he knows
6	/' <u>i</u> hiri/ wax	/' <u>e</u> hare/ angry	/' <u>a</u> hiti/ bones
7	/' <u>i</u> miti/ cloth	/' <u>e</u> na/ man	/' <u>a</u> ni/ bee
8	/' <u>i</u> tYani/ his child		/' <u>a</u> tYa/ tree
9	/ti' <u>m</u> ena/ heavy	/ne' <u>m</u> akita/ he is sleeping	/ma' <u>n</u> aniyaka/ outside
10	/' <u>č</u> isula/ scissors	/' <u>k</u> ese/ knife	/' <u>k</u> asetu/ alive
11	/' <u>n</u> ikare/ OK	/' <u>e</u> ku/ that's all	/' <u>m</u> akulu/ a certain girl
12	/nu' <u>t</u> imi/ my fire	/na' <u>t</u> emita/ I run	/e' <u>t</u> ane/ feather
13	/nu' <u>ə</u> imaluni/ my younger sister	/ha' <u>ə</u> enane/ your older brother	/ka' <u>ə</u> ali/ wet
14	/nu' <u>h</u> ina <sup>i</sup> / my friend	/nu' <u>h</u> ene/ my backbone	/' <u>w</u> ihana/ our house
15	/nu' <u>n</u> inise/ my tongue	/ti' <u>m</u> ena/ heavy	/e' <u>n</u> anuhi/ shoelace
16	/i' <u>č</u> ihula/ door, lid	/ni' <u>s</u> ehena/ I'll give	/i' <u>s</u> akure/ thick
17	/əu' <u>m</u> ikuhena/ Sunday is approaching	/ke' <u>n</u> ekuali/ about 10 am	/ha' <u>l</u> akuiya/ on the other side
18	/i' <u>r</u> ikutYa/ he cuts	/hume' <u>r</u> ekitene/ open it!	/ku' <u>ə</u> aka/ just now
19	/na' <u>n</u> isene/ I eat it	/me' <u>n</u> ese/ anaconda	/ku' <u>h</u> ase/ fish
20	ha' <u>k</u> itYa/ his manioc		/ki' <u>n</u> atYa/ hard
21	/ma' <u>l</u> akita/ he pulls up	/' <u>m</u> akehena/ dusk	/na' <u>w</u> enakali/ my village
22	/ma' <u>č</u> isene/ cut out the entrails		/' <u>a</u> tYatYatYa/ tree bark

	<b>/i/</b>	<b>/e/</b>	<b>/a/</b>
23	/'hat <u>i</u> ta/ one	/'e <u>t</u> eti/ meat	/'ma <u>t</u> ata/ honey (sp)
24	/'ma <u>k</u> al <u>i</u> ru/ dark		/'ka't <u>y</u> u <u>l</u> ahi/ mangaba
25	/'i'ni <u>t</u> ini/ case, holder	/'ta <sup>i</sup> <u>k</u> ene/ broke it	/'nu <u>m</u> ani/ to me
26	/'sa <u>w</u> eru'w <u>i</u> na/ parrot	/'i <u>s</u> uah <u>e</u> na/ enters	/'w <u>u</u> mana/ to us, for us
27	/'e <u>u</u> imili <u>h</u> i/ little finger	/'ku're <u>h</u> ene <u>h</u> e/ powder	/'i't <u>a</u> hi/ story
28	/'e <u>a</u> 'wa <u>t</u> i/ ax	/'hu <u>a</u> te/ monkey (sp)	/'ha'l <u>a</u> ta/ comb
29	/'ma'ka <u>n</u> i/ tomorrow	/'wi'y <u>e</u> ne/ we bought it	/'ma <u>k</u> e <u>h</u> ena/ dusk
30	/'e <u>d</u> aw <u>i</u> / thin	/'ka <u>w</u> e/ it hurts	/'a <u>w</u> a/ quit, leave it alone

	<b>/u/</b>	<b>/a<sup>i</sup>/</b>	<b>/a<sup>u</sup>/</b>
1	/'hu <u>h</u> ure/ tree (sp)	/'ha <sup>i</sup> <u>r</u> a/ ball	/'ha <sup>u</sup> <u>l</u> u/ fruit (sp)
2	/'hu <u>t</u> itene/ you remembered it	/'ha <sup>i</sup> <u>s</u> ani/ his child	/'ka <sup>u</sup> <u>s</u> eta/ awake
3	/'hu <u>e</u> / collared peccary		
4	/'ku <u>t</u> a/ ant (sp)	/'ma <sup>i</sup> <u>r</u> a/ he fears	/'a <sup>u</sup> <u>t</u> uli/ a certain village
5	-----	-----	-----
6	/'u <u>h</u> iru/ woman	/'ma <sup>i</sup> <u>h</u> a/ negative	
7	/'u <u>n</u> e/ water	/'ka <sup>i</sup> <u>m</u> initi/ cloud	
8	/'t <u>y</u> u <u>t</u> ya/ all		/'wa <sup>u</sup> <u>t</u> ya/ our fingernails (or toenails)
9	/'nu'na <u>k</u> i/ I am hungry	/'na <sup>i</sup> <u>k</u> uli/ my tooth	

	<b>/u/</b>	<b>/a<sup>i</sup>/</b>	<b>/a<sup>u</sup>/</b>
10	-----	-----	-----
11	/'t <u>yuka</u> /	/'na <sup>i</sup> ku <u>tYa</u> /	/'ka <sup>u</sup> ka/
	short	I cut	arrives
12	/na't <u>unita</u> /	/e'ta <sup>i</sup> nu/	/i't <u>Ya<sup>u</sup>ne</u> /
	I walk	cob of corn	husband
13	/nu' <u>ɬuse</u> /	/nu' <u>ɬa<sup>i</sup>se</u> /	/e' <u>ɬa<sup>u</sup>se</u> /
	my eyes	my nephew	then, after this
14	/'ha <u>hunu</u> /	/nu' <u>ha<sup>i</sup>na<sup>i</sup>hare</u> /	/hi' <u>sa<sup>u</sup>ne</u> /
	one ant	my friend	your husband
15	/i' <u>yumere</u> /	/'wa <sup>i</sup> ni <u>hena</u> /	
	white	he's dying	
16	/hi' <u>suhena</u> /	/e' <u>ɬa<sup>i</sup>haku</u> /	/nu' <u>ɬa<sup>u</sup>kali</u> /
	come here!	beyond	of my own will
17	/mu't <u>ukua</u> /	/e'na <sup>i</sup> ku <u>li</u> /	/'ha <sup>u</sup> ku <u>a</u> /
	hole in it	tooth	brooding eggs
18	/ku' <u>lukute</u> /	/ka'ta <sup>i</sup> ku <u>re</u>	/no' <u>ka<sup>u</sup>kiheta</u> /
	parrot	scrubhook	I returned
19	/i' <u>huse</u> /	/no' <u>ɬa<sup>i</sup>se</u> /	/hi' <u>ka<sup>u</sup>se</u> /
	horsefly	my nephew	you awakened
20	/a't <u>yutYu</u> /		/e' <u>wa<sup>u</sup>tYa<sup>li</sup></u> /
	grandfather		wrist
21	/nu't <u>Yakure</u> /	/no'na <u>ka<sup>i</sup>ri</u> /	
	my liver	my food	
22	/'na <sup>i</sup> č <u>utYa</u> /		/ɬata' <u>ha<sup>u</sup>tYa</u> /
	I hoe		he spits
23	/tu' <u>lutulu</u> /		/wa' <u>ɬalita<sup>u</sup>na</u> /
	butterfly (sp)		snake (sp)
24	/'ka <u>luwini</u> /	/ha' <u>la<sup>i</sup>sua</u> /	/a' <u>la<sup>u</sup>liru</u> /
	snake (sp)	jumps	a legendary woman
25	/'ul <u>uniti</u> /	/wi' <u>wa<sup>i</sup>ni</u> /	
	drink (n)	we die	
26	/'uhir <u>una<sup>i</sup></u> /		
	women		
27	/'at <u>Yakanuhi</u> /		
	branches		
28	/ku' <u>ɬetu</u> /	/a' <u>lata<sup>i</sup></u> /	
		fruit (sp)	

	<b>/u/</b>	<b>/a<sup>i</sup>/</b>	<b>/a<sup>u</sup>/</b>
29	/'enu/ above	/'uhiruna <sup>i</sup> / women	
30	/'awu/ greater rhea	/'ha <sup>i</sup> / honey (sp)	/'ha <sup>u</sup> / above, over

### 4.3 Lexical Stress

/'ahu/	species of plant	/'ahuti/	road
/ku'ku/	father-in-law (addressing)	/'kuku/	father-in-law (about)
/'ehare/	his body	/'ehare/	he is angry
/ha'liliti/	beads	/'haliserure/	one (of a certain class)
/či'ririkare/	ocelot	/iri'rihi/	vine (sp)
/hu'nuti/	bee (sp)	/'hukuəa/	lake
/nuta'nakuaku/	my ear	/nu'tabaluni/	my cheek
/i'huse/	horsefly	/'ihuti/	tail
/hi'suma/	you make	/'nisare/	fly (sp)
/na'tYu/	I, me	/'atYa/	tree
/i'nitYuhaliti/	old man	/'imitYahare/	grass roots

## 5. ALLOPHONES

### 5.1 Consonants

<b>[b<sup>Y</sup>]</b>	<b>[b]</b>	<b>/b/</b>	
[b <sup>Y</sup> ]	occurs only following [i] and [a <sup>i</sup> ] and preceding another vowel.		
	['ba <sup>i</sup> b <sup>Y</sup> ose]	/'ba <sup>i</sup> buse/	name of a woman
[b]	never does		
	[' <u>b</u> ala]	/'bala/	bullet

	<b>[mʏ]</b> <b>[m]</b>		<b>/m/</b>	
[mʏ]	occurs only following [i] and preceding another vowel.			
	[i'mʏakore]		/i'makure/	August
[m]	never does, except in fluctuation with [mʏ]. When there is fluctuation, [mʏ] is the normal variant.			
	[ 'ɛʷimʏa]    or    [ 'ɛʷima]		/ 'ɛuima/	child
	[ 'imiti]		/ 'imiti/	cloth
	[ma'lamala]		/ma'lamala/	tree (sp)
	<b>[d]</b> <b>[dʏ]</b> <b>[r]</b>		<b>/r/</b>	
[d]	occurs only following and preceding [i].			
	[idi'dihi]		/iri'rihi/	vine (sp)
	[i'dimʏako]		/i'rimaku/	name of a woman
[dʏ]	occurs only following [i] and preceding another vowel.			
	[ 'makalidʏo]		/ 'makaliru/	dark
	[ 'hʷidʏa]		/ 'huira/	clean, smooth
[r]	never occurs following [i]. <sup>1</sup>			
	[be'rɪko]		/be'reku/	nail
	[θo'nare]		/ɛu'nare/	panther
	[ho'ɔre]		/hu'ɛure/	fish (sp)
	<b>[lʏ]</b> <b>[l]</b>		<b>/l/</b>	
[lʏ]	occurs only following [i] and preceding another vowel.			
	[noki'lʏako]		/nuki'laku/	my nostril
	[wi'lʏololi]		/wi'lululi/	buzz-button
[l]	never does			
	[ha'lata]		/ha'lata/	comb
	[ha'liliti]		/ha'liliti/	beads
<sup>1</sup>	Except in proper names which end in -airo:			
	[ 'wɪɔka <sup>1</sup> ro]		/ 'weɔka <sup>1</sup> ru/	name of a girl

[š] [ž] [θ] [ɛ] /ɛ/

Grooved fricatives [š] and [ž] occur only contiguous to [i].<sup>1</sup>

[š] fluctuates freely with [ž].

[no'šimaloni]	or	[no'žimaloni]	/nu'ɛimaluni/	my younger sister
[i'šaka]	or	[i'žaka]	/i'ɛaka/	he shoots
['šitʲani]	or	['žitʲani]	/'ɛitʲani/	your children

Flat fricatives [θ] and [ɛ] never occur contiguous to [i].<sup>2</sup>

[θ] fluctuates freely with [ɛ].

['θaθa]	or	['ɛaɛa]	/'ɛaɛa/	my older sister
[a'θeθe]	or	[a'ɛeɛe]	/a'ɛeɛe/	my older brother
['θala]	or	['ɛala]	/'ɛala/	who?

<sup>1</sup> In a few speakers' dialects [s] and [z] fluctuate with [hʲ]:

[i'ᵛsaka]	or	[i'ᵛzaka]	or	[i'hʲaka]	/i'ɛaka/	he shoots
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<sup>2</sup> Except in a few proper names:

[ɛa'kiɛoka <sup>i</sup> ]	/ɛa'kiɛoka <sup>i</sup> /	name of a man
[o'kʷiɛoma <sup>i</sup> ]	/o'kʷiɛoma <sup>i</sup> /	name of a man

[nʲ] [n] /n/

[nʲ] occurs only following [i] and preceding another vowel.

[i'nʲote]	/i'nute/	mosquito
['hinʲama]	/'hinama/	two
[no'hinʲo]	/nu'hinu/	my neck

[n] never does.

['nimi]	/'nimi/	my cloth
['enanase]	/'enanase/	male deer
[wi'ninise]	/wi'ninise/	tongue

[kʲ] [k] /k/

[kʲ] occurs only following [i] and preceding another vowel.

['tikʲore]	/'tikure/	anteater
[hi'kʲano]	/hi'kanu/	your arm
['a <sup>i</sup> dikʲa]	/'a <sup>i</sup> rika/	pass gas

	<b>[kʏ] [k]</b>	<b>/k/</b>	
[k]	never does.		
	[no'kano]	/nu'kanu/	my arm
	[ka'hwaka]	/ka'huaka/	yesterday
	['kalikini]	/'kalikini/	today
	<b>[hʏ] [h]</b>	<b>/h/</b>	
[hʏ]	occurs only following [i] and preceding another vowel.		
	[i'hʏose]	/i'huse/	horsefly
	[i'hʏatitene]	/i'hatitene/	he counted it
	[he'hʏene]	/he'hene/	his back
	[wi'hʏa <sup>u</sup> ]	/wi'ha <sup>u</sup> /	above us
[h]	never does.		
	[kahi'hiye]	/kahi'hiye/	lightning
	[hi'so ka'hane]	/hi'su ka'hane/	it's up to you
	['hohorako]	/'huhuraku/	name of a man

## 5.2 Vowels

	<b>[ɿ] [i̯] [ɛ] [e]</b>	<b>/e/</b>	
/e/	has a wide range of fluctuation, from high open to mid open, and from front to central.		
[ɿ]	in general is found preceding [k]		
	[ke'nɿkʷali]	/ke'nekuali/	about 10 am
	[hame'rɿkahakutʏa]	/hame'rekahakutʏa/	open your mouth
[i̯]	tends to occur contiguous to /ə/ or /s/, or between zero, /h/, /ə/, /k/ and /t/ on stressed syllables.		
	['i̯xe]	/'exe/	this
	['i̯tseti]	/'eseti/	egg
	['i̯teti]	/'eteti/	meat
	['hite]	/'hete/	gourd
	['əite]	/'əete/	rotten, smelly
	['kite]	/'kete/	manioc (sp)
[ɛ] and [e]	occur elsewhere, fluctuating freely.		
	['ɛharɛ] or ['ehare]	/'ehare/	he is angry
	['hoɛɛ] or ['hode]	/'hude/	collared peccary

[ə] [a] /a/

[ə] frequently replaces [a] on unaccented syllables, fluctuating rather freely.  
 [ka'naka<sup>i</sup>rita] or [kə'naka<sup>i</sup>dita] /ka'naka<sup>i</sup>rita/ he is eating  
 [na'tonita] or [nə'tonitə] /na'tunita/ I am walking  
 ['natYaha] or ['natYəhə] /'natYaha/ I wait

On accented syllables [ə] fluctuates with [a] before [k].

[ko'ɖaka] or [ko'ɖəkə] /ko'ɖaka/ just now  
 [ka'h<sup>w</sup>aka] or [ka'h<sup>w</sup>əkə] /ka'huaka/ yesterday

[a] occurs elsewhere on accented syllables.

[na'hahalo] /na'hahalu/ my sister  
 ['atYa] /'atYa/ tree  
 [no'kano] /nu'kanu/ my arm  
 [e'katYahe] /e'katYahe/ below

[o] [u] /u/

[o] and [u] fluctuate, [o] being the more frequent variety. Contiguous to palatals, [u] is the more frequent.

[i'muti] or [i'moti] /i'muti/ non-Indian  
 [i'hYɖare] or [i'hYɔɖare] /i'huɖare/ witchcraft  
 [na'tYu] or [na'tYɔ] /na'tYu/ I, me  
 [a'tYutYu] or [a'tYotYɔ] /a'tYutYu/ grandfather  
 [hɔ'lowetse] /hu'luwese/ fly (sp)

## 6. FORMATIONAL STATEMENT

### 6.1 Consonants

/b/ [b] Voiced bilabial stop  
 [bY] Voiced bilabial palatalized stop  
 /t/ [t] Voiceless alveolar stop  
 /k/ [kY] Voiceless palatalized velar stop occurring between /i/ and other vowels  
 [k] Voiceless velar stop occurring elsewhere  
 /tY/ [tY] Voiceless palatalized alveolar stop  
 /r/ [d] Voiced alveolar stop occurring only between /i/ and /i/  
 [dY] Voiced alveolar palatalized stop occurring only between /i/ and other vowels  
 [r] Voiceless alveolar flap occurring elsewhere

## 6.1 Consonants

/ɭ/	[ɭʏ]	Voiced palatalized alveolar lateral occurring between /i/ and other vowels
	[ɭ]	Voiced alveolar lateral occurring elsewhere
/m/	[mʏ]	Voiced palatalized bilabial nasal which fluctuates with [m] between /i/ and other vowels
	[m]	Voiced bilabial nasal
/n/	[nʏ]	Voiced palatalized alveolar nasal occurring between /i/ and other vowels
	[n]	Voiced alveolar nasal occurring elsewhere
/w/	[w]	Voiced bilabial semivowel
/y/	[y]	Voiced palatal semivowel
/ɛ̃/	[š]	Voiceless palatal grooved fricative freely fluctuating with [ž]
	[ž]	Voiced palatal grooved fricative freely fluctuating with [š]. The grooved fricatives occur contiguous to [i]
	[θ]	Voiceless interdental fricative fluctuating freely with [ð]
	[ð]	Voiced interdental fricative fluctuating freely with [θ]. The interdental fricatives never occur contiguous to [i].
/h/	[hʏ]	Voiceless palatalized back velar fricative occurring between [i] and other vowels
	[h]	Voiceless glottal fricative occurring elsewhere
/s/	[ts]	Voiceless alveolar affricate
/č/	[tš]	Voiceless palatal affricate

## 6.2 Vowels

/i/	[i]	Voiced high front close unrounded vocoid
/e/	[ɪ]	Voiced high front open unrounded vocoid, occurring before /k/ and fluctuating with other allophones
	[i̇]	Voiced high central open unrounded vocoid, occurring in accented syllables contiguous to /ɛ̃/ and /s/, and between zero and /t/, /h/ and /t/, /ɛ̃/ and /t/, and /k/ and /t/, and less frequently, fluctuating with the other phonemes
	[e]	Voiced mid central close unrounded vocoid, and
	[ɛ]	Voiced mid central open unrounded vocoid, occurring elsewhere, freely fluctuating
/a/	[ə]	Voiced central open unrounded vocoid, occurring before /k/ on accented syllables, and fluctuating with [a] on unaccented syllables
	[a]	Voiced low central open unrounded vocoid, occurring elsewhere

## 6.2 Vowels

/u/	[u]	Voiced high back close rounded vocoid, fluctuating with [o]. Contiguous to palatals [u] is the more frequent variety
	[o]	Voiced mid back close rounded vocoid, occurring elsewhere
/a <sup>i</sup> /	[a <sup>i</sup> ]	Voiced low central open unrounded vocoid, gliding to high front close unrounded vocoid
/a <sup>u</sup> /	[a <sup>u</sup> ]	Voiced low central open unrounded vocoid, gliding to high back close rounded vocoid

## 7. DISTRIBUTION OF THE PHONEMES

### 7.1 The syllable patterns are as follows:

V<sub>1</sub>                    C<sub>1</sub>V<sub>1</sub>                    C<sub>2</sub>V<sub>2</sub>V<sub>3</sub>

All vowels occur in the V<sub>1</sub> slot and all consonants occur in the C<sub>1</sub> slot.

All consonants except /r/, /w/ and /y/ may occur in the C<sub>2</sub> slot

V<sub>1</sub> is filled by any vowel.

V<sub>2</sub> is filled by only /u/.

V<sub>3</sub> is filled by only /i/, /e/ and /a/.

### 7.2 Restrictions on Occurrence

/r/ and /y/ occur only word medially.

With the exception of a borrowed word, /'latanase/ 'can', and one proper name, /le'le/, name of a boy, /l/ occurs only word medially. /tʲ/ occurs only before back vowels, never before /e/ or /i/.

### 7.3 Distribution of Syllables

The syllables co-occur with the following restrictions:

Vowels occur contiguously only across word boundaries, therefore:

CV + V, CVV + V, and V + V never occur within words.

V + CV, and V + CVV occur only initially.

CVV + CVV is very rare: /'tuituaəakalu/ name of a woman of yesterday.