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Timbe Phonemics

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TIMBE PHONEMICS

This paper is a description of the phonemics of the Yakop dialect of the Timbe language. Timbe belongs to the Western Huon Peninsula family of languages, is spoken by about 10,000 people in the Kabwum subdistrict, and is closely related, to the Selepet language. The data used in this paper summarises the phonemics of that material collected between May 1970 and July 1971.

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1 Chart of Phonemes

1.

1.1 Consonants

	Bilabial	Alveolar/Dental	Velar
Stops vl.	p	t	k
vd.	b	d	g
Nasals vl.			
vd.	m	n	ŋ
Fricative vl.		s	
Lateral vd.		l	
Semivowels vl.			h
vd.w		y	

1.2 Vowels

	Front	Back
Close	i	u
Mid	e	o
Open	a	ɔ

2. Description of contrastive features.

Consonants contrast in the manner of articulation between voiced and voiceless stops, nasals, voiceless fricatives, laterals and semi vowels. The stops and nasals contrast in the following points of articulation: bilabial, dental and velar; the semi vowels contrast in bilabial, alveolar and velar points of articulation.

Vowels contrast vertically as to high, mid and low tongue positions and horizontally as to front and back tongue positions.

3. Interpretation.

3.1 Syllable description. Non suspect syllables necessitate the following patterns:

pattern	example	gloss
VC	/in/ ($\underset{n}{i}n$)	'here'
V	/o/ ($\underset{o}{o}$)	'yes'
CV	/ba/ ($\underset{n}{b}a$)	'from'
CVC	/nen/ ($\underset{n}{n}e\underset{n}{n}$)	'we, plural'

3.2 Complex syllable nuclei. Other syllable patterns are necessary to accomodate the observed occurrence of complex syllable nuclei. Support for the creation of a possible VV nucleus is found as follows:

i) When adjacent vowels occur, they manifest either one syllable or two syllable timing. The following examples illustrate that complex nuclei have syllable lengths of about $1\frac{1}{2}$ mora timing, whereas other vowel sequences have 2 mora timing.

example	no. syllables	timing(seconds)
/gap/ ($\underset{n}{g}a\underset{n}{p}$)	1	.07
/gaep/ ($\underset{n}{g}a\underset{n}{e}p$)		.12
/geat/ ($\underset{n}{g}ea\underset{n}{t}$)	2	.20

Other glides are similar to /gaep/ in that they have a timing of about $1\frac{1}{2}$ mora:

/kɔit/ ($\underset{n}{k}o\underset{n}{i}t$)	.12 seconds
/koet/ ($\underset{n}{k}o\underset{n}{e}t$)	.14 seconds
/lou/ ($\underset{n}{l}o\underset{n}{u}$)	.12 seconds

ii) Stress occurs on the first and every second following syllable in a word (see section 8.1). In this system, complex nuclei behave as one syllable, whereas other vowel sequences behave as two ~~xxx~~ syllables. eg, in:

/lɔulogɔtne/ (''lɔulo,ɔɔtne) 'my two girl fræends',

(lɔu) behaves as a single syllable, since the next stress occurs on (-ɔɔ t-).

However, in:

/luɔlogɔtne/ (''luɔlo,ɔɔtne) 'my two men' ,

(luɔ) behaves as two syllables, and the next stress occurs on (- lɔ-).

Note further ~~examples~~ of complex syllable nuclei in section 5.2.2.

iii) The complex syllable nuclei are not considered complex phonemes because:

- a) they are $1\frac{1}{2}$ times as long as a single vowel phoneme.
- b) both phones occur separately elsewhere as single phonemes.
- c) it would necessitate the setting up of 12 additional vowel phonemes.

The following additional syllable patterns are therefore set up to accomodate complex syllable nuclei:

Pattern	example		gloss
CVV	/kaulɔn/	(''k ^h awlɔ _n)	'part of sing sing hat'
	/adiwedɔi/	(''ari,vɛrɔ ⁱ)	'they are going'
VVC	/aunɔet/	(''aunn ^ɔ ɛt _n)	'clear out'
	/ain/	(''a ⁿ)	'there'
CVVC	/haindɔetɔe/	(''ha ⁿ ndɔ _n ɛt _n ,nɔe)	'this is how we say it'

3.3 Status of items which may be either consonant or vowel. The interpretation of (ʰ) and (ʰ) depends upon the position of the semi vowel within the syllable. on
A

3.3.1 (^u)

i) As initial member of a vocoid sequence. When initiating a vowel pair, it must be interpreted as a member of the phoneme /w/ since in this position it fluctuates with (v) and (b).¹ eg:

/wanje/	(vann ^u e) ~ (^u ann ^u e)	'with what'
/wou/	(vo ^u) ~ (^u o ^u)	'kind yam ^u

ii) As final member of vocoid sequence. Here there is no fluctuation with (v) and (b), and as the glide direction agrees with all other observed glides, see section 5.2.2., then it is interpreted as the final member of a complex sequence syllable nucleus, /u/. eg:

/bau/	(ba ^u)	'pig'
/kaukau/	(ka ^u ka ^u)	'white'
/wou/	(^u o ^u)	'kind yam ^u

iii) Between vowels. Here there is always fluctuation with (v) and (b) and the interpretation as a member of the consonant phoneme /w/ gives the neatest solution. (see section 4.1, Fricatives, /w/). eg:

/huwan/	(huvan ^u) ~ (hu ^u an ^u)	'stick'
/lowin/	(lowin ^u) ~ (lo ^u in ^u)	'tree'

3.3.2 (ⁱ) This parallels (^u) in that when initiating a glide, (ⁱ) is interpreted as a consonant. In these positions, it is found as a submember of other phonemes - see interpretation. When concluding a glide, the (ⁱ) is interpreted as the final member of a complex syllable nucleus. Intervocally, (ⁱ) is noticed as fluctuating with (y) and is interpreted as a consonant.

N.B. This interpretation leads to simplicity and consistency in the phonology, but complexity in the morphophonemics.

3.4 Sequences of vowels greater than two.

3.4.1 Sequences of three vocoids. Where these have been observed, there is always a unique solution. Either:

i) The central vowel is (ⁱ) or (^u) and thus lends itself to treatment under section 3.3, or:

ii) The vowel sequence can be paired into a complex syllable nucleus and a single vowel. eg:

/geaune/	(ge.a ^u e)	'place name'
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3.4.2 Sequences of four vocoids. These always include a complex vowel nucleus and either ⟨w⟩ or ⟨y⟩. eg:

/hamboiwop/	(ham.bo ^u . ^u op')	'it must not get wet'
/louwɔ/	(lo ^u . ^u ɔ)	'two'

3.5 Status of items which may be either sequence or unit

a) i) The sequences (mb), (nd) and (ŋg) have been interpreted as consonant clusters on the basis of the many non-suspect consonant sequences which occur. eg: /md/, /nb/, /ŋb/ as in:

/dɔmdɔm/	(dɔmdɔm)	'fire fly'
/binbin/	(bi _n bi _n)	'vertical'
/giŋbe/	(giŋbe)	'I give to you'

ii) Also it is seen that /m/, /n/ and /ŋ/ occur syllable finally. eg:

/lɔm/	(lɔm)	'hole'
/nen/	(nen)	'we'
/meŋ/	(meŋ)	'mother'

iii) Likewise, the syllable boundaries in words containing (mb), (nd), (ŋg) occur before the stop, but after the nasal.

/deŋgop/	(deŋ.gop')	'red clay'
/lambogo/	lam.bog (lam.boŋo)	'to pull bowstring'
/bɔndup/	(bɔn _n .dup')	'white hair'

b). (dʒ^y), (tʃ^y), (n^y). These are interpreted as one unit, since:

i) There are no non suspect consonant ~~clusters~~ clusters in syllable margins.

ii) They are allophones of other phonemes

(dʒ ^y)		
/wangɔt/	(wandʒ ^y ɔ t')	'why'
/nengiɔp/	(nɛndʒ ^y iɔp')	'he gave to us'
/niŋdɔt/	(niŋdʒ ^y ɔ t')	'you gave to me'
/tɔngo/	(t'ɔndʒ ^y o)	'press down'
(tʃ ^y)		
/lokloktɔp/	(lokloktʃ ^y ɔp')	'it ripples'
/aɛktɔ/	(ai _n tʃ ^y o) ~ (ai _n ktʃ ^y o)	'it being so and s.o.e.'
/maktetʃi/	(maktʃ ^y ɛ t _n ɛ)	'we two spoke and s.o.e.'
(n ^y)		
/nanŋe/	(nann ^y e)	'his child'
/benŋe/	(bɛnn ^y e)	'then'

/hinʤe/ (h_nnn^ye)

'now'

c). (p^w), (h^w), (h^i). These are ~~interpreted~~ as one unit since they occur word initially, and thus ~~are~~ do not cross syllable boundaries. eg: (these are the only examples found)

/p^wip/	(p^wip')	'kind animal'
/h^wit/	(h^wit')	'roasted'
/p^wi/	(p^wi)	'hen'
/h^wat/	(h^wat')	'to go'
/h^wu/	(h^wu)	'kind edible pit pit'

The ~~alternative interpretation of making these units consonant plus vowel~~ would reduce the number of consonant phonemes, but introduce the phoneme of stress. (See section 8.1)

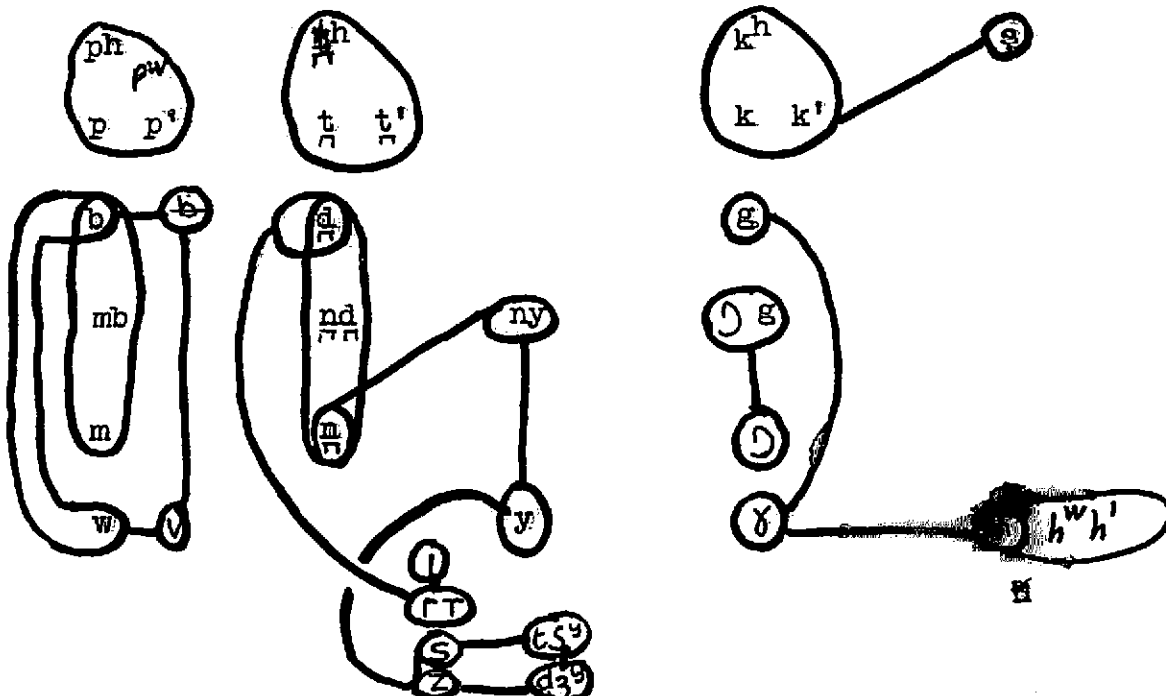
(p^h), (t^h), (k^h). These are interpreted as one unit since:

- i) There are no non-suspect consonant clusters within the syllable margin.
- ii) They are members of the phonemes /p/, /t/, /k/, respectively. (see description of phonemes).

4. Description of phonemes.

4.1 Consonants.

Work chart.



All consonants are non syllabic, and are produced with egressive lung air.

Stops

/p/ (p^h) voiceless bilabial aspirated stop occurs word initially and intervocallically.

/patap/	(p ^h at _n ap')	'kind nettle'
/puka/	(p ^h uk ^h a)	'kind tree'
/tipa/	(t ^h ip ^h a)	'kind bird'
/lepa/	(l _n epa)	'centuary plant'

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(p') voiceless bilabial unreleased stop occurs only word finally.

/metop/	(m _n et ^h op')	'kind rat'
/hokap/	('hok ^h ap')	'rafter'
/paŋgop/	(pa ŋgop')	'nose plug decoration'

(p) voiceless bilabial stop, occurs elsewhere.

/nipnip/	('nipnip')	'mosquito'
/tepne/	('t _n epne)	'my stomach'
/tupanpan/	('t _n up ^h anpan)	'waterfall'
/hɔwupge/	('hɔ ^u upge)	'your brains'

/t/ (t_n') voiceless dental ^{unreleased} ~~aspirated~~ stop occurs word ^{finally} ~~initially and~~

/lɔut/	(lɔ ^u t')	'bird'
/kɔtmɔt/	('k ^h ɔtmɔt')	'place name'
/nɔmbɔt/	('nɔmbɔt')	'kind gourd'

(t^h) voiceless dental aspirated stop occurs word initially and intervocallically.

/tatatje/	('t _n at _n atnye)	'never married'
/tɔnɔk/	('t _n ɔnɔk')	'rain'
/tu teret/	('t _n u 't _n ɛrɛt')	'dragonfly'

(tɕ^y) voiceless grooved affricate occurs following /k/ and /ŋ/, after /ŋ/ it fluctuates with (t).

/maktere/	('maktɕ ^y ɛre)	'I spoke and s.o.e.'
/lɔklɔktɔp/	('lɔklɔktɕ ^y ɔp')	'it spilled'
/yekton/	('yɛktɕ ^y ɔn)	'I saw them'

/toŋtoŋ/ (t^h_ntoŋtoŋ) ~ (t^h_ntoŋtoŋ) 'old pandanus leaves used in building'

(t_n) voiceless dental stop, occurs elsewhere.

/gɔtpik/ ('gɔtpik') 'kind tree'
 /tetmɔ/ ('t^h_nɛtmɔ) 'staying at home'
 /taŋtaŋ/ ('t^h_naŋtaŋ) 'childs bow'

/k/ (k^h) voiceless velar aspirated stop, occurs word initially and intervocalically.

/keine/ ('k^hɛine) 'my foot'
 /bakum/ ('bak^hum) 'kind sweet potato'
 /kiteŋ/ ('k^hɛt_nɛŋ) 'kind vine'
 /hɔkat/ ('hɔkat_n) 'to hang'

(k') voiceless velar unreleased stop, occurs word finally.

/sak/ ('sak') 'gravel'
 /getek/ ('gɛt_nɛk') 'immediately'
 /ŋɔtɔk/ ('ŋɔt_nɔk') 'hiccup'

(tʃ^y) voiceless grooved affricate, occurs following /t/ and /n/.

Examples are limited, and it is often in fluctuation with (k).

/bɔtkɛm/ ('bɔt_ntʃ^yum) 'lake'
 /kunkun/ (k' 'kuntʃ^yun) ~ ('kunkun) 'centre post of house'

(k) voiceless velar unreleased stop, occurs elsewhere.

/kakmak/ ('k^hakmak') 'kind arrow'
 /kakŋɔn/ ('k^hakŋɔn) 'on top of'
 /kapkap/ ('k^hapkap') 'kind insect'

/b/ (b^h) voiced bilabial stop, occurs word initially and following consonants.

/bɔin/ ('bɔ_ni) 'enough'
 /bau/ ('ba^u) 'pig'
 /sombem/ ('sambɛm) 'clear space round houses'
 /bɔtbɔtŋe/ ('bɔt_nbɔt_nŋe) 'tree branch'

/d/ (r) voiced alveolar trill, occurs intervocalically.

/giduŋ/	(^h giruŋ)	'kind tree'
/edɔde/	(^h 'ɛrɔre)	'I shoot and s.o.e.' ‡
/tidik/	(^h 't ^h lik')	'steps'

(r) voiced alveolar flap, occurs in free fluctuation with (r).

(d₃^h) voiced alveolar grooved affricate, occurs following /ŋ/.

/leɔmuŋdo/	(leɔmuŋd ₃ ^h o)	'to make a fire by friction)
/waŋdat/	(waŋd ₃ ^h at')	'they gave'
/auŋdɔ/	(auŋd ₃ ^h ɔ)	'say"clear off" '

(d̥) voiced dental stop, occurs syllable initially elsewhere

/deŋ/	(d̥ɛŋ)	'kind soil'
/dao/	(^h 'da°)	'greeting'
/lɔndem/	(^h 'lɔndɛm)	'to empty'
/pendeŋ/	(^h 'pɛndɛŋ)	'kind tree'

/g/ (ɣ) voiced velar fricative, occurs intervocalically.

/hɔgɔ/	(^h 'hɔɣɔ)	'to collect water'
/sagum/	(^h 'saɣum)	'torch'
/luguakbidon/	(^h 'luɣuakbirɔn)	'I will put on clothes'

(d₃^h) voiced alveolar grooved affricate, occurs following /n/ and /t/

/wangɔt/	(^h 'wand ₃ ^h ɔt')	'why'
/pangekberɔn/	(^h 'pand ₃ ^h ɛkberɔn)	'I will throw you'
/hange/	(^h 'hand ₃ ^h ɛ)	'your neck'
/baratge/	(^h 'baratd ₃ ^h ɛ)	'your daughter'

(g) voiced velar stop, occurs syllable initially elsewhere.

/ga/	(^h 'ga)	'come'
/gap gap/	(^h 'gap' ^h 'gap')	'ash floating in the air'
/bengupɲe/	(^h 'bɛŋɣupɲe)	'the back of a knife'

* /luskɔɔ/ (^h'luskd₃^hɔɔ) 'married woman'

‡ s.o.e some one else is change subject.

Nasals.

/m/ voiced bilabial nasal, occurs in all consonantal positions.

/mosaŋ/	(' 'mosaŋ)	'kind green vegetable'
/mɔron/	(' 'mɔrɔŋ)	'shield'
/amukŋe/	(' 'amukŋe)	'its shape'
/pam/	(' 'pam)	'kind fungus'

/n/ (n_ɪ) voiced dental nasal, occurs in all consonantal positions.

/nɔmɔ/	(' 'nɔmɔ)	'kind bird'
/nenyɔp/	(' 'nenɔŋɔ p')	'he gave to us'
/pan/	(' 'pɔn)	'throw away'
/benben/	(' 'benben)	'brown soil'

/ɲ/ (n^y) voiced alveopalatal nasal, occurs after /t/ ~~and~~ /n/ , and after /p/ and /m/ in fluctuation with

/bɔtŋe/	(' 'bɔtɲe)	'his hand'
/nannɔet/	(' 'nannɔet)	'belonging to his child'
/ɔlɪpŋe/	(' 'ɔlɪpɲe)	'good'
/sumŋe/	(' 'sumɲe)	'graveyard-subject'

(ŋ)voiced velar nasal, occurs elsewhere in consonantal positions.

/asugep/	(' 'asugep)	'mouldy'
/tɔŋtɔŋ/	(' 'tɔŋtɔŋ)	'childs' bamboo bow'
/kakŋɔn/	(' 'kakŋɔn)	'on top of'

Lateral

/l/ voiced alveolar lateral, occurs syllable initial.

² / ₃ /lɔm/	(lɔm)	'hole'
/palɔn/	(' 'pɔlɔn)	'I threw'
/laklak/	(' 'laklak)	'to fly by flapping wings'

Fricatives

- /w/ ʋwə voiced high close back rounded non syllabic vowel, occurs syllable initially in free fluctuation with (v) and (b).
- | | | |
|------------|--|----------------------------|
| /wan/ | ('wan̩) ~ ('van̩) | 'what' |
| /wambu/ | ('wambu) ~ ('vambu) | 'continuous rainy weather' |
| /wɔlɔlm/ | ('wɔlɔlm) ~ ('vɔlɔlm) | 'kind banana' |
| /kulewɔwɔ/ | ('k ^h ulɛwɔwɔ) (k) | 'cumulous cloud' |
| /huwan/ | ('huban̩) ~ ('huwan̩) ~ (hɔ 'huvan̩) | 'stick' |
| /dɔwɔn/ | ('dɔvɔn̩) ~ ('dɔwɔn̩) ~ ('dɔbɔn̩) | 'on the road' |
| /hɔwɔtmɔ/ | ('hɔwɔtmɔ) ~ ('hɔvɔtmɔ) ~ ('hɔbɔtmɔ) | 'resisting' |
- (v) voiced labiodental fricative, occurs in free fluctuation with (w) and (b). Examples as for (w).
- (b) voiced bilabial fricative, occurs in free fluctuation with (w) and (v). Examples as for (w).
- /s/ voiceless alveolar grooved fricative, occurs syllable initially.
- | | | |
|----------|-------------------------|----------------------|
| /sak/ | ('sak') | 'gravel' |
| /sade/ | ('sare) | 'kind sing sing hat' |
| /kanɔsɔ/ | ('k ^h anɔsɔ) | 'kind sing sing' |
| /misik/ | ('mɔsik) | 'spit out' |
- /h/ voiceless glottal fricative, occurs word initially.
- | | | |
|--------|----------|------------------|
| /hat/ | ('hat̩) | 'forest' |
| /hain/ | ('hain̩) | 'that's correct' |
| /humo/ | ('humo) | 'large' |

/y/ (y) voiced high close non rounded , non syllabic vocoid,
occurs word initially and intervocallically (not after
/i/) in free fluctuation with (z).

/yu/ ('y_u) ~ ('z_u) 'here'
/y_ɔte_ɛge_n/ ('y_ɔt_ɛg_ɛn) ~ (z_ɔt_ɛg_ɛn) 'where'
/huy_ɛg_ɔn/ ('huy_ɛg_ɔn) ~ ('huz_ɛg_ɔn) 'in the centre'
/y_ɔy_ɔlek/ ('y_ɔy_ɔlek') ~ ('z_ɔz_ɔlek') etc 'kind tree'

(z)voiced alveolar grooved fricative, occurs after /n/,
after the vocoid /i/, and ~~after other~~ between other vocoids

in free fluctuation with (y), word initially in free fluctuation
with (y).

/panyele_ɛkbe/ ('p^hanz_ɛlekbe) 'I will throw you two'
/yunyain/ ('zunzain)
/adiyeot/ ('arizeot) 'we two went'

2.2 Vowelswork chart.

	front	back
close	i ɪ	u ʊ
half close	e	o
half open	ɛ	ɔ
open	ə	

All vocoids are voiced and produced with egressive lung air.

Word initially, each fluctuates with its glottal-initial counterpart.

/i/ (ɪ) close front ~~unrounded~~ backed unrounded
voccid, occurs in stressed syllables, it occurs elsewhere
in free fluctuation with (i).

/bide/	('bɪre)	'kind insect'
/kiki teu/	('kʰɪkʰi "teu)	'kind bird'
/kinbedɔn/	('kʰɪnbɛrɔn)	'I shall stand'
/in/	('ɪn)	'here'

(i) close front unrounded vocoid, occurs in unstressed
syllables in free fluctuation with (ɪ).

Kodik

/kərik/	('kʰɪrik')	'ginger'
/biwine/	('bɪvɪnɛ)	'my insides, mind'
/adimbi/	('arɪmbɪ)	'they go s.o.g.'

/e/ (e) half close front unrounded vocoid, occurs before vowels, and word finally in words of more than one syllable in length.

/ekbe/	(''ɛkbe)	'let me see'
/aɲe/	(''aɲe)	'kind of nat'
/kambiamne/	(''k ^h ambiam _{n̩} ne)	'my heart'
/keine/	(''k ^h eine _{n̩})	'my foot'
/meɔn/	(''meɔ _{n̩})	'I held'

(ɛ) half open front unrounded vocoid, occurs elsewhere.

/me/	(^h mɛ)	'hold!'
/tedepom/	(''t _{n̩} ^h ɛrɛp ^h om')	'kind tree'
/ədɔde/	(''ɛrɔre)	'I shoot& sos!'
/		

/a/ open front unrounded vocoid occurring in all vowel positions.

/k ^h akmak/	(''k ^h akmak')	'kind arrow'
/sakalaɲ/	(''sak ^h alaɲ)	'kind axe'
/papalakmɔ/	(''p ^h ap ^h alakmɔ)	'they argue'
/aɲe/	(''aɲe)	'to share out'

/ɔ/ half open rounded back vocoid, occurring in all vowel positions.

/gɔɲgɔɔn/	(''gɔɲgɔɔ _{n̩})	'towards you'
/pɔɲgɔɲgɔɲ/	(''p ^h ɔɲgɔɲgɔɲ)	'the way a bird flies!'
/hilɔɔm/	(''hɛɔɔɔm/	'pain'
/t ^h mbɔ/	(''t _{n̩} ^h ɔmbɔ)	'old(inanimate)'
/ɔmbɔm/	(''ɔmbɔm)	'pussor sap'

/o/ (o) fronted half close back rounded vocoid occurring before nasals.

/gombe/	(''g ^h ambe)	'kind sugar can
/goŋgo/	(''g ^h oŋgo)	'kind banana'
/bom̩bulele/	(''b ^h om̩bule)	'kind butterfly'

(o) half close back rounded vocoid occurring elsewhere.

/mop/	(''mop')	'withou food.'
/gopgop/	(''gopgop')	'kind sugar ca'
/kok/	(k ^h ok')	'name of a stbea'

/u/ (u) high close rounded back vocoid, occurs in all vowel positions.

/puŋpuŋ/	(''p ^h uŋpuŋ)	'noise of wind'
/kum̩butne/	(''k ^h um̩butne)	'my ankle'
/gudumo/	(''gurumo)	'kind tree'

5. The Syllable.

5.1 Syllable contrasts

pattern	position		
	initial	medial	final
CV	/ta.tɔp/ 'it stays'	/bi.ne.mɔm/ 'place name'	/ɔ.lip.ɲe/ 'gppd'
CVV	/kɔi.we/ 'I pour'	ɤ	/tat.be.rɔi/ 'they stay'
CVC	/pan.dɔp/ 'it fell'	/	/ek.ben/ 'we would see'
CVVC	/pɔuɔ.dɔp/ 'it exploded'		/ɔm.be.nait/ 'my wife's'
VC	/in.diɔp/ 'it cried'	/aɔi.ɔn.dɔp/ 'I say I am going'	/aɔu.ak/ 'strangle yourself'
VVC	/auɔ.dɔp/ 'he said "clear out"'	/	
V	/i.na/ 'here'	/si.u.la/ 'kind plant'	/o.a/ 'greeting'
VV	/au.ɲet/ 'you two clear out'		

5.2. Distribution of phonemes within the syllable

The syllable formula can be represented as follows.

$$* \quad \pm C_1 + \left(\frac{V}{V_1 + V_2} \right) \pm C_2$$

The syllable consists of an optional initial consonantal onset, an obligatory vocoid nucleus (complex or simple) and an optional final consonantal coda.

521. Consonantal margins

Onset: the onset has no restriction of consonant population.

Closure: only /p/, /t/, /k/, /m/, /n/, /ŋ/ are observed in the closure margin, both syllable and word finally.

5.2.2. Vowel sequences. The following sequences have been observed.

		Final vocoid.					
		i	e	a	ɔ	o	u
i n i t i a l v o c o i d	i	ii	ie	ia	iɔ	io	iu
	e	ei	R	ea	eɔ	eo	
	a	ai	ae	R	R		au
	ɔ	ɔi	ɔe	R	R	ɔo	ɔu
	o	oi	oe	oa	oɔ	R	ou
	u	ui	ue	ua	uɔ		uu

R denotes reduction of identical vowels. /ɔ/ and /a/ act as identical vowels in this case.

The following vowel combinations form complex syllable nuclei.

vowel sequence	example		gloss
ai	/naikɔtne/	('naik ^h ɔ _n tne)	'my armpit'
ei	/keine/	('k ^h e _n i _n e)	'my foot'
ae	/gaep/	('ga ^h ɛp')	'he came up'
ɔi	/kɔi/	('k ^h ɔ _n i)	'pour!'
oi	/hamboiwop/	(hambo ⁱ wop')	'mind it does not get wet'
oe	/koet/	('k ^h o _n ɛ _n t')	'you two hit'
ɔe	/dɔet/	('dɔ _n ɛ _n t')	'we two said'

au	/kau/	(k ^h a ^u)	'white, ash'
ɔu	/''lɔune/	(''lɔ ^u _n ne)	'kinship term'
ou	/wou/	(''wo ^u _n)	'kind yam'
ɔo	/ w h bɔok/	(''bɔ ^o _n k')	'noise of bow string'
ui	/puip/	(''pu ⁱ _p)	'kind animal'

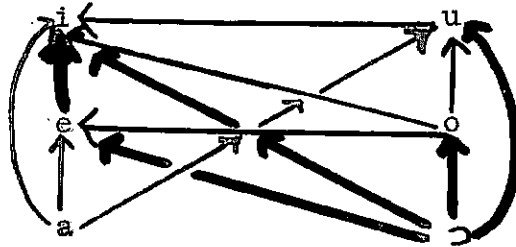
The following vowel combinations form two separate syllables:

iu	/siula/	(''siula)	'small mushroom'
oɔ	/koɔn/	(''k ^h ɔ ⁿ _n)	'I hit'
iɔ	/adiɔp/	(''ariɔp')	'he went'
eɔ	/adeɔk/	(''areɔk')	'that's all'
ia	/niambe/	(''niambe)	'spirit'
ea	/geat/	(''geat _n)	'wild banana'
ie	/adɪet/	(''ariɛt _n)	'you two go!'
oa	/oatne/	(''oat _n ne)	'cooked food'
uɔ	/luguɔn/	(''luguɔ _n)	'I put it in'
ue	/luguɛp/	(''luguɛp')	'he filled it'
io	/sio/	(''sio)	'place name'
eo	/adizeot/	(''arizeot')	'we two went'
na	/na/	(''na)	'greet'

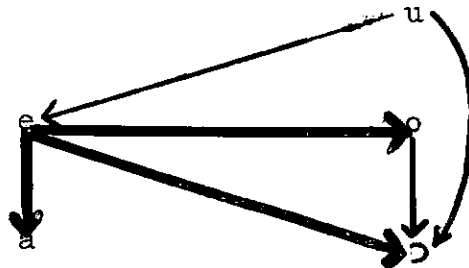
Apart from /ao/, which is not observed, complex syllable nuclei occur when a more open vowel precedes a more closed vowel, or a more back vowel precedes its fronted counterpart.

Apart from /uo/, which is not observed, when a more open vowel follows a more closed vowel, or a more back vowel follows its fronted counterpart, the vowel combination is pronounced as two syllables.

Thus graphically represented, the following are complex syllable nuclei:



The following are two syllables:



5.2.3. Distribution across syllable boundaries.

final, i.e. onset of following syllable.

		p	t	k	b	d	g	m	n	ŋ	s	l	y
initial,	p				✓	✓		✓	✓	✓			
i.e.	t	✓		✓	✓	✓	✓	✓	✓	✓			
closure	k		✓		✓	✓	✓	✓	✓	✓			
of	m				✓	✓	✓		✓	✓	✓	✓	
previous	n				✓	✓	✓			✓	✓	✓	✓
syllable	ŋ				✓	✓	✓	✓	✓		✓		✓

6. Juncture.

The juncture phoneme /ɹ/, manifests some of the following characteristics:-

1. Potential pause.
2. Identical vowels do not reduce(/a/ and /ɔ/ act as identical vowels in morphonemic processes) when juncture intervenes. (See section (9)).
3. Vowel sequences normally constituting one syllable become two syllables when juncture intervenes.
4. The presence of juncture is observed at the commencement of each stress group pattern (phonological word).
5. Word initial allophones occur ~~before juncture~~ following juncture.
6. Word final allophones occur before juncture.

Examples of a combination of the above aspects of juncture versus non juncture:-

- A) juncture: /lʌk ɹmbɔli/ ('lʌk' 'ɹmbɔli)
'men and women and....'
non juncture /'lʌkɹmbɔli/ ('lʌkɹmbɔli)
'men and women' (i.e. 'people').

This illustrates points 1. and 6.

- B) juncture: /nɔ ɪŋɡʊn ɒdɪbedɹn/ ('nɔ 'ɪŋɡʊn 'ɒdɪbedɹn)
'I am going down there'

The juncture before /ɪŋɡʊn/ is manifested by the stress on /'ɪ/ and the fact that /ɔ ɪ/ is not pronounced as the single syllable /ɔɪ/. This illustrates point 2.

7. Fluctuation.

7.1. Allophonic fluctuation.

1. (i) and (ɪ), (o) and (ʊ) fluctuate within their respective phonemes.
2. (w), sometimes written (u), fluctuates with (v) and (b) within the phoneme /w/.
3. (ts) and (s) fluctuate within /s/, (ts) is observed only in the word /sot/, i.e. (tsot) (sot).
4. (dz) and (z) fluctuate in the word /zo/.
5. (z) and (y) fluctuate within the phoneme /y/.
6. Vowels fluctuate with their pre-glottalised allophone, utterance initially.
7. In words containing the affricates (dʒ) and (tʃ), the phones (ŋ) and (k) preceding the affricates tend to fluctuate to the alveola phones (n) and (t) respectively¹ eg:-

/waŋdʒɔt/	(waŋdʒɔt) ~ (wandʒɔt)	'he gave'
/aʊŋdʒɔp/	(aʊŋdʒɔp) ~ (aundʒɔp)	'he moved'
/maɪktʃɔn/	(maɪktʃɔn) ~ (maɪttʃɔn)	'I spoke'
/ektɛt/	(ektɛt) ~ (ettɛt)	'we saw'

8. In the two words below, the phones ~~xx~~ (k) have ~~an~~ an alveola palatal semivowel onset. Under these conditions, (ⁱk) fluctuates with (ⁱt).

/akto/	(a ⁱ ttʃɔ) ~ (a ⁱ ktʃɔ)	'to be'
/toktɔp/	(to ⁱ ktʃɔp) ~ (to ⁱ ktʃɔp)	'it broke'

7.2. Dialectic fluctuation.

The interpretation of the affricates (dʒ) and (tʃ) into the two pairs of phonemes: /d/, /g/ and /t/, /k/, respectively, is supported by the fact that the Eastern dialect has the ~~xxx~~ stop phonemes where the Yakop dialect has the affricate.

For example:-

phonemic	Pronunciation		gloss
	Yakop	Eastern	
/ektɔp/	(ektʃ ^y ɔp')	(ektɔp')	'he saw'
/bɔtkom/	(bɔttʃ ^y ɔm)	(bɔtkɔm)	'lake'
/wɑɔɔp/	(wɑɔɔ ^y ɔp')	(wɑɔɔp')	'he gave'
/wɑngɔt/	(wɑnd ₃ ^y ɔt')	(wɑngɔt')	'why'
/ɔngɔke/	(ɔnd ₃ ^y ɔke)	(ɔngɔke)	'place name'
/-ɔngen/	(-ɔnd ₃ ^y ɛn)	(-ɔngen)	'locative marker'

(there are, tentatively speaking, three main Timbe dialects:

Yakop, Eastern and Western; the Yakop is also called Central).

Further support for the present interpretation of the affricates is from a consideration of the morphophonemics. The presence of (tʃ^y) ~~as /t/ and /k/ and of (d₃^y) as /d/ and /g/~~ and (d₃^y) are always associated with morpheme boundaries. Interpreting (tʃ^y) as /t/ and /k/ also (d₃^y) as /d/ and /g/, the morphophonemic rewrite rules are greatly simplified,.

phonemic word	unit phonemes	pronunciation (Yakop dialect)	gloss
/ektɔp/	/ ek + tɔp / 'saw' + 3sing. past	(ektʃ ^y ɔp')	'he saw'
/wɑɔɔp/	/ wɑɔ + ɔp / 'give' to 3 person + 3 sing past	(wɑnd ₃ ^y ɔp')	'he gave to him'
/wɑngɔt/	/ wɑn + gɔt / 'what' + 'for'	(wɑnd ₃ ^y ɔt')	'why'
/pangɛkbe/	/ pan + gɛk + be / 'throw' + 'you' + 'I must'	(pand ₃ ^y ɛkbe)	'I will throw you'

/sotgot/	/sot + got/	(sot ₁ d ₃ got ₁)	'for food'
	'food+for'		
/emelo ₁ kdop/	/emelo ₁ k + dop/	(emelo ₁ kd ₃ op ₁)	'he said "already"'
	'already+he said'		

8. Supra segmental items.

8.1. Stress. Stress is predictable. The stress group (phonemic word) consists of syllables with primary stress occurring on the first syllable, and secondary (optional) stress occurring on third, fifth, seventh- i.e. on alternate syllables. Stress perturbation has been observed in the following styles of speech: emphasis, calling over distances, style in some stories, songs. The addition of two or more stress groups to form one stress group illustrates the alternate stress rhythm. e.g:-

/gala lauwa/	("gala "lauwa)	'two men'friends'
/galaluctne/	("galaluct ₁ ne)	'my two friends'
/luck amboli/	("luck "amboli)	'men, women, ...'
/lugamboli/	("lugamboli)	'men and women, i.e. people'

The stress pattern changes to the second, fourth, and following alternate syllables of the second stem of compound words when the first stem is of an odd number of syllables. e.g:-

/hok/ + /heley/	= /hageley/	'black + skin = black skinned'
(h "hok) + ("heley)	= ("hageley)	

The stress pattern on complex nuclei is that the initial vowel takes the stress. e.g.:-

/lgune/	("lgune)	'my girl friend'
/keine/	("keine)	'my foot'

There are a number of words which commence with a syllable of

complex nuclei where this pattern is reversed.

e.g.:~

/h ^h u/	(hiu)	'edible pitpit'
/h ^h it/	(h ^u it')	'roast food'
/p ^h ip/	(p ^u ip')	'hen'

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In these words only, stress is phonemic. As they are few in number and occur in only one dialect, stress will not be marked.

8.2. Intonation. Two basic intonation patterns have been observed:-

- A). /nɔ̃ iŋgun adiberɔ̃n/ 'I am going down there'
- B). /gɔ̃ iŋgun adibedɔ̃t/ 'are you going down there?'

A is the statement intonation, B is the question intonation. When the question marker /me/ is used, however, the question intonation, B, occurs until the marker /me/. /me/ occurs at the end of the intonation group, and may only be followed by a second, optional question marker, such as /bo/ or /ain/. /me/ and any following marker take a falling intonation, e.g.:-

- C). /gɔ̃ iŋgun adibedɔ̃t me bo/ 'are you going there or not?'

When shouting a statement across a long distance, usually from one garden to another, the vowel /o/ is often added to the end of the statement, in which case it is given longer than normal length, and is accompanied by a rise in intonation which is sustained through the vowel. If the statement ends in a vowel, this vowel may carry the length and intonation rise, instead of adding /o/. e.g.:-

- D). /mɔ̃ iŋgun adibedɔ̃n o:/ 'I am going down there!'

§. Non-contrastive features.

§.1.External sandhi. Since the voiced stop phonemes have voiced fricative allophones intervocallically, ^{except /b/} the syllable initial sandhi is within allophonic description. (i.e. When the syllable is preceded by a vowel), ~~(b)→(p)~~, (d)→(r), (g)→(ɣ) . However, if the syllable closure is a voiceless stop, when it is followed by a vowel (i.e. a suffix addition), then ~~/p/→(w)~~, ~~/t/→(r)~~ i.e./d/, ~~or, in other cases, /t/→(l)~~, /k/→(ɣ) i.e./g/. These phoneme replacements give support to the separation of the voiced stop phonemes suggested in the proposed orthography.

Reduction of like phonemes. There are no double length phonemes in Timbe. When suffixes are added beginning with the same phoneme as the final phoneme of the stem, reduction occurs.

/han/ + /ne/	-->	/hane/ɤ	'my chin'
/waŋ/ + /ɤet/	-->	/waŋet/	'give to him'
/me/ + /et/	-->	/met/	'you two hold this'
/ne/ + /ep/	-ɤ->	/nep/	'he ate'
/dɔ/ + /ɔp/	-->	/dɔp/	'he said'
/lɔnde/ + /ep/	-->	/lɔndep/	'he filled'
/silolɔŋdɔ/ + /ɔn/	-->	/silolɔŋɔn/	'I swung'
/kat/ + /to/	-->	/kato/	'he put and s.o.e.'
/ba/ + /ɔn/ *	-->	/ban/	'I left'

* /a/ and /ɔ/ act as like phonemes.

9.2. Vowel Harmony. There is significant agreement in the two 26.
vowels present in two syllable words, when the syllable nuclei are
non-complex. The following charts show the number of co-occurrences
of vowels in all the two-syllable words observed during the first
18 months of our Timbe language work.

vowel of first syllable	vowel of 2nd syllable	number of co-occurrences
i	i	27
i	e	19
i	a	16
i	ɔ	20
i	o	8
i	u	8
<hr/>		
e	i	2
e	e	31
e	a	18
e	ɔ	24
e	o	17
e	u	16
<hr/>		
a	i	8
a	e	24
a	a	40
a	ɔ	21
a	o	16
a	u	23
<hr/>		
ɔ	i	18

ɔ	e	21
ɔ	a	zero
ɔ	ɔ	54
ɔ	o	21
ɔ	u	25
<hr/>		
o	i	1
o	e	26
o	a	22
o	ɔ	16
o	o	40
o	u	1
<hr/>		
u	i	15
u	e	14
u	a	22
u	ɔ	13
u	o	6
u	u	22

Those pairs of vowels which occur with a frequency which deviates by one standard deviation from the mean are: / i-i, e-e, a-a, ɔ-ɔ, o-o, / . Those of at least two standard deviations are: / a-a, ɔ-ɔ, o-o/ .

Thus, any word commencing with a syllable of nucleus V_1 (where V_1 is not /u/) has a greater possibility of ~~continuing~~ continuing with a syllable of nucleus V_2 where $V_1 = V_2$ than where V_1 is not the same as V_2 , in a two syllable word.

This phenomenon possibly explains the fluctuation observed between /i/ and /e/ in verb morphemes. When some verb morphemes which commence with a syllable of nucleus /i/ are suffixed to verb ~~stems~~^{roots} containing open vowels, then /i/ fluctuates with /e/. e.g.:-

adi- + -bian --> /adiwian/

ek- + -bian --> /ekbean/ (ekbean) (ekbian).

When sufficient words of three and more syllables (of one morpheme) have been collected, vowel harmony in Timbe and its effect on the morphophonemics will form the subject of a subsequent paper.

10. Suggested orthography.

Phonemes	Allophones	Suggested orthography	Kate orthography in use.
p	p ^h p p'	p	p
t	t ^h t t' tʃ ^y	t	t
k	k ^h k k' tʃ ^y	k	k
b	b	b	b
w	w v b	w	w
d	dʒ ^y d r ɹ	d r	d rl
g	dʒ ^y g ɣ	g	g
m	m	m	m
n	n	n	n
ŋ	ŋ n ^y	ŋ	ŋ
s	s	s	s
y	y z	y	z
l	l	l	l
i	i ɪ	i	i
e	e ɛ	e	e
a	a	a	a
ɔ	ɔ	â	â
o	o ɔ	o	o
u	u	u	u

11.1 Contrasts of consonants./b/ and /p/
word initial

/bitilik/	(bi ^h ilik')	'popped out'(of eyes)
/pitik/	(pi ^h itik')	'on tip toes'
/bam/	(bam)	'leaving'
/pam/	(pham)	'kind fungus'

/b _o tkum/	(b _o tt ^h um)	'lake'
/p _o tkum/	(p ^h _o tt ^h um)	'growing'
word medial (/b/ -- (w), (v), (B)).		
/koba /	(k ^h owa)	'gourd for lime'
/kopa/	(k ^h opa ^h)	'handicapped'
/siba _o /	(si ^h wa _o)	'kind sugar cane'
/sipek/	(si ^h pek')	'kind wild bamboo'
/hebun _o go/	(he ^h wun _o go)	'bundle!'
/hepun/	(he ^h pun)	'leave it alone!'
/m _o b _o /	(m _o w _o)	'black pitch tree'
/t _o p _o /	(t _o p ^h _o)	'kind bird'
/h _o bup _o je/	(h _o wup _o je)	'brain - inside of head'
/h _o pu/	(h _o p ^h u)	'bamboo'
/obe/	(ove)	'yes'
/lope/	(lop ^h he)	'kind fence'
/zobolum/	(zop ^h olum)	'duck'
/kopo/	(kop ^h o)	'kind bird'
/tibat/	(t ^h i ^h vat')	'place name g'
/tipa/	(t ^h i ^h pa)	'kind bird (large)'

/debatim/	(dɛvət ^h im)	§join'
/lepat/	(lɛp ^h at')	'many children'
/gebokge/	(gɛwɔkge)	'his place'
/nepne/	(nɛp ^h ne)	'cousin'
/babalaŋ/	(bawalaŋ)	'thin'
/papalakmo/	(p ^h ap ^h alak ^h mo)	'to fight, argue'
/t/ and /d/ word initial		
/tɔnɔk/	(t ^h ɔ ^h nɔk')	'rain'
/dɔnɔk/	(d ^h ɔ ^h nɔk')	'kind tree'
/tɔ tɔ mun/	(t ^h ɔ ^h t ^h ɔ mun) ¹ / ₄	'kind insect'
/dɔtne/	(d ^h ɔ ^h tne)	'my tooth'
/tigim/	(t ^h ɪgim)	'to hide'
/digim/	(d ^h ɪgim)	'to peel off skin'
/tɛki/	(t ^h ɛk ^h)	'kind sweet potato'
/dike/	(d ^h ɛk ^h ɛ)	'place name'
/tiŋbɔŋ/	(t ^h ɪŋbɔŋ)	'drips'
/diŋene/	(d ^h ɪŋene)	'my chest'
/titnan/	(t ^h ɪtnan)	'slowly'
/ditilip/	(d ^h ɪt ^h lip')	'kind xam'
/tembe/	(t ^h ɛmbe)	'bow'
/dembin/	(d ^h ɛmbɛn)	'kind bird'
word medial		
/kɔturuŋ/	(k ^h ɔ ^h t ^h uruŋ)	'way bones are chewed'
/keduŋ/	(k ^h ɛruŋ)	'place name'
/patak/patak/	(p ^h athak' p ^h a ^h ak')	'kind flying fox'
/odak odak/	(orak' orak')	'place name'
/potat/	(p ^h ot ^h at')	'to separate into kinds or piles'

/hodat/	(horat _n)	'place name'
/bɔɔɔ/	(bot _n ^h)	'drum'
/godɔɔɔ/	(gorɔɔɔ)	'however'
/pitik/	(ph _n ti _n ^h ik')	'on tip toes'
/tidik/	(t _n ^h ti _n ^h ik')	'step'
/gotop/	(got _n ^h op')	'kind tree'
/bodot/	(borot _n)	'house support'
/makto p/	(mak _n t _n ^h ɔ p')	'he spoke'
/pandɔ p/	(pand _n ^h ɔ p')	'he throw'
/makteɔ	(mak _n t _n ^h ɔ p'ere)	'we spoke'
/bokɔɔ/	(bok _n ɔɔ)	'with a key post'
/toɔtoɔ/	(fɔɔɔɔɔɔ)	'clead leaves'
/auɔɔɔp/	(auɔɔɔɔp)	'he cleared out'
/g/ and /k/		

word initial

/giniɔɔiniɔ /	(g _n i _n ɔ g _n i _n ɔ)	'kind insect'
/kin/	(k _n i _n)	'stand'
/giɔbe/	(g _n i _n ɔbe)	'I give to you'
/kiɔɔm/	(k _n i _n ɔɔm)	'kind taro'
/gitɔk/	(g _n i _n ɔt _n ^h k')	'wild edible pit pit'
/kiteɔ/	(k _n i _n ɔt _n ^h ɔ)	'vine fastening'
/gendɔ/	(g _n i _n ɔndɔ)	'place name'
/kɔndɔ/	(k _n i _n ɔndɔ)	'dig'
/goka/	(g _n i _n ɔk _n ^h a)	'sweet potato'
/kok/	(k _n i _n ɔk')	'river name'
/got/	(g _n i _n ɔt')	'possessive'
/kɔt/	(k _n i _n ɔt')	'stone'

Word medial

/igi/	(i _g i)	' by himself it bit him'
/ikiŋak/	(i _k iŋak')	'by himself'
/agalep/	(a _g alɛp)	'it grows'
/sakalaŋ/	(sak ^h alaŋ)	'kind axe'
/doŋom/	(doŋ _o m)	'cover'
/lokokoŋ/	(lok ^h okoŋ ^h)	'Place name'
/hɔŋ/	(hɔ _ŋ)	'leech'
/koko _{lu} /	(koko _{lu})	'kind sweet potato'
/hange/	(hand _g e)	'your neck'
/botke/	(bot _t ke)	'your hand'
/badatge/	(ba _r at _d ge)	'your daughter'
/botkum/	(bot _t kum)	'lake'
/pangekbe/	(pa _n dz _g ekbe)	'I must help you'
/kun _{kun} /	(kun _t un)	'vertical post'

/m/ and /b/

word initial

/mosok/	(mosok')	'kind tree'
/bosogot/	(bosogot')	'kind cooking banana'
/madamba/	(maramba)	'top of mumu + pulped banana stem'
/badagane/	(baragane)	'my arm'
/molon/	(molon)	'place name'
/bolopge/	(bolopge)	'cold'
/manu/	(manu)	'place name'
/banu/	(banu)	'kind sweet potato'
/mosog/	(mosog)	'place name'
/bosok/	(bosok')	'to mess'

/makbe/	(makbe)	'I must speak'
/bakje/	(bakje)	'place name'
/gagap meleḡgut/	(gagap'meleḡgut')	'kind bird'
/beḡeḡ beḡeḡ/	(beḡeḡ beḡeḡ)	'reflection'
/melu/	(melu)	'mumu'
/beluḡe/	(beluḡe)	'crysaly's'
/medeḡ/	(medeḡ)	'white owl'
/beduḡ/	(beduḡ)	'place name'
/motṑp/	(mot ^h ṑp')	'style to keep out animals'
/bosṑm/	(bosṑm)	'flying fox'
/mṑndu/	(mṑndu)	'orphan'
/bṑndup/	(bṑndup')	'white haired'

word medial

/giḡmṑ/	(giḡmṑ)	'giving to you'
/giḡbe/	(giḡbe)	'I must give you'
/ekmenṑ/	(ekmenṑ)	tiwese 'you see and see'
/ekḡbela/	(ekḡbela)	'you two see and see'
/katmenṑ/	(katmenṑ)	'you put and see'
/katbela/	(katḡbela)	'you two put and see'
/kṑtmṑt/	(kṑtmṑt')	'place name'
/sṑmbṑ/	(sṑmbṑ)	'old'
/kakmak/	(kakmak')	'kind arrow'
/samban/	(samban)	'kind tree'
/guḡmṑ/	(guḡmṑ)	'to bend'
/umbṑ/	(umbṑ)	'clay pot'

/n/ and/d/

word initial

/nigim/	(<u>n</u> ɨɣɨm)	'it bites me'
/digim/	(<u>d</u> ɨɣɨm)	'to peel the skin off'
/neneɣe/	(<u>n</u> ɨnɨɣe)	'we eat these'
/denɔn/	(<u>d</u> ɨnɔn)	'obey the talk'
/niɣe/	(<u>n</u> ɨɣe)	'who'
/diɣene/	(<u>d</u> ɨɣɨne)	'my chest'
/nelekbiɔt/	(<u>n</u> ɨlɨkbiɔt)	'you see us two'
/delem/	(<u>d</u> ɨlɨm)	'money'
/nambondɔ/	(<u>n</u> ambɔndɔ)	'place name'
/dambia/	(<u>d</u> ambia)	'kind sing sing hat'
/nandup/	(<u>n</u> andup)	'kind arrow'
/dandali/	(<u>d</u> andali)	'to tremble, be unsteady' (of hand)
/nɔmbɔt/	(<u>n</u> ɔmbɔt)	'kind gourd'
/dɔmdɔm/	(<u>d</u> ɔmdɔm)	'fire fly'
/nɔmbut/	(<u>n</u> ɔmbut)	'same name, same job, partner'
/dɔmbutin/	(<u>d</u> ɔmbutin)	'place name'

word medial (n) and(d) after consonants.

/tepne/	(t ^h <u>n</u> ɨpne)	'my stomach'
/tepɔ/	(t ^h <u>n</u> ɨpɔ)	'pregnant'
/kotne/	(k ^h <u>n</u> otne)	'my name'
/kotɔm/	(k ^h <u>n</u> otɔm)	'he said: "call" '.
/hamne/	(h <u>n</u> amne)	'my pandanus'
/kemɔ/	(k ^h <u>n</u> ɨmɔ)	'bits to start a fire'

(n) and (r) after vowels.

/giniɣ giniɣ/	(g <u>n</u> ɨɣ g <u>n</u> ɨɣ)	'kind insect'
/gidɨɣɔ/	(g <u>r</u> ɨɣɔ)	'laugh'

/manam/	(manam)	'kind banana'
/madamba/	(maramba)	'pulped stem used for mumu'
/nana/	(nana)	'child'
/tada/	(t ^h ara)	'kind insect'
/hɔnep/	(hɔnep')	'kind of money'
/kɔdedɔ/	(kɔrɛrɔ)	'hamlet name'
/bonɔŋgɔn/	(bonɔŋgɔn)	'I do not know'
/kodɔn/	(korɔn)	'wooden stops to sleep between'
/onomak/	(onomak')	'kind bird'
/odovit/	(arovit)	kind taro'
/anine/	(anine)	'my maternal uncle'
/adide/	(arɛrɛ)	'I go and see'
/hanɔk/	(hanɔk')	'forget it'
/padɔŋe/	(parɔŋe)	'top and inside of wall'
/sɛnɔn mɔndu/	(sɛnɔn mɔndu)	'place name g'
/sedɔ/	(sɛrɔ)	'funeral feast'
/kenu/	(k ^h ɛnu)	'build'
/sedu/	(sɛru)	'wind'
/tɔnɔk/	(t ^h ɔnɔk')	'rain'
/dɔdɔdik/	(dɔrɔrik')	'to be set on edge' (of teeth)
/gɔnime/	(gɔnime)	'kind sweet potato'
/kɔdikne/	(kɔrikne)	'strong'
/ɔ/ and /g/ word initial		
/ɔdɔdɔk/	(ɔrɔrɔk')	'snore'
/gɔdɔmɔ/	(gɔrɔmɔ)	'however'
/ɔdɔliɔɔ/	(ɔdɔliɔɔ)	'kind tree'
/gɔlu/	(gɔlu)	'tree, with edible leaf and fruit'
/ɔatakɔ/	(ɔatakɔ)	'squelch'

/gatmɔ/	(g <u>at</u> mɔ)	'cāññect' ('collect')
/ʁaniŋ ʁaniŋ/	(ʁan <u>i</u> ŋ ʁan <u>i</u> ŋ)	'kind insect'
/gandoŋ/	(gand <u>o</u> ŋ)	'swaying'
/ʁedepne/	(ʁɛ <u>r</u> ɛp <u>n</u> e)	'gums' (in mouth)
/gewe/	(g <u>e</u> ve)	'I come down and soe'

word medial (ɣ) and (ʒ) intervocallically.

/hɔŋɔ/	(hɔ <u>ŋ</u> ɔ)	'place name'
/hɔŋɔ/	(hɔ <u>ŋ</u> ɔ)	'leach'
/hɔŋɔliŋ/	(hɔ <u>ŋ</u> ɔliŋ)	'kind tree & kind wild bamboo'
/hɔŋɔlik/	(hɔ <u>ŋ</u> ɔlik)	'smooth'
/niŋande/	(n <u>i</u> ŋande)	'who' (dual)
/sigan/	(s <u>i</u> gan)	'young'
/diŋene/	(d <u>i</u> ŋene)	'my chest'
/hiŋendɔn/	(h <u>i</u> ŋendɔn)	'place name'

(ɣ) and (g) after consonants.

/dɔtɣe/	(dɔt <u>ɣ</u> e)	'his tooth'
/lɔmɣe/	(lɔm <u>ɣ</u> e)	'place name; also of 'flat'
/lɔmge/	(lɔm <u>g</u> e)	'your hole'
/hɔkɣungen/	(hɔkɣund <u>ɔ</u> ŋen)	'adjacent' (to house)
/hɔkge/	(hɔk <u>g</u> e)	'your skin'
/namɣe/	(n <u>a</u> mɣe)	'place name g('
/namge/	(n <u>a</u> m <u>g</u> e)	'your breast'
/kakɣɔn/	(kakɣ <u>ɔ</u> n)	'on top of'
/sakge/	(sak <u>g</u> e)	'your pebbles'

/m/ and /n/
word initial

/mandap/	(<u>m</u> andap')	'he lives'
/nandup/	(<u>n</u> andup')	'kind arrow'
/melu/	(<u>m</u> elu)	'mumu'
/nelom/	(<u>n</u> elom)	'mind'
/mo/	(<u>m</u>)	'exclamation of surprise'
/no/	(<u>n</u>)	'I'
/mem/	(<u>m</u> em)	'holding'
/nem/	(<u>n</u> em)	'eating'

word medial

/kakmak/	(k ^h ak <u>m</u> ak')	'kind arrow'
/sakne/	(s <u>a</u> kne)	'my gravel'
/katmenə/	(k ^h at <u>m</u> enə)	'you put and see'
/bətne ^h ne/	(bət <u>n</u> e ^h ne)	'our hands'
/həmene/	(hə <u>m</u> ene)	'my nose'
/hənep/	(hə <u>n</u> ep)	'old kind money'
/simini/	(s <u>i</u> mini)	'kind ondup hut'
/gini ^h gini ^h /	(g <u>i</u> ni ^h gini ^h)	'kind insect'
/təmə ^h /	(tə <u>m</u> ə ^h)	'kind tabo'
/təmə ^h me/	(tə <u>m</u> ə ^h me)	'middle'
/təmin/	(tə <u>m</u> in)	'flea'
/gə ^h nime/	(g <u>n</u> ime)	'kind sweet potato'
/gə ^h min/	(g <u>m</u> in)	'grasshopper'
/mə ^h ni ^h mə ^h ni ^h /	(mə <u>n</u> i ^h məni ^h)	'kind flying fox'
/emine/	(e <u>m</u> ine)	'my younger brother'
/heniə ^h /	(he <u>n</u> iə ^h)	'kind tree'
/hemem/	(he <u>m</u> em)	'steep', 'cliff'

/henep henep/	(hɛ̃nɛp' hɛ̃nɛp')	'skin condition, callous, rough'
/manine/	(mãn(ne))	'my sister ar law'
/mamik/	(mãmɪk')	'kind plant'

word final

/nem/	(nɛ̃m)	'eating'
/nen/	(nɛ̃n)	'we, plural'
/gam/	(gãm)	'coming up'
/gan/	(gãn)	'coming down' 'I came up'
/gem/	(gɛ̃m)	'coming down'
/gen/	(gɛ̃n)	'I came down'
/adɪ̃vɛdɔ̃m/	(aɾɪ̃vɛɾɔ̃m)	'desiring to go'
/adɪ̃vɛdɔ̃n/	(aɾɪ̃vɛɾɔ̃n)	'I am about to go'

/ɲ/ and /ʎ/

word initial

/ɲɛɲɛ/	(ɲɛ̃ɲɛ)	'bed'
/nenɛɲɛ/	(nɛ̃nɛ̃ɲɛ)	'its edible'
/ɲɔ̃tɔ̃k/	(ɲɔ̃tɔ̃k')	'hiccup'
/nɔ̃kɛ̃t/	(nɔ̃kɛ̃t')	'kind animal'
/ɲanɪ̃ ɲanɪ̃/	(ɲanɪ̃ ɲanɪ̃)	'kind insect'
/nanay/	(nãnaɲ)	'child'
/ɲɔ̃dɔ̃dɔ̃k/	(ɲɔ̃dɔ̃dɔ̃k')	'snore'
/nɔ̃mɔ̃/	(nɔ̃mɔ̃)	'I, however'
/ɲɛdɛpne/	(ɲɛ̃ɾɛpne)	'my gum'
/nelɔ̃m/	(nɛ̃lɔ̃m)	'mind'

word medial

/bɔ̃tɲɛ/	(bɔ̃tɲ ^y ɛ)	'his hand'
/bɔ̃tne/	(bɔ̃tne)	'my hand'

/ɲedepɲe/ (ɲerɛpɲe) 'his gums'

/ɲedepne/ (ɲerɛpne) I 'my gums'

/kambiamɲe/ (k^hambiamɲe) 'his heart'

/kambiamne/ (k^hambiamne) 'my heart'

/adiɲet/ (arinet') 'you all go'

/adine/ (arine) 'we must go'

/Keine/ (k^heine) 'my foot'

/keiɲe/ (k^heie) 'his foot'

/lɔunaft/ (lɔ^unaft') 'my cousin's'

/lɔunaft/ (lɔ^unaft') 'her cousin's'

word final

/way/ (way) 'give to him'

/wan/ (wan) 'what'

/tɔbɔɲ/ (t^hɔbɔɲ) 'to cut'

/dɔbɔn/ (dɔbɔn) 'on the road'

/mɔsɔɲ/ (mɔsɔɲ) 'place name'

/sɔnsɔn/ (sɔnsɔn) 'fever'

/b/ and /w/

word initial

/banu/ (banu) 'kind sweet potato'

/wano/ (wano) 'what'

/bɔok/ (bɔ^ok') 'noise of bow string'

/wɔu/ (wɔ^u) 'kind tree'

/bɔlop/ (bɔlop') 'name of a stream'

/wɔlp/ (wɔlp') 'kind tree'

/baɲne/ ((ba^ɲne) 'I went down and...'

/waim/	(wa ⁱ m)	'way of collecting food'
/bakum/	(bak ^h um)	'uncontrolled actions'
/vaim/ /wakep/	(wa ^h ep*) (wak ^h ep*)	'a parrot'
/bande kom/	(bande k ^h am)	'to plant food'
/wangot/	(wand ^h ot)	'why'
/d/ and /l/ word initial		
/d>m/	(d>m)	'saying'
/l>m/	(l>m)	'hole'
/d>ndila/	(d>ndila)	'kind sweet potato'
/l>ndewe/	(l>ndewe)	'to empty some thing'
/dake/	(dak ^h e)	'kind animal'
/lake/	(lake ^h)	'spring onion'
/digiwe/	(di ^h giwe)	'I peel'
/ligiwe/	(li ^h giwe)	'I break'
/dop/	(dop ^h)	'quick'
/lope/	(lope ^h)	'kind fence'
/dambia/	(dambia)	'kind singsing'
/lambogo/	(lambog ^h o)	'to draw bow'
word medial (r) and (l)		
/tidik/	(t ^h irik')	'step ladder'
/pelik/	(p ^h elik')	'kind tree'
/bedem/	(b ^h erem)	'kind tree'
/beleng	(b ^h eleng)	'reflection'
/g>om/	(g>om>)	'however'
/h>n pol>/	(h>n p ^h > l>)	'name of river'
/adimd>n/	(arimd>n)	'I left'

/adiml>n/	(ar<ml>n)	'k I left a long time ago and am not returning'
/a<abut/	(arawut')	'kind bird'
/alawut/	(alawut')	'kind bird'
/h>de/	(h>re)	'cut that'
/hole/	(hole)	'tomorrow'
/t/and /s/ word initial		
/timbe/	(t ^h imbe)	'name of people and river'
/siminiŋ/	(s<min>ŋ)	'kind nut'
/tiluŋ/	xtxtxt (t ^h iluŋ)	'place name'
/siloluŋ/	(s<iloluŋ)	'to swing'
/tig>t/	(t ^h ig>t')	'collect pandanus fruit'
/sigan/	(s<an)	('young'
/tiŋb>ŋ/	(t ^h iŋb>ŋ)	'drips'
/siŋge/	(s<ŋge)	'kind sing sing'
/tadaŋ/	(t ^h araŋ)	'kind insect'
/sade/	(sare)	'part of sing singhat'
/t>min/	(t ^h >min)	'flea'
/s>ms>m/	(s>ms>m)	'Saruwaged mountains'
/t>l>m/	(t ^h >l>m)	'kind bird'
/s>liŋd>/	(s>liŋd>ŋ)	'long tusked pig'
/t>di<uŋ/	(t ^h or<uŋ)	'place name'
/s>dikum/	(s>r(k ^h um)	'ripe'
/t>d>d>k/	(t ^h >r>r>k')	'straight'
/s>d>t /	(s>r>t ^h)	'kind sweet potato'
/t>mb>/	(t ^h >mb>)	'old'(animate)
/s>mb>/	(s>mb>)	'old'(inanimate)

/togol>n/	(t ^h oɣol>n)	'place name'
/sogone/	(soɣone)	'thigh'
/tembe/	(t ^h ɛmbe)	'bow'
/semb>t/	(sɛmb>t')	'place name'
word medial		
/matak ^h /	(mat ^h ak')	'noisy eating'
/basak/	(basak')	'kind tree'
/katen e/	(k ^h at ^h ɛnnɛ)	'we all put and s.o.e.'
/hasepuɣ/	(hasɛpuɣ)	'vertical wall support'
/tete/	(t ^h ɛt ^h ɛ)	'appears'
/seset/	(sɛsɛt')	'weed'
/t>t>l>n/	(t ^h ɛt ^h ɛl>n)	'place name'
/m>s>l>k/	(m>s>l>k')	'kind tree'
/motɔp/	(mot ^h ɔp')	'style to keep out animals'
/bos>m/	(bos>m)	'flying fox'
/s/ and /y/		
word initial		
/s>ns>n/	(s>ns>n)	'fever'
/y>n/	(z>n)~(y>n)	'nothing'
/s>lɪɣd>/	(s>lɪɣd>)	'long tusked pig'
/y>lɪlɪ/	(z>lɪlɪ)~(y>lɪlɪ)	'kind pandanus'
/sot/	(sot')~(tsot')	'food'
/yo/	(zɔ)~(yɔ)	'animal'
/sumbe/	(sumbe)	'kind yam'
/yomb>/	(z>yomb>)	'moustache'
word medial		
/bised>/	(bɛsɛd>)	'kind bamboo'
/keizeɣe/	(ke ^ɪ zɛɣe)	'their feet'

/esenje/	(<u>ɛ</u> s <u>ɛ</u> nn ^y e)	'leaf'
/kaze k bian/	(k ^h <u>a</u> z <u>ɛ</u> kbian)	'I will place them'
/l/ and /t/ word initial		
/ligibed <u>ɔ</u> n/	(<u>l</u> ɣ <u>ɛ</u> v <u>ɛ</u> r <u>ɔ</u> n)	'I will break'
/tigibed <u>ɔ</u> n/	(<u>t</u> ^h ɣ <u>ɛ</u> v <u>ɛ</u> r <u>ɔ</u> n)	'I will hide'
/l <u>ɔ</u> m/	(<u>l</u> ɔm)	'hole'
/t <u>ɔ</u> min/	(<u>t</u> ^h ɔm <u>ɛ</u> n)	'flea'
/ling <u>ɔ</u> t/	(<u>l</u> ɣ <u>ɔ</u> t ^h)	'to chop branches off'
/ti <u>ɔ</u> b <u>ɔ</u> y/	(<u>t</u> ^h ɣ <u>ɔ</u> b <u>ɔ</u> y)	'drips'
/lep <u>ɔ</u> /	(<u>l</u> ɛp ^h <u>ɔ</u>)	'century plant'
/te <u>ɔ</u> p/	(<u>t</u> ^h ɛp ^h)	'insides'
/lambogom/	(<u>l</u> ambo <u>ɔ</u> gom)	'to pull a bowstring'
/tambog <u>ɔ</u> /	(<u>t</u> ^h ambo <u>ɔ</u> ɔ)	'to hold in the arms'
/l <u>ɔ</u> ndebed <u>ɔ</u> n/	(<u>l</u> ɔnd <u>ɛ</u> v <u>ɛ</u> r <u>ɔ</u> n)	'I fill a Bilum'
/t <u>ɔ</u> ngobed <u>ɔ</u> n/	(<u>t</u> ^h ɔng <u>ɔ</u> v <u>ɛ</u> r <u>ɔ</u> n)	'I support'
word medial		
/p <u>ɛ</u> lik/	(p ^h <u>ɛ</u> l <u>ɪ</u> k')	'kind tree'
/pitik/	(p ^h it ^h <u>ɪ</u> k')	'on tip toes'
/beley/	(bɛ <u>l</u> ɣ)	'reflection'
/kitey/	(k ^h ɛ <u>t</u> ^h ɣ)	'kind vine'
/h <u>ɔ</u> n p <u>ɔ</u> l <u>ɔ</u> /	(h <u>ɔ</u> n p ^h <u>ɔ</u> l <u>ɔ</u>)	'river name'
/b <u>ɔ</u> t <u>ɔ</u> /	(b <u>ɔ</u> t ^h <u>ɔ</u>)	'drum'
/p <u>ɔ</u> l <u>ɔ</u> kom/	(p ^h <u>ɔ</u> l <u>ɔ</u> k ^h <u>ɔ</u> m)	'wound'
/t <u>ɔ</u> t <u>ɔ</u> kom/	(<u>t</u> ^h <u>ɔ</u> t ^h <u>ɔ</u> k ^h <u>ɔ</u> m)	'push into place'
/gil <u>ɔ</u> m/	(gɛ <u>l</u> ɔm)	'red, blood'
/git <u>ɔ</u> k/	(gɛ <u>t</u> ^h <u>ɔ</u> k')	'kind edible pit pit'

/kilit/	(k ^h l ^h it')	'arrow'
/bitilik/	(b ^h t ^h ilik')	'eye popped out'

/gagap mele ^h gut/	(gagap' m ^h le ^h gut)	'kind bird'
/metene/	(m ^h t ^h ne)	'forehead'
/kalimd/	(k ^h al ^h umd/)	'generous'
/katiko/	(k ^h at ^h ko)	'wrap'
/kalak/	(k ^h alak')	'itch'
/matat/	(mat ^h at')	'splosy eating'
/alane/	(alane)	'grandmother'
/ata/	(at ^h a)	'village road'
/m/ and mb /mb/		
/kamili>p/	(k ^h am ^h li>p')	'to dry up'
/bea kambim/	(bea k ^h amb ^h m)	'taro-eating insect'
/hamandat/	(hamandat')	'clouds'
/sambam/	(sambam)	'kind tree'
/hamep/	(ham ^h p')	'afraid'
/kambene/	(k ^h amb ^h ne)	'my shoulder'
/emine/	(em ^h ne)	'my younger brother'
/dembin/	(d ^h emb ^h n)	'kind small bird'
/m ^h m>n/	(n ^h m>n)	'place name'
/himb>n/	(h ^h mb>n)	'red bark cloth trunks'
/kimapa/	(k ^h imapa)	'kind taro'
/gimbar/	(g ^h imbar)	'yellow'
/simini/	(s ^h im ^h ni)	'kind nut'
/himbim/	(h ^h imb ^h m)	'sky'
/h>mene/	(h>m ^h ne)	'my nose'

/mbend/	(<u>mb</u> end)	'married man'
/tmin/	(t <u>h</u> min)	'flea'
/nmbim/	(n <u>mb</u> im)	'eye ball'
/nm/	(n <u>m</u>)	'I, however'
/nmbt/	(n <u>mb</u> t)	'kind gourd'
/n/ and /nd/		
/maneyo/	(man <u>ey</u> o)	'kind pandanus'
/andenam/	(an <u>d</u> en <u>a</u> m)	'kind cucumber'
/han>k/	(han <u>></u> k)	'forget it'
/hand>/	(han <u>d</u> >)	'grew'
/manam/	(man <u>a</u> m)	'kind banana'
/mandat/	(man <u>d</u> at)	'you two are living'
/anine/	(an <u>i</u> ne)	'maternal uncle'
/anditbe/	(an <u>d</u> it <u>b</u> e)	'I must scratch'
/h>nep/	(h <u>></u> n <u>e</u> p)	'he tied the pigs legs'
/>ndem/	(> <u>n</u> d <u>e</u> m)	'emptying a bilum'
/g>nime/	(g <u>></u> n <u>i</u> me)	'kind sweet potato'
/d>ndila	(d <u>></u> n <u>d</u> ila)	'red sweet potato'
/giniy giniy/	(g <u>i</u> n <u>i</u> y g <u>i</u> n <u>i</u> y)	'kind insect'
/bindiy diy/	(b <u>i</u> n <u>d</u> i <u>y</u> d <u>i</u> y)	'kind bird, way it flies'
/senyoi/	(s <u>e</u> n <u>y</u> oi)	'kind tree'
/gend>y/	(g <u>e</u> n <u>d</u> >y)	'kind tree'
/y/ and /yg/		
/y>m/	(y <u>></u> m)	'place name'
/haag>m gil>m/	(h <u>a</u> y <u>g</u> m g <u>i</u> l <u>m</u>)	'edible bamboo'
/hajaluy/	(haj <u>a</u> luy)	'kind fern'
/kajgawuy/	(kaj <u>g</u> a wuy)	'fire place'
/h>y>/	(h <u>></u> y <u>></u>)	'place name'

/gɔŋgɔlɔn/	(gɔŋgɔlɔn)	'towards you'
/meŋet/	(mɛŋɛt')	'all you hold!'
/heŋgɛgom/	(hɛŋgɛŋgam)	'straightening'
/niŋe/	(nɛŋe)	'who is that?'
/niŋge/	(nɛŋge)	'place name'
(u) and (w)		

/mɔluat/	(mɔluat')	'kind bird'
/hɛwam/	(hɛwam)	'tree kangaroo'
/guguxɔp/	(guguxɔp')	'it hit you'
/guguxɔp/	(guguxɔp')	'it hit you'
/guguwɔp/	(guguwɔp')	'mind it does not hit you'
/mɔduɔn/	(mɔduɔn)	'place name'
/hɔw /	(hɔw)	'gum tree'
/luguep/	(luguep')	'he filled it'
/sewet/	(sewet')	'kind of tree'
/buaŋ/	(buaŋ)	'water cress'
/hawalay/	(hawalay)	'thin'

/h/ and /zero/

/hɔmboi/	(hɔmboi)	'later'
/ɔmboi/	(ɔmboi)	'woman' (east dialect)
/hain/	(hain)	'like that'
/ain/	(ain)	'over there'
/hin/	(hin)	'like this'
/in/	(in)	'here'
/hɔlipɛ/	(hɔlipɛ)	'long nails'
/ɔlipɛ/	(ɔlipɛ)	'good'
/hat/	(hat')	'bush'

/ata/	(<u>a</u> ta ^h ₇)	'village road'
/hɔwɔ/	(<u>h</u> ɔwɔ)	'gum tree'
/ɔwoiŋe/	(<u>ɔ</u> w oiŋe)	'light'
/hewun/	(<u>h</u> ewun)	'kind animal'
/egun/	(<u>e</u> gun)	'up there'
/higene/	(<u>h</u> igene)	'smell'
/igi/	(<u>ɪ</u> gi)	'bite him!'

1.2. Contrasts of vowels

/e/ and /i/

/ekbe/	(ɛkb <u>e</u>)	'may I look'
/ekbi/	(ɛkb <u>i</u>)	'they looked & see.'
/imen/	(ɪm <u>e</u> n)	'head lice'
/imin/	(ɪm <u>i</u> n)	'garden name'
/esen pudek/	(ɛsɛn p ^h ur <u>e</u> k)	'kind taro'
/puɛiktɔp/	(pur <u>i</u> ktɔ ^h > p)	'it turned over'
/mendekom/	(m <u>i</u> ndɛk <u>o</u> m)	'kind Fern'
/mindugum/	(m <u>i</u> ndu <u>g</u> um)	'all together'
/bembe/	(b <u>e</u> mbe)	'place name'
/bimbi/	(b <u>i</u> mbi)	'to worry'

/a/ and /ə/

/nam/	(n <u>a</u> m)	'pandanus'
/nem/	(n <u>ə</u> m)	'village name'
/hamam/	(h <u>a</u> ma <u>m</u>)	'wild raspberry'
/hemem/	(h <u>ə</u> m <u>ə</u> m)	'cliff'
/masan/	(m <u>a</u> sa <u>n</u>)	'forrest'
/mesen/	(m <u>ə</u> s <u>ə</u> n)	'grass lands'
/badak/	(b <u>a</u> ra <u>k</u>)	'froth'
/bedɛɛk/	(b <u>ə</u> r <u>ə</u> r <u>ə</u> k)	'to shed leaves'
/ga/	(g <u>a</u>)	'come up'
/ge/	(g <u>ə</u>)	' ge come down'
/lepat/	(l <u>e</u> p <u>a</u> t)	'many children'
/lepet/	(l <u>ə</u> p <u>ə</u> t)	'place name'

/a/ and /ɔ/

/katmat/	(k ^h atmat)	'do you put this?'
/k>tm>t/	(k ^h tm>t')	'garden name'
/adiman/	(ariman)	'I always go'
/adimɔn/	(arim _n)	'when going'
/ga /	(ga)	'come up'
/g>/	(g>)	8 'you'
/alawut /	(alawut')	'kind bird'
/>l>wu/	(>l>wu)	'three'
/alikne/	(alikne)	'shoot'
/>lipne/	(>lipne)	'good'
/am>/	(am>)	'it is'
/>m>/	(>m>)	'however'

/o/ and /ɔ/

/bedo/	(bɛro/	'to eat'
/ber>/	(bɛr>)	'future'
/dop/	(dop)	'quick'
/d>p/	(d>p)	'road'
/adiwot/	(ariwot')	'you may go'
/adi wɔt/	(arɛwɔt')	'you must not go'
/ombɔy/	(ombɔy)	'house walls'
/>mb>m/	(>mb>m)	'kind tree'
/somsom/	(sɔmsɔm)	'kind food'
/s>m s>m/	(s>m s>m)	'Sarawaged mountains'

/o/ and /u/

/gotop/	(got ^h op)	'kind tree'
/gut /	(gut ^h)	'come here'
/ode/	(ore)	'to cut'
/udə/	(ure)	'forrest'
/gol>k/	(gol>k')	'alive'
/gul>k/	(gul>k')	'he must come'
/togo>t/	(t ^h oyot')	'have you come'
/tug>t/	(t ^h uyot')	'for water'
/omb on/	(Ambon)	'house walls'
/umbun/	(umbun)	'kind flower'

12 Sample text

/udan Meik	net	iden	togode	Meikne	hind>ep	[phonetic]
(uran me ⁱ k	net	iren	toɣore	me ⁱ kne	hind>ɛp	[phonetic]
uran meik	net	iren	togore	meikne	hindaep	[orthographic]

'Yesterday Mik we here I coming Mik this said

/adi	dʷɔŋgen	edi	me	kiɔ	me	kiɔbo nɔŋɔn
(ari	dʷɔndzɛn	eri	mɛ	kiɔ	mɛ	kiɔbo nɔŋɔn
ari	dawangen	eri	me	kiā	me	kiābo nangan

'there on the road flower etc. what I don't know

/ade	ketugude	togode.	togodɛdɔmbo
(are	kɛtuyure	tʰoɣore	tʰoɣorɛrambo
are	ketugure	togore	togorerambo

'that I writing we must return. We returning he said &

/ide ⁱ wa	adiwedɔm	kinmɔ	nɔŋge	magaɔŋɔn
(irɛva	ariverɔm	kɛɔnm	nɔŋge	mayanɔn
irewa	ariweram	kinma	nange	magangan

'from there wanting to go I said to him

/g>nge kisi are ningmen> n>nge kigim
 (g>nge kisi are ningmen> n>nge kigim
 ^
 g>nge kisi are ~~hang~~ningmenâ nânge kigim
 "you ax that one give me & I so as not to have
 empty hands

/membe - a>de adiyoot.

(membe - r>re arizeet:

membe rare ariyeot

I hold" Isaid & we went.

Free translation

I came here yesterday and Mick said, "Let's go up the road
 and any flower etc. I don't know the name of I shall write
 down and we shall come back. When we were ready to go I
 said, "give me an ax for some thing to carry" and we left.