

ON THE NGAJU DAYAK SOUND SYSTEM

(Pulau Petak dialect)

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0

The aim of this paper is twofold:

- 0.1 To give a glimpse at the sound system of the Ngaju Dayak language.
- 0.2 To supply a frame of reference for the improvement of the Ngaju Dayak orthography.

1

The Ngaju Dayak language is the mother tongue of the Dayaks who live along the riversides of Kapuas (a), Kayahan (b), Rungan (c), Manuhing (d), and some parts along the riversides of Barito (e), and Katingan (f) in Central Kalimantan.¹ The number of Ngaju Dayak speakers is not yet known but it is estimated that there are at least more than half a million.

The Ngaju Dayak language is the most important vernacular in Central Kalimantan and has for a long time functioned as the lingua franca among the inhabitants of Central Kalimantan. August Hardelein (1858) was the first Westerner to reach them and later on used one of the dialects of Ngaju Dayak, that of the Pulau Petak dialect - a dialect spoken by rulers at that time - to write Biblical stories so that this language at last became the medium in church circles and Zending schools.

Tribes that make contacts with the Ngaju Dayaks, like Baamang (IV), Kotawaringin (V), Ott Danum (VI), Siang (VII), Taboyan (VIII), Lawangan (IX), Maanyan (II), even the Banjarese (III) who trade with the Ngaju Dayaks use this language as the medium of communication. In contrast, the Ngaju Dayaks who travel in the territories of the above mentioned tribes, except the Banjarese, do not have to adapt themselves with and to use local language in communication.

Ever since establishment of national independence in Indonesia in 1945, through the Government's increasing attention to education at all school levels, Indonesian has come to replace the Ngaju Dayak language in many respects. In urban areas and educational centres there has been some indication of diglossia with Indonesian in high positions, but in the rural areas and in the church services of Central Kalimantan, the Ngaju Dayak language still holds its previous functions.

2

In order to inform the reader about recent publications on Ngaju Dayak, a selected bibliography is added which should be used in addition to Uhlenbeck's valuable contributions to the field:

A.A. Cense, E.M. Uhlenbeck.

1958 Critical Survey of Studies on the Languages of Borneo. The Hague.

E.M. Uhlenbeck.

1968 'Malaysia - Indonesia' in Current Trends in Linguistics. Volume 2

The Hague.

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1972 'Malaysia - Indonesia' in Current Trends in Linguistics. Volume 8
The Hague.

3

The Phonology²

3.1

The Consonants

Table 1. Chart of the Consonant Phonemes

		Non-Continuant		Continuant					
		Stop		Trill	Nasal	Fri-	Late-	Cent-	
		Pho-	Ar-		neme	chi-	cat-	ral	
Labial	3.1.1	p	b	P	.	m			w
Alveolar	3.1.2	t	d	T	r	n	N	s	l
Palatal	3.1.3								y
Velar	3.1.4	k	g	K		ŋ			
Glottal	3.1.5							h	

3.1.1 Labials³

- 3.1.1.1 /p/ → [p] in all positions except [C#]:
[po'hər̩] 'sibling'
[s'ɔpaw] 'roof'
[mp'ɔtəy] 'killed'
- 3.1.1.2 /b/ → [b] in all positions except [C#]:
[b'ɛhaw] '(kind of) fish'
[h'abut̩] 'noisy'
[mb'uhen̩] 'why'
- 3.1.1.3 /P/ → [p-] (the archiphoneme of /p/ and /b/) in final position:
['atɛp-] 'door'
[k'uləp-] 'to cover'
- 3.1.1.4 /m/ → a) [m- ~ m] in [VC#]:
[g'uəm, g'uəm-] 'infant gum diseases'
b) [m(-) ~ əm(-) ~ m] in [VCC#]:
[hət'apəm-, h'ətəpm-, hot'apm] 'your thatched roof'
- c) [m] in all other positions:
[m'ɑ, lɛ ?] 'yesterday'
[t'əmɛ ?] 'to enter'
[mb'uhen̩, b'uhen̩] 'why'
- 3.1.1.5 /w/ a) [w~w] in [#CV]:
[w'ayah, w'ayah] 'season'
[w'adi?] '(kind of) salted fish'
- b) [w] in all other positions:
[ɛwaw] 'odor'
[mw'adi] 'making wadi'

3.1.2	Alveolars		
3.1.2.1	/t/ → [t] in all positions except [VC#].	b) [ŋ] in all other positions: [ŋ'a.wa?] 'downstream' ['ŋmat-] 'feeling' [ŋ'g'atāŋ-] 'lifted up'	
	[t'qhan-] 'proof against' [h'ɛtɔ^h] 'here' [nt'qkan-] 'attacked'		
3.1.2.2	/d/ → [d] in all positions except [VC#]	3.1.5	Glottal
	[d'umah] 'to come' ['indu?] 'mother' ['udak-] 'to mix'	3.1.5.1	/h/ → a) [h ~ h̥] in [VC#] ['ɛ.wah, 'ɛ.wah̥] 'loin-cloth' [h'ɔRəh, h'ɔRəh̥] 'to joice' [tak'ɔlɔkah, tak'ɔlɔkah̥, tak'ɔlɔkəh̥] 'his head'
3.1.2.3	/T/ → [t-] (the archiphoneme of /t/ and /d/) in final position:	b) [h ~ x] in other positions: [b'uhit-, b'uxit-] 'ulcers' [h'qus, x'aus] 'to be eager to, thirsty'	
	[h'abut-] 'noisy' ['ɛhat-] 'weight'		
3.1.2.4	/r/ → [r ~ R] : [r'ihat-, R'ihat-] '(kind of) fruit' ['ɔrut-, 'ɑRut-] 'proa' [nr'ewen-] 'to startle' [nk'iri?, nək'iRi?] 'to replace, to substitute' [mR'awey, mr'awey] 'to invite'	3.1.5.2	In rapid speech /h/ (in third person singular possessive marker /ah/, /əh/) can be omitted if followed by a place/time marker, but in a word with final /h/ as an element of the word base it cannot be suppressed. Compare ['omakahtɛ?, 'omakehtɛ?] and ['onakate?, 'onakətɛ?] 'that child of his' with ['ɛwahtɛ?] 'that loin-cloth' which cannot be pronounced *[ɛwatɛ?].
3.1.2.5	/l/ → [l] : [lal'ɛhan-] 'how' [bak'ɑ. pal] 'thick' [nl'ɔñjur] 'to make someone go too far' [ml'qwan] 'against'		On the other hand a word base in [tɛ?] does not permit the insertion of /h/ between the vowel and the consonant: [m'atɛ?] 'eye' cannot become *[m'ahtɛ?]. The words ['omakahtɛ?, 'omakate?, 'omakəhtɛ?, 'onakətɛ?] are considered quadruplets.
3.1.2.6	/n/ → a) [n- ~ n] in [VC#] [mɔh'ijan-, mɔh'ijan] 'light' b) [n] in all other positions: [n'iaw] 'lost' [nt'ɛhaw] 'called'	3.1.6	Phoneme clusters:
3.1.2.7	/N/ → [ñ ~ n] the symbol of neutralization between /n/ and the sequence of phonemes /ny/ in front of /dy/ or /ty/ : [ñj'uluk-, nj'uluk-] 'handed' [r'ɔñcak-, r'ɔñcak-] 'often'	3.1.6.1	/ty/ → [c] : [r'ɔñcak-] 'often' [c'ɑRa?] 'manner'
3.1.2.8	/s/ → [s] : [səns'oma?] 'tale' [?'ɛsu?] 'grandchild' [h'aus] 'eager, thirsty' [sn'q. mɔñ-] 'iron'	3.1.6.2	/dy/ → [j] : [j'ɛ.ha?] 'in the future' ['ɔjik-] 'to encourage' [ñj'uluk-] 'handed'
3.1.3	Palatal /y/ → [y] : [yɔ^h] 'yes' ['uyat-] 'neck' [hɔnd'qlay] 'worm'	3.1.6.3	/ny/ → [ñ] : [ñ'ɛlɔ^h?] 'year' [h'ɔñia?] 'eight' [ñl'ɔñtar] 'creeping'
3.1.4	Velars	3.1.7	Table 2. (Approximative) Phonetic Table
3.1.4.1	/k/ → [k] : in all positions except [VC#] [k'uluk-] 'head' [əkən-] 'sibling's children' [ŋk'ɛpan-] 'to put on'	(Table 2, see next page)	1) After final non-long vowels [?] functions as juncture marker. It always occurs at the end of an utterance.
3.1.4.2	/g/ → [g] in all position except [VC#] [g'aw1?] 'work' [h'aga?] 'to take care of' [ŋg'ɔñŋ] 'lifted up'	2) [u] and [i] (glides) are not distinctive in the position [uuV], [iiV] respectively, with the exception of [uuu] :	
3.1.4.3	/K/ → [k-] (the archiphoneme of /k/ and /g/) in final position: [s'qpak-] 'thigh' [t'ɛlak-] 'torn open'		
3.1.4.4	/ŋ/ → a) [ŋ- ~ ɳ] in [VC#] [p'qun-, p'qun] 'seed'		[g'uuqam, g'uam-] 'infant gum diseases' [b'uue?, b'uε?] 'grandfather' [d'uuit-, d'uit-] 'money' [k'uue?, k'uε?] 'both of us' but [k'uwu?] 'isolation' cannot be pronounced *[k'uu?].

	Non-Continuant			Continuant			
	Stop	Trill/ tap	Nasal	Oral			Resonant
				Fri- ca- tive	Late- ral	Central	
Bilabial	p p- b		m m			u ² w	
Denti-alveolar	t t-						
Apico-alveolar	d	R r	n n-				
Lamino alveolar				s	l		
Lamino prepalatal	c j		ñ				
Lamino palatal					i ² y		
Velar	k k- g						
Glottal	? ¹			h h̄			

[g'ian, g'ian-] 'to push'
 [nəm'iɛ:, nəm'iɛ:] 'that will do'
 [kah'iu, kah'iu?] 'orang-utan'
 [rad'iɔ̄?, rad'iɔ̄?] 'radio'

3.1.8

3.1.8.1 /p/ is a voiceless labial stop.

3.1.8.1.1 Non-Continuant vs Continuant:

/p/ vs /m/ - /puat/ 'load' vs /muat/ 'can be loaded'
 /p/ vs /w/ - /sapi/ 'cow' vs /sawi/ '(kind of) vegetable'

3.1.8.1.2 Voiceless vs Voiced:

/p/ vs /b/ - /puas/ 'to wipe' vs /buas/ 'wild'

3.1.8.1.3 Labial vs Alveolar:

/p/ vs /t/ - /pai/ 'leg' vs /tai/ 'faeces'
 /p/ vs /d/ - /papa/ 'dirty' vs /pada/ '(kind of) fish'

3.1.8.1.4 Labial vs Velar:

/p/ vs /k/ - /puas/ 'to wipe' vs /kuas/ 'waste'
 /p/ vs /g/ - /pasaK/ 'peg' vs /gasaK/ 'to struggle'
 /p/ vs /g/ - /baguti/ 'white' vs /baguti/ 'having lice'

3.1.8.2 /b/ is a voiced labial stop.

3.1.8.2.1 Non-Continuant vs Continuant:

/b/ vs /m/ - /belay/ 'appetite' vs /melay/ 'to stay'
 /b/ vs /w/ - /haban/ 'sick' vs /hawan/ 'having print'

3.1.8.2.2 Voiced vs Voiceless: See 3.1.8.1.2

3.1.8.2.3 Labial vs Alveolar:

/b/ vs /t/ - /bau/ 'face' vs /tau/ 'be able to'
 /b/ vs /d/ - /gue/ 'grandfather' vs /due/ 'two'

3.1.8.2.4 Labial vs Velar:

/b/ vs /g/ - /bau/ 'face' vs /gau/ 'to search for'
 /b/ vs /k/ - /gue/ 'grandfather' vs /kue/ 'both of us'

3.1.8.3

/P/ is a labial stop.

/P/ vs /T/ - /buap/ 'open' vs /buat/ 'to load'

/P/ vs /K/ - /buap/ 'open' vs /buak/ '(name of) bird'

3.1.8.4

3.1.8.4.1 Stop vs Trill:

/t/ vs /r/ - /atep/ 'door' vs /arep/ 'self'

3.1.8.4.2

Voiceless vs Voiced:

/t/ vs /d/ - /hantaK/ 'to stamp' vs /handak/ 'to want'

3.1.8.4.3

Alveolar vs Labial: See 3.1.8.2.3, 3.1.8.3

3.1.8.4.4

Alveolar vs Velar:

/t/ vs /k/ - /uta/ 'vomit' vs /uka/ 'place'

/t/ vs /g/ - /tasaK/ 'lizard' vs /gasaK/ 'to struggle'

3.1.8.5

/d/ is a voiced alveolar stop.

3.1.8.5.1 Stop vs Trill:

/d/ vs /r/ - /uraK/ 'to uncover' vs /udaK/ 'to mix'

3.1.8.5.2

Voiced vs Voiceless: See 3.1.8.4.2

3.1.8.5.3

Non-Continuant vs Continuant:

/d/ vs /n/ - /daray/ 'broken' vs /naray/ 'what'

/d/ vs /s/ - /dahan/ 'to add up' vs /sahan/ 'pepper'

/d/ vs /l/ - /dampah/ 'flat' vs /lampah/ 'asceticism'

3.1.8.5.4

Alveolar vs Labial: See 3.1.8.1.3 and 3.1.8.2.3

3.1.8.5.5

Alveolar vs Velar:

/d/ vs /k/ - /due/ 'two' vs /kue/ 'both of us'

/d/ vs /g/ - /duhoP/ 'to help' vs /guhoP/ 'roar'

3.1.8.6

/T/ is an alveolar stop.

/T/ vs /P/ - /buap/ 'to load' vs /buat/ 'open'

/T/ vs /K/ - /buap/ 'to load' vs /buak/ '(name of) bird'

/T/ vs /r/ - /buap/ 'to load' vs /buar/ 'bubble'

/T/ vs /n/ - /awaT/ 'to help' vs /awan/ 'print'

/T/ vs /s/ - /kuaT/ 'strong' vs /kuas/ 'waste'

/T/ vs /l/ - /suaT/ 'dispute' vs /sual/ 'problem'

3.1.8.7

/k/ is a voiceless velar stop.

3.1.8.7.1 Non-Continuant vs Continuant:

/k/ vs /g/ - /kilaK/ 'approval' vs /nilak/ 'being approved'

3.1.8.7.2

Voiceless vs Voiced:

/k/ vs /g/ - /kasinj/ 'odor of urine' vs /gasinj/ 'top'

3.1.8.7.3 Velar vs Labial: See 3.1.8.1.4 and 3.1.8.2.4

- 3.1.8.7.4 Velar vs Alveolar: See 3.1.8.4.4 and
3.1.8.5.5
- 3.1.8.8. /g/ is a voiced velar stop.
- 3.1.8.8.1 Non-Continuant vs Continuant:
/g/ vs /ŋ/ - /garaK/ 'motion' vs /ŋaraK/ 'disassemble'
- 3.1.8.8.2 Voiced vs Voiceless: See 3.1.8.7.2
- 3.1.8.8.3 Velar vs Labial: See 3.1.8.1.4. and
3.1.8.2.4
- 3.1.8.8.4 Velar vs Alveolar: See 3.1.8.4.4, 3.1.8.5.5,
and 3.1.8.6
- 3.1.8.9 /K/ is a velar stop.
/K/ vs /ŋ/ - /buak/ '(name of) bird' vs
/buŋŋ/ 'empty'
/K/ vs /h/ - /buak/ '(name of) bird' vs
/buah/ 'right'
/K/ vs /T/ - /buak/ '(name of) bird' vs
/buat/ 'to load'
/K/ vs /P/ - /buak/ '(name of) bird' vs
/buap/ 'open'
/K/ vs /r/ - /buak/ '(name of) bird' vs
/buar/ 'bubble'
- 3.1.8.10 /r/ is an alveolar trill.
- 3.1.8.10.1 Trill vs Stops:
/r/ vs /t/ - See 3.1.8.4.1
/r/ vs /d/ - See 3.1.8.5.1
- 3.1.8.10.2 Alveolar vs Labial:
/r/ vs /p/ - /para/ 'buttock' vs /papa/
'dirty'
/r/ vs /b/ - /aruT/ 'proa' vs /abuT/
'noisy'
- 3.1.8.10.3 Alveolar vs Velar: See 3.1.8.9
- 3.1.8.10.4 Non-Continuant vs Continuant:
/r/ vs /n/ - /bure/ 'foam' vs /bune/
'lazy and foolish'
/r/ vs /s/ - /puraK/ 'remainder' vs
/pusaK/ 'high tide'
/r/ vs /l/ - /karas/ 'hard' vs /kalas/
'pale'
- 3.1.8.11 /m/ is a labial nasal.
- 3.1.8.11.1 Continuant vs Non-Continuant: See 3.1.8.1.1
and 3.1.8.2.1
- 3.1.8.11.2 Labial vs Alveolar:
/m/ vs /n/ - /mama/ 'uncle' vs /mana/
'meaning'
- 3.1.8.11.3 Labial vs Velar:
/m/ vs /ŋ/ - /pama/ 'even though' vs
/pana/ 'manacle'
- 3.1.8.11.4 Nasal vs Central:
/m/ vs /w/ - /lemu/ 'weak' vs /ieuw/
'village'
- 3.1.8.12 /n/ is an alveolar nasal.
- 3.1.8.12.1 Continuant vs Non-Continuant:
See 3.1.8.5.3 and 3.1.8.10.4
- 3.1.8.12.2 Alveolar vs Velar:
/n/ vs /ŋ/ - /sana/ 'as soon as' vs
/sana/ 'bake'
- 3.1.8.12.3 Alveolar vs Labial: See 3.1.8.11.2
- 3.1.8.12.4 Nasal vs Fricative:
/n/ vs /s/ - /bumu/ 'assassin' vs /busu/
'youngest child'
- 3.1.8.12.5 Nasal vs Lateral:
/n/ vs /l/ - /sana/ 'as soon as' vs
/sala/ 'wrong'
- 3.1.8.13 /ŋ/ is a velar nasal.
- 3.1.8.13.1 Continuant vs Non-Continuant:
See 3.1.8.7.1 and 3.1.8.8.1
- 3.1.8.13.2 Velar vs Labial: See 3.1.8.11.3
- 3.1.8.13.3 Velar vs Alveolar: See 3.1.8.12.2
- 3.1.8.14 /N/ is a nasal.
/N/ vs /s/ - /Ndylan/ 'operated' vs
/sdylan/ 'in the same way'
- 3.1.8.15 /s/ is an alveolar fricative.
- 3.1.8.15.1 Continuant vs Non-Continuant:
/s/ vs /t/ - /sana/ 'as soon as' vs
/tana/ 'rice-field'
/s/ vs /d/ - See 3.1.8.5.3
/s/ vs /r/ - See 3.1.8.10.4
- 3.1.8.15.2 Alveolar vs Glottal:
/s/ vs /h/ - /bisa/ 'wet' vs /biha/
'wild black radish'
- 3.1.8.15.3 Fricative vs Lateral:
/s/ vs /l/ - /kusaK/ 'basket' vs /kulaK/
'(kind of) meal'
- 3.1.8.16 /h/ is a glottal fricative.
- 3.1.8.16.1 Glottal vs Alveolar:
/h/ vs /s/ - See 3.1.8.15.2
- 3.1.8.17 /l/ is an alveolar lateral.
- 3.1.8.17.1 Continuant vs Non-Continuant:
/l/ vs /t/ - /lau/ 'hunger' vs /tau/
'to be able to'
/l/ vs /d/ - /lai/ 'ginger' vs /dai/
'to climb up'
/l/ vs /r/ - See 3.1.8.10.4
- 3.1.8.17.2 Lateral vs Nasal /n/: See 3.1.8.12.5
- 3.1.8.17.3 Lateral vs Fricative /s/: See 3.1.8.15.3
- 3.1.8.18 /w/ is a labial resonant central continuant.
- 3.1.8.18.1 Continuant vs Non-Continuant:
/w/ vs /p/ - See 3.1.8.1.1
/w/ vs /b/ - See 3.1.8.2.1
- 3.1.8.18.2 Central vs Nasal /m/: See 3.1.8.11.4
- 3.1.8.18.3 Labial vs Palatal:
/w/ vs /y/ - /bawa/ 'to call' vs /baya/
'only'
- 3.1.8.18.4 /w/ vs /u/ - /balaw/ 'hair' vs /balau/
'hungry'
/w/ vs /ū/ - /tangkalaw/ 'pass' vs
/tangkalau/ 'the hungriest'
- 3.1.8.19 /y/ is a palatal resonant central continuant.
- 3.1.8.19.1 Palatal vs Labial /w/: See 3.1.8.18.3
- 3.1.8.19.2 /y/ vs /i/ - /balay/ 'hail' vs /balai/
'with ginger'
/y/ vs /i/ - * /lay/ vs /lai/ 'its ginger'
/tukiy/ 'stream' vs /tuki/
- 3.1.8.20 Clusters of two phonemes vs one phoneme:
- 3.1.8.20.1 /ty/ vs /t/ - /tyara/ 'manner' vs /tara/
'praise'
/ty/ vs /d/ - /tyara/ 'manner' vs /dara/
'dove'
- 3.1.8.20.2 /ty/ vs /n/ - /tyara/ 'manner' vs /nara/
'praised'
/ty/ vs /dy/ - /tyara/ 'manner' vs /dyara/
'chastisement'
/ty/ vs /ny/ - /tyiraT/ 'kettle' vs /nyiraT/
'woven'
- 3.1.8.20.2 /dy/ vs /d/ - /dyatu/ 'to fall' vs /datu/
'great grandfather'
/dy/ vs /t/ - /dyata/ 'dragon' vs /tata/
'to shower'
- 3.1.8.20.2 /dy/ vs /n/ - /madya/ 'to visit' vs /mana/

			'to sharpen'
/dy/ vs /ny/- /dyatu/	'to fall'	vs /nyatu/	'wild rubber'
/dy/ vs /l/- /kadya/	'visit'	vs /kala/	'scorpion'
/Ndy/ vs /Nty/- /NdyoloK/	'given'	vs /NtyoloK/	'given torch'
3.1.8.20.3 /ny/ vs /n/- /anyaK/	'to pursue'	vs /anaK/	'child'
/ny/ vs /t/- /nyelo/	'year'	vs /telo/	'three'
/ny/ vs /d/- /hanya/	'eight'	vs /hada/	'bar'
/ny/ vs /s/- /hanya/	'eight'	vs /hasa/	'cupid'
/ny/ vs /ty/- /nyutyuK/	'pricked'	vs /tyutyuK/	'to suit'
/ny/ vs /dy/- /anyaK/	'to pursue'	vs /adyaK/	'being lost'
/ny/ vs /l/- /enyeT/	'to suppress'	vs /eleT/	'to put carelessly'
3.1.8.20.4 /mb/ vs /b/- /mbaleh/	'answered'	vs /baleh/	'compensation'
/mp/ vs /p/- /mpukan/	'washed'	vs /pukan/	'to wash'
/nd/ vs /d/- /ndahan/	'added up'	vs /dahan/	'addition'
/nt/ vs /t/- /ntehaw/	'called'	vs /tehaw/	'call'
/nk/ vs /k/- /nkepan/	'put on'	vs /kepan/	'to put on'
/ng/ vs /g/- /ngawi/	'done'	vs /gawi/	'work'

3.1.9

3.1.9.1 Table 3, Consonant distribution

phoneme	#CV	VCV	VC#
p	v	v	
b	v	v	
P			v
m	v	v	v
w	v	v	v
t	v	v	
d	v	v	
T			v
n	v	v	v
s	v	v	v
l	v	v	v
r	v	v	v
y	v	v	v
ty	v	v	
dy	v	v	
ny	v	v	
N			
k	v	v	
g	v	v	
K			v
ŋ	v	v	v
h	v	v	v

3.1.9.2 Table 4. Attested consonant clusters

	p	b	m	w	t	d	n	s	l	r	y	ty	dy	ny	k	g	ŋ	h
p	v	v	v		v	v	v							v	v	v	v	
b		v	v			v	v	v						v	v	v	v	
m	v	v	v		v	v	v	v	v	v				v	v	v	v	
w			v		v													
t	v	v	v	v	v						v	v	v		v	v	v	
d						v								v		v	v	
n			v		v	v	v	v	v	v				v		v	v	
s	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
l			v		v													
r			v		v													
y			v		v													
ty											v	v						
dy											v	v						
ny											v	v						
N													v	v				
k	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
g						v	v	v						v		v	v	
ŋ						v	v	v						v	v	v	v	
h	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	

3.2

3.2.1 Vowels

Table 5. Chart of vowel phonemes

	front		central		back	
	+ long	- long	+ long	- long	+ long	- long
high	ī	i			ū	u
mid	ē	e	ə		ō	o
low			ā	a		

- 3.2.1.1 /i/ a) [ī ~ i] in [Vŋ#] (word base):
 [m'ihīŋ-, m'ihiŋ-] 'fish-trap'
 in [NVC#] : [s'unī?, s'unī?] 'quiet'
 b) [i] in [VC#] (word base):
 [b'uhit-] 'ulcer'
 [b'uhis] 'grey monkey'
 c) [ī ~ ī ~ i ~ i] in [NV(N)CV] :
 [n'ī.haw, n'īhaw, n'i.haw, n'ihaw] 'lost'
 d) [i. ~ i] in all other positions:
 [b'isa?, b'i.sa?] 'wet'
 [d'i.mpaŋ, d'impah] 'to cross'
- 3.2.1.2 /ī/ a) [ī:] in [NV#]:
 [kar'omī:] 'its festivity'
 b) [i:] in [V#]:
 [pəmb'uli:] 'his return'
 [kahaR'ati:] 'his cleverness'
- 3.2.2.1 /e/ a) [ɛ ~ ε] in [Vŋ#] (word base):
 [k'a.jɛŋ-, k'ajεn-] 'in a hurry'
 b) [ɛ ~ e] in [NVy]:

- [s'ʌŋ̥ey, s'ʌney] 'river'
c) [e] in [V_y]:
[ba'key] 'monkey'
[s'ʌney] 'river'
d) [ɛ] in [VC#] (word base) except Vs# :
[nr'ɛwən-] 'to make some one
get startled'
e) [ɛ. ~ ɛ ~ ε. ~ ε] in NV(N)CV :
[ñ'ɛ. lɔ^?, ñ'ɛ. lɔ^?] 'year'
f) [ε. ~ ε] in other positions:
['ɛ. bɛ. s, 'ɛbɛs] 'sweat'

- 3.2.2.2 /e/ → a) [ɛ: ~ ε:] in [NV#]:
[kad'ɛŋɛ:, kad'ɛŋɛ:] 'his deaf'
b) [ɛ:] in [V#]:
[mə. R'akɛ:] 'to care for it'

- 3.2.3.1 /u/ → a) [ü ~ u] in [Vŋ#] (word base):
[b'qün-, b'ain-, b'aun] '(name of fish)'
b) [u] in [VC#] (word base) except [Vs#]:
[s'ayup-] 'late'
[tank'ajuk-] 'leap'
c) [ü. ~ u. ~ ü ~ u] in [NV(N)CV]:
[m'ü. lɛ. s, m'u. lɛ. s, m'ülɛ. s, m'ulɛ. s]
'to reverse'
[m'ü. nda?, m'u. nda?, m'ündə?,
m'unda?] 'to carry'
d) [u. ~ u] in all other positions:
[?u. hu. s, ?uhus] 'apply'
[l'u. put-, l'uput-] 'to get rid of'
[s'u. ni?, s'uní?] 'quiet'

- 3.2.3.2 /ü/ → a) [ü: u:] in [NV#]:
[r'omü: ~ r'omu:] 'his belongings'
b) [u:] in [V#]:
[b'au:] 'his face'

- 3.2.4.1 /o/ a) [ɔ:] in [Vŋ#] (word base):
[s'ampRɔ^n-, s'ampRɔ^n-] 'lamp-chimney'
b) [o] in [Vw]:
[par'owɔ^n] 'having cavity inside'
c) [ɔ:] in [VC#] and [VV#] (word base)
except in [VS]:
[ñ'ɛlɔ^?] 'year'
[b'a. Rɔ^k-] 'jar'
d) [ɔ~ɔ~ɔ~ɔ] in [NV(N)CV]:
[n'ɔ. mbah, n'ɔ. mbah, n'ɔmbah, n'ɔmbah]
'answered'
[məñ'ɔ. hɔ^?, məñ'ɔ. hɔ^?, man'ɔhɔ^?,
məñ'ɔhɔ^?] 'to order'
e) [ɔ~ɔ] in other positions:
[b'ɔ. hɔ.s, b'ɔhɔs] 'path'
[j'ɔ. hɔ^?, j'ɔhɔ^?] 'vegetable soup'
[?'ɔ. lɔ^n-, ?'ɔlɔ^n-] 'human being'
[?'ɔ. mba?, ?'ɔmba?] 'to go along'

- 3.2.4.2 /ɔ/ → a) [ɔ: ~ ɔ:] in [NV#]:
[mã, m'ɔnɔ:, mã, m'ɔnɔ:] 'to stab with
a lance'
b) [ɔ:] in [V#]:
[kɔj'ɔhɔ:] 'his arrogance'

- 3.2.4.3 /a/ → a) [ã ~ a] in [Vŋ#] (word base):
[b'uŋã, b'uŋ-] 'empty'

- b) [a] in [VC#] (word base) except [Vs#]:
[l'iwa?] 'below'
[r'əmbat-] 'basket'
[k'ɔpal] 'ship'
[ta. b'uŋan] '(name of) bird'
['ewah] 'loin-cloth'
c) [a. ~ a] in [Vs#] (word base):
[b'ɛha. s, b'ɛhas] 'rice'
d) [ã. ~ ã ~ a. ~ a] in [NV(N)CV]:
[ŋ'ã. ãã?, ŋ'õŋã?, ŋ'õŋã?, ŋ'a. ña?] 'to
open mouth widely'
[mã. h'iian, mãh'iian, mə. h'iian,
məh'iian] 'light'
e) [a. ~ a] in all other positions:
[t'a. mɛ?, t'əmɛ?] 'to enter'
[t'a. mpa:, t'əmpa:] 'its making'

3.2.5.2 /A/ is the archiphoneme of /a/ and /e/ in accentual units of three or more syllables in [#CV(N)CV]:

- [ə~a]: [ŋal'ilə^?, ŋəl'ilə^?] 'very old'
[pol'aku?, pəl'aku?] 'dowry'
[pəpal'ɔ'ni pəpal'ɔ'ni] 'Paloi's father'

- 3.2.5.3 /ā/ → a) [ā: ~ a:] in [NV#]:
[m'ā, mā: ~ m'ā, mā:] 'his uncle'
b) [a:] in [V#]:
[b'uŋa:] 'its fruit'

3.2.6 /ə/ → [ə] 'heavy phoneme' with 'mid' as optional feature, the basic phoneme of which is /a/ [ə]. This phenomenon occurs only in the possessive ending of third person singular:

- [b'uhitəh, b'uhitah] 'its ulcer'
[ta. k'ɔlɔ^kah, ta. k'ɔlɔ^kah] 'its head'
[onakəhtə?, 'onakahtə?, 'onakətə?,
'onakatə?] 'that child of his'
['onakəndaw, 'onakandaw] 'his child
plus past marker'

3.3.1 Although the functional value of [ə] is quite limited, we think it necessary to posit a phoneme /ə/. The fact that /ə/ can always be replaced by /a/ but that /ə/ not always can be substituted for /a/ points in our view to the distinctiveness of the former:

- /buhitəh/, /buhitah/ 'its ulcer'
/atepəh/, /atepah/ 'its door'
/ewahəh/, /ewahah/ 'his loin-cloth'

but

- /ewah/ 'loin-cloth' cannot become
*/ewəh/
/itah/ 'we' cannot become */itəh/

It is rather different in the case of accentual units with three or more syllables in [#CV(N)C]. Here /a/ and /ə/ are fully interchangeable; the opposition low vs mid is neutralized between two initial consonants:

/A/ → [a~ə, ă~ĕ]:

/tAmbaliK/	[tqmb'alink-, təmb'alink-] 'overturned'
/lAlawah/	[lql'awah, ləl'qwah] '(kind of) wasp'
/ŋAlilo/	[ŋăl'ilɔ̃?̄, ŋĕl'ilɔ̃?̄] 'very old'
/pAlaku/	[pal'aku?, pəl'aku?]̄ 'dowry'

However, we may say that in some units /A/ can be omitted while in other units it cannot. The absence of /A/ in [#C(N)C] is optional (heavy form), while in the basic form the archiphoneme /A/ is necessarily present. This means that in every consonant cluster in initial position /A/ can be inserted, while not every /A/ between two initial consonants can be omitted:

/ŋlilo/ (heavy)	→ [ŋ'lilɔ̃?̄]	'very old'
/ŋAlilo/ (basic)	→ [ŋĕl'ilɔ̃?̄, ŋal'ilɔ̃?̄]	'very old'
/klambi/ (heavy)	→ [kl'ambı?̄]	'robe'
/kAlambi/ (basic)	→ [kəl'ambı?̄, kal'ambı?̄]	'robe'
/plaku/ (heavy)	→ [pl'aku?̄]	'dowry'
/pAlaku/ (basic)	→ [pəl'aku?, pal'aku?̄]	'dowry', but
/tAmbaliK/	→ [təmb'alink-, tamb'alink-]	'overturned'
	not * [tmb'alink-]	
/lAlawah/	→ [ləl'awah, lal'a.wah]	'(kind of) wasp'
	not * [ll'awah]	

3.3.2

Phonemes /u/ and /o/ are obviously in opposition, but in some instances we find doublets:

/sakola/, /sakula/	'school'
/gohoP/, /guhoP/	'roar'
/keho/, /kehū/	'fire'
Compare: /soho/	'to order' vs /suhu/ 'flood'
/oloh/	'man' vs /uluh/ 'to let (a rope) run out'

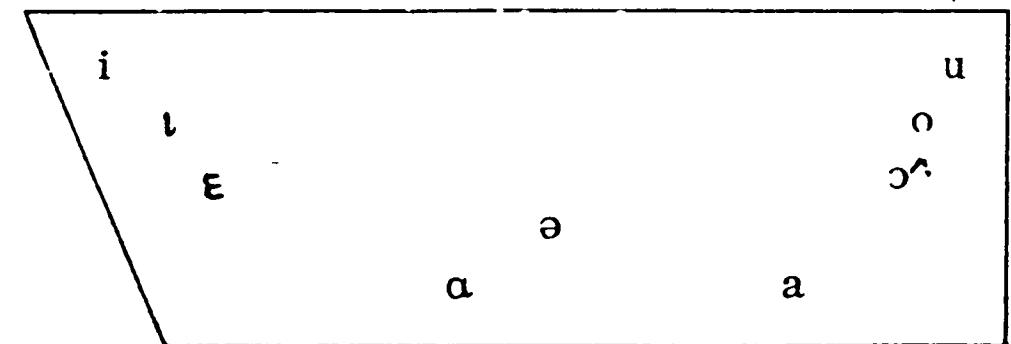
3.3.3

In phonemic transcription the place of stress is not indicated because it is not functional. According to our investigation the place of the stress is on the penultimate syllable except when followed by the third person singular possessive marker or/and a place/time marker. In this case stress remains on the penultimate syllable of the word base:

['mənak-]	'child'
['mənakah, 'mənakeh]	'his child'
['mənakah ^h te?, 'mənakə ^h te?]̄	'that child of his'
['mənakah ^h , 'mənakə ^h h ^h]̄	'this child of his'
['mənakah ^h nah, 'mənakə ^h nah]	'his child plus past marker'

3.4

Table 6. Approximative Phonetic Chart



3.4.1

/i/ vs /i/ - /lai/	'ginger' vs /lai/
/i/ vs /e/ - /isi/	'flesh' vs /ise/
/i/ vs /ē/ - /isi/	'flesh' vs /isē/
/i/ vs /a/ - /bawi/	'female' vs /bawa/
/i/ vs /ă/ - /bawi/	'female' vs /bawā/
/i/ vs /u/ - /bari/	'rice' vs /baru/
/i/ vs /ū/ - /hari/	'hot' vs /harū/
/i/ vs /o/ - /talih/	'just a moment ago'
/i/ vs /ō/ - /lai/	'thing'
/i/ vs /u/ - /lawi/	'ginger' vs /laō/
/i/ vs /ū/ - /lawī/	'its end' vs /lawu/
/i/ vs /o/ - /lai/	'hunger'
/i/ vs /ō/ - /lai/	'its end' vs /lawū/
/i/ vs /a/ - /bawi/	'its fall'
/i/ vs /ă/ - /bawi/	'the female' vs /bawa/
/i/ vs /e/ - /bawi/	'call'
/i/ vs /ē/ - /bawi/	'the female' vs /bawā/
/i/ vs /o/ - /bawi/	'its call'
/i/ vs /ō/ - /bawi/	'the female' vs /bawe/
/i/ vs /e/ - /bawi/	'scream'
/i/ vs /ē/ - /bawi/	'the female' vs /bawē/
/e/ vs /a/ - /eton/	'his scream'

3.4.2

/e/ vs /a/ - /eton/	'have'
/e/ vs /ă/ - /sale/	'blackened with soot'
/e/ vs /o/ - /sale/	vs /salā/ 'its fault'
/e/ vs /ō/ - /sale/	'blackened with soot'
/e/ vs /u/ - /ehaT/	vs /salo/ 'refuse to'
/e/ vs /ū/ - /gare/	'blackened with soot'
/e/ vs /ō/ - /bure/	vs /salō/ 'his refusal'
/e/ vs /u/ - /akē/	'weight' vs /uhat/
/e/ vs /ū/ - /mamburē/	'root'
/e/ vs /o/ - /manyalē/	'nickname' vs /garū/

3.4.3

/e/ vs /a/ - /eton/	'foam' vs /burē/
/e/ vs /ă/ - /sale/	'its foam'
/e/ vs /o/ - /sale/	'his sibling's child'
/e/ vs /ō/ - /sale/	vs /aku/ 'Γ'
/e/ vs /u/ - /ehaT/	'blackened with soot'
/e/ vs /ū/ - /gare/	vs /mamburū/ 'to hunt it'
/e/ vs /ō/ - /bure/	'to make it foam'

3.4.4

/e/ vs /u/ - /akē/	'his sibling's child'
/e/ vs /ă/ - /sale/	vs /aku/ 'Γ'
/e/ vs /o/ - /sale/	'blackened with soot'
/e/ vs /ō/ - /sale/	vs /malo/ 'refuse to'

	/ē/ vs /ō/ - /penyalē/ 'something to make it black with soot' vs /panyalō/ 'something to make him refuse to'
	/ē/ vs /a/ - /salē/ 'its being blackened with soot' vs /sala/ 'wrong'
	/ē/ vs /ā/ - /kasalē/ 'its being blackened with soot' vs /kasalā/ 'his fault'
3.4.5	/a/ vs /ā/ - /gita/ 'rubber' vs /gitā/ 'his getting sight of'
	/a/ vs /u/ - /uhāT/ 'root' vs /uhut/ 'to pull out'
	/a/ vs /ū/ - /paka/ 'mast' vs /pakū/ 'its nail'
	/a/ vs /o/ - /sala/ 'wrong' vs /salo/ 'refusal'
	/a/ vs /ō/ - /sala/ 'wrong' vs /salō/ 'his refusal'
3.4.6	/ā/ vs /u/ - /katā/ 'its symbol' vs /katu/ '(name of) vegetable'
	/ā/ vs /ū/ - /katā/ 'its symbol' vs /katū/ 'his <u>katu</u> '
	/ā/ vs /o/ - /kajohā/ 'his being confidential' vs /kajoho/ 'arrogance'
	/ā/ vs /ō/ - /kajohā/ 'his being confidential' vs /kajohō/ 'his arrogance'
3.4.7	/u/ vs /ū/ - /bau/ 'face' vs /baū/ 'its face'
	/u/ vs /o/ - /umbeT/ 'to stop' vs /ombeT/ 'to fit'
3.4.8	/u/ vs /ō/ - /bau/ 'face' vs */baō/
	/ū/ vs /o/ - /baū/ 'its face' vs */baō/
3.4.9	/ū/ vs /ō/ - /baū/ 'its face' vs */baō/
	/o/ vs /ō/ - /soho/ 'order' vs /sohō/ 'his order'
3.5.1	

Table 7. Vowel and diphthong distribution

#VC	CVC	CV#
a	v	v
i	v	v
e	v	v
ə	v	
o	v	v
u	v	v
ā		v
ī		v
ē		v
ō		v
ū		v
aw		v
ay		v
uy		v
oy		v
ey		v
iy		v

3.5.2

Table 8.

a	i	e	u	o	ə	w	y
a	-	v	-	v		v	v
i	v	-	v	v	v		v
e	v	-					v
o	v	-					v
u	v	v	v				v
w	v	v	v	v	v	v	
y	v	-	v	v	v		

3.6.1

Phonetic transcription

[papal'ɔ^i mān'q̄mpa b'u.uu?. s'inde 'andaw papal'ɔ^i mām'upu h'umbāñ-. a'Re t'utu h'umbāñte ?, 'awi īj̄e: h'qndak-mn'q̄.mpa b'uūu?. m'ɛtɔ^h īj̄e: māñj'qlin-b'uūute?, d'u.mah qn'q̄.kəh pal'ɔ^i. k'uāan pal'ɔ^i: "o, apāñ n'q. ray g'qwim- ?" t'ombah papal'ɔ^i: "k'ɔwəh m'ɔtam ? d'iia ik'aw m'it̄e n'q. ray gaw'īŋkutɔ^h ?" t'ombah pal'ɔ^i: "t'api 'apāñ, b'uūum l'a. law j'arāñ-. 'ilit- t'antāñ 'indāñ." pəpal'o^i s'āñit̄- t'utu 'awi k'ɔtak- pal'ɔ^ite ?, t'api pal'ɔ^i d'iia mar'qk̄e:, p'alus məl'ihi b'apā:, s'ambil bəd'indāñ: "ilit- t'antāñ 'indāñ, j'aRāñ b'uūun 'apāñ-." k'alo.t̄e h'ante h'ante īj̄e: bəd'indāñ-. s'āñit̄- t'utu pəpal'ɔ^i d'ɛnq̄ 'anakəh̄e, yər'andat 'aqat 'ateyah, 'tapi pal'ɔ^i d'iia pr'oba 'īj̄e:.]

3.6.2

Phonemic transcription

/pA-paloi mAnampa buwu. sindé andaw pA-paloi mAmupu humbañ. are tutu humbañte, awi iē handaK mnampa buwu. metoh iē mAnjalin buwu-te, dumah anakeh paloi. kuan paloi: "o, apāñ naray gawim?" tombah pA-paloi: "koweh matam? dia ikaw mite naray gAwinku-toh?" tombah paloi: "tapi apāñ, buwum lalaw dyaranj iliT tantañ indāñ." pA-paloi sañiT tutu awi kotaK pAloite, tapi paloi dia mArakē, palus mAlihi bapā, sambil bAdindañ: "iliT tantañ indāñ, dyaranj buwun apāñ." kAlote hante hante iē bAdindañ. sañiT tutu pA-paloi denan anakəh̄e, yArandaT aqat ateyah. tapi paloi dia praba iē./

3.6.3

Indonesian translation

Pa Paloi membuat bubu

Suatu hari Pa Paloi mengumpulkan bambu. Banyak sekali bambu itu, karena ia hendak membuat bubu. Ketika ia menjalin bubu itu, datang anaknya Paloi.

Kata Paloi: "O, ayah, apa pekerjaanmu?"
Jawab Pa Paloi: "Di mana matamu? Tidak kau
lihat apa kerjaku ini?"
Menjawab Paloi: "Tapi ayah, bubumu terlalu
jarang. Rapat tenunan ibu."
Pa Paloi marah sekali karena perkataan Paloi
itu, tapi Paloi tidak memperdulikannya, lalu
meninggalkan bapaknya, sambil berdendang:
"Rapat tenunan ibu, jarang bubu ayah." Begitu
terus menerus ia berdendang. Marah sekali
Pa Paloi dengan anaknya itu, semrawut pera-
saan hatinya tapi Paloi tidak memperdulikan
dia.

3.6.4 English translation

Pa Paloi made a fish trap

One day Pa Paloi gathered bamboo. There was much bamboo, because he wanted to make a fish trap. When he was weaving the fish trap, his son Paloi came.
Paloi said: "O, father, what are you doing?" Answered Pa Paloi: "Where are your eyes? Don't you see what my work is?"
Paloi remarked: "But father, your fish trap is very far apart. Mother's fabric is close." Pa Paloi was very angry because of those words of Paloi, but Paloi did not mind that, then (Paloi) left his father, while singing: "Mother's fabric is close, father's trap is far apart." He sang it again and again. Pa Paloi was very angry with that son of his, annoyed was his heart but Paloi did not mind.

4.1 Orthography

phoneme	suggested symbol
/p/	p
/b/	b
/P/	p
/m/	m
/w/	w
/t/	t
/d/	d
/T/	t
/n/	n
/s/	s
/l/	i
/r/	r
/y/	y
/ty/	c
/dy/	j
/ry/	ny
/N/	n
/k/	k
/g/	g
/K/	k
/ŋ/	ng
/h/	h

phoneme	suggested symbol
/i/	i
/i/	ii
/e/	e
/ē/	ee
/ə/	a
/u/	u
/ū/	uu
/o/	o
/ō/	oo
/a/	a
/ā/	aa
/A/	a

/aw/	aw
/ay/	ay
/uy/	uy
/oy/	oy
/ey/	ey
/iy/	iy

This orthography is mainly based on the Indonesian spelling system. (See: Stokhof : 'Perihal ejaan Bahasa Daerah' Bahasa dan Sastra 1977 forthcoming).

In this proposal the long vowels are written by a digraph. The third person singular possessive marker is written: ah for all varieties, this being the optimal shape of it in slow and deliberate speech. Loanwords should be written according to the Indonesian spelling system. The place of stress is not indicated because it is not distinctive.

4.2

Text written in the proposed orthography

Pa Paloi manampa buwu

Sinde andaw pa Paloi mamupu humbang. Are tutu humbang te, awi iee handak manampa buwu. Metoh iee manjalin buwu te, dumah anakah Paloi.
Kuan Paloi: "O, apang, naray gawim?" Tombah pa Paloi: "Koweh matam? Dia ikaw mite naray gawingku toh?" Tombah Paloi: "Tapi apang, buwum lalaw jarang. Ilit tantang indang." Pa Paloi sangit tutu awi kotak Paloi te, tapi Paloi dia marakee, palus malihu bapaa, sambil badindang: "Ilit tartang indang, jarang buwun apang." Kalote hante-hante iee badindang. Sangit tutu pa Paloi dengan anakah te, ngarandat angat ateyah, tapi Paloi dia paraba iee.

5

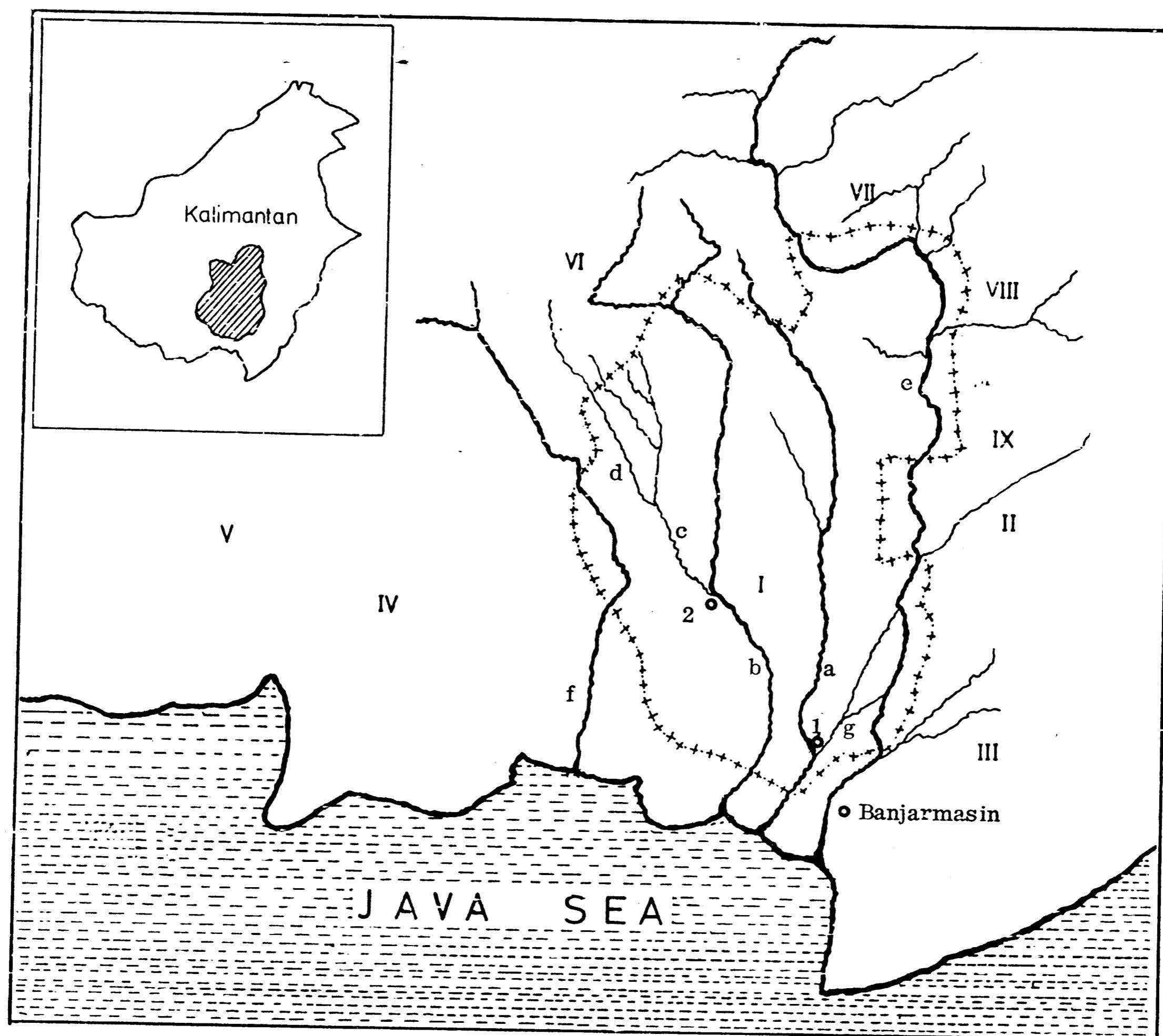
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 Teras Mihing (34 years old), a native speaker of the Ngaju Dayak (Pulau Petak Dialect) functions as the informant. Apart from Dayak he is also proficient in Banjarese and Indonesian.
3. the following symbols are used in this paper:
- | | |
|------|--|
| '—→' | 'is realized as' |
| '~' | 'in free variation with' |
| 'N' | 'nasal consonant' |
| 'V' | 'vowel' |
| 'C' | 'consonant' |
| 'V̄' | 'prolonged vowel' |
| 'C-' | 'unreleased consonant' |
| '#' | 'word boundary' |
| ' ' | 'place of the stress' (single quotationmark in front of a continuant) |
| '·' | 'between two (or more) morphemes indicates that they together constitute one (minimal) accentual unit' |
| 'C̄' | 'syllable constituting consonant' |

FOOTNOTES

1. See Map, p. 59.
2. As the theoretical framework the theories of Trubetzkoy and Ebeling are chosen:
 N. S. Trubetzkoy,



Legend:

I	Dayak Ngaju	VII	Siang	a	Kapuas River
II	Maanyan	VIII	Taboyan	b	Kahayan River
III	Banjarese	IX	Lawangan	c	Rungan River
IV	Baamang			d	Maruhing River
V	Kotawaringin			e	Barito River
VI	Ott Danum			f	Katingan River
		1	Kuala Kapuas	g	Pulau River
		2	Palangka Raya		

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