

ON THE PHONOLOGY OF THE TORAJA KESU? DIALECT

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1 Kesu? belongs to the so-called Tae? or Sa?dan Toraja (South-Sulawesi). It is spoken in the kabupaten of Tana Toraja (appr. 365 km. from Ujung Pandang) in the kecamatan of Sanggalangi (appr. 50.000 inhabitants)¹ in the desas Tikunna Malenong and Nonongan (see map I). It is one of a group of

closely related dialects which vary for the most part in (sub)phonemic variation and lexicon. See map II for the distribution of the dialects in the kabupaten Tana Toraja (Tator). Kesu? is spoken by approximately 11.000 speakers; see chart 1.

name of desa	name of village	number of households	number of speakers			
			adults		children	
			male	female	male	female
Tikunna Malenong:	Angin-Angin	372				
	Pao	191				
	Ba?tan	286				
	Tonga	136	1888	2006	1779	1717
	Bonoran	287				
	Tadongkon	176				
	Sangbuia?	120				
Nonongan:	Kadundung	170				
	Maruang	79	950	980	1090	1006
	Kanuruau	269				
	Sangpolo Bungin	166				
		2252	2838	2986	2869	2723
						11416

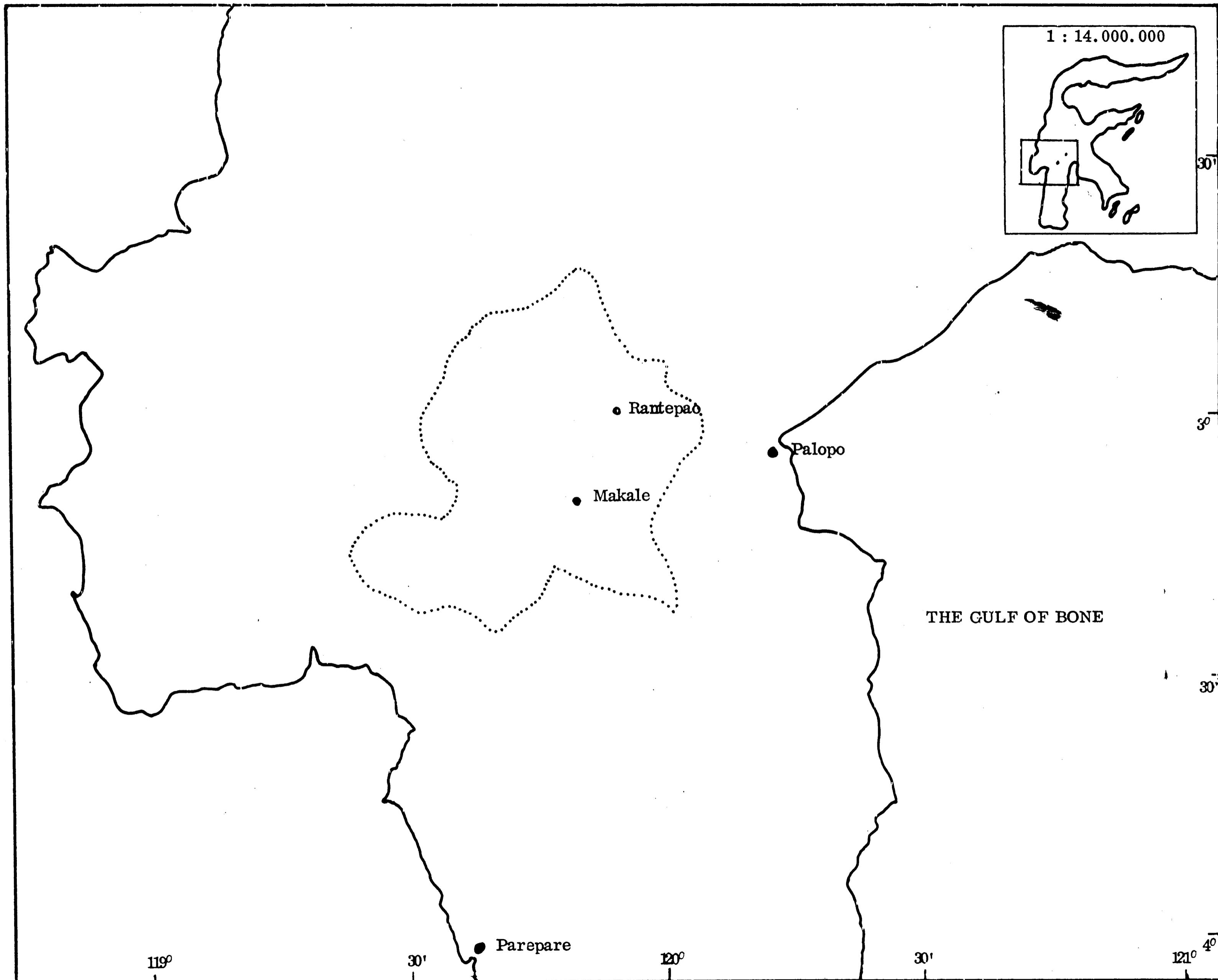
Chart 1

2 Anthropological and linguistic research has already been conducted in the southern Toraja area by such outstanding scholars as Van der Veen, Adriani, Pakan, Watuske and others (see bibliography). We would like to draw the attention of the reader in this context to the Mededelingen vanwege het Nederlandsch Zendelinggenootschap (Rotterdam) where much valuable material can be found. It is hoped that this paper may in a way add to the wealth of data already gathered.

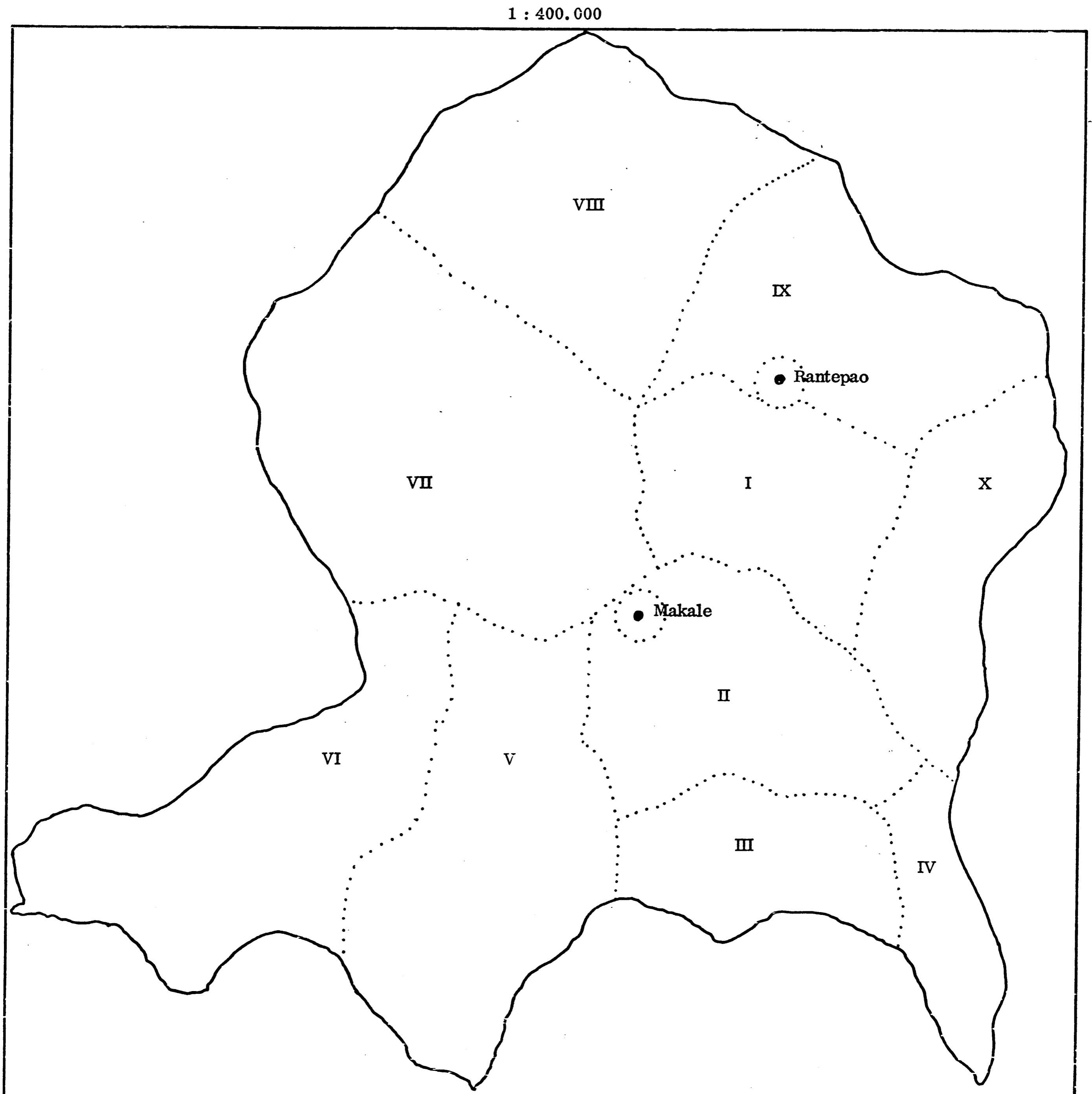
For historical and cultural reasons the Kesu? dialect enjoys a certain prestige. It is the language used by the protestant mission for the dissemination of its religious views (Van der Veen: 1940). In the Toraja dictionary (Van der Veen: 1940, Tammu, Van der Veen: 1972) a great amount of data originates from the Kesu? area and in the kabupaten

Tator the dialect functions more or less as standard, since it is used as the teaching medium in the first three years of the primary school and is taught as a subject in secondary schools (SLTA).

In official, formal situations at kabupaten level the Indonesian language is usually spoken, but on other occasions the local language Toraja. There are many Toraja speakers who do not speak the national language or have only a passive knowledge of it. The greater the distance from the local centers of Rante Pao and Makale and the mainroad which connects both cities, the smaller the influence of Indonesian becomes: during a field trip in 1976/1977 Sande found that 60 percent of all informants were monolingual.



Map I: Location of Toraja Kesu? dialect
..... boundary of Kabupaten of Tana Toraja (Tator)



Map II : showing the approximate distribution of Toraja dialects in the Kabupaten Tana Toraja (Tator)

I	Kesu?	VI	Simbuang
II	Makale	VII	Rembon-Bittuang
III	Gandangbatu	VIII	Pangala? - Riu
IV	Uluwai	IX	Sa?dan-Balusu
V	Buakayu-Mappa?	X	Sangangngalja?

e = linguistically mixed area

3 Sande, a native speaker of the Kesu? dialect, supplied the data for the preparation of this paper which also draws heavily on his study on the subject (Sande: 1976/1977). Besides his native dialect he also speaks both Indonesian and English. The materials used in this paper were gathered during a Seminar on dialectology held under the auspices of the Pusat Pembinaan dan Pengembangan Bahasa (National centre for language development), Jakarta.

4 As theoretical framework the theories of Trubetzkoy and Ebeling are chosen:

N. S. Trubetzkoy

1939 Grundzüge der Phonologie, Prague

C. L. Ebeling

1960 Linguistic units, The Hague

See also:

W. A. L. Stokhof

1975 'Notes on the Bahasa Indonesia Phonology', Bijdragen KITLV 131 (2/3), The Hague

The following symbols have been used:

- ' → ' 'is realized as'
- ' C- ' 'unreleased consonant'
- ' ≠ ' 'wordboundary'
- ' ' ' place of the stress (single quotation mark in front of the pertinent syllable)'
- ' - ' 'relevant position in the syllable (or word)'
- ' ~ ' 'in free variation with'

5 Chart of phonemes

		continuants									
		orals					resonants				
		stops	trill	nasals	fricative	labial	glides	centrals			vowels
non-glossal	labial	p t	b d	m n ŋ	s	l	w v	u i	o e	a	
alveol.		k g		r			y				
palat.											
velar											
glottal		?									

Chart 2

Commentary. /ty/ and /dy/ are marginal phoneme clusters occurring in Indonesian loanwords such as /dyam/ 'watch, o'clock' (~yam/). These sequences have not been indicated in the chart. The same holds for /h/ which is very rare and occurs in exclamation only.

6 Stress

Stress is a rather complex phenomenon in /'kesu?/ and a full description falls outside the scope of this paper. We therefore confine ourselves to a few general remarks.

The place of the stress is distinctive:

- | | |
|-----------------------------|--|
| /'talomo/ 'he has lost' | /'alai/ 'to take it' |
| /ta'lomo/ 'we go, let's go' | /a'lai/ 'to rob, to plunder' |
| /'kandemi/ 'eat!' | /'ba?bak/ 'to flap the wings' |
| /kan'demi/ 'your food' | /ba?'bak/ 'mocking reference to deaf person' |
| /'pakena?/ 'use me' | /'ula?i/ 'go with him' |
| /pa'kena/ 'to deceive' | /u'la?i/ 'chase him off' |

In general the stress falls on the penultimate syllable of the word base and remains there in case of suffixation and/or prefixation.

- | | |
|------------|---------------------------|
| /'uru?/ | 'to massage' |
| /'uru?na?/ | 'to massage me' |
| /'uru?mi/ | 'please massage' |
| /pe'uru?/ | 'object used for massage' |

- | | |
|-------------------|----------------|
| /'kande/ | 'to eat, food' |
| /ku'kande/ | 'I eat' |
| /ku'kandemo/ | 'I have eaten' |
| /laku'kande/ | 'I shall eat' |
| /'tiro/ | 'to see' |
| /pa'tiro/ | 'who sees' |
| /ma?pope'tiro/ | 'examine!' |
| /ma?pope'tirona?/ | 'examine me' |
| /'tirona?/ | 'to see me' |

However, with certain suffixes the stress shifts one place to the right.

- | | |
|-------------|------------------------------------|
| /kan'deku/ | 'my food' |
| /kade'ramu/ | 'our chair' < /ka'dera/ 'chair' |
| /mua'neta/ | 'our husband' < /mu'ané/ 'husband' |
| /peu'ru?ku/ | 'my object used for massage' |

- | | |
|--------------|---|
| /a'lan/ | 'crop' < /'ala/ 'to take' etc. (see V.d. Veen 1940) |
| /pati'roan/ | 'he who helps, assists' |
| /ti'roanna?/ | 'help me!' |

Chart of consonant sequences

	p	b	m	w	t	d	r	n	s	i	y	k	g	ŋ	?
p	x														
b		x	x	x											
m			x												
w				x											
t					x										
d						x									
r						x	x	x							
n							x								
s								x							
l									x						
y										x					
k											x				
g											x	x	x		
ŋ											x	x	x		
?	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

Chart 3

7 Commentary to Chart 3

In this chart all attested consonant clusters are indicated with the exception of those in loans, such as /sdi/ 'haji' (Indonesian), /'wahyu/ 'Revelation', and compounds. Consonant clusters are found at syllable boundaries only (/V - V/). The following sets can be distinguished:

7.1 Glottal consonant plus supraglottal consonant:

- /?p/ : /'ra?pak/ 'collapsed'
- /?b/ : /'bo?bo?/ 'cooked rice'
- /?m/ : /'ma?mik/ 'more delicious'

/?w/	:	/ma ?'wiwi/	'to play with water'
/?t/	:	'la ?ta ?/	'to crackle'
/?d/	:	'pa ?de/	'lost'
/?r/	:	'ba ?ru/	'new'
/?n/	:	'le ?na/	'a snub nose'
/?s/	:	'le ?sa/	'to be silent'
/?l/	:	'pa ?lak/	'garden'
/?y/	:	'ma ?yo/	'that is so'
/?k/	:	'bo ?kok/	'a hardened thief'
/?g/	:	'ga ?ga/	'(more) handsome'
/?ŋ/	:	'ba ?ŋe/	'to speak too much'
/??/	is wanting		

chart 3. Any syllable type may occur in any position in a word or may constitute a whole word. Words up to six syllables have been observed:

/do/	'on'
'dodo/	'sarung'
/do'doku/	'my sarung'
/ma ?ta'rampak/	'adat feast'
/ma ?tedon?tedon/	'to butt each other, to charge head first'
/ma ?pope'tirona ?/	'examine me !'

Consonant distribution

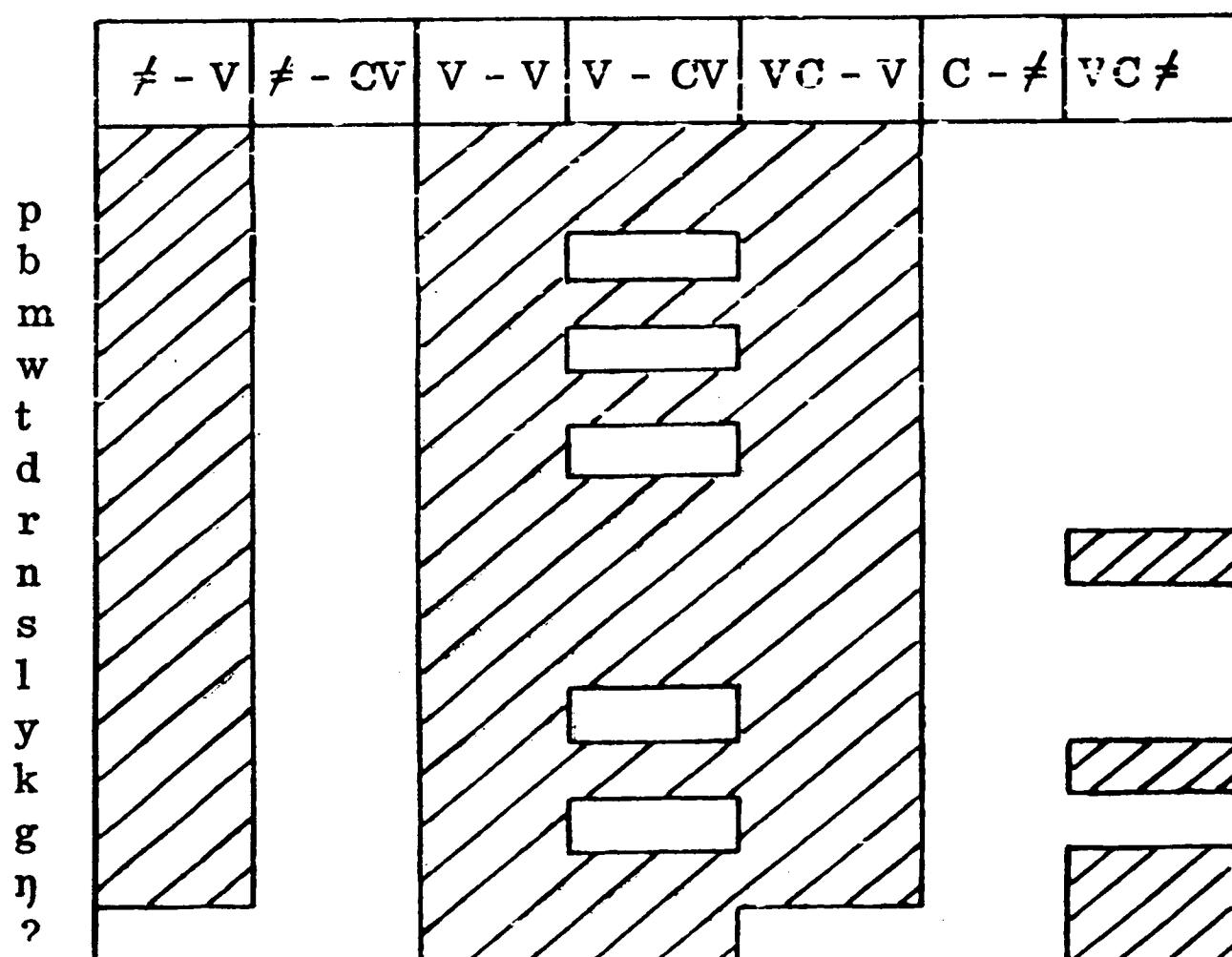


Chart 4

Note: In this chart loans such as /es/ 'ice', /dyam/ 'o'clock' are left out of consideration.

shaded = attested instances

9 Consonant phonemes: realizations

9.1 Labials

9.1.1 /p/ → [p] unasp. vl. bilabial stop:

['papa ?]	'father'	'papa ?/
['api]	'fire'	'api /
['pipl ?]	'to become narrower'	'pipl ?/
['ra ?pak-]	'collapsed'	'ra ?pak /

9.1.2 /pp/ → [p:] prolonged unasp. vl. bilabial stop:

['lap:o?']	'collision'	'lappo ?/
['lap:a?']	'seeking solitude'	'lapna ?/
['lep:o?']	'to tap'	'leppo ?/

9.1.3 /b/ → a)[b] vd. bilabial stop, b)[b] vd. bilabial fricative.

9.1.3.1 [b~b̚] in all possible positions except in [C-(V)]³:

['b̚ə?bə?']	'cooked rice'	'bo ?bo ?/
['bara ?, 'bora ?]	'unhusked rice'	'bara ?/
['b̚ə?bək-, 'b̚ə?bək-]	'deaf and dumb'	'be ?bek /

9.1.3.2 [b] in all positions:

['la ?bə?']	'parang'	'la ?bo ?/
['lamba ?']	'to release, to set free'	'lamba ?/

/?w/	:	/ma ?'wiwi/	'to play with water'
/?t/	:	'la ?ta ?/	'to crackle'
/?d/	:	'pa ?de/	'lost'
/?r/	:	'ba ?ru/	'new'
/?n/	:	'le ?na/	'a snub nose'
/?s/	:	'le ?sa/	'to be silent'
/?l/	:	'pa ?lak/	'garden'
/?y/	:	'ma ?yo/	'that is so'
/?k/	:	'bo ?kok/	'a hardened thief'
/?g/	:	'ga ?ga/	'(more) handsome'
/?ŋ/	:	'ba ?ŋe/	'to speak too much'
/??/	is wanting		

7.2 Nasal consonant plus homoorganic occlusive:

/mp/	:	'tampak/	'end, tip'
/mb/	:	'lombok/	'valley'
/nt/	:	'lanta ?/	'to break something up with a crowbar'
/nd/	:	'landa ?/	'to achieve'
/ŋk/	:	'aŋka ?/	'to lift'
/ŋg/	:	'anga ?/	'selfrespect'

7.3 Velar nasal plus alveolar stop or alveolar oral:

/ŋt/	:	'tarṭi/	name of village
/ŋd/	:	'lando/	'sworn'
/ŋs/	:	'laŋsa ?/	'langsat'
/ŋl/	:	'baŋle/	a sort of medicine

7.4 All non-central continuant consonants and the functionally voiceless non-continuant consonants have long counterparts which are here phonemically interpreted as clusters of two identical units.

/li/	:	'pallak/	'bitter'
/ss/	:	'lisse/	'nit'
/rr/	:	'barra ?/	'unhusked rice'
/nn/	:	'lenna ?/	'to die suddenly'
/mm/	:	'tamma/	'to chew'
/ŋŋ/	:	'baŋŋa/	'to open'
/pp/	:	'lappu ?/	'top of <u>lemang</u> which comes out of the bamboo container'
/tt/	:	'latta ?/	'to jump'
/kk/	:	'bakka ?/	'to hesitate'

8 Syllable structure

The basic syllable pattern is (C₁) V (C₂) which yields four syllable types:

1. /V/	:	'ala/	'to take'
		'ulu/	'head'
2. /CV/	:	'do/	'on'
		'dodo/	'sarung'
		'doan/	'something which is in top'
3. /VC/	:	'anta ?/	'to convey'
		'ampo/	'grandchild'
		'arra ?/	'to bind tightly'
4. /CVC/	:	'le ?sa/	'to be silent'
		'tampak/	'end'
		'lenna ?/	'to die suddenly'

In word initial position C₁ includes all consonants except /?/. In word final position C₂ stands for /k, ?, n, ŋ/, see chart 4²; manifestation of sequences /C₂C₁/ at syllable boundaries is restricted to those combinations indicated in

9.1.3.1 [b~b̚] in all possible positions except in [C-(V)]³:

['b̚ə?bə?']	'cooked rice'	'bo ?bo ?/
['bara ?, 'bora ?]	'unhusked rice'	'bara ?/
['b̚ə?bək-, 'b̚ə?bək-]	'deaf and dumb'	'be ?bek /

9.1.3.2 [b] in all positions:

['la ?bə?']	'parang'	'la ?bo ?/
['lamba ?']	'to release, to set free'	'lamba ?/

9.1.4 /m/	→ [m] vd. bilabial nasal consonant:
[toma]	'to enter'
[mamak-]	'to make a din'
[lambi?]	'to overtake'
[lampak-]	'fate'
[ma?mik-]	'delicious'

9.1.5 /mm/	→ [m:] prolonged vd. bilabial nasal:
[tam:a]	'to chew'
[tam:u]	'to meet'
[t̩m:ɛ?]	'to press'

9.1.6 /w/	→ [w] bilabial approximant:
[wati]	'larva of the Rhinoceros beetle'
[kawa?]	'wire'
[wi]	'water'
[ma?'wui]	'to play with water'

9.2 Alveolars

9.2.1 /t/	→ [t] vl. unasp. apico-alveolar stop,
[t̩ ~ t̩]:	[t̩] vl. unasp. apico-postalveolar stop.

[tati?], [t̩ati?]	'tapering'	/'tati?/
[todo], [t̩odo]	'to stumble'	/'todo/
[lanta?], [l̩anta?]	'to pound rice'	/'lanta?/
[tanti], [t̩anti]	name of village	/'tanti/
[ma?'tIndo], [ma?'t̩Indo]	'to dream'	/ma?'tindo/
[ta?tak-], [ta?t̩ak-]	'to chop up meat'	/'ta?tak/

9.2.2 /t̩/	→ [t̩:] prolonged vl. unasp. apico-alveolar stop,
[t̩ ~ t̩]:	[t̩:] prolonged vl. unasp. apico-postalveolar stop.

[lat:a?], [lat̩:a?]	'to jump'	/'latta?/
[lot:ɔŋ], [l̩ot:ɔŋ]	'black'	/'lotton/
[lit:I?], [lit̩:I?]	kind of ant	/'litti?/

9.2.3 /d/	→ [d] vd. apico-alveolar stop:	
[lada]	'chilli'	/'lada/
[si'dadu]	'gambling'	/'si'dadu/
[landa?]	'to hit the target, to reach'	/'landa?/
[l̩anda]	name of a village	/'l̩anda/
[da?da?]	'always'	/da?da?/

9.2.4 /r/	→ [r] vd. apico-alveolar trill,
[r̩ ~ r̩]:	[r̩] vd. apico-postalveolar trill.

[rara], [r̩ara]	'blood'	/'rara/
[arak-], [r̩arak-]	'to conscript'	/'arak/
[ruru], [r̩uru]	'to find'	/'ruru/
[rari], [r̩ari]	'war'	/'rari/
[ri?rok-], [r̩i?rok-]	'to scoop cut a hole with a fine sharp object'	/ri?rok/

9.2.5 /rr/	→ [r̩:] prolonged vd. apico-alveolar trill,
[r̩ ~ r̩]:	[r̩:] prolonged vd. apico-postalveolar trill.

[ar:ak-], [ar̩:ak-]	'to shout for joy'	/'arrak/
[pur:u?], [pur̩:u?]	'tangled'	/'purru?/
[kir:o?], [kir̩:o?]	'cross-eyed'	/'kirro?/

9.2.6 /n/	→ [n] vd. apico-alveolar nasal,	
[n ~ n̩]:	[n̩] vd. apico-postalveolar nasal.	
[nana], [n̩ana]	'pus'	/'nana/
[nonok-], [n̩onok-]	'to draw a sword'	/'nonok/
[lalan], [l̩alan]	'way, road'	/'lalan/
[lolon], [l̩olon]	'to swallow'	/'lolon/
[lan], [l̩an]	'inside'	/lan/
[lo?na], [l̩o?na]	'let it be'	/'lo?na/
[landa?], [l̩anda?]	'to hit a target, to reach'	/'landa?/
[lonto?], [l̩onto?]	'swollen'	/'lonto?/

9.2.7 /nn/	→ [n:] prolonged vd. apico-alveolar nasal,	
[n: ~ n̩:]	[n̩:] prolonged vd. apico-postalveolar nasal.	
[lenna?], [l̩enna?]	'to die suddenly'	/'lenna?/
[ronno?], [r̩onno?]	'to fall(of fruit)'	/'ronno?/
[ba'rIn:I?], [ba'r̩In:I?]	'smaller'	/ba'rinni?/

9.2.8 /s/	→ [s] vl. lamino-alveolar grooved fricative:	
[sasa?]	'to slice'	/'sasa?/
[siruk-]	'spoon'	/'siruk/
[lansa?]	'langsat'	/'lansa?/
[ba?se?]	'to speak out'	/'ba?se?/
[be?se?]	'to mock'	/'be?se/
[tas]	'briefcase'	/tas/
[es]	(Indonesian tas)	/es/
	'ice' (Indonesian es)	/es/

9.2.9 /ss/	→ [s:] prolonged vl. lamino-alveolar grooved fricative:	
[los:ɔ?]	'earth'	/'losso?/
[los:ɔk-]	'to undress'	/'lossok/
[lis:I?]	'clitoris'	/'lissi?/
[kis:ak-]	'to cheep'	/'kissak/

9.2.10 /l/	→ [l] vd. apico-alveolar lateral,
[l ~ l̩]:	[l̩] vd. apico-postalveolar lateral.

[lolon], [l̩olon]	'to flow'	/'lolon/
[lilin], [l̩ilin]	'to encircle'	/'lilin/
[liliu], [l̩iliu]	'bored'	/'liliu/
[le?len], [l̩e?len]	'startled'	/'le?len/
[banjE], [banj̩E]	kind of medicine	/'banjE/
[ti'donlo?], [ti'don̩lo?]	'to fall aslant (of beams etc.)'	/ti'donlo?/

9.2.11 /ll/	→ [l:] prolonged vd. apico-alveolar lateral,	
[l:]	prolonged vd. apico-postalveolar lateral.	
[al:a?], [al̩:a?]	'place between two or more objects, interstices'	/'alla?/
[pelle?], [p̩elle?]	"sleep" (excretion in eye)	/'nelle?/
[illon], [il̩lon]	'nose'	/'illon/

9.3 Palatal

/y/	→ [i]: lamino/fronto-palatal approximant:	
[qiaq-]	'waist'	/'ayak/
[ciɔŋ]	'to sacrifice'	/'oyon/
[iɔlɛ?]	'that is right'	/'yole?/
[ma?iɔ]	'has agreed'	/'ma?yo/

9.4 Velars

9.4.1 /k/ → [k-] unreleased vl. unasp. dorso-velar stop, [k] vl. unasp. dorso-velar stop.

9.4.1.1 [k- ~ k] in [-ʃ]:

- [bækak-, 'bækak] 'cockatoo'
- [unak-, 'unak] 'heartwood'
- [ənak-, 'ənak] 'child'

9.4.1.2 [k] everywhere else:

- | | | |
|-----------|-----------------------|-----------|
| ['kakə] | 'a tear (in clothes)' | /'kake/ |
| ['kækə?] | 'to bite' | /'keke?/ |
| ['bækak] | 'cockatoo' | /'bekak/ |
| ['ba?ka?] | 'to increase' | /'ba?ka?/ |
| ['aŋka?] | 'to lift up' | /'aŋka?/ |

9.4.2 /kk/ → [k:] prolonged vl. unasp. dorso-velar stop:

- | | | |
|-----------|--------------------|-----------|
| ['bak:a] | 'to open' | /'bakka/ |
| ['bok:o?] | 'stunted' | /'bokko?/ |
| ['sɛk:o?] | 'smell of armpits' | /'sekko?/ |

9.4.3 /g/ → [g] vd. dorso-velar stop,
[ɣ] vd. dorso-velar fricative.

9.4.3.1 [g ~ ɣ]: in all possible positions except in [C-(V)]:⁴

- ['go?go?'] 'to drink too much water' /'go?go?/'
- [ga'rɔŋgon, ɣa'rɔŋgon] 'large and deep hole in the ground' /ga'rɔŋgon/

9.4.3.2 [g] in all positions:

- | | | |
|-------------|---------------------------|-------------|
| ['ga?ga] | 'handsome' | /'ga?ga/ |
| ['ga?ga?] | 'virile' | /'ga?ga?/ |
| ['ga?gak] | 'superlative of virile' | /'ga?gak/ |
| [ma'gɔ?go?] | 'to drink too much water' | /ma'go?go?/ |

9.4.4 /ŋ/ → [ŋ] vd. dorso-velar nasal:

- ['ŋaña] 'to gape' /'ŋaña/

- [mɛ'ŋaña] /'ŋaña/
- ['udur] /'udur/
- ['il:ɔŋ] /'illon/
- ['ba?ŋɛ?] /'ba?ŋe?/
- ['linŋka] /'linŋka/

9.4.5 /ŋŋ/ → [ŋ:] prolonged vd. dorso-velar nasal:

- | | | |
|-----------|---------------------------|-----------|
| ['laŋŋa] | 'up' | /'laŋŋa/ |
| ['biŋŋi?] | 'to open violently' | /'biŋŋi?/ |
| ['beŋŋa?] | 'to take slivers of wood' | /'beŋŋa?/ |
| ['baŋŋa?] | 'to open carefully' | /'baŋŋa?/ |

9.5 Glottal

/ʔ/ → [?] glottal stop:

- | | | |
|------------|-----------------------------------|------------|
| [ma'ʔoto] | 'to drive a car' | /ma'ʔoto/ |
| ['bɪʔbɪ?] | 'to encoil' | /'bɪʔbɪ?/ |
| ['boko?] | 'to back' | /'boko?/ |
| [bo'ko?ku] | 'my back' | /bo'ko?ku/ |
| ['teka?] | 'to climb (a tree)' | /'teka?/ |
| ['beke?] | 'sarung wrapped around the waist' | /'beke?/ |
| ['ulu?] | 'friend, kinsman' | /'ulu?/ |

9.6 Marginal sounds

9.6.1 /h/ → [h] vl. glottal fricative:

- [ha:] Indonesian wah! (very rare) /ha/

9.6.2 /ty/ → [c] vl. unasp. fronto-palatal stop (in loans only):

- ['cama?'] 'head of the subdivision /'tyama?/ below regency'

9.6.3 /dy/ → [j] vd. fronto-palatal stop (in loans only):

- | | | | |
|----------------|-----------|-------------------|--|
| [j ~ i:] | | | |
| ['jɛsu, 'iɛsu] | 'Jesus' | /'dyesu/, /'yesu/ | |
| ['jam, ɿam] | 'o'clock' | /dyam/, /yam/ | |
| ['jaŋa, 'iŋa] | 'Java' | /'dyawa/, /'yawa/ | |

9.7 Approximative phonetic chart

non - cont.						continuant									
stop		trill		nasal		fricative		oral		resonant					
non-L	L	non-L	L	non-L	L	non-L	L	non-L	L	non-L	L	non-L	L	non-L	L
bilabial														u ¹⁾	
	p b	p: b				m	m:	b						u	
apico-alveolar	t d	t: d	r	r:	n	n:				l	l:				
apico-postalveolar	t̪	t̪:	r̪	r̪:	n̪	n̪:				l̪	l̪:				
lamino-alveolar										s	s:				
fronto-palatal	c ²⁾	j ²⁾													
fronto/lamino palatal														i̪ ¹⁾	i̪ ¹⁾
dorso-velar	k k- g	k: k-			ŋ	ŋ:	χ								
glottal	?						h ³⁾								

Chart 5

- 1) [u] and [i] (glides) are not distinctive in the position [uV, iV], respectively:

['pi <u>ə</u>]	'baby'	/'pia/
['pi <u>ɔ̄</u>]	'glutinous rice and coconut milk cocked in bamboo tube'	/'pion/
['di <u>ə</u>]	'below'	/'dien/
['li <u>ə</u>]	'tomb'	/'lian/
['bi <u>ə</u>]	'orphan'	/'biun/
['tu <u>ə</u>]	'to live'	/'tuo/
['u <u>ə</u> i]	'water'	/'ui/
['u <u>ə</u> ɛ̄]	call for dogs	/'ue?/
['bu <u>ə</u> a]	'fruit'	/'buia/
['bu <u>ə</u> ai]	'to throw away'	/'buain/

- 2) [c] and [j]: only in loans

- 3) [h] in interjection or exclamatory fragments; very rare:
[ha!] Indonesian wah

10 Consonant phonemes: oppositions

10.1 /p/

10.1.1 non continuant vs. continuant:

/p/ vs /m/ : /'pali?/ 'to expel'	vs /'mali?/ 'longing'
/p/ vs /w/ : /'sapi/ 'ox'	vs /'sawi/ 'mustard'
/p/ vs /r/ : /'topo/ 'hungry'	vs /'toro/ 'hard(of stones etc.)'
/p/ vs /n/ : /'pana/ 'bow and arrow'	vs /'nana/ 'pus'
/p/ vs /s/ : /'palu/ 'hammer'	vs /'salu/ 'river'
/p/ vs /l/ : /'polo/ 'broken, snapped'	vs /'lolo/ 'shoots'
/p/ vs /y/ : /'patu/ 'direction'	vs /'yatuh/ 'that'
/p/ vs /ŋ/ : /'peon/ 'to cook in bamboo container'	vs /'neon/ 'sound produced by cat, miaow'

10.1.2 labial vl. stop vs. labial vd. stop:

/p/ vs /b/ : /'palu/ 'hammer'	vs /'balu/ 'widow(er)'
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10.1.3 labial vs. alveolar:

/p/ vs /t/ : /'pampa?/ 'to strike'	vs /'tampa?/ 'to bang one's head'
/p/ vs /d/ : /'topo/ 'hungry'	vs /'dopo/ 'to stumble'

10.1.4 labial vs velar:

/p/ vs /k/ : /'polo/ 'broken'	vs /'kolo/ 'cabbage'
/p/ vs /g/ : /'poli?/ 'to scrape together'	vs /'goli?/ 'marbles'

10.1.5 labial vs glottal:

/p/ vs /ʔ/ : /'polo/ 'broken'	vs */ʔolo/
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10.1.6

/p/ vs /pp/ : /'lapa?/ 'to stand in the way, to close'	vs /'lappa?/ 'to entrust'
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10.1.7

/p/ vs /ʔp/ : /'lapu?/ 'to be full of'	vs /'laʔpu?/ 'snot'
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10.2 /b/

10.2.1 Non-cont. vs continuant:

/b/ vs /m/ : /'bata/ 'suspicious'	vs /'mata/ 'eye'
/b/ vs /w/ : /'bai/ 'to carry'	vs /'wai/ 'water'
/b/ vs /r/ : /'babu/ 'earrings'	vs /'bara?/ 'typhoon'
/b/ vs /n/ : /'baran/ 'winnowing tray'	vs /'naran/ 'horse'
/b/ vs /s/ : /'bara?/ 'typhoon'	vs /'sara?/ 'the state of being busy'
/b/ vs /l/ : /'bona/ 'speckled, mottled (of buffalo):'	vs /'lonja/ 'curved gable of Toraja house'
/b/ vs /y/ : /'babu/ 'mouth of cylindrical container'	vs /'baya/ 'to weed'
/b/ vs /ŋ/ : /'banya/ 'sort of tree'	vs /'ŋanya/ 'to gape'

10.2.2 labial vd. stop vs. labial vl. stop see 10.1.2.

10.2.3 labial vs alveolar:

/b/ vs /t/ : /'banke/ 'injury'	vs /'tanke/ 'branch'
/b/ vs /d/ : /'batu/ 'stone'	vs /'datu/ 'king, chief'

10.2.4 labial vs velar:

/b/ vs /k/ : /'boko/ 'back' (n)	vs /'koko/ 'to sleep with someone'
/b/ vs /g/ : /'bara?/ 'typhoon'	vs /'gara?/ 'a white fleck in buffalo's eye'

10.2.5 labial vs glottal:

/b/ vs /ʔ/ : /'baya/ kind of tree	* /'ʔanya/
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10.2.6

/b/ vs /ʔb/ : /'baba?/ 'earrings'	vs /'baʔba?/ 'seed'
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10.3 /m/

10.3.1 continuant vs labial non-continuant:

/m/ vs /p/ see 10.1.1	
/m/ vs /b/ see 10.2.1	

10.3.2 labial nasal vs labial oral:

/m/ vs /w/ : /'mai/ 'come here'	vs /'wai/ 'water'
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10.3.3 labial vs alveolar:

/m/ vs /t/ : /'manda?/ 'tight, taut'	vs /'tanda?/ 'to accuse'
/m/ vs /d/ : /'raman/ 'to hold'	vs /'radan/ 'to cook something in its own juice'

/m/ vs /r/ : /'moro?/ 'to lose heart'	vs /'toro?/ 'stake'
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/m/ vs /n/ : /'maran/ 'thirsty'	vs /'narang/ 'horse'
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/m/ vs /s/ : /'mandu/ 'tight, taut'	vs /'sanda?/ 'few, little'
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/m/ vs /i/ : /'mate/ 'to die'	vs /'late/ 'to bend'
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10.3.4 labial vs palatal:

/m/ vs /y/ : /'matu/ 'to crack, to bang'	vs /'yatuh/ 'that'
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10.3.5 labial vs velar:

/m/ vs /k/ : /'mila?/ 'edge'	vs /'kila?/ 'lightning'
/m/ vs /g/ : /'moro?/ 'to lose heart'	vs /'goro?/ 'a drill'

10.7.3 alveolar trill vs alveolar continuants:

/r/ vs /n/ : /'raranj/ 'to roast in' vs /'nananj/ 'to roast fire'
near fire'
/r/ vs /s/ : /'rundun/ 'provisions' vs /'sundun/ 'finished'
/r/ vs /l/ : /'raga/ 'ball' vs /'laga/ 'buffalo fight'

10.7.4 alveolar vs palatal:

/r/ vs /y/ : /'bara/ 'embers' vs /'baya/ 'to weed'

10.7.5 alveolar vs velar:

/r/ vs /k/ : /'bara/ 'embers' vs /'baka/ kind of basket
/r/ vs /g/ : /'bara/ 'embers' vs /'baga/ 'stupid'
/r/ vs /ŋ/ : /'bara/ 'embers' vs /'baja/ kind of tree

10.7.6 alveolar vs glottal:

/r/ vs /ʔ/ : /'bara/ 'embers' vs */baʔa/

10.7.7

/r/ vs /rr/ : /'barak/ 'greedy' vs /'barrak/ 'emotional outburst'
/'ma'raranj/ 'red' vs /'ma'rraranj/ 'redder'

10.7.8

/r/ vs /ʔr/ : /'maranj/ 'thirsty' vs /'maʔraj/ 'more thirsty'

10.8 /n/

10.8.1 alveolar nasal vs labial:

/n/ vs /p/ : see 10.1.1
/n/ vs /b/ : see 10.2.1
/n/ vs /m/ : see 10.3.3
/n/ vs /w/ : see 10.4.3

10.8.2 alveolar vs alveolar stop:

/n/ vs /t/ : see 10.5.1
/n/ vs /d/ : see 10.6.1

10.8.3 alveolar nasal vs alveolar trill:

/n/ vs /r/ : see 10.7.3

10.8.4 alveolar nasal vs alveolar oral:

/n/ vs /s/ : /'naraj/ 'horse' vs /'nasaj/ 'all'
/n/ vs /l/ : /'napaʔ/ 'between' vs /lapaʔ/ 'cork'

10.8.5 alveolar vs palatal:

/n/ vs /y/ : /'pana/ 'bow and arrow' vs /'paya/ 'relieved'

10.8.6 alveolar vs velar:

/n/ vs /k/ : /'toʔton/ 'length of wood, vs /'toʔtok/ 'small connecting buffalo's hoie'
nose ring to tether'
/n/ vs /g/ : /'nannaʔ/ 'resisting an illness (of a sick man)' vs /'gannaʔ/ 'equally divisible'
/n/ vs /ŋ/ : /'nana/ 'pus' vs /'naja/ 'to open the mouth, to gape'

10.8.7 alveolar vs glottal:

/n/ vs /ʔ/ : /'sundun/ 'finished' vs /'sunduʔ/ 'to kick'

10.8.8

/n/ vs /nn/ : /'lenaʔ/ 'to lay, to put something directly on a surface' vs /'lennaʔ/ 'to die suddenly'

10.9 /s/

10.9.1 alveolar fricative vs labial:

/s/ vs /p/ : see 10.1.1
/s/ vs /b/ : see 10.2.1
/s/ vs /m/ : see 10.3.3
/s/ vs /w/ : see 10.4.3

10.9.2 alveolar fricative vs alveolar stop:

/s/ vs /t/ : see 10.5.1
/s/ vs /d/ : see 10.6.1

10.9.3 alveolar fricative vs alveolar trill:

/s/ vs /r/ : see 10.7.3

10.9.4 alveolar fricative vs alveolar lateral:

/s/ vs /l/ : /'sandaʔ/ 'very little, vs /'landaʔ/ 'until, up very few' to'

10.9.5 alveolar vs palatal:

/s/ vs /y/ : /di'sasaʔ/ 'sliced' /di'sayaʔ/ 'mixed up'

10.9.6 alveolar vs velar:

/s/ vs /k/ : /'sundun/ 'annoyed' vs /'kundun/ 'mixed up'
/s/ vs /g/ : /'sasaʔ/ 'iris' vs /'gasaʔ/ 'to beat'
/s/ vs /ŋ/ : /'sanya/ 'name' vs /'nanya/ 'to open the mouth'

10.9.7 alveolar vs glottal:

/s/ vs /ʔ/ : */'sasas/ vs /'sasaʔ/ 'iris'

10.9.8

/s/ vs /ss/ : /'posiʔ/ 'navel' vs /'posiʔ/ 'to roll down the foreskin'

10.9.9

/s/ vs /ʔs/ : /'rasa/ 'feeling' vs /raʔsak/ 'nonsense'

10.10 /l/

10.10.1 alveolar lateral vs labial:

/l/ vs /p/ : see 10.1.1
/l/ vs /b/ : see 10.2.1
/l/ vs /m/ : see 10.3.3
/l/ vs /w/ : see 10.4.3

10.10.2 alveolar lateral vs alveolar stop:

/l/ vs /t/ : see 10.5.1
/l/ vs /d/ : see 10.6.1

10.10.3 alveolar lateral vs alveolar trill:

/l/ vs /r/ : see 10.7.3

10.10.4 alveolar lateral vs alveolar fricative:

/l/ vs /s/ : see 10.9.4

10.10.5 alveolar lateral vs alveolar nasal:

/l/ vs /n/ : see 10.8.4

10.10.6 alveolar vs palatal:

/l/ vs /y/ : /'bala/ 'pen, coop' vs /'baya/ 'to weed'

10.10.7 alveolar vs velar:

/l/ vs /k/ : /'bulu/ 'hair, feather' vs /'buku/ 'bone'

/l/ vs /g/ : /'bala/ 'pen, coop' vs /'baga/ 'stupid'
/l/ vs /ŋ/ : /'bala/ 'pen, coop' vs /'banya/ kind of tree,
("pohon Banga")

10.10.8 alveolar vs glottal:

/l/ vs /ʔ/ : /'lamban/ 'to cross' vs /'amban/ 'hookworm' (?)

10.10.9

/l/ vs /ll/ : /'palak/ 'to come off (skin)' vs /'pallak/ 'bitter'

10.10.10

/l/ vs /ʔl/ : /'palak/ 'to come off (skin)' vs /'paʔlak/ 'garden'

10.11 /y/

10.11.1 palatal vs labial:

/y/ vs /p/ : see 10.1.1

/y/ vs /b/ : see 10.2.1

/y/ vs /m/ : see 10.3.4

/y/ vs /w/ : see 10.4.4

10.11.2 palatal vs alveolar:

/y/ vs /t/ : see 10.5.1

/y/ vs /d/ : see 10.6.1

/y/ vs /r/ : see 10.7.4

/y/ vs /n/ : see 10.8.5

/y/ vs /s/ : see 10.9.5

/y/ vs /l/ : see 10.10.6

10.11.3 palatal vs velar:

/y/ vs /k/ : /'baya/ 'to weed' vs /'baka/ 'provisions'

/y/ vs /g/ : /'baya/ 'to weed' vs /'baga/ 'stupid'

/y/ vs /ŋ/ : /'baya/ 'to weed' vs /'banya/ kind of tree,
("pohon Banga")

10.11.4 palatal vs glottal:

/y/ vs /ʔ/ : /'baya/ 'to weed' vs */baʔa/

10.11.5

/y/ vs /ʔy/ : /'mayo/ 'over there' vs /'maʔyo/ 'that is so/
true!'

10.11.6

/y/ vs /i/ : */pya/ vs /'pia/ 'baby'

10.12 /k/

10.12.1 velar stop vs labial:

/k/ vs /p/ : see 10.1.4

/k/ vs /b/ : see 10.2.4

/k/ vs /m/ : see 10.3.5

/k/ vs /w/ : see 10.4.5

10.12.2 velar stop vs alveolar:

/k/ vs /t/ : see 10.5.4

/k/ vs /d/ : see 10.6.4

/k/ vs /r/ : see 10.7.5

/k/ vs /n/ : see 10.8.6

/k/ vs /s/ : see 10.9.6

/k/ vs /l/ : see 10.10.7

10.12.3 velar stop vs palatal:

/k/ vs /y/ : see 10.11.3

10.12.4 vl. velar stop vs velar stop:

/k/ vs /g/ : /'baka/ 'basket' vs /'baga/ 'stupid'

10.12.5 vl. velar stop vs velar nasal:

/k/ vs /ŋ/ : /'baka/ 'basket' vs /'banya/ kind of tree,
("pohon Banga")

10.12.6 velar vs glottal:

/k/ vs /ʔ/ : /'batik/ 'grasshopper' vs /'batiʔ/ 'descendants'

10.12.7

/k/ vs /kk/ : /'baka/ 'basket' vs /'bakka/ 'to split'

10.12.8

/k/ vs /ʔk/ : /'baka/ 'basket' vs /'baʔkaʔ/ 'to increase'

10.13 /g/

10.13.1 velar stop vs labial:

/g/ vs /p/ : see 10.1.4

/g/ vs /b/ : see 10.2.4

/g/ vs /m/ : see 10.3.5

/g/ vs /w/ : see 10.4.5

10.13.2 velar stop vs alveolar:

/g/ vs /t/ : see 10.5.4

/g/ vs /d/ : see 10.6.4

/g/ vs /r/ : see 10.7.5

/g/ vs /n/ : see 10.8.6

/g/ vs /s/ : see 10.9.6

/g/ vs /l/ : see 10.10.7

10.13.3 velar stop vs palatal:

/g/ vs /y/ : see 10.11.3

10.13.4 vd. velar stop vs vl. velar stop:

/g/ vs /ŋ/ : see 10.12.4

10.13.5 vd. velar stop vs velar nasal:

/g/ vs /ŋ/ : /'baga/ 'stupid' vs /'banya/ kind of tree,
("pohon Banga")

10.13.6 velar vs glottal:

/g/ vs /ʔ/ : /'baga/ 'stupid' vs */baʔa/

10.13.7

/g/ vs /ʔg/ : /'gaga/ 'handsome' vs /'gaʔga/ 'more hand-
some'

10.14 /ŋ/

10.14.1 velar nasal vs labial:

/ŋ/ vs /p/ : see 10.1.1

/ŋ/ vs /b/ : see 10.2.1

/ŋ/ vs /m/ : see 10.3.5

/ŋ/ vs /w/ : see 10.4.5

10.14.2 velar nasal vs alveolar:

/ŋ/ vs /t/ : see 10.5.1

/ŋ/ vs /d/ : see 10.6.1

/ŋ/ vs /r/ : see 10.7.5

/ŋ/ vs /n/ : see 10.8.6

/ŋ/ vs /s/ : see 10.9.6

/ŋ/ vs /l/ : see 10.10.7

10.14.3 velar nasal vs palatal:

/ŋ/ vs /k/ : see 10.11.3

10.14.4 velar nasal vs velar stops:

/ŋ/ vs /k/ : see 10.12.5

/ŋ/ vs /g/ : see 10.13.5

10.14.5 velar nasal vs glottal:

/ŋ/ vs /ʔ/ : /'banya/ kind of tree vs */'baʔa/ "pohon Banga"
/baran/ 'winnowing' vs /'baraʔ/ 'typhoon' tray'

10.14.6

/ŋ/ vs /ŋŋ/ : /'banya/ kind of tree vs /'banya/ 'to open
"pohon Banga" violently'

10.14.7

/ŋ/ vs /ʔŋ/ : /'bane/ 'to say too' vs /'baʔŋe/ 'the act of
much too soon' /'bane/'

10.15 /ʔ/

10.15.1 glottal stop vs labial:

/ʔ/ vs /p/ : see 10.1.5

/ʔ/ vs /b/ : see 10.2.5

/ʔ/ vs /m/ : see 10.3.6

/ʔ/ vs /w/ : see 10.4.6

10.15.2 glottal stop vs alveolar:

/ʔ/ vs /t/ : see 10.5.5

/ʔ/ vs /d/ : see 10.6.5

/ʔ/ vs /r/ : see 10.7.6

/ʔ/ vs /n/ : see 10.8.7

/ʔ/ vs /s/ : see 10.9.7

/ʔ/ vs /l/ : see 10.10.8

10.15.3 glottal stop vs palatal:

/ʔ/ vs /y/ : see 10.11.4

10.15.4 glottal stop vs velar:

/ʔ/ vs /k/ : see 10.12.6

/ʔ/ vs /g/ : see 10.13.6

/ʔ/ vs /ŋ/ : see 10.14.5

11 Clusters of two consonant phonemes

11.1

/pp/ vs /kk/ : /'sappa/ 'stake' vs /'sakka/ 'complete'
/pp/ vs /rr/ : /'tappu/ 'all gone' vs /'tarru/ 'small bird
of prey'
/pp/ vs /tt/ : /'lappa/ 'flat' vs /'latta/ 'to jump,
to leap'
/pp/ vs /mm/ : /'tappu/ 'foot, leg' vs /'tammu/ 'to pick up,
to meet'
/pp/ vs /ʔp/ : /'lappu/ 'top of lemang which comes out of
the bamboo container' vs /laʔpu/ 'to speak too spontaneously'

11.2

/tt/ vs /ss/ : /'batta/ 'still' vs /'bassa/ 'industrious'
enthusiastic,
eager (of
fighting animals)'

/tt/ vs /ll/ : /'litti/ 'termite' vs /'lilli/ 'eager'

/tt/ vs /pp/ : see 11.1

/tt/ vs /nn/ : /'batta/ 'still' vs /'banna/ 'heavy
enthusiastic'

shower'

/tt/ vs /kk/ : /'batta/ 'see supra' vs /'bakka/ 'to hesitate'

/tt/ vs /rr/ : /'tattak/ 'tapering' vs /'tarrak/ 'to beat
violently'

/tt/ vs /ʔt/ : /'latta/ 'to jump' vs /'laʔta/ 'to crack
(earth, lips)'

11.3

/kk/ vs /pp/ : see 11.1

/kk/ vs /tt/ : see 11.2

/kk/ vs /ŋŋ/ : /'bakka/ 'to split' vs /'banya/ 'to open
widely
(mouth etc.)'

/kk/ vs /ss/ : /'sukku/ 'narrow' vs /'sussu/ 'to suck
(at breast)'

/kk/ vs /nn/ : /'pokko/ 'shoots' vs /'ponno/ 'full'

/kk/ vs /mm/ : /'rakka/ 'finger, toe' vs /'ramma/ 'to raise
chickens'

/kk/ vs /ll/ : /'sukkuk/ 'narrow' vs /'sulluk/ 'space under
the house'

/kk/ vs /rr/ : /'rakka/ 'finger, toe' vs /'rarra/ 'to lower'

/kk/ vs /ʔk/ : /'bakka/ 'to hes-' vs /'baʔka/ 'to increase
itate'

11.4

/ll/ vs /tt/ : see 11.2

/ll/ vs /kk/ : see 11.3

/ll/ vs /mm/ : /'alla/ 'interstices' vs /'amma/ 'to swallow'

/ll/ vs /ss/ : /'lulu/ 'to tread' vs /'lussu/ 'to escape'

/ll/ vs /rr/ : /'kulle/ 'to be able to' vs /'kurre/ 'call for
fowls'

/ll/ vs /nn/ : /'balle/ 'to tell lies' vs /'banne/ 'seed'

/ll/ vs /ʔl/ : /'pallak/ 'bitter' vs /'paʔlak/ 'garden'

11.5

/rr/ vs /pp/ : see 11.1

/rr/ vs /tt/ : see 11.2

/rr/ vs /kk/ : see 11.3

/rr/ vs /ll/ : see 11.4

/rr/ vs /ŋŋ/ : /'tarra/ 'latex vs /'tanja/ 'to produce tree'

think'

/rr/ vs /ʔr/ : /'barra/ 'unhusked rice' vs /'baʔra/ 'new'

11.6

/nn/ vs /pp/ : see 11.1

/nn/ vs /tt/ : see 11.2

/nn/ vs /kk/ : see 11.3

/nn/ vs /ll/ : see 11.4

/nn/ vs /rr/ : see 11.5

/nn/ vs /ŋŋ/ : /'banna/ 'heavy shower' vs /'banya/ 'surprised'

/nn/ vs /ss/ : /'onno/ 'to unravel' vs /'osso/ 'to slope
downwards'

/nn/ vs /mm/ : /'anna/ '!put it away!' vs /'amma/ 'to swallow'

/nn/ vs /ʔn/ : /'lenna/ 'to die suddenly' vs /'leʔna/ 'a snub
nose'

11.7

/mm/ vs /pp/ : see 11.1

/mm/ vs /tt/ : see 11.2

/mm/ vs /kk/	: see 11.3
/mm/ vs /ll/	: see 11.4
/mm/ vs /rr/	: see 11.5
/mm/ vs /nn/	: see 11.6
/mm/ vs /ŋŋ/	: /'tamma/ 'to chew' vs /'tanŋja/ 'the middle'
/mm/ vs /?m/	: /'mammik/ 'delicious' vs /'ma?mik/ 'more delicious'

11.8

/ŋŋ/ vs /pp/	: see 11.1
/ŋŋ/ vs /tt/	: see 11.2
/ŋŋ/ vs /kk/	: see 11.3
/ŋŋ/ vs /lɪ/	: see 11.4
/ŋŋ/ vs /rr/	: see 11.5
/ŋŋ/ vs /nn/	: see 11.6
/ŋŋ/ vs /mm/	: see 11.7
/ŋŋ/ vs /?ŋ/	: /'banŋa/ 'winnowing' vs /'ba?ŋe/ 'saying too tray' much too soon'

11.9

/ss/ vs /tt/	: see 11.2
/ss/ vs /kk/	: see 11.3
/ss/ vs /ll/	: see 11.4
/ss/ vs /nn/	: see 11.6
/ss/ vs /?s/	: /'rassak/ 'to come apart' vs /'ra?sak/ 'nonsense'

11.10

/ŋk/ vs /ŋg/	: /'aŋka?/ 'to lift' vs /'aŋga?/ 'self respect'
/nd/ vs /nt/	: /'landa?/ 'to achieve' vs /'lanta?/ 'to break something up with a crowbar'

11.11

/ŋt/ vs /nt/	: */torti/ vs /'tonti/ 'to carry in one's hand'
/ŋd/ vs /nd/	: /'laŋdo/ 'to abuse' vs /'lando/ 'long' /'taŋda?/ 'pole' vs /'tanda?/ 'to accuse'

12 Distribution of vowel phonemes

There are no limitations; all vowel phonemes are attested in all possible positions as shown in charts 6 and 7. There seems to be a tendency for disyllabic wordbases to contain identical vowels in both syllables, however, no rules are found.

Vowel distribution

	# (C) - (C)	- V	V -	- (C) CV (C) #	(C) - (C) #
u	x	x	x	x	x
o	x	x	x	x	x
a	x	x	x	x	x
e	x	x	x	x	x
i	x	x	x	x	x

Chart 6

12.1

'ulu/	'head'
'oto/	'car'
'illor/	'nose'
'ala/	'to take'
'elo?/	'saliva'

12.2, 12.3 : for occurrences of vowels preceded or followed by other vowels, see 13

12.4.1

'tundan/	'to build up'
'tonka?/	'to whisper'
'tanŋki?/	'handle, wedge'
'tenka/	'stride'
'tindok/	'to scoop up with the hand'

12.4.2

'sussu?/	'to suck'
'pokko/	'shoots'
'tarra?/	'rubber tree'
'lenna?/	'to die suddenly'
'litti?/	'termite'

12.4.3

'bu?bu?/	'to pluck hairs, feathers'
'lo?pok/	'fatter'
'ba?ra/	'new'
'le?na?/	'a snub nose'
'si?ta?/	'to seize'

12.5.1 /- #/

'ulu/	'head'
'tiro/	'to see'
'bata/	'to hesitate'
'bale/	'fish'
'bati/	'to sprinkle'

12.5.2 /- n #/

'lulun/	'to fold'
'lolon/	'to swallow'
'lalan/	'road'
'deken/	'to hold tightly'
'lalin/	'leech'

12.5.3 /- ? #/

'buku?/	'to sprinkle with water'
'boko?/	'back (n)'
'bara?/	'typhoon'
'bati?/	'descendants'
'te?te?/	'watch, time'

12.5.4 /- k #/

'surruk/	'to crawl under'
'potok/	kind of plant
'bekak/	'cockatoo'
'serek/	'a tear (in cloth)'
'batik/	'grasshopper'

12.5.5 /- ŋ #/

'tarrun/	'egg-plant'
'lolon/	'to scream'
'alan/	'rice-barn'
'sesen/	'stingy'
'malin/	'absentminded'

13 Vowel clusters

	u	o	a	e	i
u	x	x	x	x	x
o	x	x	-x	-x	x
a	x	x	x	x	x
e	x	x	x	x	x
i	x	x	x	x	x

Chart 7

13.1

- /uu/ : /tu'ulu/ 'that head'
 /uo/ : /'tuc/ 'to grow'
 /ua/ : /'buua/ 'fruit'
 /ue/ : /'kue?/ 'bail'
 /ui/ : /'dui/ 'a pair of protagonists'

13.2

- /ou/ : /po'uul/ 'having a head'
 /oo/ : /po'oni/ 'noise, sound'
 /oa/ : /po'ambe?/ 'someone who has been made a father'
 /oe/ : /po'ele/ 'something that is handed over'
 /oi/ : /po'indo?/ 'someone who has been made a mother'

13.3

- /au/ : /'tau/ 'man(kind)'
 /ao/ : /'ao?/ kind of tree (Indonesian: pohon Aur)
 /aa/ : /'taa/ 'part'
 /ae/ : /'sae/ 'to come'
 /ai/ : /'tai/ 'faeces'

13.4

- /eu/ : /pe'uru?/ 'object used for massage'
 /eo/ : /'keok/ 'to squawk'
 /ea/ : /'sea/ 'to scatter, to strew'
 /ee/ : /te'elo/ 'this saliva'
 /ei/ : /te'tei/ 'to make a bridge'

13.5

- /iu/ : /'biunj/ 'orphan'
 /io/ : /'dionj/ 'below'
 /ia/ : /'pia/ 'baby'
 /ie/ : /si'eru/ 'to be close together'
 /ii/ : /si'iru?/ 'to drink together'

14.1.2 [i] in open syllables:

- | | | |
|--------|-----------------|---------|
| [piɑ] | 'baby' | /'pia/ |
| [iɑ] | 'he, she, they' | /'ia/ |
| [rika] | personal name | /'rika/ |
| [kami] | 'we' | /'kami/ |
| [bai] | 'pig' | /'bai/ |

14.2 /e/ → [ɛ] front mid. vowel:

- | | | |
|-----------|-------------|-----------|
| [ɛlɔ?] | 'saliva' | /'elo?/ |
| [mɛlɔ] | 'fine' | /'melo/ |
| [malɛ] | 'to go' | /'male/ |
| [mɛ'lɔk-] | 'very fine' | /'me?lok/ |
| [lɛŋka?] | 'to move' | /'leŋka?/ |
| [lɛt:a?] | 'distant' | /letta?/ |

14.3 /a/ → [ɑ] low central vowel, [a] low central/back vowel.

14.3.1 [a ~ a] in closed syllables:

- | | | |
|-------------------|-----------------|-----------|
| [al:a?, ql:a?] | 'place between' | /'alla?/ |
| [pantan, 'pantan] | 'enough' | /'pantan/ |
| [ba?ka?, 'ba?ka?] | 'to increase' | /'ba?ka?/ |
| [alan, 'alan] | 'rice barn' | /'alan/ |
| [bekak-, 'bekak-] | 'cockatoo' | /'bekak/ |

14.3.2 [a] in open syllables:

- | | | |
|--------|-------------|---------|
| [ala] | 'to take' | /'ala/ |
| [bala] | 'pen, coop' | /'bala/ |

14.4 /o/ → [ɔ] back central vowel:

- | | | |
|---------------|---------------|--------------|
| [lolo] | 'shoot' | /'lolo/ |
| [lolo?] | 'to achieve' | /'lolo?/ |
| [lombok-] | 'valley' | /'lombok/ |
| [bo?b o?] | 'cooked rice' | /'bo?bo?/ |
| [lop:ok-] | 'fat' | /'loppok/ |
| [lo?pok-] | 'fatter' | /'lo?pok/ |
| [ma'l o?pok-] | 'very fat' | /'ma'lo?pok/ |
| [so?] | 'man' | /so?/ |

14.5 /u/ → [u] back mid. vowel:

- | | | |
|-----------|------------------------------|-----------|
| [uru?] | 'to massage' | /'uru?/ |
| [uru] | 'tree' | /'uru/ |
| [bu?buk-] | <u>'Lyctus brunneus'</u> (?) | /'bu?buk/ |
| [bubu?] | 'to pour rice into the pot' | /'bubu?/ |
| [lulun] | 'to pluck hairs/feathers' | /'bu?bu?/ |
| [udun] | 'to fold' | /'lulun/ |
| [buk:u] | 'to kiss (with nose)' | /'udun/ |
| [tunka] | 'hunchback' | /'bukku/ |
| | 'to dun (for a debt)' | /'tunka/ |

14 Vowel phonemes: realizations

14.1 /i/ → [i] high front vowel, [ɪ] lower high front vowel.

14.1.1 [I ~ i] in closed syllables:

- | | | |
|-------------------|-----------------------------------|-----------|
| [manlk-, 'manik-] | 'bracelet' | /'manik/ |
| [laɪ?, 'lai?] | 'woman' | /'lai?/ |
| [bimbIn, bimbin] | 'to wrap up (esp. small objects)' | /'bimbin/ |
| [lɪŋka, 'lɪŋka] | 'to walk' | /'lɪŋka/ |
| [lit:a?, 'lit:a?] | 'having the eyes rolled upwards' | /'litta?/ |
| [sɪ?ta?, 'sɪ?ta?] | 'to seize' | /'sɪ?ta?/ |

15 Vowel phonemes: oppositions

15.1

- | | | | |
|-----------------------|--------------|---------------|---------------|
| /a/ vs /e/ : /'bala/ | 'pen, coop' | vs /'bale/ | 'fish' |
| /a/ vs /i/ : /'bala/ | 'pen, coop' | vs /'bila/ | kind of eagle |
| /a/ vs /o/ : /'bala/ | 'pen, coop' | vs /'bola/ | 'ball' |
| /a/ vs /u/ : /'barja/ | kind of tree | vs /'buŋja/ | 'flower' |
| | | "pohon Banga" | |

15.2

- | | | | |
|-----------------------|--------------|------------|-----------|
| /e/ vs /o/ : /'bale/ | 'fish' | vs /'balo/ | 'striped' |
| /e/ vs /u/ : /bate/ | kind of flag | vs /'batu/ | 'stone' |
| /e/ vs /a/ : see 15.1 | | | |
| /e/ vs /i/ : /'bale/ | 'fish' | vs /'bali/ | 'friend' |

- 15.3
*/i/ vs /o/ : /'tindok/ 'to raise one's voice'
/i/ vs /u/ : /'buli/ kind of plant vs /'bulu/ 'feathers'
/i/ vs /a/ : see 15.1
*/i/ vs /e/ : see 15.2**
- 15.4
/o/ vs /u/ : /'alo/ 'Buceros rhinoceros'
/o/ vs /a/ : see 15.1
/o/ vs /e/ : see 15.2
/o/ vs /i/ : see 15.3

- 15.5
/u/ vs /o/ : see 15.4
/u/ vs /a/ : see 15.1
/u/ vs /e/ : see 15.2
/u/ vs /i/ : see 15.3

16 Texts

16.1.1

[dɔ'lɔna 'pi?plk- 'pi?plk-, un'din:a 'pi?plk- 'pi?plk-,
'tanj:qna ka'soe'soe. 'apa 'kita to? 'yakE 'aku, 'tedɔŋ]

16.1.2

/do'lona 'pi?pik 'pi?pik, un'dinna 'pi?pik 'pi?pik,
'tanjana ka'soe'soe. 'apa 'kita to? 'yake 'aku: 'tedɔŋ/

16.1.3

Muka bergoyang, belakang bergoyang, tengah pun bergoyang.
Apa itu? Kalau saya: kerbau.

16.1.4

The front waggles, the back waggles, the middle quivers/
twitches. What is it? I think it is a buffalo.

16.2.1

['inde do 'bulan 'gal:an 'rapa?.
bin'to:n 'duk:u 'duk:u, 'toban ko 'mai
ku'rane pa'la?ko]

16.2.2

/'inde do 'bulan 'gallan 'rapa?.
bin'toen 'dukku 'dukku, 'toban ko 'mai
ku'rane pa'la?ko/

16.2.3

Yang ada di atas, yaitu bulan yang bercahaya mulia, bintang
yang bersinar-sinar, jatuhlah engkau ke mari. Saya terima
dengan tangan saya.

16.2.4

Moon above, shining bright, stars twinkling, fall here
beneath. I shall catch you in the palms of my hands.

Ujung Pandang, Jakarta, 1977

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FOOTNOTES

1. Kantor Kecamatan Sanggalangi. Papan Potensi Kecamatan Sanggalangi; Tombangkalua, 1976.
2. Loans such as /es/ 'ice', /dyam/ 'watch', 'o'clock' are left out of consideration here.
3. With a possible exception after the prefix ma? where sporadically [b] has been encountered.
4. An exception should probably be made in combinations with the prefix ma?- where [y ~ g] has been sporadically attested.

* * *