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First Published 1985

Typeset by Jeanette Coombes

Printed by A.N.U. Printing Service

Bound by Adriatic Bookbinders Pty Ltd

Maps drawn by Theo Baumann, Cartography, Department of Linguistics, Research  
School of Pacific Studies, Australian National University.

The editors are indebted to the Australian National University for assistance in the  
production of this series.

This publication was made possible by an initial grant from the Hunter Douglas Fund.

National Library of Australia Card Number and ISBN 0 85883 322 0

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## DIALECT SURVEY OF MUMENG DIALECT CHAIN

Karen Adams and Linda Lauck

### 1. INTRODUCTION AND PROCEDURES

This paper is a report of a dialect survey carried out in the Mumeng area of the Morobe Province, Papua New Guinea. We have been working in the Patep dialect of the Mumeng dialect chain since November 1972 under the auspices of the Summer Institute of Linguistics (SIL). Our purpose in conducting the survey was fourfold:

- (1) establish more firmly the dialect boundaries of the Mumeng dialect chain,
- (2) get native speaker opinions of the intelligibility of other dialects,
- (3) collect general sociolinguistic information about the area,
- (4) determine if Patep orthography and materials can be used in a wider area.

The area surveyed is located in proximity to the Lae-Wau road in the Morobe Province. The villages are located in the foothills and mountains on either side of a 60 km stretch of the road between Timini and Bulolo. There are at least 28 main villages and various smaller hamlets within this area. Most of the villages are in the Mumeng subdistrict, with Mumeng as the government administrative centre. The villages of Leklu, Latep, and Patep 3 have Bulolo as their administrative centre. Appendix A gives a complete listing of the villages and their population figures as of the 1979 census. The village in which we live, Patep 2 (Mahomba), is located 12 km north of Mumeng on top of a mountain, about 30 minutes walk from the road.

The survey was conducted from 28 July – 6 August 1980. Since most of the villages are located within proximity to the road, we travelled by car or passenger truck (when the weather was too bad for the car). We collected word-lists and sociolinguistic information from 14 villages, as shown in Chart A.

The procedure used in each village or each contact was to elicit a wordlist using Tok Pisin. We used a modified version of the standard SIL 190-word list (Bee and Pence 1962). The following numbers were omitted from the list:

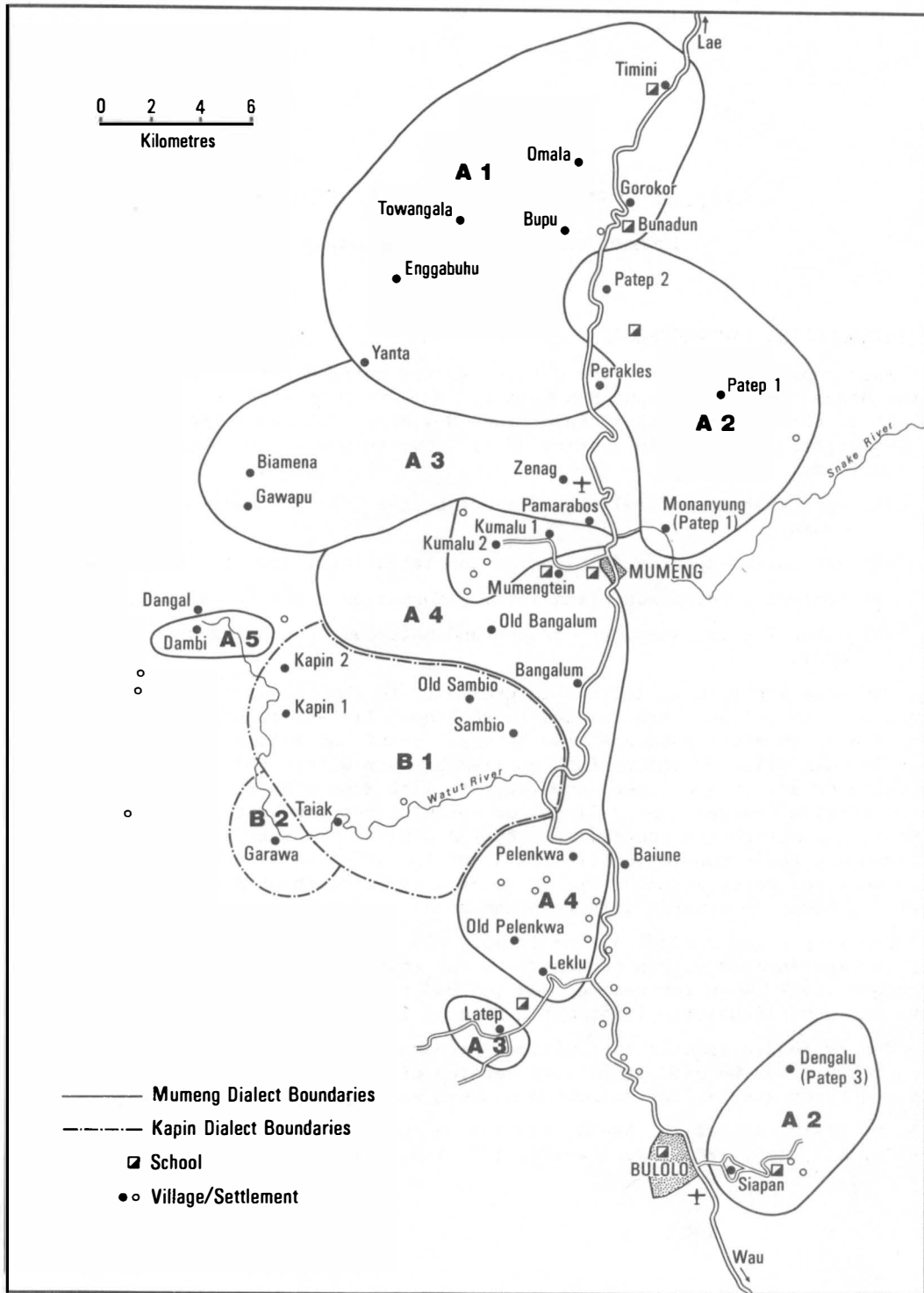
1, 5, 9, 14-18, 39, 44-47, 54-59, 62, 63, 65, 67-69, 72, 75, 76, 80, 83, 85, 102-105, 113, 115, 128, 129, 132-134, 138, 143, 147, 150, 151, 153-155, 157, 158, 161-190.

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*Papers in New Guinea Linguistics No.22*, 1-27.

*Pacific Linguistics*, A-63, 1985.

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Map 1: Mumeng and Kapin dialects

Gov't name for village	Local name, if different	How and where data was gathered
Timini	Tondema	- drove to village
Gorakor		- at Patep 2 congregation meeting
Bupu		- walked to village from road
Perakles	Yanta	- drove to village
Zenag	Ziangkehe	- church officer in Mumeng
Kumalu		- walked from Mumeng to hamlet of Soni
Mumengtein	Mumin	- walked to village from Mumeng
Pelenkwa		- walked to village from road
Kapin 1		- church officer in Mumeng
Taiak		- met villagers in Mumeng
Garawa	Garau	- met a man at Golden Pine settlement near Leklu village
Leklu		- drove to village
Latep	Neake/Gwalevac	- drove to village
Dambi	Zoo	- medical orderly at Mumeng clinic

Chart A: Villages surveyed

These were eliminated either because of the ambiguity of the term or its inappropriateness to the language, based on our knowledge of Patep. The following were also eliminated before the cognate percentages were calculated: 24, 51, 61, 106, 108-110, 121, 127, 130, 131.

In addition to standard items, we also elicited a full set of pronouns (15 total), the birth order names for males and females (seven each), and some short constructions to show various grammatical features.

We also asked the following kinds of questions relating to intelligibility of other dialects:

- (a) Which villages speak exactly like you do?
- (b) Which villages speak the same language and you can understand them well, but they pronounce some words differently?
- (c) Which villages speak the same language, but they speak quite differently and you can only understand parts?
- (d) Which villages speak a different language?

In asking these questions to help determine intelligibility among the villages, we discovered that we needed to ask the young people or about the young people. This is because many of the middle aged and older men have learned to understand several dialects and languages of the area. Probably in earlier years most of the interaction between the groups was in the vernacular languages. The younger generation can use their own language with closely related dialects, but for less closely related dialects or different languages,

Tok Pisin is used. So they don't understand as many of the dialects and languages as the older men. It was felt that the younger people's ability to understand other groups is more representative of the true intelligibility between the groups.

In each village we also asked general questions concerning where the children go to school, which Lutheran congregation the village is in, etc.

## 2. RESULTS

The relationship between the dialects and languages spoken in the villages surveyed is a complex one. Many factors must be taken into account in order to come up with an accurate picture of the situation. For example, lexicostatistical data can be used to show the relationship between the lexical items, but that is only one part of the total picture. Therefore, the results of the survey will be discussed under four general areas: lexicostatistical results, sociolinguistic data, phonological variations, and grammatical variations.

### 2.1. Lexicostatistical results

Bruce Hooley (1970) has done a detailed lexicostatistical analysis of the entire Buang language family and has posited the following six languages in the family:

1. Mapos
2. Mangga
3. Mumeng
4. Kapin
5. Piu
6. Vehes

The villages speaking the Mumeng and Kapin languages were the ones included in this survey.

Wordlists from 17 villages were compared: the 14 villages which were surveyed, plus Patep 2, Mapos (Central Buang), and Mangga (Mangga Buang). Based on our knowledge of the languages of the area, we used the 111 most reliable items in calculating cognate percentages. The wordlists are included as Appendix B.

The wordlists were analysed with the help of the 'PNG Language Survey Analysis Programme'. Each word in the wordlist was coded with a letter according to which cognate set it belongs.

This was done on the basis of phonetic similarity, taking into account some regular correspondences which occur within the Buang family. Therefore, any two words were either cognate (and therefore assigned the same letter) or were not cognate (and given different letters). The programme was run on a Datapoint 2200 computer and the printout was a matrix showing the number of cognates between each two word lists. These were converted to cognate percentages.

Chart B gives cognate percentage figures for 15 villages. Two villages in which wordlists were elicited are not included in the chart because the results were so similar to data from other villages surveyed. Timini and Leklu were eliminated because of their similarity to Gorakor and Pelenkwa respectively. Mapos and Mangga were included for comparison purposes.



Gorakor	-																
Bupu	97	-															
Perakles	97	95	-														
Patep	88	88	87	-													
Zenag	87	87	87	95	-												
Latep	85	84	85	92	95	-											
Kumalu	80	78	81	78	80	82	-										
Pelenkwa	77	77	78	79	81	83	95	-									
Mumengtein	77	77	77	78	80	82	93	96	-								
Dambi	76	76	76	79	80	83	91	91	89	-							
Garawa	68	68	69	71	74	75	72	77	77	75	-						
Taiak	65	66	66	69	72	72	73	77	76	76	83	-					
Kapin	65	65	65	69	71	71	73	77	76	77	81	97	-				
Mapos	58	58	58	65	65	65	61	59	59	62	55	57	56	-			
Mangga	54	55	55	59	60	60	59	59	59	60	52	57	55	75	-		
	Gorakor	Bupu	Perakles	Patep	Zenag	Latep	Kumalu	Pelenkwa	Mumengtein	Dambi	Garawa	Taiak	Kapin	Mapos	Mangga		

==== language boundaries  
 - - - - - dialect boundaries

Chart B: Cognate percentages

The question of the confidence level and significant differences in cognate percentages is a difficult one. We attempted to convert the matrix percentages to its meaningful differences as suggested by Simons (1977). However, the cognate percentages were on such a continuum between 70% and 90% that it was not possible to group the figures in such a way as to meet both the internal and external criteria. Therefore, the raw percentage figures are used in the comparisons.

Based upon the cognate percentages in Chart B, the following languages and dialects can be posited:

Kapin language with two dialects:

1. Kapin, Taiak
2. Garawa

Mumeng dialect chain with four dialects:

1. Gorakor, Bupu, Perakles
2. Patep, Zenag, Latep
3. Kumalu, Pelenkwa, Mumengtein
4. Dambi

These relationships are shown as a tree diagram in Chart C. This tree diagram follows the procedures suggested by Sanders (1977). The nodes in the tree correspond to the lowest of the cognate percentages between the groups which are connected at that node.

A cognate percentage of 76-78% was arbitrarily used as the lowest percentage allowed for dialects within a language; percentage lower than that was considered as a separate language. Looking strictly at cognate percentages it is difficult to decide whether Kapin is a separate language from the Mumeng dialect chain, since the cognate percentages between Kapin and some of the geographically-close villages in the Mumeng chain are 76% and 77%.

However, looking at the data as presented in Charts B and C, it is clear that the Kapin, Taiak, and Garawa groups are too different from the Gorakor, Patep, and Zenag dialects of the Mumeng dialect chain to include them all as one language. The dialects within the Mumeng dialect chain can be connected at the 76% level in Chart C, whereas the Kapin, Taiak, and Garawa groups cannot be connected with any other groups above the 72% level. Based on the figures suggested by Simons (1977) 72% is significantly different from 76% at a .30 confidence level. Therefore, on lexicostatistical evidence it seems best to posit Kapin as a separate language from the Mumeng chain.

Generally, a cognate percentage of 93 or above was used to indicate members of a single dialect. However, the cognate percentages of Patep, Zenag, and Latep are misleading. Patep and Zenag are both 95% cognate with Latep. However, Patep has only 58% identical cognates with Latep, while Zenag has 67% identical cognates with Latep. This, along with grammatical comparisons discussed in Section 2.4., show that Zenag and Latep are more closely related to each other than either one is to Patep. Patep appears to be one dialect, and Zenag and Latep form another dialect.

As a rule, the cognate percentages we have calculated are higher than those calculated by Hooley. (This is shown in Chart D, in which Hooley's cognate percentages are the upper figures and our cognate percentages are the lower figures.) This is especially true when comparing groups within the Mumeng dialect chain. This is probably due to the particular lexical items which we included, which tended to show up the cognates. The main discrepancy seems to be with Latep, which Hooley lists as a separate dialect, and which we would include as part of the Zenag dialect. Other than that, our conclusions as to the languages and dialects match those of Hooley.

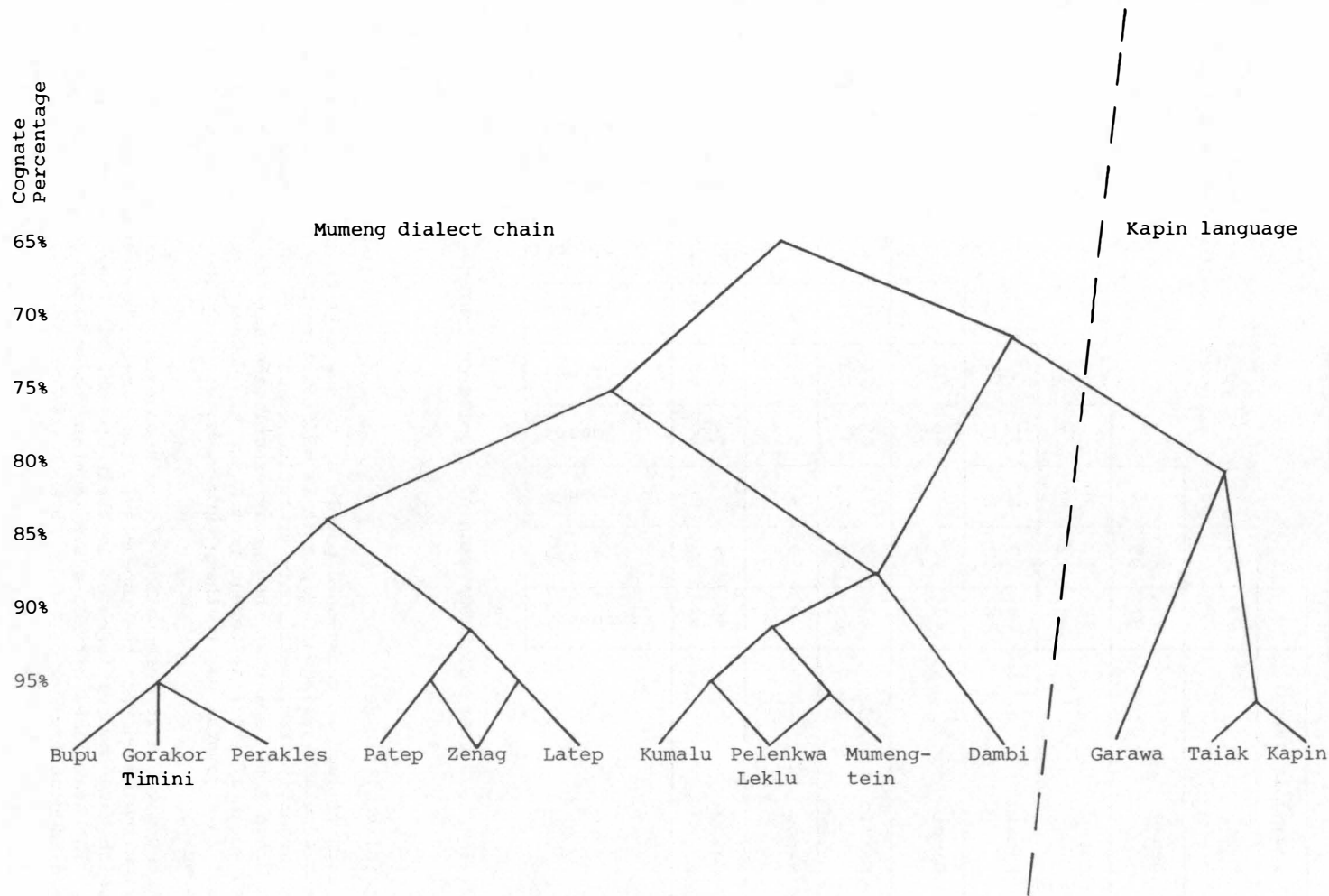


Chart C: Tree diagram of dialect relationships

Towangala (Bupu)	-								
Patep	79 88	-							
Zenag	76 87	86 95	-						
Latep	70 84	77 92	79 95	-					
Kumalu	68 78	79 78	83 80	71 82	-				
Dambi	63 76	70 79	73 80	66 83	82 91	-			
Sambio (Kapin)	63 65	70 69	71 71	65 71	76 73	71 77	-		
Mapos	49 58	59 65	57 65	51 65	61 61	57 62	56 56	-	
Mangga	50 55	59 59	57 60	52 60	60 59	55 60	58 55	74 75	-
	Towangala	Patep	Zenag	Latep	Kumalu	Dambi	Sambio	Mapos	Mangga

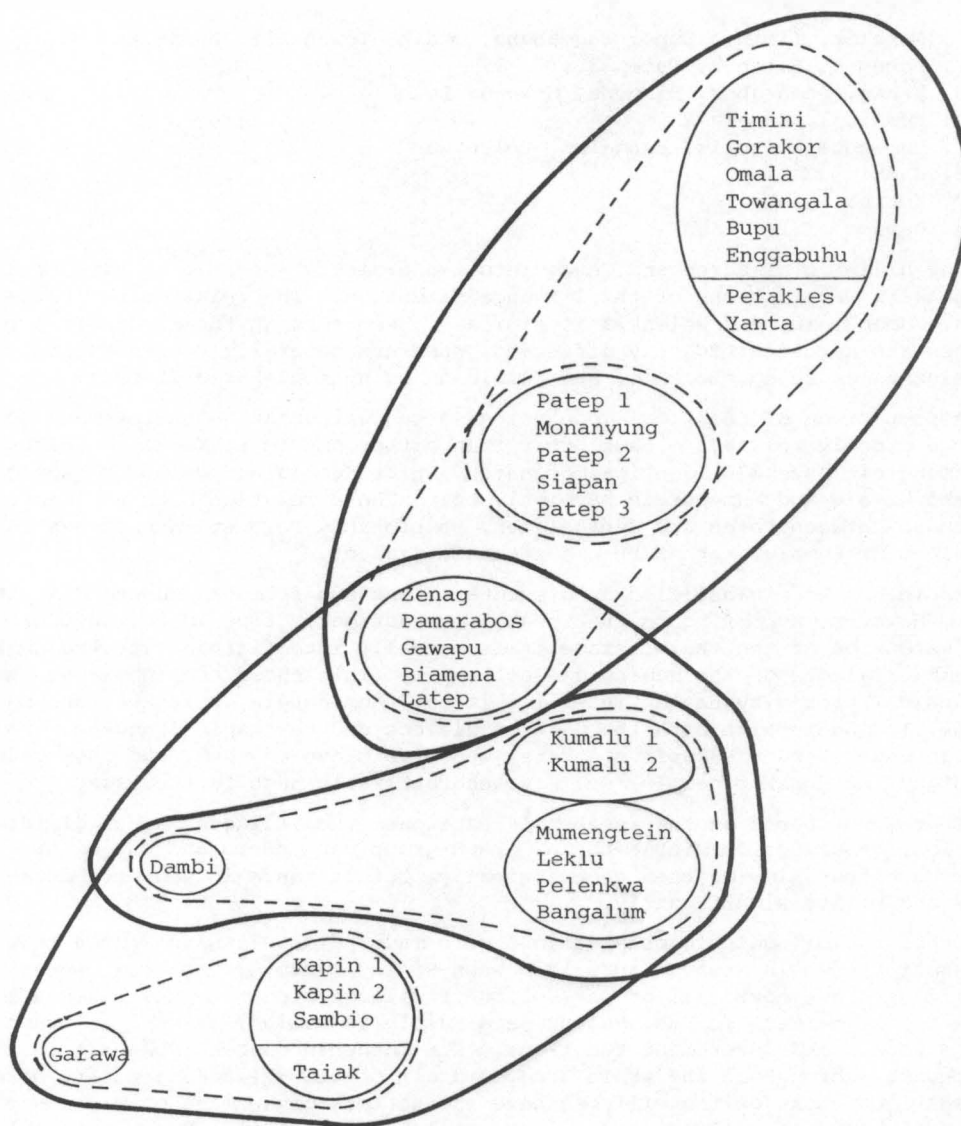
upper figures - Hooley  
lower figures - Adams and Lauck

Chart D: Comparison of cognate percentages

## 2.2. Sociolinguistic data

In each village we questioned people as to how well they could understand the speech of other villages. Since it is difficult to know how to interpret people's subjective responses, only tentative conclusions can be made. For example, Group A may say that they speak exactly the same as Group B, but Group B says they speak a little different from Group A. However, the responses do correspond in a general way to the groupings suggested by the lexicostatistical comparisons.

Chart E gives a representation of the responses. The villages circled in solid lines indicated that they speak just the same. The dotted lines indicate groups which have some differences in their speech, but they are mutually intelligible. The heavilylined circles group together those which can at least partially understand each other.



- speak exactly the same
- a few differences but mutually intelligible
- can understand some or quite a bit

Chart E: Native speaker judgements of dialect intelligibility

Based on the speakers' judgements of who speaks the same as they do, eight groupings can be posited:

1. Gorakor, Timini, Bupu, Enggabuhu, Omala, Towangala, Perakles
2. Patep 1, Patep 2, Patep 3
3. Zenag, Pamarabos, Biarena, Gawapu, Latep
4. Kumalu 1, Kumalu 2
5. Mumengtein, Leklu, Bangalum, Pelenkwa
6. Dambi
7. Kapin, Taiak
8. Garawa

Our division of Patep and Zenag into two dialects seems to be supported by the speakers' evaluations of the language situation. The relationship between Kumalu, Mumengtein, and Pelenkwa is similar. Even through their cognate percentages are not significantly different, speakers generally regard Mumengtein and Pelenkwa as being the same, and Kumalu as being somewhat different.

A comparison of identical cognates also suggests that Mumengtein and Pelenkwa are more closely related to each other than either one is to Kumalu. Pelenkwa and Mumengtein have 87% identical cognates, while Kumalu and Pelenkwa have only 66%, and Kumalu and Mumengtein have only 64%. These relationships are closer than those between Patep and Zenag-Latep, so probably Pelenkwa-Mumengtein is a subdialect of Kumalu, rather than a separate dialect.

Kapin has been classified as a separate language from the Mumeng dialect chain. However, according to the speakers' reactions, it could be considered as an extension of the chain, since it is mutually intelligible with the Kumalu and Dambi dialects of the Mumeng dialect chain. This shows the influence that geographical proximity has on intelligibility. Mumengtein, Pelenkwa, and Dambi are 76-78% cognate with both the Gorakor dialect and the Kapin language. However, they can understand the Kapin speakers, who live close to them, and they cannot understand the Gorakor people, who are geographically much further away.

Therefore, based on the speakers' reactions, the villages may be divided into eight groupings forming a chain. Each group can understand one or two groups on either side of them geographically, but distance is shown to decrease understandability significantly.

Other sociolinguistic observations were made. Tok Pisin is widely known throughout the whole area. Since 1970 when Hooley surveyed the area, several of the villages have moved all or part of their village closer to the Lau-Wau road. Travel to the markets in Lae, Mumeng, and Bulolo is common, as well as travel to various church and government functions. The Lutheran church (ELC-PNG) is the main church throughout the whole area, and all of the villages are part of a congregation. Most of the villages have access to a government or mission primary school, although some of the more remote villages (Towangala, Kapin, Garawa) do not have a school within walking distance of the village.

In all of the villages we visited, the vernacular language was the principal language being used. The only exception we noticed was at Pelenkwa where there is a settlement of people from other languages who are working in the gold fields nearby.

### 2.3. Phonological variations

Various phonological comparisons between the dialects of the Mumeng chain have been made as follows.

All of the dialects appear to have the following consonant phonemes:

p	p <sup>w</sup>		t		k	k <sup>w</sup>
b	b <sup>w</sup>	b <sup>y</sup>	d	d <sup>z</sup>	g	g <sup>w</sup>
ɸ	w		l	y	ɣ	
			s			
			z			
m		m <sup>y</sup>	n	n <sup>y</sup>	ŋ	

The voiced stops and /z/ are all prenasalised.

All of the groups have the following vowels, although it is difficult to tell if there are seven contrastive vowels as in Patep.

i	u
e	o
ɛ	a
	ɔ

In the Gorakor dialect, words often have a similar but different vowel from that used in Patep. However, it is difficult to set up regular sound correspondences, since sometimes it is a higher vowel and sometimes a lower one. There seems to be a closer correspondence of vowels between Patep and Kumalu-Dambi-Mumengtein, even though they don't share as many cognates overall.

Initial unstressed syllables in Patep always have the vowel schwa [ə]. It appears to be a neutralised vowel, since some of the other dialects have full vowels in that position. A further difference is that for some words, Kumalu, Mumengtein, and Pelenkwa have a different stress pattern, so that not only does the initial syllable have a full vowel, but it also receives stress.

Chart F shows other phonological comparisons between the various dialects.

All of these phonological differences present problems in attempting to adapt the Patep orthography to the other dialects in the Mumeng chain.

Looking at the actual orthographic symbols being used, there appear to be only a few problem areas. Patep uses c for glottal stop, even though it has been analysed as an allophone of /k/. However, most of the other dialects do not have glottal stop. If the Pateps could be persuaded to use k for glottal stop that could help the orthography to be more widely accepted.

The use of † as the symbol for schwa could be a problem in the dialects where the sound in that position is a full vowel rather than a neutralised vowel.

The real problem, however, is not which orthographic symbols to use for particular sounds. The problem is that the sound correspondences, especially of the vowels, are not always regular, and lexical items differ quite a bit within the dialect chain. For example, the dialects at opposite ends of the chain are only about 76-78% cognate. This is a wide range of variation to try to accommodate with a single orthography.

	Patep	Gorakor	Zenag	Latep	Dambi	Kumalu
other labialised and palatalised sounds	m <sup>w</sup> ŋ <sup>w</sup> p <sup>y</sup> b <sup>y</sup>	---	---	---	ŋ <sup>w</sup>	ŋ <sup>w</sup>
word final /n <sup>y</sup> /	---	---	---	---	---	Yes
word final /s/	v <sub>1</sub> hV <sub>1</sub> #	v <sup>(h)</sup> #	v <sub>1</sub> hV <sub>1</sub> #	v <sup>(h)</sup> #	Vs#	Vs#
word final glottal stop	Yes	k/∅	Yes	Yes	k/∅	Kumalu-Yes Mumengtein-k/∅ Pelenkwa-k/∅
initial /h/	h	h/z/∅	h/z	h/z	h/∅	h/∅
initial /y/	y	y/l	y	y	y/l	y/l
long vowels V.	Yes	Yes	Yes	No	No	No
vowel glides v <sup>i</sup> v <sup>u</sup>	No	No	Yes	Yes	Yes	Yes
word final unstressed V + nasal	V#	V#	Vŋ	Vŋ	Vn	Vn

Chart F: Phonological comparisons

#### 2.4. Grammatical variations

Only a few grammatical constructions were elicited, so only a few comparisons can be made. Complete paradigms and texts would need to be elicited and analysed before full comparisons could be made.

However, the following features seem to be common to all dialects in the Mumeng chain:

- (a) SVO clause order
- (b) Inalienably possessed nouns with the following obligatory suffixes:
  - 1st person -g
  - 1st person plural inclusive -d (for some words)
  - 2nd person -m
  - 3rd person -∅
- (c) Birth order names for both males and females



- (d) A class of verbs which has the following person suffixes:
  - 1st person ɟ
  - 2nd person (ɟ)w-
  - 3rd person y-
- (e) Only two tenses or aspects: realis (present and past), and irrealis (future and hypothetical)

For pronouns, all groups have distinctions of first, second, and third person, and distinctions in number of singular, dual, trial, and plural. For first person plural there is a distinction between inclusive and exclusive. Only Patep also has a distinction between inclusive and exclusive for first person dual and trial. The actual phonetic form of the pronouns varies from dialect to dialect, which makes intelligibility more difficult.

Chart G shows comparisons of some other grammatical features.

	Patep	Gorakor	Zenag	Latep	Dambi	Kumalu
Future marker	ob/bə	bə/be	bo	bə	be	be
<i>go</i> past/future	la/la	la/la	la/na	la/na	la/na	la/na
negative S = Subject V = Verb	S V-en ma/ S o V lem	S v-en ma	S o v (lo?en)	S o v	S v kin	Kumalu S o v le? nʷo Mumengtein S ɣɛ v
Possessive NP Pronoun__ Noun	Patep 1&2 ∅ Patep 3 -ge	∅	-gɛ	-gɛ/gɛ	-ge/gɛ	-ge

Chart G: Grammatical comparisons

Patep has an irrealis marker ob/bə which precedes the verb, with the verb root always remaining the same. The Gorakor dialect appears to function the same way. However, all the other dialects in the Mumeng chain have at least some verbs which change form for the irrealis tense. This is shown in Chart G for the verb *go*, which is la for realis and na for irrealis. This corresponds to ya and na in Mapos Buang. Mapos Buang has many verbs which change form for aspects and has quite a variety of changes and prefixes which occur. Further data would be necessary to determine whether the other dialects in the Mumeng chain are more like Patep (with simple verb morphology), like Mapos (with complex aspectual changes), or somewhere in between.

Patep has two ways of negating clauses. One of them corresponds to that used in the Gorakor dialect and the other is like that of Zenag, Latep, and Kumalu. It is not known whether any of these other dialects also have more than one strategy of clause negation.

In Patep, possessive noun phrases consist of a pronoun plus noun. This is also the case with the Gorakor dialect. However, all the other dialects, plus the Patep village near Bulolo, add a possessive suffix -ge to the pronoun in a possessive noun phrase.

With respect to grammatical features Patep often shares features with the Gorakor dialect, while the other dialects are different from them.

## 3. CONCLUSIONS

Based upon the lexicostatistical data and also native speaker reaction, the language and dialect situation in the Mumeng area seems to be as shown in Chart H.

These divisions are shown on Map 1. Population figures for each village, dialect, and language are included in Appendix A. Details of the phonological and grammatical comparisons between the dialects have been given in Sections 2.3. and 2.4.

Languages	Dialects	Villages
A. Kapin	1. Kapin 2. Garawa	Kapin, Taiak Garawa
B. Mumeng dialect chain	1. Gorakor  2. Patep 3. Zenag  4. Kumalu  5. Dambi	Gorakor, Timini, Bupu Enggabuhu, Omala Towangala, Perakles  Patep 1, Patep 2, Patep 3  Zenag, Pamarabos, Biamena, Gawapu, Latep  Kumalu 1, Kumalu 2  subdialect: Mumengtein, Leklu, Bangalum, Pelenkwa  Dambi

Chart H: Language and dialect conclusions

Although the dialect situation is much clearer now, we are still uncertain as to how widely the Patep orthography and materials can be used. The diversity in phonological and grammatical features between the dialects makes it seem unlikely that all of the dialects can be reached through the same materials.

The Gorakor dialect seems to be more like Patep with respect to grammatical features; however, the vowel qualities in words are quite different. The Zenag dialect is most like Patep phonologically, but has grammatical differences. The Dambi and Kumalu dialects are probably too different in most respects to use the same materials as Patep. Each dialect is very conscious that they speak correctly and feel that the others are corrupting the 'true language'.

At present our efforts are directed to the Patep dialect. However, in the future it is likely that we will meet with representatives of the other dialects to determine their opinions about using materials in the Patep dialect or about producing materials in their own dialects. Their interest and desires will determine the direction of future translation and literacy projects in the Mumeng dialect chain.

## APPENDIX A: VILLAGES AND POPULATION FIGURES

(1979 census figures, except where indicated otherwise)

## Gorakor dialect

Timini	374
Gorakor	306
Omala	165
Towangala	205
Bupu	292
Engabuhu	396
Perakles	415
Yanta	<u>588</u>
TOTAL	2741

## Patep dialect

Patep 1	476
Patep 2	326
Monanyung	239
*Patep 3	<u>558</u>
TOTAL	1599

## Zenag dialect

Zenag	815
Biamena	177
Gawapu	237
Pamarabos	298
*Latep	<u>291</u>
TOTAL	1818

## Dambi dialect

Dambi	445
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## Kumalu dialect

Kumalu 1	404
Kumalu 2	908
Bangalum	374
Pelenkwa	237
*Leklu	350
Mumengtein	<u>310</u>
TOTAL	2583

## Kapin dialect

Kapin 1	419
Kapin 2	371
Sambio	633
Taiak	<u>418</u>
TOTAL	1841

## Garawa dialect

Garawa	510
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## Language totals

Kapin	2351
Mumeng chain	9186

\*1980 census figures

## APPENDIX B: WORDLISTS

	head	mouth	nose	neck	stomach
Patep	'mba'nzump	mya	nə'lu	kwa	'ge'ya·
Gorakor	mbanzump	mya	nə'lu	kwa	i'ya·
Bupu	ma'nzump ma'nsump	mya	lɛ'lu lə'lu	kwa	i'a·
Perakles	ma'nzumbe	mya	nɛ'lo^ nɛ'lu	kwa	'iya
Zenag	lu	mya	nə'lo^	kwa	i'yai
Latep	'lo kɛnse?	mya	nɛ'lo nə'lo	kwa	i'ai
Dambi	'lu ka'nse <sup>k</sup>	mya	nə'lu	kwa	ba'mbo
Kumalu	'lu kanze?	mya	'nelu	kwa	'bambu
Mumengtein	'lu ka'nzɛk	mya	ne'lu	kwa	ge'gai
Pelenkwa	lu ka'nse <sup>k</sup>	mya	nɛ'lu	kwa	ba'mbu
Kapin	lu	mya	'nelu	kwa	mba'mbo
Taiak	(n)ɛ'lu kanzɛk	mya	nɛ'lu	kwa	mba'mbo
Garawa	nə'mba 'lɛn	mya	nu'lu	kwa	yi'yai

	skin	man	woman	bird	dog
Patep	'ninə'bi	bug	ɸɛg	'mɛna?	nɔ·
Gorakor	'nɪnəbi	ma·	ba·	'uɸa	na·
Bupu	'nilɛ'bi	ma·	ba·	'mena	na·
Perakles	'ninə'be	ma·	ba·	'huba	na·
Zenag	'nɛnəbi	bo^g bo^x	bi'ɛg	'mɛna?	na <sup>o^</sup>
Latep	'nɛnɛbe	ɸog	bi'ɛg	'mɛna?	'nau 'nao
Dambi	'nina'bi	'mao	ɸɛg	'mɛnik	'nɔu 'nɔwu
Kumalu	'nina'bi	'mao	ɸɛg	'mɛnt	'no <sup>u</sup>
Mumengtein	'nina'bi	'mao	ɸɛg	'mɛnɛk	na <sup>u</sup>
Pelenkwa	'ninabi	'mao	ɸɛg	mɛnɛk	nɔg nɔg
Kapin	'nina'bi	mɛ'o	ɸɛg	'mɛnɛ <sup>k</sup>	'nao
Taiak	'nina'bi	'mao	ɸɛg	'mɛnɛ <sup>k</sup>	'nau
Garawa	'nina'bi	'mao	ɸɛg	'mɛnɛ <sup>k</sup>	'nau

	road	stone	big	small	fire
Patep	mop	ŋə'ndag	'lebaʔ	'nipwo	ŋwag
Gorakor	mup	ŋə'ndaɰ	'leba	'nəpwo	nyak
Bupu	mup	ŋɛ'ndaɰ	'leba	'nopwo	nyak
Perakles	mup	ŋɛ'ndaɰ	'leba	kɛ'tɔ	nyak
Zenag	mup	bə'ndag bə'ndax	'lebaʔ	no^'pwo no^'pwo	nyag nyax
Latep	mop	bə'ndag	'lebaʔ	nu'pwo nu'pwo	nyag
Dambi	mop	la'ndag	ka'ndaŋk	nai'yak	ŋwag
Kumalu	mop	la'ndag	ka'ndaŋk	'naiaʔ	ŋwag
Mumengtein	mop	la'ndag	ka'ndaŋk	'naiyak	ŋwax
Pelenkwa	mop	la'ndag	'lebaɰ	nai'yak	ŋwag
Kapin	sa'kwaiŋ	ka'kos	ŋa'ndɔŋ	na'ya <sup>k</sup>	nɛn'yeɛ
Taiak	sa'kwan	ka'kos	ŋa'ndɔŋ	nai'yak	nɛ'nyeɛ nə'nyeɛ
Garawa	sa'kwain	na'ndag	tont	nai'yak	nɛ'nyeɛ

	ashes	ear	tongue	tooth	breast
Patep	bə'wɛb	nə'nya lihi	ŋget	nə'bu	lul
Gorakor	bə'wɛb	'nənya li 'nənya li	ŋgɛp	nə'bu nɛ'bu	lul
Bupu	bɛ'wɛb	'nya li	ŋgɛp	lɛ'bu	lul
Perakles	bə'gwɛb	nɛ'nya lih <sup>h</sup>	ŋgɛp	nɛ'bu	lo^l
Zenag	bə'wɛb	nya lihi	ŋget	nə'bu nɛ'bu	lo^l
Latep	bə'wɛb bɛ'wɛb	'ninya le <sup>h</sup>	ŋget	nə'bu	lol
Dambi	bə'wɛb	'ninya	'ŋgais 'ŋgeis	nə'bu nə'wu	lul
Kumalu	bə'wɛb	'ninya lis	ŋgɛs	'nebu 'newu	lul
Mumengtein	'bɛwɛb	'ninya	ŋgɛs	'nebu	lul
Pelenkwa	ba'wɛb	ninya lis	ŋgɛs	nɛ'bu	lul
Kapin	bɛ'wɛb	nɛ'nya lis	ŋgas	nɛ'bu	lul
Taiak	bɛ'wɛb	nɛ'nya	ŋgas	nɛ'wo^	lul
Garawa	bə'wɛb bɛ'wɛb	nt'nya	ŋgas	nə'bu	lul

	hand	foot	sun	moon	star
Patep	bə'ŋge	bə'ga	hə'yob	'ndentu?	pə'tua
Gorakor	bə'ŋgi	bə'ga bə'ga	ε'yub	'ndentuk	pə'tua pə'tua
Bupu	bə'ŋgi	bə'ga bə'ga	yub +	ndɛn'tuk	pə'to^a
Perakles	bə'ŋgi	bə'ga	hə'yub	'ndentuk	pə'toa
Zenag	na'ma nə'ma	bə'ga bə'ga	hə'yo^b	'ndentu?	bə'to^aŋ
Latep	nɛ'ma	bə'ga	hə'yob hə'yob	ndɛn'tu?	pə'toaŋ
Dambi	nə'ma	bə'ga	yob	nde'nduk	bə'linek bə'linik
Kumalu	ne'ma	bə'ga	'ioḅ	nde'ndu?	ḅilent
Mumengtein	'nema	'baga	yoP	nde'nduk	bə'linek
Pelenkwa	nɛ'ma	bə'ga	yob	nde'nduk	bə'linek
Kapin	'mema	'baga	sa'yeb	ndɛn'tok	mbe'tum
Taiak	'mema	'baga	sa'yeb	nde'ndok	mbe'tum
Garawa	nə'ma	bə'ga bə'ga	sa'yeb	mbə'linək	si'yel

	cloud	rain	water	tree	leaf
Patep	bə'yomptɔ?	lun	'mia	gag	'lihi
Gorakor	bə'gea	nə'luk nɛ'luk	'mia 'mea	gak	ŋgu
Bupu	bə'gea	'niluk	'mia 'mea	gak	ŋgu
Perakles	bə'gea	nə'luk nɛ'luk	'mea	gak	ŋgo
Zenag	lə'gea?	lun	'meaŋ	gax	'lihi
Latep	lə'gaia <sup>t</sup>	lon	'meaŋ	gag	le <sup>h</sup>
Dambi	laŋk	ton	min	gag	lis
Kumalu	'laga?	lu?	mi	gag	lis
Mumengtein	la'gak	luk	min <sup>Y</sup>	gag	lis
Pelenkwa	la'gak	luk	min	gag	lis
Kapin	la'gap	luŋ	mɛ'miŋ	gag	lis
Taiak	la'gap	lun	mɛ'min	gag	lis
Garawa	la'gat	lun	ni'min <sup>Y</sup>	gag	lis

	meat	fat	louse	one	two
Patep	lə'li·	hə'nzi	ta	ti	yu·
Gorakor	lə'li·	nzi	dək	tibənd	u·
Bupu	lə'li·	nzi <sup>h</sup>	dək	ti	o <sup>^</sup> · u·
Perakles	lə'le·	ɛ'nzi	dək	tibənt	i <sub>o</sub> <sup>^</sup> u
Zenag	lə'le·	hə'nze	ta	ti	yu·
Latep	lə'le <sup>i</sup>	hɛ'nze	ta	ti	yo <sup>u</sup>
Dambi	la'li	lə'nzi lə'nsi	dək	ti	yu·
Kumalu	la'li	lə'nzi	dɔ?	'tika	yu
Mumengtein	la'li	'lenzi	ta	'tika	yu <sup>h</sup>
Pelenkwa	la'li <sub>ɟ</sub>	lə'nzi	ta	'tika·	ya'yu·
Kapin	lə'liyə	'ndenzi	ta	ti(·)	yu(·)
Taiak	lə'li <sub>ɟ</sub>	'ndenzi	ta <sup>h</sup>	ti	yu
Garawa	la'li	si'nji	ta	tya'ti	yu <sup>h</sup>

	three	four	five	ten
Patep	yɔn	'yu·ndə'yū·	bə'ŋge bə'lu	bə'ŋge 'yu·
Gorakor	'ian	'undu	bə'ŋgi bə'lu	bə'ŋgi u·
Bupu	yan	'undə'u	bə'ŋgi bə'lu	bə'ŋgi u·
Perakles	'ean	'yund'yū	bə'ŋgi bə'lu	bə'ŋgi yū·
Zenag	yan	'yu·ndə'yū·	nə'ma bə'lu	nə'ma yū·
Latep	yan	'mɛndə'no 'mɛntə'no	nə'ma bə'lo	'nɛma yū
Dambi	yon	'mɛntə'nau	bə'lu	nɛma'lu 'ɟɔməŋ
Kumalu	yɔn	'mɛndɛŋ	'bəlu	'nɛmalu
Mumengtein	yɔn	'mɛndə'nau	'bəlu	'ɟɔməŋ
Pelenkwa	ya'yɔn	'mɛntə'nau	bə'lu	'ɟɔməŋ 'ɟɔməŋ
Kapin	yal	bɛy	lim	'ɟɔmiŋ
Taiak	yal	bɛy <sub>ɟ</sub>	lim	'ɟɔməŋ
Garawa	yan	bə'lu <sup>h</sup>	mbuta mba'lu mə'sek'ti	'ɟɔməŋə'pu

	shoulder	face	bone	wing	tail
Patep	kə'ndiaʔ	'manon	lɛn	ɸə'nihi	'geguhu
Gorakor	kə'ndea	ma'nun	lɛn	ɸə'ne	'igo
Bupu	kə'ndea	'ma'noʔn	lɛn	ɸɛ'ne wɛ'ne	hi'go
Perakles	kə'ndea	'ma'nun	lɛn	ɸə'ne	hi'go
Zenag	ʔə'ndeaʔ	ma'nun ma'noʔn	lɛn	ɸə'nehe	i'goɸo
Latep	kə'ndewaʔ	'manon	kə'nzɛʔ	ɸə'ne	i'go
Dambi	ka'ndik̚	'manon	ka'nseɛk̚	---	ge'gus
Kumalu	ka'ndiʔ	ma'non	ka'nzɛʔ	ɸanis	'gegus
Mumengtein	'kandik̚	'manon	ka'nzɛk̚	ɸanis	gus
Pelenkwa	'kandik̚	'ma'non	ʔa'nseɛk̚	'ɸanis	ge'gus
Kapin	'ngandi'ɸɛk̚ 'ngandi'wɛk̚	'ndamba	'ʔanseɛk̚	mba'nis	'geɛgɸs
Taiak	nga'ndi'wɛk̚	nda'mba	'kanzɛk̚	'mbanis	gɸs
Garawa	ka'ndik̚	ma'nin	ʔa'nseɛk̚	mba'nis	gɸs

	old man	father	mother	name	pig
Patep	kə'pwoʔ	ma	ta	le	bwɸʔ
Gorakor	kə'pwok	ma	ta	li	bwok
Bupu	kə'pwɸk	ma	ta	li	bwɸk
Perakles	kə'pwɸk	ma	ta	li	bwok bwɸʔk
Zenag	kə'pwoʔ	ma	ta	li	bu'ɸʔ
Latep	kə'pwoʔ	ma	ta	le	bwɸʔ
Dambi	kə'pwɸk̚	ma	ta	le	bwɸk̚
Kumalu	kə'pwoʔ	ma	ta	le	bwɸʔ
Mumengtein	kə'pwɸk	ma	ta	le	bwɸk̚
Pelenkwa	kə'pwɸk̚	ma	ta	le	bwɸk̚
Kapin	tɛɸ	ma	ta	le	mbɸk̚
Taiak	tɛɸ	ma	ta	le	mbɸk̚
Garawa	tɛɸ	ma	ta	le	la'li



	cassowary	flying fox	rat	snake	sugar cane
Patep	ŋgwimp	'bimbaʔ	mun	myɛl	'iɔb
Gorakor	ŋgwimp	'ŋambe	mun	'miɛl	i'ab
Bupu	'ŋgwimpe	'ŋambe 'sambe	mun	'miɛl	'iab
Perakles	'ŋgwembe	hɛ'ŋambe	mo <sup>^</sup> n	mil	'iab
Zenag	ŋgwimp	'embaʔ	mon	myil	i'ab
Latep	ŋgwimp ŋgwemp	'gembaʔ	mun	myɛl	yab
Dambi	ŋgwimp	'mɛmɛk	mun	myɛl	ɔb
Kumalu	ŋgwimp	maim	mun <sup>Y</sup>	myɛl	ɔb
Mumengtein	ŋgwimp	ma <sup>i</sup> m	mun	myɛl	ɔb ɔp
Pelenkwa	ŋgwimp	'ma <sup>i</sup> mɛk	mun	myɛl	ob
Kapin	ŋgwimp	'saŋa	ma'ndaŋk	'myɛy <sup>i</sup>	dun <sup>Y</sup>
Taiak	ŋgwimp	sa'ŋa	ma'ndaŋk	'myɛ <sup>Y</sup>	dun
Garawa	ŋgwimp	saŋ'a <sup>i</sup>	ma'ndaŋk	'myɛ <sup>Y</sup>	yab

	taro	yam	banana	sweet potato	bean
Patep	nyaŋ	gɛmp	njoŋ	kə'lubaʔ	pil
Gorakor	nyaŋ	gɛmp	njoŋ	kə'loba	pil
Bupu	nyaŋ	'bɛyha	njoŋ	kə'luba kə'luwa	pil
Perakles	nyaŋ	'gembe	njoŋ	kə'loba	pel
Zenag	nyaŋ	gɛmp	njoŋ	kə'lo <sup>^</sup> baʔ kə'luwaʔ	pel
Latep	nyaŋ	gɛmp	njoŋ njoŋ	kə'lobaʔ	pil pel
Dambi	nyaŋ	gɛmp	bunt	kə'luβu	pil
Kumalu	nyaŋ	gɛmp	bunt	ki'luβ	pil
Mumengtein	nyaŋ	gɛmp	yal	ke'luβək	pil
Pelenkwa	nyaŋ	gɛmp	bunt	kə'luβuk ke'luβuk	pil
Kapin	nyɛŋ	gɛmp	njen	sa'yɛs	pil
Taiak	nyɛŋ	'tuβək	njen	sai'yɛs	pil
Garawa	pa'kaḵ	'mɛs	njen	sa'yɛs	pil

	axe	knife	spear	string bag	house
Patep	kəb	'yipaʔ	yi·	bə'gɛʔ	'gumaʔ
Gorakor	kəb	pə'gɛp	yi·	bə'gak	'goma 'gɔma
Bupu	kəb	pɛ'gɛp	yi·	bə'gak	'goma
Perakles	kəb	makə'tek	ye·	bə'gak	'gɔma
Zenag	kəb	'yipaʔ	'ye·i	bə'gaʔ	'gɔmaʔ
Latep	kəb	'yipaʔ	'yei <sup>h</sup>	bə'gaʔ	ŋgɔ
Dambi	kəb	'yepɛk	yi <sup>ʔ</sup>	bə'gak	ŋgwe
Kumalu	kəb	'kateʔ	yih	bəgɛʔ	gum
Mumengtein	'meita	katɛk	yi <sup>ʔ</sup>	bə'gak	'gumək
Pelenkwa	kəb kəb	ka'tɛk	yi <sup>h</sup>	bə'gak	'gumuk
Kapin	kəb	ŋa'yɛŋ	yi(·)	bə'gak	'gɔmak
Taiak	kəb	ŋɛ'yɛn 'sɛlɛp	yi <sup>ʔ</sup>	bə'gak	'gɔmek 'gɔmək
Garawa	kəb	se'lep	po <sup>^</sup> p	bə'gatʂ	'gɔmək

	ground	sand	mountain	wind	vine
Patep	kə'mbun	'lunda	kə'ton	'lea	'yih
Gorakor	kə'mbun	'lunda	kə'tun	'loa	ye yɛ
Bupu	kə'mbun	'lo <sup>^</sup> nda	kə'tun	'loa	yi
Perakles	kə'mbun kə'mbo <sup>^</sup> n	'londa	kə'tun	'loa	ye <sup>h</sup>
Zenag	kə'mbun kə'mbo <sup>^</sup> n	'lunda	kə'tun	le'aŋ	'yehe
Latep	kə'mbon kə'mbɔn	lo'nda	kə'tun	'lɛwəŋ	ye <sup>h</sup>
Dambi	kə'mbun ku'mbun	'lunzɛn	lukə'ndu	lon	mban
Kumalu	'kembun	'lunzɛn	'luke'ndu	lo <sup>i</sup> n	mba'iŋ
Mumengtein	ke'mbun	'lunsən 'lunzən	'luke'ndu	lon <sup>ʔ</sup>	mban <sup>ʔ</sup>
Pelenkwa	ke'mbun	'lunzən 'lunsən	lukə'ndu	lo <sup>a</sup> n	mban
Kapin	tɛ'mbun	'lunziŋ	'luke'ndu 'luka'ndu	'lawiŋ	yis
Taiak	'tɛmbun	'lunzən	'lukə'ndu 'luke'ndu	'lawəŋ	yis
Garawa	ku'mbun	'lunzən	'lukə'ndu	laŋ	yis mban <sup>ʔ</sup>

	afternoon	white	black	red	good
Patep	'huʔen	kwem	bə'liɑʔ	hi	'nibə'ha
Gorakor	su'kɛn	kwɛm	bə'liɑ	'myɑ'mea	'nebə
Bupu	su'kin	kwɛm	bə'liɑ	'myɑ'mea	'nebə 'newɑ
Perakles	su'kin	kwɛm	bə'leɑ	yo <sup>h</sup>	'nebə
Zenag	'huʔen 'hoʔin	kwɛm	bə'leɑʔ	'yoʔhoʔ	'nebə'zɑ
Latep	'hoʔen	kwɛm	bə'leɑʔ	yo <sup>h</sup>	'nebəsa
Dambi	'uɕen	la'gu	bə'lik	njant	ni'bə
Kumalu	'huʔen	pus	bɛ'liʔ 'bɛliʔ	is	'nibə
Mumengtein	'uɕen	pus	bi'lik	is	'nibə <sup>h</sup>
Pelenkwa	u'ɕen	pus	bɛ'lik <sup>k</sup>	is	'nibə
Kapin	'sokiŋ 'sokiŋ	tɛ'leŋ	ŋak	njant	nim'zɑ
Taiak	'sa <sup>o</sup> kɛn	'tɛlen pus	ŋak	yɛs	'nimsɑ 'nimzɑ
Garawa	sa <sup>u</sup> 'tyeŋ	pa'bap	ŋatʂ	yɛs	'nibənzɑ

	bad	long	short	heavy
Patep	ni'paen	'ndia	'myambo	bə'yin
Gorakor	ni'paen	'ndea 'ndɛɑ	mbo	bə'yin bɛ'yin
Bupu	ni'pæn	'ndea	mbo	bə'yin
Perakles	ne'pan	'ndea'mbim	mbombə'tun	bə'yen
Zenag	ne'paen	'ndiaŋ	myambo	bə'yin bə'yeʔn
Latep	ne'paen ni'paen	'ndiaŋ	mi'ambo	bə'yen
Dambi	'nipa'payɛn	ndin	myambo myambo	ma'yin
Kumalu	ni'paen 'nilaulɛŋ	ndin	'miambo	ma'yin
Mumengtein	'nilau'len	ndinʏ	'myambo	ma'yin
Pelenkwa	'nilau'len	'ndinʏa'ndin	'myambo	ma'yin
Kapin	ni'lɛul	ndin	sɛ'pi	ma'yin
Taiak	ni'lau	'ndina'ndin	'sɛpi	ma'yin
Garawa	ni'lau	'ndinʏa'ndin	mba <sup>i</sup> mba·i	ma'yin

	cold	hot	old	new	many
Patep	niŋə'ŋgɔɛn	niθə'ne	tə'kwe	'paha	tə'beaʔ
Gorakor	nɪmbuna	mya θə'ni	tə'kwi	pa	tə'bea
Bupu	ni'mbuna	θə'ni	tə'kwi	pa <sup>h</sup>	tə'bea
Perakles	ne'mbona	'neθə'ni	tə'kwi	pa <sup>h</sup>	tə'bea
Zenag	'neŋə'ŋgɔɛn	mya θə'ne	tə'kwe tə'kwi	'paha	tə'beaʔ
Latep	'ne'ŋgɔ <sup>i</sup> n	mya θə'ne	tə'kwe	pa <sup>h</sup>	tə'beaʔ
Dambi	ni'mbunɛkɛn	mya θa'ne	ta'kwe	pas	ŋa'ɲɔŋ
Kumalu	'nimbunten 'loin	θa'ne	'takwe	pas	'kamu yaŋ
Mumengtein	ni'mbuna'kɛn ni'mbunə'kɛn	mya θa'ne	ta'kwe	pas	ŋe'ɲɔŋ
Pelenkwa	ni'mbuna'keŋ ɲɔn	'θane	'takwe	pas	ŋe'ɲɔŋ
Kapin	'nitʏu'ɛŋ	mya θa'ne	ta'kwe ta'kwe	θa'ko	'ŋɛɲɔŋ
Taiak	nitʏu'wɛn	(ni)θa'ne	'takwe	'θako	ŋe'ɲɔŋ
Garawa	ni'mintʃu'ɛŋ	mya θa'ne	ta'kwe	pas	ŋɔ'ɲɔŋ

	dry	full	no	say	hear
Patep	kwɛp	pup	ma	nel	ŋo
Gorakor	kwɛp kə'leŋ	pup	mae	nil	ŋo ŋɔ
Bupu	kwɛp kwɛp	pup	ma	nil	ŋɔ
Perakles	kwɛp	po <sup>^</sup> p	ma	nil	ŋo
Zenag	kwɛP	pup	ma <sup>h</sup>	nil	ŋo ŋɔ <sup>^</sup>
Latep	ŋə'leŋ	pup	ma	nil	ŋo
Dambi	tuk	pup	ma	nel	ŋo
Kumalu	'ŋaleŋ	pup	ma	nel	ŋo
Mumengtein	'ŋaleŋ	pup	ma	nɛl	ŋo
Palenkwa	'ŋaleŋ	pup	ma	nɛl	ŋo
Kapin	tɔk tɔ <sup>^</sup> k	pup	ma	nil	ŋo
Taiak	nise'wis tok	pup	ma	nel	ŋɔ
Garawa	tuk to <sup>^</sup> k	pup	ma	nel	ŋo

	drink	sleep	fall down	cough	laugh
Patep	num	yep	to	kə' lɔʔ	nap
Gorakor	num	yip	t <sup>h</sup> u	kə' lɔk	nap
Bupu	num no <sup>^</sup> m	yip	t <sup>h</sup> u	kə' lɔ <sup>k</sup>	na <sup>p</sup>
Perakles	no <sup>^</sup> m	yip	t <sup>h</sup> u	kə' lɔk kɛ' lɔk	nap
Zenag	num	yep	tu	kə' lɔʔ	nap
Latep	nom	yep yip	tu	kə' lɔʔ	nap
Dambi	num	yep	to	kə' lɔk	nap
Kumalu	num	yep	to	'keloʔ	nap
Mumengtein	num	yep	to	ke' lɔk	nap
Pelenkwa	num	yep	to	kɛ' lɔk	na <sup>p</sup>
Kapin	num	yep	te <sup>i</sup>	kɛ' lɔk	nap
Taiak	num	yep	te	kɛ' lɔk	nap
Garawa	num	yep	te	kɔ' lɔk	nap

	I	you (sg)	he	you 2	you 3	they 3	we (exc)	we (inc)	you (pl)	they (pl)
Patep	a	oŋ	i	mu·	mɔn	yoŋ	ɕɛ	il	gam	hɛ
Gorakor	ha	u o <sup>^</sup>	ɔ	mu·	man	lan	ga	ol	gam	ɕɛ
Bupu	ha	ɔ	--	mu	man	yan	ga	ol	gam	ɕɛ
Perakles	ha	o <sup>^</sup>	ɔ	mu	man	lan	ga	ɔl	gam	ɕɛ
Zenag	ah	ɔŋ	ŋɛ	mu·	man	yan	ga	ɔl	gam	ihi
Latep	a <sup>i</sup>	ɔŋ	ɔ	mu	man	yan	gam	ɔl	gam	ɕɛ
Dambi	a <sup>yɛ</sup>	oŋ	i	mu·	mɔn	yon	ɕɛn	i	gam	ɕɛl
Kumalu	a <sup>i</sup>	oŋ	i	mu <sup>(g)</sup>	mɔn	lɔn	ɕɛ	i	gam	ɕɛl
Mumengtein	a <sup>i</sup>	oŋ	i	mu	mɔn	lon lɔn	ɕɛ	i <sup>y</sup>	gam	ɕɛl
Pelenkwa	a <sup>y</sup>	oŋ	i	mug	mɔn	yoŋ	ɕɛ	ih	gam	ɕɛl
Kapin	a <sup>y</sup>	waŋ	ɛ·	mu	ŋgal	lal	ga	ɕɛy	ga	ɕɛl
Taiak	a <sup>i</sup>	waŋ	ɛ	mu·	mal	lal	ga	ɕɛ	gam	ɕɛl
Garawa	a <sup>i</sup>	waŋ	ɔ	mu	man	lan	ga	ɕɛ	gam	ɕɛl

	#1 daughter	#2 daughter	#3 daughter
Patep	mbyaʔ	ni·	heɓ
Gorakor	mbyak	ne·	he·ɓ
Bupu	mybaḵ	ne·	heɓ
Perakles	mbyak	ne <sup>i</sup>	heɓ
Zenag	mbiaʔ	ne·	nzeb
Latep	mbia <sup>k</sup> mbiaʔ	'neu	nzeb
Dambi	mbyaḵ	'neu	heɓ
Kumalu	mbiaʔ	niw 'niɓu	ɛɓ
Mumengtein	a'mbyaḵ	a'niʎ	'gaɛɓ
Pelenkwa	a'mbyaḵ	ga'ni	'gaɛɓ
Kapin	mbye <sup>k</sup>	niɓ	nzeb
Taiak	mbyeḵ	ni <sup>w</sup>	nzeb
Garawa	mbyeḵ	ni <sup>u</sup>	nzeb

	#1 son	#2 son	#3 son	#4 son	#5 son	#6 son	#7 son
Patep	tuʔ	mon	ŋgwa·	ŋə'yi	gu·	'yuhu	ndamp
Gorakor	tuk	bu·n	'ŋgwae 'ŋgwaɪ	ŋayi	'ŋga·e	yu	ndamp
Bupu	to <sup>ʔ</sup> ḵ	mbun	ŋgwa·	ŋə'yi	ŋga·	yu <sup>h</sup>	'kola
Perakles	tuk	mbun	ŋgwa	ŋɛ'yi	ŋga·	yo <sup>h</sup>	ndamp
Zenag	tuʔ	mun	'ŋgwae	ŋə'yi ŋə'ye	ŋgo <sup>u</sup>	'yuhu	ndamp tə'mu
Latep	tuʔ tu <sup>k</sup>	mun	'ŋgwae	ŋə'ye	ŋgo <sup>u</sup>	yuh(u)	tə'mu
Dambi	tuk	mɔn	'ŋgwae	a'yi 'sɛyi	ŋgu	yus	ndamp kɛbun
Kumalu	tuʔ	mɔn	'ŋgwae	yi <sup>h</sup>	ŋgu	yus	ndamp
Mumengtein	tuk	mon	'ŋgwae	a'yi	a'ŋgu	a'yus	'gag'lis
Pelenkwa	tuk	mon	'ŋgwae	yi <sup>h</sup>	ŋgo <sup>h</sup> ŋgu <sup>h</sup>	yus	ɓa'ndaen
Kapin	tɔḵ	mɔn	'ŋgwae 'ŋgwa	yi	'ŋgɔwu	yus	ndamp
Taiak	tuk	mon	'ŋgwae	yeʎ	ŋgo <sup>u</sup> ŋgo <sup>u</sup>	yus	'yus te'mbun
Garawa	tuk	mo <sup>ʔ</sup> n	'ŋgwae	ye	ŋgo <sup>u</sup>	yus	njenj

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FIELDNOTES ON LANGUAGES AND DIALECTS IN  
THE KEBAR DISTRICT, BIRD'S HEAD, IRIAN JAYA

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1. INTRODUCTION

The present paper<sup>1</sup> will give information on languages, dialects and their distribution over villages in the Kebar district and its immediate surroundings. Within the scope of an anthropological research the main purpose of collecting data on languages was to get additional information on the ethnic composition of the Kebar plains population. Preliminary information on the languages and dialects have been obtained by means of a short wordlist. For comparative purposes we used the wordlist as presented by C.L. Voorhoeve (1975).

As our research was mainly focused on the Kebar-speaking group, another list of Kebar-words as well as a list of Kebar kinship terms has been added.

The Kebar district is situated in the regency of Manokwari just south of the eastern range of the Tamrau mountains on the north coast of the Bird's Head of Irian Jaya. Part of an east-west depression, the Kebar valley separates the Tamrau mountains from the limestone mountains further to the south. The area under investigation is enclosed by four large rivers: in the north by the river Apii, in the west by the river Ayfat (Kamundan), in the east by the river Kasi and in the south by the river Amnan (its upper reaches are called Arwawa by the Meax people, and its lower reaches are called Aimau by the Ayfat people (see Map 1). The name Kebar in the local language means 'bamboo marshland' (keb *bamboo*, (w)ar *water*).<sup>2</sup> However, the Doreri<sup>3</sup> people claim that the word kebar is of Biak-Numfor origin and is said to mean 'on the other side' (of the coastal mountains).

Administratively the district of Kebar is divided into three regions: West, Central and East Kebar. In West Kebar we find the villages of Asiti 'lama' (old), Asiti 'baru' (new), Senopi and Arapi. In Central Kebar there are three villages: Akmuri, Atay and Anjai, the latter being the residence of the district-officer. The villages Ibeanari, Aniti, Jenderau, Akrin, Pubuan and Inam are situated in East Kebar. In 1979 double-villages were formed by Asiti old and new (hereafter Asiti I and II), Senopi and Arapi, and Aniti and Jenderau. In 1980 Inam was added to Aniti/Jenderau, and Pubuan and Akrin inhabitants were resettled under supervision of the local government in a new village near Aniti/Jenderau/Inam. All the villages are now located in the Kebar valley, some of them having recently moved from the surrounding mountains.

The Kebar district is about 501,500 hectares in area and the number of inhabitants of the plains area is about 2,100 (not included are small groups still living in the southern mountain area). Administratively three language groups are recognised: from west to east the Karon, Kebar and Meax, respectively about 30%, 60% and 10% of the plains population. Inter-marriage relations complicate this picture. The process of concentrating people in villages has been developed and intensified especially since the latter part of the 1940s, when the first Protestant evangelists — of Biak-Numfor origin — entered the area.

Because people from different origin relatively recently settled on the Kebar plain forming villages, the village boundaries still coincide more or less with ethnic and language boundaries.

The following distinctions can be made concerning languages, dialects and their distribution over villages in the Kebar district.

## 2. KEBAR AND SURROUNDING LANGUAGES AND DIALECTS

### Kebar — Amberbaken and Arfu

Kebar is one of the three main dialects of the Amberbaken language, the other two are Amberbaken and Arfu. More or less by exclusion of other dialects and languages Kebar is spoken in the central region in the villages of Atay, Anjai and Ibeanari. Most of their inhabitants came from the Anari area: the chain of mountains in the south along the river Anari (see map). As far as Anjai and Ibeanari are concerned part of their inhabitants moved in from the northern mountain slopes, where they used to live in close contact with more northward living mountain people who in the course of time settled in the Amberbaken area along the north coast. Some of the inhabitants of Anjai are of mixed Kebar-Amberbaken origin. Between them and the other inhabitants of Anjai we noted differences in pronunciation as well as differences in the application of kinship terms.<sup>4</sup> In Anjai older people use the word Ekwari to indicate the locally spoken dialect but this word is unfamiliar to the younger people. Besides Kebar as the principal dialect, Arfu is spoken in the north-eastern village of Inam. The Kebar people describe their own dialect as 'higher' than Arfu, meaning that their pronunciation is marked by greater intonational differences but this distinction is denied in East Kebar where people have close marriage connections with the inhabitants of the Arfu area, east of Amberbaken at the north coast. The Kebar and Arfu dialect together are called Pur, whereas the Kebar people call the Amberbaken dialect by the name Kwambra.

Regarding dialect borders, the so-called Jambuani part of the village of Anjai can be regarded as the most southern peak of the Amberbaken dialect, whereas the most southern peak of the Arfu dialect is found in Inam.

### Kebar — Karon Pantai (Jembun) — Karon Dori

In the village of Arapi in West Kebar, some people speak a language locally called Jembun. The Jembun-speaking inhabitants of Arapi moved in from the north and the north-west. A comparison of Jembun words with the wordlists of Voorhoeve (1975) makes it clear that Jembun is closely related to the Karon Pantai (coast) language (which connection is confirmed by genealogical data). This means that the village of Arapi has to be regarded as the most eastern inland border of Karon Pantai. In the West Kebar villages of Senopi and Asiti II another Karon language is spoken, called Karon Dori. Locally, the Karon 'Atas' (high) are

distinguished from the Karon 'Bawah' (low). The former originate from the — northern and southern — slopes of the high Tokhiri mountains west of Senopi, whereas the latter come from the area between northern Ayawasi and West Ayfat (see also Schoorl 1979) to the south of the Tokhiri mountains.

Karon and Ayfat clans gradually moved from both areas to the Kebar plain, especially since the period of the 1950s when the Roman Catholic Mission started to work amongst the Karon Dori in the East Karon/West Kebar. The process of concentrating mountain people in villages is still going on with the building of Asiti II, since 1978, where new Karon Dori families and people from the area east of the Ayfat/Kamundan river recently settled. The villages of Senopi and Asiti II form the border of Karon mountain (and Ayfat) settlement to the west. (The neighbouring villages of Asiti I and Arapi I are mainly Kebar-speaking and Kebar-orientated; for instance, the so-called Siwa and Mafif stories of the Ayamaru area (see Elmberg 1968) are known by the Karon/Ayfat inhabitants of Senopi and Arapi II but not by the Kebar inhabitants of Arapi I and Asiti I. As indicated above, Senopi and Asiti II on the one hand and Arapi I and Asiti I on the other hand also mark the border between the Roman Catholic Church and the Protestant Church. As far as language is concerned, this difference in church background is expressed in different baptismal names and loan words. In Protestant Kebar rather many words of Biak-Numfor origin are used, amongst others because the first evangelists were of Biak-Numfor origin, as stated above.)

#### Kebar — Meax, Etskebi, Miun and Anason

The Meax language is spoken in the eastern Kebar villages of Akrin and Pubuan. In earlier times the Meax people split off from the northern Moskona groups in the Central East Bird's Head, as we were informed by Meax informants, and part of them moved to the north until they reached East Kebar and the north coast (see also Pans 1960). Due to lack of information about the area south of the river Amnan (see map), East Kebar has been regarded as the western border of the Meax language area.

In 1980 we visited a group of 68 people who had recently settled on the banks of the Anari river, just opposite one of its southern tributaries, called Apii. They call themselves Akari, after a tributary of the river Amnan from where they had fled at the end of 1979. They themselves called their language Etskebi. From what we managed to note about their dialect — via two translators — it seems that we deal with a Meax dialect, to be located more inland and westward than the already known Meax border. The reason why these Akari people had fled northward is that they were persuaded by the so-called Anason people, who are to be located south of the river Amnan. In Akmuri we once happened to meet members of this Anason group.<sup>5</sup> A wordlist of the Anason language is also included.

In Akmuri and Asiti II in West Kebar another Meax dialect is spoken, called Miun. These Miun-speaking people originate from the southern mountains where the river Aimau splits upstream as the Amnan and northward as the Anari. The border between Miun and Anason is said to be a place called Mèlisi, somewhere between the Ayfat/Kamundan and the Aimau rivers to the south.

For comparative purposes a list of Moskona words, which were noted in Merdey (see below), has been added to the comparative wordlists.

A comparison of Meax, Etskebi, Miun and Anason with Moskona seems to give evidence that we are dealing with five dialects of the same language.<sup>6</sup> At this point it has to be mentioned that the 'kepala' (head) of the big Kebar-speaking Anari clan in the village of Anjai, traces its origin seven generations back,

the first known ancestor being a woman from 'Bintuni Atas' (upper-Bintuni, by which is meant the Moskona-speaking Merdey district), and the next three ancestors being Anason(!) men. Also the so-called Jubewi and Junon stories<sup>7</sup> of the Anari people in Kebar show some striking similarities with the Siwa and Mafif stories mentioned above. These two facts might indicate that the Anason, just like the Meax, split off directly from the Moskona, but, unlike the Meax, the Anason moved in a north-western direction (suggested by similarities in the above called stories), whereafter part of them via the Anari river and its northern tributaries reached the Kebar plain.<sup>8</sup> (A more detailed picture of the relations between Kebar-speaking and non-Kebar-speaking groups can only be given in a separate study on kinship and marriage.)

In addition to names mentioned above, the following are names by which Karon, Kebar and Meax people refer to their own (language) group and surrounding groups:

General name	Names used by local people to refer to themselves and surrounding (language) groups		
	Karon	Kebar	Meax
Kebar	Mira	Mayé } Pur } Déwot (Kwambra)	Murumir
Arfu	Jimbab	Andér (east)	Mosmukwar
Amberbaken	Nasasu	Anason (south)	Meyaxir
Meax	Aysaju	Ajiwu	Moskonèr
Moskona	---	Meré	Meymoisin
Meybrat } Marě }	Laymaré	Dumon (mountain)	-
Karon	Darfat (mountain) Jembun (coast)	Abun (coast)	

N.B. The Karon group refers to Kebar as 'Mira', etc.

## 3. COMPARATIVE WORDLISTS

	Kebar (Anjai)	Amberbaken (Saukorem)	Arfu (Mumbrani)	Meax (Mumbrani)
1. arm	an	iyom	èwom	mitma
2. ashes	sènar	enau	nikú	maywohka
3. bird	if	iuw	iw (ip)	mèm
4. black	nyèm	nèm	nyim	axta
5. blood	far	far	éfar	m(u)fora
6. bone	ip	ip	éip	(m)ogu(e)
7. come	anama	-ana	anama	bin
8. dog	pir	pèr	p(y)èr	mès
9. eat	barièt	-èrèt	èryèt	mi:t
10. egg	bua	bua	bua	afo(i) ofo(i)
11. eye	yam	yam	éyam	mitèt
12. fingernail	buak	binèt	buak	aw(e)xobru
13. fire	yèt	yit	yit	ma:x
14. give	ambuot	-bet	amb(u)ot	bita
15. good	mafun	mafun(a)	mafun	oufa
16. ground	nièk	nik	nyik	mèwi
17. hair	buambor	-bur	byambur	mi:fèsyi
18. head	èbuam	byam	èbuam	mi:fa
19. I	in	in	i:n	didif
20. leg	èipèt	witwur	pirik	ma:ki
21. louse	èyim	im	i:m	mè(i)t(s)
22. man	mamir	minip	dèmonip	mona
23. name	emuk	muk	muk	mufaka
24. night	dim	dim	dimba	mòtu
25. one	tu	tu	tu	èrgèns
26. pig	duaw	bua -mir (w.) -non (d.)	duao	mèk -ui(w.) -us(d.)
27. see	wuot	iyot	nuot	mi:k
28. sit	cab	dyab	acap	mikèr
29. skin	fièk	fak	(è)fièk	muos
30. sleep	kuon	kon	èkuon	ma:x(e)a
31. stone	bit	bit	bi:t	mami
32. sun	put	pun	put	mauwa
33. tail	muk	muk	mu:k	aura
34. tooth	bir	bir	èbir	mufon
35. tree	perau	ni	perahu	òkàwu(n)
36. two	dukir	dukir	dokir	èrgèk
37. water	war	war	war	mey
38. we	yik	yik	yèk	mimif
39. you (sg.)	nan	nan	ninmata	ètuts
40. you (pl.)	nièn	nin	nin	ètuxotsi

	Meax (Akrin)	Etskebi (Akari)	Miun ( 'Akmuri ')	Anason ( 'Akmuri ')
1. arm	mitma	titim	mès	mè:s
2. ashes	maywohka	m(e)raxfaf	hasmin	(e)xèmis
3. bird	mèm	mèm	mèm	mè:m
4. black	axta	-axt	axit	axtuk
5. blood	okguwu	-axof	aguf	agof
6. bone	acfora	afar	or	c(a)fon
7. come	èn	bi:n	binin	bin
8. dog	mès	mèt(y)	mèyt	mèt
9. eat	mit	mièt	mit	menèt
10. egg	òfeu	mémafu(i)	afe:	efi:
11. eye	eytèts	eytet(s)	mèntèt	mèteys
12. fingernail	otuwoxoru	metoaxor	foi	afox
13. fire	ma:x	merax	ma:x	merax
14. give	bitèn	bitam	bitkau	terax-ko
15. good	eufa	mèmoiskan	acemab	eufmaf
16. ground	mèwi	mow(f)	mo:b	moub (-p)
17. hair	mèwifesi	meyfreits	iwirèfes	iwirèreys
18. head	mèwifa	mèwèr	èwit	iwir
19. I	titif	te:f	adif	tif
20. leg	màki	meykak	ipèk	ikak
21. louse	mè:t	meys	mais	meys
22. man	dusnok	i:s	isok	isnok
23. name	dufòkah	bou(y)ok	ifap	iwuok
24. night	motu	mo:nta	mot	mò:t
25. one	èrgèns	èrgèns	afims	arfins
26. pig	mèk	mèk	mèk	mè:k
27. see	mik	m(i)ènk(a)	mik	mena(e)k
28. sit	mikèr	---	mèkèr	mikar
29. skin	a(o)wos	menkar	afuots	awuot(y)
30. sleep	maxja	memax	myix	memèx
31. stone	mamu	mox(w)om	mekom	maukom
32. sun	mowa	mauw	mouw	mauwa
33. tail	aura	oudège	arek	awirek
34. tooth	mufon	bufon(afon)	fon	mefon
35. tree	mèga	merga	apow	akow
36. two	ègeka	argak	afik	èrfik
37. water	mey	mi:	mey	miy
38. we	me:mif	mefrombrège	mèmef	mif
39. you (sg.)	me:mi fuomra	atkas	afo	puwi
40. you (pl.)	iwa	atkas(o)rombrège	yoì	yui(y)

	Moskona (Merdey)	Jembun (Arapi)	Karon (Senopi)	East-Ayfat (Senopi)
1. arm	mungomu	mesim		tatem
2. ashes	mojaxo	bot(e)gom		asiès
3. bird	mèm	da:m		eru:
4. black	axta	té:	gowon	genu
5. blood	oxwofi	dè		mès
6. bone	ofora	dinié:	tey	patay
7. come	bim	ma		nama
8. dog	mès	dar	(n)dax	mètax
9. eat	bitmar	mengi	téyt	tayt
10. egg	ofow	be:m		yayuf
11. eye	bitèts	da	tasu	takan
12. fingernail	(i)tuxòrè	mongro		tatem
13. fire	mèrax	bo:t	tafox	ka:n
14. give	bitoguo	nambi		tè
15. good	o:fa	do		mof
16. ground	mauw(o)	bur		tapam
17. hair	biwèrfesyé	usugo		mauwyan
18. head	biwèr	mesu		tana
19. I	didif	ta:t		tuo
20. leg	daki	mengwès		taow
21. louse	mèts	---		xatè
22. man	runa	ye:tu		raysmi:
23. name	buoka	tagum		tasom
24. night	motu	lu		ati:
25. one	èrgèns	dik	sow	saw
26. pig	mèk	nox (w.) yot (d.)		fani
27. see	wiyetsga	mòku	tatoi	nèxe
28. sit	-ukèn	mèkèm	xurèn	xoren
29. skin	muos	menda		tarak
30. sleep	mah(a)nya	mèsè:m		tìdi:in
31. stone	muosgoni	yok		fra
32. sun	mou	ka:m		ayom
33. tail	auwra	sauwyax		sawyax
34. tooth	mu(o)fuon	mesos	jasièm	jépat
35. tree	okow	key		ara
36. two	ergak	wè	ai	ayok
37. water	mey	sur		aya
38. we	mémif	mi:n		amu
39. you (sg.)	batmargubua	nan		nu(w)o
40. you (pl.)	toistèn	ni:n		anu

4. LIST OF KEBAR WORDS<sup>9</sup>

## a. 'New Basic List' (Holle List)

1. body nɔ'bum
2. head bulm
5. skull ɒbuɒ'nɪt
6. hair ɛbulm'bur
7. bald pɒfe'nɪt
9. ear ɛkuɒ'ji:p
11. eye ɛ'jɒm
12. eyelid ɛjɒn'fɪk
15. eyebrow ɛjɒ fɛi'bur
17. tear(s) nɒn'djɒr
18. nose ɛmi'sɒn
22. mouth ɛ'buɒt
25. lips ɛ'mɛt
29. chin ɒjɒ'rik
31. tongue ɛbi'tɛrɒ<sup>u</sup>
32. palate ɛjɒ'rik
33. tooth ɛ,birbe'nɪk, ɛ,birbe'djum
37. throat ɛjɒmbɔn'fjɪt
38. neck ɛjɒm'bɔn
43. breast ɛrmum'kiɪ
50. rib ɒ'rɪr
51. lung ɒ'nɒ
52. heart ɛr'muɔɒm
53. stomach ɛsɛ'nɒp
54. belly ɛ'fu
55. intestines ɛne'i'mɒt
56. liver ɛ'ru:m
61. navel ɛ'rur, pɒbrɪ'sɒ
63. back gɒji
64. backbone, spine ɒɒnɪfe'jɪp
65. shoulder ɛ'wɒt
70. tailbone ɒkuɔmɪp
71. anus ɛkɒm'buɒn
77. penis ɛ'kuɔm
78. vagina ɛn'tɔnbɔru
79. testicle ɒ'djɒbeɔ
84. leg ɒ'pɛ:t
86. foot ɒpɛ'tɒ:k
88. ankle ɒpɛrɛ'tɪɪ
90. thigh ɒ<sup>u</sup>mɪp
91. knee ɒpɛ'djɒ<sup>u</sup>
94. shin ɒpɛ'<sup>ɪ</sup>p
98. upperarm ɛ'wum,bɛ
99. armpit ɛ'ki:t
100. elbow ɛwum'gɔr
101. wrist ɛ,wum'fɪt
102. palm of the hand ɛ,wum'tɒk
104. finger ɛ,wum'bi:k
106. toe ɒpɛ'bɪk
107. fingernail ɛ wumbi'buɒk
115. bone i:p
121. skin ɛ'fe'ɪk
124. sweat wun'dɪɒu
128. to eat<sup>10</sup>  
 a. djɪbɒr'ji:t c. ɛrɪtbɒ'rji:t  
 b. ɒndɪtbɒ'rji:t d. dɪrɪtbɒ'rɪt  
 eat! ɒn'dɛt  
 to eat together ɛrɛ'fɪm
130. to drink  
 a. kɔ'bit c. ɛkɔ'bit  
 b. ɒnkɔbit d. ɛkɔ'bit  
 drink! ɒqu'rɛt
135. to bite (animals) ɔ'wɔk  
 to bite a. nɪɛm c. ɛjɛm  
 b. ɒnɪɛm d. dɛɪɛm
138. to sleep  
 a. kuɔn c. ɛ'kuɔn  
 b. ɒn'kuɔn d. ɛ'kuɔn
142. to wake up  
 a. fɔ c. ɛ'fɔɔ  
 b. ɒn'gɔn d. ɛ'fɔɔ
149. to sit ɔ'i'tjɒp



154. to take a bath ti'kuar
160. to shout  
a. dɪn c. ɛri'ɛn  
b. dɪn d. de'riɛn
170. to cough  
a. e'bit c. ɛ'bit  
b. bit d. ɛ'bit
183. to die  
a. wut c. ɛ'wut  
b. ʌ'nut d. ɛ'wut
185. dead u:t
192. to kill ʌŋdjik'ta
196. wound pɛtjat
199. ill wantik
201. to be in pain pʌ:m
202. healthy ɛpʌkʌ'im
204. to be feverish un'tiik
213. goitre ɛjʌmbu'keə
236. man, mankind mʌmiŋ
239. name em'ʊ
242. woman nʌ:pʌ:
243. male (human) ʌŋ'ʌmpʌ
244. male (animal) nʌ:p
246. female (animal) pɔ:r
247. youth (male) mɔnip mʌm'pu
248. virgin mən'sim mʌm'pu
250. boy, lad tɔn mɔ'nip
252. girl tɔn mən'sim
- 253/
254. old man, old woman wəŋ'ka:n
255. father 'nʌjʌ
256. mother ni'ɛn
257. oldest child nɔn'ʌru<sup>a</sup>
258. youngest child nɔn'duɔt
- 257/
258. child nɔ:n, ɛntawɔr
259. little child (male)  
nɔn mɔnip'duɔt
260. little child (female)  
nɔn sin'duɔt
- 259/ little child (unsp.) nɔn'duɔt
260. nɔnaru'ɔt, tɔn, tɔn'tʌt
261. son nɔn mɔ'nip
262. daughter nɔn'sin
263. grandfather 'djʌka<sup>e</sup>na
264. grandmother 'beakan
265. great-great grandparents  
də'puk
266. great-grandparents də'puk
267. ancestors də'puk
268. brother kuɔ (ms), bi'nɔn (ws)<sup>11</sup>
269. sister bi'nɔn (ms), kuɔ (ws)
270. older brother kuɔ'wʌ (ms)  
bi'nɔn (ws)
271. older sister bi'nɔn (ms)  
kuɔ'wʌ (ws)
272. younger brother kuɔ'nɔn (ms)  
bi'nɔn (ws)
273. younger sister bi'nɔn (ms)  
kuɔ'nɔn (ws)
274. grandchild də'tak (mʌ'tɔn)
275. uncle FB 'nʌjʌ
276. uncle MB 'mumʌ
277. uncle FBo nʌjʌ'wʌ ('nʌjʌ ʌ'ruʌ)
278. uncle FBy 'nʌjʌduɔt
279. uncle MBo 'mumʌ
280. uncle MBy 'mumʌ
281. aunt FZ ni'ɛn
282. aunt MZ ni'ɛn
283. aunt FZo ni'ɛn
284. aunt FZy ni'ɛn
285. aunt MZo ni'ɛn
286. aunt Mzy ni'ɛn
287. nephew BoS nɔn (ms), dʌ'nɔn (ws)
288. nephew Bys nɔn (ms), dʌ'nɔn (ws)
289. nephew ZoS dʌ'nɔn (ms), nɔn (ws)
290. nephew ZyS dʌ'nɔn (ms), nɔn (ws)
291. niece BoD nɔn (ms), dʌ'nɔn (ws)
292. niece ByD nɔn (ms), dʌ'nɔn (ws)

293. niece ZoD dΛ'nɔn (ms), nɔn (ws)  
 294. niece ZyD dΛ'nɔn (ms), nɔn (ws)  
 295. cousin FB/FZS kuɔ (ms)  
 MB/MZS bi'nɔn (ws)  
 296. cousin FB/FZD bi'nɔn (ms)  
 MB/MZD kuɔ (ws)  
 297. mother-in-law maŋ'gΛ<sup>en</sup>  
 father-in-law muŋ'gΛ<sup>en</sup>  
 299. son-in-law 'dΛnΛ (ms)  
 dΛ'nɔn (ws)  
 300. daughter-in-law 'dΛnsin (ms)  
 dΛ'nɔn (ws)  
 302. stepson dΛ'nɔn  
 303. stepdaughter dΛ'nɔn  
 305. adopted child nɔn  
 306. brother-in-law WB djΛmΛ  
 307. brother-in-law HB dumuΛ  
 308. brother-in-law WZH e. kuɔ'wΛ  
 y. kuɔ'nɔn  
 309. brother-in-law HZH bi'nɔn  
 310. brother-in-law djΛmΛ (ms)  
 dumuΛ (ws)  
 311. sister-in-law HZ djamɔn  
 312. sister-in-law WZ dymy'nɔn  
 313. sister-in-law HBW e. kuɔ'wΛ  
 y. kuɔ'nɔn  
 314. sister-in-law WBW bi'nɔn  
 317. husband 'nΛpΛ  
 318. wife njΛn  
 320/  
 321. comrade, friend, mate uɔr  
 324. guest, stranger ma'te'in  
 325. village wikari  
 342. vampire (witch, were wolf)  
 ma'buΛk  
 344. soul, ghost kar'war  
 345. the supreme being wΛ'mit  
 349. god mΛnsə'ren  
 369/  
 370. forbidden, taboo bΛ'tɪ
391. happiness ɛfu'djΛ:r  
 beβΛ'rΛm  
 392. unhappiness fudjΛ'djΛn  
 beβΛrΛ'djΛn  
 407/ to marry c. ɛŋΛ'nɪm  
 408. d. ɛŋΛ'nɪm  
 407. to take a wife  
 a. Λ'ŋΛm c. ɛ'ŋΛm  
 b. Λ'ŋΛm d. ɛ'ŋΛm  
 408. to take a husband  
 a. nΛ:p c. ɛ'nΛ:p  
 b. Λ'nΛ:p d. ɛ'nΛ:p  
 413. to give birth to  
 a. serein'tɔn c. ɛserein'tɔn  
 b. ʌnserein'tɔn d. ɛserein'tɔn  
 428. to dance  
 a. sΛɥ c. ɛ'sΛɥ  
 b. ʌn'sΛɥ d. ɛ'sΛɥ  
 432. to play de'rɪn  
 437. house djΛ:n  
 444. roofing: bark of tree  
 (used in mountains) a:t ni'fiɔk  
 445. roofing: pandanus a:t pΛm'buΛ  
 leaves of aren palm a:t nΛ'buΛ  
 leaves of sago palm a:t bi'buΛ  
 449. door 'keruΛ  
 454. ladder 'ΛruΛr  
 457. floor ʌsen'ɪɔk  
 459. wall: bamboo bit  
 460. midrib or palm frond am'pɛr  
 461. main post kitt  
 463. bed 'tewɪt  
 468. sleeping mat pΛ:n  
 474. fireplace wΛ'biɣ  
 475. fire jɪɥ  
 477. to make fire  
 a. sΛ'tɪt c. ɛsΛ'tɪt  
 b. ʌnsΛ'tɪt d. desΛ'tɪt  
 480. to blow on a fire ə'buΛ<sup>u</sup>  
 483. ashes su'buɣ  
 484. fire wood dɪɔɣ  
 494. pot (earthenware) u:k

505. knife djɬə'nɔn
506. chopper djɔt
509. axe bɬ:g
513. to fetch water newawar
530. to grill, to roast  
a. tɔm c. ɛtɔm  
b. tɔm d. ɛtɔm
537. vegetables bɬ'buɔ
541. fish bə'wɔr mwɔn
- 542/
543. rice plant pɔsu'pɔɔ
552. to pound simu'ɔ
573. comb uɔ
577. waist belt/band bə'jɬt
579. arm ring, bracelet fɔt
581. arm ring (upperarm) a:n
- 582/
583. earring, earclip sɔm
585. bead 'irirɔ
588. loin cloth mɔ'tɛk
589. cotton fabric (red) kɔsu'ba
598. bark cloth mɔm'bruk  
bark for clothes ni:ɔ, mɔ'mɛn  
bark of *Antiaris Toxicaria*  
*Lesch* for clothes mɔ'tat
602. rope: fine djɔr  
for garden fence iranɔt  
for stringbag na  
to catch fish ier  
from Genemon tree pu'zɔɔ
- 605/
606. bag (made of bark) kuɔp
606. bag (of Genemon rope) tjan'dɔr,  
djen'dɔr  
small stringbag used by men  
tjan'dɔr ibi'am  
large stringbag used for garden  
produce djɛndɔr'si
611. pike, lance, javelin mar
613. bow wɔ'tjɔp
615. arrow tu:m
616. quiver arrowhead kɔpɔ'ret
627. enemy dɔromɔ'rɔm
653. garden bɬ'jin
- 662/
663. to sow  
a. kau c. ɛkau  
b. ɔnkau d. ɛkau
665. to plant  
a. bau c. ɛbau  
b. ɔmbau d. ɛbau
668. ripe (fruit) bi:n  
ripe (unsp.) uɔb
671. to reap dɔ'buɔ
673. to pick (vegetables) ɛmɔ  
to pick (fruit) bɔ:t bi:n
674. maize, corn kɔ'sɔm
677. beans: winged bean wɔ'mɬt  
long beans kɔ'prursɔ:k
679. cucumber ti:m
680. pumpkin kɔ'mɔn
681. tobacco su'kum
683. peanut kɔ'pɔr
687. sweet potato wɔ'ti'bɔr
688. cassava wɔ'ti'ni
689. taro gu'tɔbeɔ
- 691/
692. coconut tu
696. lontar tree pɔ:n
704. sago bɬ:
707. pandanus pam'buɔ
708. mango bi
712. *Eugenia* kuru'ɔk, 'aritɔ
713. *Lansium domesticum* 'dikjɛm
716. banana (pisang ambon) vɔm'pɔ  
(pisang raja) vɔrɔ'djɔ
717. banana (wild) vɔ'djɔ  
(pisang merah, hijau, suangi)  
kɔbi'tjɔm  
(pisang kapok) vɔbɔn'gɔm
718. banana (unsp.) vɔ
719. species of citrus fruit 'djɔdi  
(jambu hutan) babuɔ, re'babi

731. rattan, cane i'buam  
 732. bamboo bik  
 734. tree ni'pra<sub>u</sub>  
 735. wood: ironwood bi'tjam  
 to make a floor n<sub>i</sub>fik  
 to make a house t<sub>o</sub>rup  
 737. to climb  
 a. f<sub>o</sub>'su<sub>o</sub>r c. εf<sub>o</sub>  
 b. Λf<sub>o</sub> d. εf<sub>o</sub>  
 738. to cut down  
 a. mΛ'ni c. εmΛ'ni  
 b. ΛΛΛΛ'ni d. εmΛ'ni  
 746. leaf buΛ  
 768. mushroom ku<sub>o</sub>p  
 778. tail m<sub>u</sub>  
 788. to fly au  
 797. to grunt duΛriε  
 790. egg buw'Λ  
 794. domesticated pig kΛ'mεr  
 796. wild pig duΛ'mir  
 pig (unsp.) duΛ<sub>u</sub>  
 811. dog pi<sub>o</sub>  
 812. to bark kə'riə  
 813. cat na<sub>u</sub>  
 814. to miaow kuΛp  
 823. cassowary kΛm'pΛk<sub>o</sub>, mΛ'prək<sub>i</sub>r  
 824. pigeon mΛm'bruk  
 826- chicken (unsp.) k<sub>o</sub>'k<sub>o</sub>r  
 831. wild chicken jaw<sub>o</sub>ŋ  
 844. bird i<sub>u</sub>  
 851/  
 852. mouse, rat k<sub>o</sub>'miεr  
 855. to hunt  
 a. bisΛ'ba c. εmbiΛ'ba  
 b. ΛmbisΛ'ba d. debisΛ'ba  
 866. louse i:m  
 877. mosquito ku'biεu  
 886. snake kur  
 892. shrimp: small mo  
 big kuεm'pΛk  
 906. sun put  
 908. moon ma:n  
 909. one month ma:ntu  
 911. moon eclipse nifrΛbre'kr<sub>o</sub>  
 (lit: dunia balik-diri)  
 912. star t<sub>o</sub>εn  
 919. rain pΛ  
 heavy rainfall pΛ'wu<sub>o</sub>b  
 a little rain pΛpe'ti<sub>o</sub>  
 921. cloud pεkə'rΛm  
 922. fog, mist bum  
 924. thunder kuku'ru  
 926. (flash of) lightning fe'r<sub>i</sub>p  
 928. wind iəp  
 929. storm i'ta<sub>u</sub>  
 930. water war  
 938. beach u<sub>o</sub>t  
 947. mountain su<sub>o</sub>r  
 mountain-top su<sub>o</sub>r'n<sub>i</sub>r  
 950. to go down, to descend  
 a. bu'ru c. εbu'ru  
 b. Λmbu'ru d. debu'ru  
 963. river war  
 965/  
 966. stream wao'nar  
 968. flood wΛ'rΛ<sub>o</sub>  
 969. stone bi:t  
 1004. merchandise ΛntΛwΛr  
 1008. profit somΛ fl'ri  
 1017. borrow  
 a. buΛn c. εbuΛn  
 b. ΛmbuΛn d. debuΛn  
 1019. to exchange  
 a. kuΛ'kir c. ε'kuΛkir<sub>u</sub>m  
 b. ΛkuΛkir'an d. ε'kuΛkir<sub>u</sub>m  
 1061. great, big bΛ'pΛk, du<sub>o</sub>n  
 1062. small n<sub>o</sub>m'ba<sub>k</sub>, du<sub>o</sub>t  
 1068/  
 1069. thick duan'tip  
 1070. thin di'neu  
 1087. high se'r<sub>i</sub>  
 1088. low du:t

1155. warm (things) untik  
 1130-  
 1135. beautiful, clean (white) mʌ'fun  
 1131. bad wʌn'dɛk, uʌŋ'dɪk  
 1144. angry dɔ'mɔr, mɔ'fɛr  
 1150. old sə'nu, kʌndɔ  
 1151. old, worn sə'nu  
 1153. new bʌ:k  
 1157. fast wʌsə'rjɛn  
 1159. dumb ɛɔnɔsʌn'bʌr  
 1160. clever ɛɔnɔt'bʌr  
 1167. white tu'biə  
 1168. black niɛm  
 1169. red su:m  
 1170. brown buɔ  
 1171. yellow um'frum  
 1172. blue bua'ɔb  
 1173. green niɛm  
 1176. to give ʌm'bɔtɔ  
 1179. to take  
 a. da:k c. e'rak  
 b. ʌn'da:k d. de'rak  
 1185. to grip, to hold, to seize  
 ɛrkl'jɪm  
 1187. to make, to do na  
 a. ɛfu'rur c. ɛfu'rur  
 b. ʌfu'rur d. defu'rur  
 1194. to think  
 a. ferɔm'bʌr c. ɛmferɔm'bʌr  
 b. ʌmferɔm'bʌr d. deferɔm'bʌr  
 1197. to have forgotten something  
 nɔmun'tuʌ  
 1202. to speak, to tell  
 a. deto'bʌr c. ɛrto'bʌr  
 b. deto'bʌr d. to'bʌr  
 to speak  
 a. bua'war c. ɛbua'war  
 b. ʌmbua'war d. debua'war  
 1212. to carry on the head  
 a. dɔ'kuʌ c. ɛr'kuʌ  
 b. ʌndɔ'kuʌ d. derɔ'kuʌ  
 1218. to carry in a sarong  
 a. mʌ:k c. ɛmʌ:k  
 b. ʌmʌ:k d. ɛmʌ:k, de'kʌn  
 1220. to carry on the back  
 a. tim c. ɛtim  
 b. tim d. ɛtim  
 1227. to hear  
 a. mə'ni c. ɛmə'ni  
 b. ʌmə'ni d. ɛmə'ni  
 1228. to see  
 a. ɔt c. ɛ'wɔt  
 b. ʌ'nɔt d. ɛ'wɔt  
 1247. to cut off  
 a. tɔn c. ɛtɔn  
 b. tɔn d. detɔn  
 1249. to string, to jump  
 a. tiko'pɔ c. ɛtiko'pɔ  
 b. tiko'pɔ d. tiko'pɔ  
 1253. to break  
 a. bʌ'kɔ c. ɛbʌ'kɔ  
 b. ʌmbʌ'kɔ d. debʌ'kɔ  
 1254. to break (a rope) ti  
 1256-  
 1258. broken/shattered ɛbʌkɔ  
 1260/  
 1261. to begin  
 a. tɔ'rein c. tɔ'rein  
 b. tɔ'rein d. tɔ'rein  
 1263. to finish mʌ'pei  
 1266. to hide  
 a. tɛ'fɔm c. ɛtɛ'fɔm  
 b. tɛ'fɔm d. detɛ'fɔm  
 1267. to ask  
 a. nu'nʌn c. ɛnu'nʌn  
 b. ʌnu'nʌn d. deu'nʌn  
 1269. to ask for  
 a. 'ginin c. ɛkə'nin  
 b. ʌngə'nin d. dekə'nin  
 1270. to refuse ʌmbifɛ'na, aŋɔrosit  
 1273. to steal  
 a. um'buʌt c. ɛwum'buʌt  
 b. ʌnum'buʌt d. dewum'buʌt  
 1275. to throw  
 a. fʌ c. ɛfʌ  
 b. fʌ d. defʌ

1276. to burn iərit  
a. tɔm c. ɛtɔm  
b. tɔm d. ɛtɔm
1279. to go  
a. nun c. ɛ'wun  
b. ʌ'nun d. deɛ'wun
- 1283-  
1285. to come  
a. ʌ:pʌ c. ɛnʌ:pʌ  
b. ʌnʌ:pʌ d. denʌ:pʌ
1285. to be coming  
a. nʌ:'ma c. ɛnʌ'ma  
b. ʌnʌ'ma d. denʌ'ma
1291. to hit (to beat, to slap, etc.)  
a. bʌt c. ɛbut  
b. bʌt d. bʌt
1293. one tu
1294. two dɔ'kiŋ
1295. three de'nur
1296. four buʌt
1297. five miɛ
1298. six mʌmbɛ'tu
1299. seven mʌmbirɔ'kiŋ
1300. eight mʌmbire'nur
1301. nine mʌmbi'kuʌt
1302. ten a\_uŋ'gir
1303. eleven a\_uŋgir'tu
1304. twelve a\_uŋgirdɔ'kiŋ
1305. thirteen a\_uŋgirdɔ'nur
1306. fourteen a\_uŋgir'buʌt
1307. fifteen a\_uŋgir'miɛ
1308. sixteen a\_uŋgirmʌmbɛ'tu
1309. seventeen a\_uŋgirmʌmbirɔ'kiŋ
1310. eighteen a\_uŋgirmʌmbire'nur
1311. nineteen a\_uŋgirmʌmbi'kuʌt
1312. twenty a\_uŋgirdɔ'kiŋ
1313. twenty-one a\_uŋgirdɔkiŋtuʌsɪn
1314. twenty-two a\_uŋgirdɔkiŋʌ'sɪn
1315. twenty-five a\_uŋgirdɔkiŋmiɛʌsɪn
1316. thirty a\_uŋgirde'nur
1317. forty a\_uŋgir'buʌt
1318. fifty a\_uŋgir'mi
1319. sixty a\_uŋgirmʌmbɛ'tu
1320. seventy a\_uŋgirmʌmbirɔ'kiŋ
1321. eighty a\_uŋgirmʌmbire'nur
1322. ninety a\_uŋgirmʌmbi'kuʌt
1323. hundred un'tintu
1324. thousand ribu'tu
1325. ten thousand ribua\_uŋ'gir
1326. a half kuɔm'mutɔ
1327. a quarter kuɔmbɛrʌm'buʌt
1330. first sʌ'dʒi
1332. second dɔ'kiŋ
1339. many, much fɔnfʌm'bɪr, fɔn
1340. few, a little nɔʌ'bʌk
1342. there are deku'bʌk
1347. more fʌ'riə
1348. most 'kʌku
1357. I in
1358. I myself in du'fu
- 1359/  
1360. you (unsp.) nʌ:n, nʌ:n nʌ:n
1363. he nʌ:n
1364. she nʌ:n
1365. we (incl.) in
- 1365/  
1366. we (unsp.) iŋk
- 1367/  
1368. they (unsp.) diŋ
1370. my (prefix) in
1371. our (incl. prefix) in
1372. our (excl. prefix) ɛ
- 1373/  
1374. your (prefix) ʌn
- 1375-  
1378. your (prefix) de
1379. who? amumʌ'kʌ
1380. what? bʌwʌŋ'kʌ
1383. this (suffix) ə'gi
1384. that (suffix) guʌ

1388. here ku'ki, 'kumʌŋgi  
 1389. there (near hearer) kumʌn'ka  
 1390. there kumʌnʌ'miək  
 1391. which, who, that mən'gi, mənʌ'ga  
 1394. day put  
 1397. daylight put  
 1402. night dim  
 1403. dark di:m  
 1412. before (unsp.) də'mi  
 1414. formerly bʌrisʌ'bun  
 1415. later put mənʌ  
 1418. yesterday ʌ'tən  
 1420. today punʌŋ'gi  
 1421. morning krim'bor  
 1422. tomorrow miŋ'ai  
 1423. the day after tomorrow tə'kiŋ  
 1425. evening tʌt
1428. already verb + pʌ  
 1429. not yet dʌntiŋ, dʌn'tə  
irunʌr'dʌn, mau  
 1437. up, upper, above bə'dʒul  
 1440. under bə'nik  
 1446. from bʌ'ri  
 1448. at, in bəu  
 1450. in bəu?, ə'wər, ku  
 1452. nearby də'mʌt  
 1453. far bʌ'miŋ  
 1463. like this ʌromʌn'di  
 1464. like that ʌromʌŋʌ  
 1470. with bə'rau  
 1471. no tʃʌnɛ:  
 1472. yes jɛ::  
 1474. not, no dʒʌ:n

## b. Other Kebar words

1. afterwards məni'pʌ  
 2. again bə'ke  
 3. arrow (four pointed) sobuat  
 4. arrow (for killing pigs) tundʌʌ  
 5. arrowhead: (unsp.) bʌ'nən  
metal mʌkʌr'məm  
 6. back (on/to the back) gʌʃt  
 7. bamboo (for bows) wau  
 8. bamboo (to make a fire) nʌ:n,  
bis'kuʌt  
 9. banana (roasted) tum'pʌ  
 10. bark (brought home with a new  
 born child, to get many 'kain  
 timur' fətjət  
 11. bark (of *innamomum xanthoneuram*)  
tə:m  
 12. become  
 a. bi'kan c. ɛbi'kan  
 b. ʌmbi'kan d. debi'kan
13. bind  
 a. bir c. ɛbir  
 b. ʌmbir d. ɛbir  
 14. bird ('burung tahun') ʌʌn'dər  
 15. bird ('burung suangi') bʌkə'nik,  
bʌsikʌ  
 16. bird of paradise əŋiət  
 17. bird ('burung abu-abu') i'brut  
 18. bladder ɛ'ruk  
 19. bleed  
 a. fʌr c. ɛ'fʌr  
 b. fʌr d. ɛ'fʌr  
 20. blow  
 a. fək c. ɛ'fək  
 b. fək d. ɛ'fək  
 21. breed, raise, rear  
 a. mi:n c. ɛ'mi:n  
 b. mi:n d. de'mʌn  
 22. bring (with you)  
 a. də'kuʌ c. ə'r'kuʌ  
 b. də'kuʌ d. ə'r'kuʌ

23. buzz kuʌp
24. by, through ta'ba:r
25. cackle kuʌp
26. cholera 'a tʃʌrʌ
27. choose  
a. dʌ'ji c. ɛrʌ'ji  
b. dʌ'ji d. ʌji
28. clothes sʌ'suʌ
29. coconut (ball of coconut leaves)  
tu'buʌ
30. cost  
a. bi:k c. ɛbi:k  
b. bi:k d. debi:k
31. creep  
a. di'tji c. ɛri'tji  
b. di'tji d. deri'tji
32. to cross (a river)  
a. sʌnti'wʌr c. ɛsʌnti'wʌr  
b. ʌsʌnti'wʌr d. dɛsʌnti'wʌr
33. dance pre'bi
34. dangerous baɔ
35. daring bima'u
36. dark di:m
37. difficult bika'ku
38. divide, share  
a. tɛiɛ'dir  
b. ʌntɛi'dir
39. down ʌ'nɪk
40. dye (to get violet) ni:m
41. dye (-fruit to get red)  
kʌsu'ba
42. dye (-fruit to get black)  
ka'vrɪm
43. dye (-fruit to get blue)  
su'kɔr
44. each (each day) putu putu
45. ear (cavit of the ear)  
e\_kuʌi'buʌn
46. ear lobe fen'iɔrʌ
47. easy wʌnsə'rit
48. eventually, possibly  
nʌnɔmʌn nʌntʃʌnɔmʌn
49. everybody mʌmiŋ fiti fi'ti
50. except mʌŋkʌ'pʌ
51. fall  
a. gʌm c. ɛ'gʌ:m  
b. ʌn'gʌ:m d. ɛ'gʌ:m
52. family 'nɔnɪk
53. family (own) e'ɪɔk
53. family (other) dɔr
54. feather (cassowary) bur
55. feather (pen of cassowary  
feather put in nose hole) sʌiʌp
56. feather (bird of paradise)  
aŋi'e
57. fight  
a. bʌtʌn c. ɛbʌtʌn  
b. ʌmbʌtɪn d. ɛbʌtʌn
58. fish (small, species of)  
miən, ar'uat, mə'nʌp,  
wʌtsən, mʌm'baʌ, mʌm'sɔp
59. fish (big, species of)  
mʌm'buʌr, mʌm'iaɪ,
60. fluff (of banana tree and aren  
palm to make fire with) nʌŋ'im
61. follow  
a. bʌ'ke c. ɛbʌ'ke  
b. ʌmbʌ'ke d. debʌ'ke
62. forbid  
a. dʃʌn c. ɛdʃʌn  
b. dʃʌn d. de'dʃʌn
63. fold  
a. ukudʃʌn, grup c. ɛ'grup  
b. grup d. ɛ'grup
64. fruit (red, oval) a:k
65. fruit kastenopsis bua:n
66. goods ʌntʌ'wʌr
67. gum sukuʌ
68. harmless, not dangerous  
mʌfʌmʌ'sɪk
69. hip bone ʌdʃu'mɛtɪp
70. hither, this way fena
71. hole (in nose bone) imsam'buʌŋ
72. home (go home) ejaʌwerein



73. ill wantikma'suk
74. iris ejannim
75. language - own pur  
- other wa,simla'teim
76. lead  
a. kə'nɔt c. ekə'nɔt  
b. ʌkə'nɔt d. ekə'nɔt
77. leaf -  
used as cigarette paper pam'buʌ  
of 'white' wood to rub tɔfɛ  
to rub woman during delivery 'umiam  
to rub away headache siɛt  
to make sleeping mat pɑ:  
*endo sperromon molucanam O.u.m.*  
wpa:k
78. liquid (from a liana) amberbuk
79. long - as long as to
80. magic - black magic Karon te'rɒm
81. make, improve  
a. fʌ'sɔt c. ɛfʌ'sɔt  
b. ʌfʌ'sɔt d. ɛfʌ'sɔt
82. mat (used as umbrella) pɑ:n'pʌ
83. men skilled in black magic  
bʌfnjɛt'kək
84. nail (of toe) ʌpebɪ'buʌk
85. orange (colour) sə'rik
86. orchid (-dye for yellow) sə'rum
87. origin (place of origin, 'dusun'  
ʌtju, jʌ
88. other fiti
89. ovary ɛn'tɔntʌrɒl'sup
90. own  
a. tʌ c. ɛtʌ  
b. ʌtʌ d. tʌr
91. pawpaw bɛn'kaɛn
92. pineapple a'kɔt
93. pipe (made of *alocaria*) ku'rum
94. plant (used to get infertile)  
uʌf  
(used to get fertile 'rumput  
Keban' bʌnɔn'diɔ  
eggplant fɔfɔ'gi
95. poison (of 'akar tuba') su'mut
96. prophet (false) kɛntip
97. pull  
a. de'tuk c. ɛr'tuk  
b. ande'tuk d. ɛrə'tuk
98. pupil (eye) ejam'ku:t
99. push  
a. kɔrɔ'sit c. ɛkɔrɔ'sit  
b. ankɔrɔ'sit d. ɛkɔrɔ'sit
100. run  
a. dɔfrir c. ɛr'ɔfrir  
b. dɔfrir d. dero'frir
101. shadow buʌm
102. side (other side) sobʌ'rɒm
103. sin wʌndiɛ'kraʌ, wʌndiɛk
104. sing (of bird) kuʌp
105. sleep ə'kwɔn
106. slope suɔr'mu:k
107. snake  
(species of python?) ku'buʌk  
red snake 'sebuk  
green snake ku'ɔb  
yellow snake kubim  
white snake ku'bik
108. soap (made of 78.) ir
109. stone (river stone) bi:t  
'egg' used with black magic  
bʌfnjɛt
110. string 'ikrin
111. sweeping brush 'namut
112. tobacco mixed with to:m leaves  
ni'fjɔk
113. tattoo bʌ'fʌ
114. temple bone ɛ'jʌm te,nip
115. themselves dirutu
116. there kumʌ'nɒm
117. think nufurɔm
118. to (addressed to) ambuarbʌʌ,  
hɒdir  
direction si
119. tonsils ejʌrik fit
120. tribe iuktʌrɒk
121. tulip (*Genemon*) pu'ɛrʌp<sup>ɔ</sup>
122. unconscious bauntin

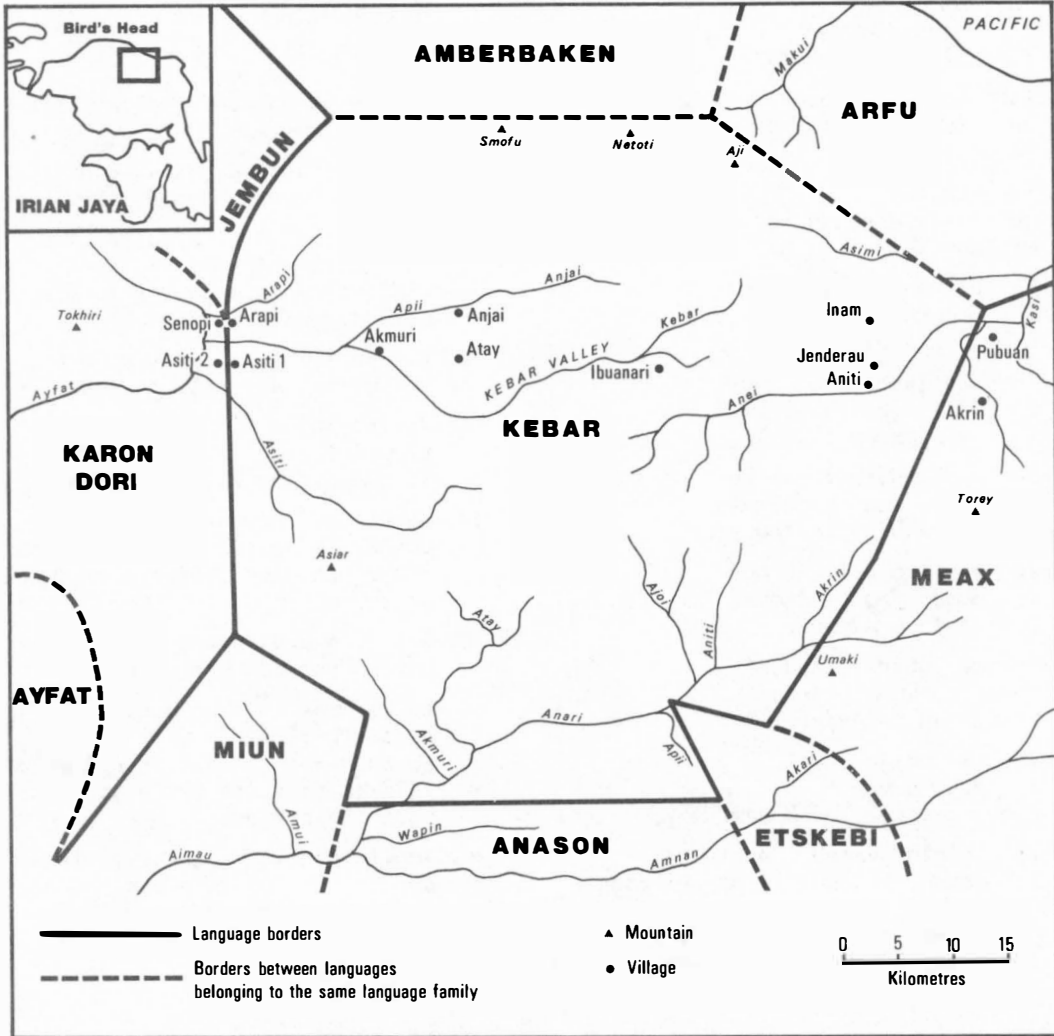
123. understand  
 a. in'ɔt c. ɛo'nɔt  
 b. ʌnʌ'nɔt d. do'nɔt
124. until tɔ:p
125. up ʌ'djun
126. uterus ɛn,tɔn'buʌk
127. uvula ɛjʌm,bɔn'buʌn
128. vegetable  
 'sayur liling' buʌ'ŋɪ  
 'bayam' mʌn'grɛk
129. violet səkɔr'bi:m

130. to weed  
 a. sɪ'mɪr c. ɛsɪ'mɪr  
 b. ʌnsɪ'mɪr d. desɪ'mɪr
131. where: from where? ʌmbʌri'tiə  
 where to? ʌnusi'tiə
132. without ir, irun
133. woman with child nɔnɾʌ
134. womb, uterus ɛn,tɔn'buʌk
135. wood: for making arrows tu:m  
 soft wood dɔm
136. write ebi'ɛr

c. Some sentences

1. ʌnʌ'ma wʌsɛrjɛn  
*come quickly*  
*Come quickly!*
2. in nun si bʌ'jin  
*I go to garden*  
*I go to the garden.*
3. nʌ:n ʌnun si bʌjin'ɛ  
*you go to garden?*  
*Do you go to the garden?*
4. in nun si dʒʌn  
*I go to house*  
*I go home.*
5. in tʃʌnɔmun si bʌ'jin  
*I not go to garden*  
*I don't go to the garden.*
6. in tʃʌnɔmun nuntʃʌnɔmun  
*I not go go not go*  
 si bʌ'jin  
*to garden*  
*Maybe I'll go to the garden.*
7. kɪmbɔr mʌfun nʌnje  
*morning good you yes*  
*Good morning to you.*
8. put mʌ'fun  
*day good*  
*Good day.*
9. tɔt mʌfun nʌn nʌn  
*afternoon/evening good you you*  
*Good afternoon (evening) to you.*
10. ɛwɔten'fir  
*Till we meet again.*
11. mipai  
*tomorrow*  
*See you! (when people part)*
12. ʌnti'a'pɛ  
*you stay!*  
*Welcome! (when people enter the house)*
13. tobuat  
*four*  
*See you after four days. (when a person leaves for four days)*
14. in tim bi:ʒ  
*I carry sago leaves*  
*I carry sago leaves (on my head).*
15. in dɔ'kuʌ bi'tʃʌm  
*I carry ironwood*  
*I carry ironwood (on my shoulder).*
16. in fu'rur dʒʌn  
*I make house*  
*I build a house.*
17. in fu'rur bʌ'jin  
*I make garden*  
*I make a garden.*
18. in fu'rur kuɔp  
*I make bag*  
*I make a bag.*
19. in fu'rur tu:m  
*I make arrow*  
*I make an arrow.*
20. in dɪt vʌm'pɔ  
*I eat banana*  
*I eat (a) banana (pisang ambon).*

21. in dt̄t b̄rjt̄  
I eat already fire  
I eat food which is ready to  
eat (has been in the fire to  
roast).
22. in t̄m v̄  
I roast banana  
I roast (a) banana(s).
23. īk̄ ēbuā fir̄kor̄ur̄  
we talk will  
We will talk.
24. īk̄ ēbuap̄  
we talk already  
We have talked.
25. in bi'kan w̄antiku'ot̄  
I become ill very  
I become seriously ill.
26. in w̄antiku'ot̄  
I ill very  
I am seriously ill.
27. in n̄p̄r̄ d̄əfr̄ir̄ ʌk'mur̄  
I come run Akmuri  
I came running to Akmuri.
28. in n̄p̄r̄ b̄l'rī ʌk'mur̄  
I come from Akmuri  
I come from Akmuri.
29. ʌnʌ'ma d̄əfr̄ir̄ ʌndj̄aī  
come run Anjai  
Come, run to Anjai.
30. in t̄l̄ dj̄ʌn̄  
I own house  
I own a house, my house.
31. in 'ginin v̄amp̄ɔ̄ b̄arī n̄ʌ:n̄  
I ask banana from bi'n̄ɔ̄n̄  
ʌmbi'n̄ɔ̄n̄  
you  
I ask (a) banana(s) from you (saudara).
32. īlt̄ īər̄t̄  
fire burn  
The fire is burning.
33. K. b̄əraū M. derin̄  
K. and M. play  
K. and M. are playing.
34. nufur̄ɔ̄m̄ fitī nā ebier̄  
think make write  
They want something else, they  
want to write.
35. ɛntawor̄ un̄gət̄ē n̄ʌn̄ʌ̄ din̄  
children where come play  
b̄ar̄ b̄əraū A. b̄əraū K.  
with A. with K.  
Children come wherever to play  
with A. and K.
36. K. b̄əraū A. d̄ew̄ʌntik̄ arē  
K. with A. ill not  
derindj̄ʌn̄  
play not  
K. and A. are ill, they don't play.
37. demusimnī newawar̄ m̄p̄eī  
women fetch water finished  
The women have finished to fetch  
water.
38. war̄ m̄aū dj̄ʌn'ton̄ a'kā in̄  
water not yet not to I  
ba'kē m̄war̄ b̄əraunin̄  
again fetch water with you  
We have not fetched enough water,  
I'll go to fetch water together  
with the others.
39. ʌmbife'nā kā anḡɔ̄rosit̄ fenā  
don't to this way don't  
Don't come this way.



Map 1: Kebar and neighbouring languages and dialects, Bird's Head Peninsula, Irian Jaya (New Guinea)

## 5. KEBAR KINSHIP TERMS

term		structural position
ms	ws	
kuo'wa		= older siblings, parallel and cross cousins of the same sex = W.o'Z'.H. ('Z' including parallel and cross cousins of the same sex of W.Z.) = H.o'B'.W. ('B' including parallel and cross cousins of the same sex of H.B.)
kuo'non		= younger siblings, parallel and cross cousins of the same sex = W.y'Z'.H. = H.y'B'.W.
binon		= siblings, parallel and cross cousins of opposite sex = W.'B'.W. = H.'Z'.B.
jama	jamon	= H/W of siblings, parallel and cross cousins of the opposite sex (H/W: H if ws; W if ms) = H/W's siblings, parallel and cross cousins of the opposite sex
dumunon	dumua	= H/W of siblings, parallel and cross cousins of the same sex = H/W's siblings, parallel and cross cousins of the same sex
naya		= F., F.B.
muma		= M.B.
nyin		= M., F.Z., M.Z.
cakan		= F.F., M.F., W/H.F.F., W/H.M.F.
bekan		= F.M., M.M., W/H.F.M., W/H.M.M.
mangkan		= F.B.W., M.B.W. = H/W's: M., F.B.W., M.B.W., F.Z., M.Z.
mungkan		= F.Z.H., M.Z.H. = H/W's: F., F.B., F.Z.H., M.Z.H., M.B.
nyan	napa	= H/W
non		= own children = children of siblings, parallel and cross cousins of the same sex

Cont...

term		structural position
ms	ws	
danon		= children of siblings, parallel and cross cousins of the opposite sex
dansim dana		= daughter-in-law = son-in-law
detak (maton)		= grandchild
depuk(èrpuk)		= great-grandchild

Besides the above mentioned – common – use and meaning of kinship terms in Kebar, some terms can be used in another way:

mangkan	=	(also) F.Z. (ms)
mungkan	=	M.B. (ws)
jama	=	F.Z.S. or M.B.S. (ms)
jamon	=	F.Z.D. or M.B.D. (ws)

This extended meaning of the above mentioned terms is only used by those Kebar people, who have close marriage relations with Amberbaken (see also note 4.).

## NOTES

1. Part of the paper has been published – in Dutch – in Miedema 1984 (see bibliography). As the text of the present paper was submitted to *Pacific Linguistics* as early as 1981, it does not contain any reference to the 1984 publication.
2. As far as the text of this paper is concerned, words in the local language are in heavy typeface and Indonesian words are in single quotes. Language and dialect names are indicated by capitals on the map. Language and dialect names as well as the words mentioned in the comparative wordlists (3) and the list of Kebar kinship terms (5) have been spelled according to Indonesian orthography; x stands for voiceless and voiced velar fricatives, e: indicates a long vowel. (See also note 9.)
3. People of Biak-Numfor originate from the Doré Bay at Manokwari. (Part of these people migrated westward and settled along the north coast of the Bird's Head, from where they had early contacts with tribes in the interior.)
4. The latter due to differences in marriage rules between Amberbaken and Kebar people. For instance, a Kebar man calls his full parallel and cross cousin – of the opposite sex – just like his sister binon, whereas an Amberbaken man calls his full cross cousin – of the opposite sex – binak (an abbreviation of binon akèm; akèm is translated in Indonesian by 'cabang' = *branch*): unlike a Kebar man, an Amberbaken man can marry his full cross cousin.
5. Apparently these Anason are the same as the 'Masoon' mentioned by Eibrink-Jansen 1953.

6. Unlike Barr and Barr (1978, p.23), who regard Miun (Meon) as a Karon Dori dialect, we regard Miun as a Meax/Moskona dialect.
7. See Miedema 1984, Chapter IV, 1.5.
8. Besides language similarities, a supposed common origin of Meax. Etskebi, Anason and Moskona-speaking groups is suggested by the similarity in the name of a god called respectively: Mèrèn (Meax and Etskebi), Merin and Merindu (mèrèn means 'telaga' = lake, pool).
9. In the field words have been gathered rather arbitrary, except those words gathered on specific topics of interest within the frame of our (non-linguistic) research.

The words we gathered were partly regrouped (4a) according to the 'New Basic List' (NBL, see Stokhof 1980), whereas remaining words have been added in a separate list (4b). During our research in 1979 and 1980, the old Holle List as well as the NBL were not at our disposal.

All words are presented in phonetic spelling, following the *Introduction to practical phonetics* (Chapman 1971). Subscript lines show pitch contours.

10. a. = 1st person singular  
b. = 2nd person singular/plural, 3rd person singular  
c. = 1st person plural  
d. = 3rd person plural
11. ms = man speaking  
ws = woman speaking

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A RECENTLY DISCOVERED M(O)OI VOCABULARY  
IN THE NATIONAL MUSEUM (JAKARTA)

W.A.L. Stokhof and Don A.L. Flassy

O. INTRODUCTION

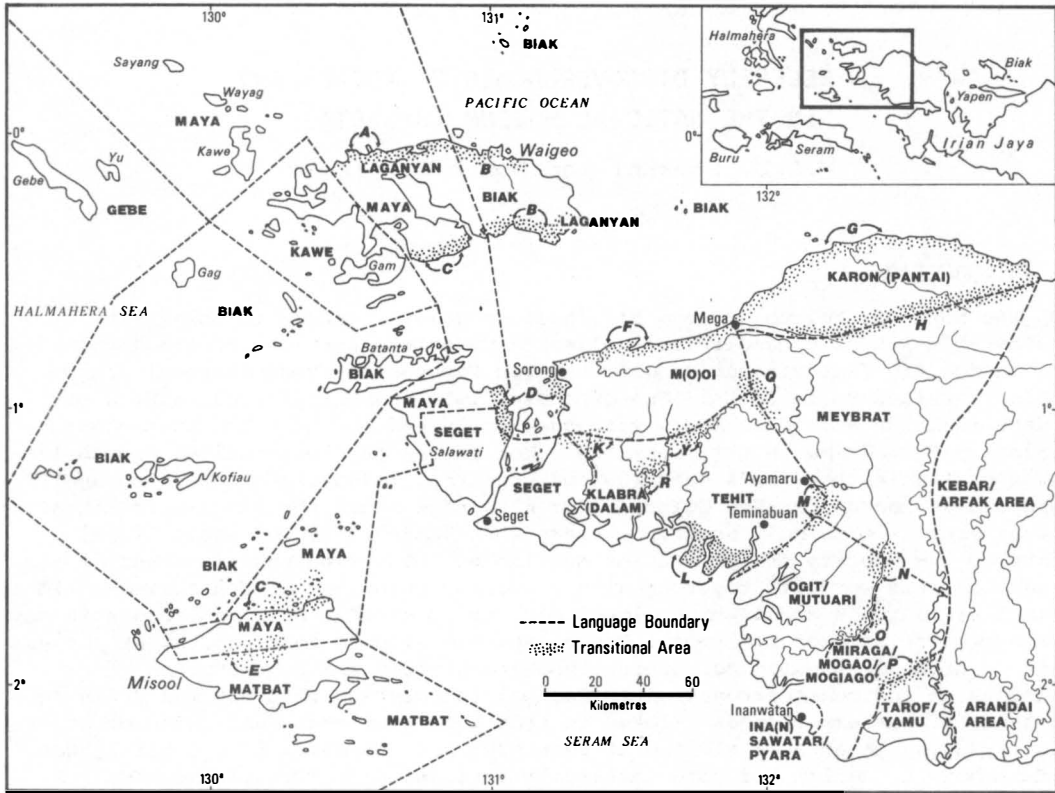
The National Museum (Museum Nasional) in Jakarta<sup>1</sup> holds in possession a considerable set of vocabularies, collected under the auspices of the Royal Batavia Society (*Bataviaasch Genootschap van Kunsten en Wetenschappen*) and popularly called Holle Lists. One of these lists (number 218) contains a set of data from the Moi (also Mooi) language, collected by the Dutch protestant missionary F.C. Kamma in the year 1934. Moi is one of the so-called Papuan languages spoken in the Bird's Head (Dutch: Vogelkop, Indonesian: Kepala Burung) Peninsula in Indonesian New Guinea. Our knowledge about the linguistic situation in that area is extremely scanty. Recent work (Wurm 1971, Voorhoeve 1975a) points to the paucity of information available. It seemed therefore worthwhile to publish this wordlist together with a corresponding set of Tehit items. Tehit is another language about which almost nothing is known. Also, a linguistic map of the western part of the Kepala Burung and the islands west, northwest and east of it is offered, showing our present knowledge about the distribution of Austronesian and non-Austronesian (= Papuan) languages. This map was drawn on the basis of our experiences (Flassy is from the Tehit area) and those of others who stayed in the area or visited it recently: J.C. Anceaux, L. van der Leeden, J. Mansoben, L. Deilom and some indirectly obtained data from SIL members. A list is added showing information on dialect division and administrative organisation. In addition, Voorhoeve's classification of the west Papuan Phylum languages in the western part of the Vogelkop is presented in section 2. Section 4 gives a preliminary inventory of the main sound/meaning correspondences attested in the data so far.

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*Papers in New Guinea Linguistics* No.22, 53-130.

*Pacific Linguistics*, A-63, 1985.

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Map 1: M(o)oi and surrounding languages

## Transitional areas

- |                               |                            |
|-------------------------------|----------------------------|
| A. Laganyan and Maya          | L. Ogit and Tehit          |
| B. Biak and Laganyan          | M. Meybrat and Tehit       |
| C. Biak and Maya              | N. Meybrat and Oggit       |
| D. Biak, Maya, Mooi and Seget | O. Miraga and Oggit        |
| E. Maya and Matbat            | P. Miraga and Yamu         |
| F. Biak and Mooi              | Q. Meybrat, Mooi and Tehit |
| G. Biak and Karon             | R. Tehit and Klabra        |
| H. Karon and Meybrat          | Y. Klabra, Mooi and Seget  |
| K. Klabra, Mooi and Seget     |                            |

1. A PRELIMINARY INVENTORY OF LANGUAGES, DIALECTS, HAMLETS, VILLAGES AND DISTRICTS<sup>2</sup> (number of speakers unknown)

Language <sup>3</sup>	Dialect	Hamlet	Village	District		
I Matbat	(?)	Waigama	Waigama	Misool (isl.)		
		Salafen	Waigama	Misool (isl.)		
		Adwey	Waigama	Misool (isl.)		
		Adkari	Waigama	Misool (isl.)		
		Lilian	Waigama	Misool (isl.)		
		Limalas	Limalas	Misool (isl.)		
		Tomlol/ Tomlele	Tomlol	Misool (isl.)		
		Bemlol	Tomlol	Misool (isl.)		
		Fooley	Tomlol	Misool (isl.)		
		Lilinta	Lilinta	Misool (isl.)		
		Biga	Lilinta	Misool (isl.)		
		Megei	Lilinta	Misool (isl.)		
		Manakari	Lilinta	Misool (isl.)		
		II Biak	1. Beser	Amdin/Amdu (i)	Batanta (isl.)	Salawai (isl.)
				Arefi	Batanta (isl.)	Salawai (isl.)
Yensawai	Batanta (isl.)			Salawai (isl.)		
2. Wardu (?)	Waigama		Waigama	Misool (isl.)		
	Adwey		Waigama	Misool (isl.)		
3. Usba (?)	Limalas		Waigama	Misool (isl.)		
	Fooley		Tomlol	Misool (isl.)		
	Deer		Kogian	Misool (isl.)		
	Dibalal		Kogian	Misool (isl.)		
	Tolobi		Kogian	Misool (isl.)		
	Mios Kapal (isl.)		Limalas	Misool (isl.)		
	Pulau Tikus (isl.)		Limalas	Misool (isl.)		
	Saonek		Saonek	Waigeo (isl.)		
	4. Amber (i)		Warsambi	?	Waigeo (isl.)	
			Selegof	?	Waigeo (isl.)	
Waifoi			?	Waigeo (isl.)		
Warimak			?	Waigeo (isl.)		
Go			?	Waigeo (isl.)		
Kabilof			?	Waigeo (isl.)		
Kabare			Kabare	Waigeo (isl.)		
Nyandesawai		?	Waigeo (isl.)			
Lamlanu	?	Waigeo (isl.)				

Language	Dialect	Hamlet	Village	District
		Sanseba	?	Sausapor
		Warwanai	?	Sausapor
		Waibem	?	Sausapor
		Waw	?	Sausapor
	5. Sarpan/ Maden	Kalafal	?	Salawati (isl.)
		Kalolo	?	Salawati (isl.)
		Solol	?	Salawati (isl.)
		Sagawin	?	Salawati (isl.)
III Maya	1. Benlol	Mocu	?	Misool (isl.)
		Fiawat	?	Misool (isl.)
		Samate	?	Misool (isl.)
		Sailolof	?	Salawati (isl.)
	2. Tepin	Solol	?	Salawati (isl.)
		Khalyam	?	Salawati (isl.)
		Kapatlap	?	Salawati (isl.)
	3. Bata	Yeninas	Batanta (isl.)	Salawati (isl.)
		Wailebet	Batanta (isl.)	Salawati (isl.)
		Mindoko	Batanta (isl.)	Salawati (isl.)
	4. Raja Ampat(?)	Selepele	?	Waigeo (isl.)
		Saligo	?	Waigeo (isl.)
		Beaw	?	Waigeo (isl.)
		Yafnu	?	Waigeo (isl.)
		Saonek	Saonek	Waigeo (isl.)
		Wawiyai	?	Waigeo (isl.)
IV Laganyan	?	Beo	?	Waigeo (isl.)
		Lempintol	?	Waigeo (isl.)
		Wawiyai	?	Waigeo (isl.)
V Gebe	?	Gak/Gag (isle)	?	Waigeo (isl.)
VI Kawe	?	Saleo	?	Waigeo (isl.)
		Selepele	?	Waigeo (isl.)
		Bianai	?	Waigeo (isl.)
		Manyefun	?	Waigeo (isl.)
VII Seget	1. Lamelemas	Seget	Seget	Seget
		Malabam	Seget	Seget
		Duriankeri	Seget	Seget
		Waliam	Waliam	Seget
	2. Balklagip	Waimon	Waimon	Seget
		Gisin Laut	Waliam	Salawati
		Solol	Waliam	Seget
	3. Serim/Yefpan (?)	Yefpan (isle)	Segun	Seget
		Duriankeri (isle)	Segun	Seget
VIII Mooi	1. Klasa(k)/ Moraid	Mega	Mega	Moraid
		Dela	Dela	Moraid
		Selekobo	Selekobo	Moraid
		Asbaken	Asbaken	Makbon
		Makbon	Makbon	Makbon
		Malaumkarta	Makbon	Makbon
	2. Madele/Kelim/ Madik	Batulubang	Makbon	Makbon

Language	Dialect	Hamlet	Village	District
	3. Masinsa	Malanu Klasaman	Klasaman Klasaman	Sorong Sorong
	4. Amber-Segin	Dom (isle)	Dom	Dom/Salawati
	5. Sigin/Segin	Mladofok Gisimdarat/ Klamono Yeflio Maknak Masangkabu Kasimle Segim Gisimlaut	Mladofok Klamono Arar Arar Arar Segim Segim Waliam	Beraur Beraur Salawati Salawati Salawati Seget Seget Seget
	6. Waipur	Waipur	Arar	Salawati
	7. Waliam/ Mosnah	Waliam	Waliam	Seget
IX Klabra		Tarsa Serslion Bagun	Wamurian Klamono Klamono	Beraur Beraur Beraur
X Tehit	1. Tehijit	Teminabuan A,B,C Seribau I Wer(i)sar	Kohoin Kohoin Werisar	Teminabuan Teminabuan Teminabuan
	2. Mbolfle	Keyen Mbariat Konda	Werisar Konda Konda	Teminabuan Teminabuan Teminabuan
	3. Sfaryere	Sekendi Saflembolo/Kamp. Tolak Wehali Eles	Kohoin Kohin Sawiat Sawiat	Teminabuan Teminabuan Teminabuan Teminabuan
	4. Imyan	Haha Tefot Woloin Sadrofoyo Sausanek	Haha Haha Haha Sadrofoyo Sadrofoyo	Teminabuan Teminabuan Teminabuan Teminabuan
	5. Sawiat <sup>4</sup>	Mefkajim Segyor Framu Sauf Sorowan Sembaru	Mefkajim Mefkajim Mefkajim Sauf Sauf Sauf	Ayamaru Ayamaru Ayamaru Ayamaru Ayamaru Ayamaru
	6. Fqar	Pasir Putih Wenslolo Wlek Knuswa	Pasir Putih Pasir Putih Pasir Putih Pasir Putih	Teminabuan Teminabuan Teminabuan Teminabuan
	7. Sayfi	Seribau II Mlaswat Manggroholo Komanggaret Sayal	Kohoin Manggroholo Manggroholo Manggroholo Sayal	Teminabuan Teminabuan Teminabuan Teminabuan Teminabuan
	8. Konyok <sup>5</sup>	Sisir Mekambar	Seremuk Seremuk	Teminabuan Teminabuan

Language	Dialect	Hamlet	Village	District
	9. Salmeit	Ndiwi	Ndiwi	Beraur
		Kakas	Ndiwi	Beraur
	10. Yatfle	Brianlo	Brianlo	Beraur
		Klambot	Klambot	Beraur
		Serafotolo	Klambot	Beraur
	11. Kulabra <sup>6</sup>	Wanurian	Wanurian	Beraur
		Buk	Wanurian	Beraur
XI Meybrat	1. Sawiat or Habiakh (see X 5)			
	2. Introfo	Siswokh	Mefkajim	Ayamaru
		Yokwer	Kartapura	Ayamaru
		Smu	Kartapura	Ayamaru
		Kambuaya	Kambuaya	Ayamaru
		Jitmau	Jitmau	Aytinyo
		Faan	Fategomi	Aytinyo
		Tehak	Fategomi	Aytinyo
		Mirafan	Fategomi	Aytinyo
		Gosames	Fategomi	Aytinyo
	3. Intronon	Seta	Yokase	Ayamaru
		Karetubun	Yokase	Ayamaru
		Yubiakh	Yokase	Ayamaru
		Utwet	Mapura	Ayamaru
		Suyam	Mapura	Ayamaru
	4. Wayer	Arus	Arus	Ayamaru
		Kambuskato	Kambufatem	Aytinyo
		Kambufatem	Kambufatem	Aytinyo
		Moswaren	Moswaren	Aytinyo
		Ewai	Moswaren	Aytinyo
		Waigo	Waigo	Teminabuan
		Sengguer	Waigo	Teminabuan
	5. (Aya) Mare	Ayawasi	Ayawasi	Ayfat
		Mosun	Ayawasi	Ayfat
		Kauf	Ayawasi	Ayfat
		Sire	Sire	Ayamaru
		Sidi	Sire	Ayamaru
		Renis	Sire	Ayamaru
		Arne	Sire	Ayamaru
		Seni	Seni	Ayamaru
		Snopi	Seni	Ayamaru
		Kombif	Seni	Ayamaru
		Seya	Seya	Ayamaru
		Jarat	Seya	Ayamaru
		Sun	Suswa	Ayamaru
		Suria	Suswa	Ayamaru
		Waban	Suswa	Ayamaru
		Ases	Suswa	Ayamaru
	6. Brat or Karondori <sup>7</sup>	Kokas	Kokas	Ayfat
		Kucuas	Kokas	Ayfat
		Kucuer	Kokas	Ayfat

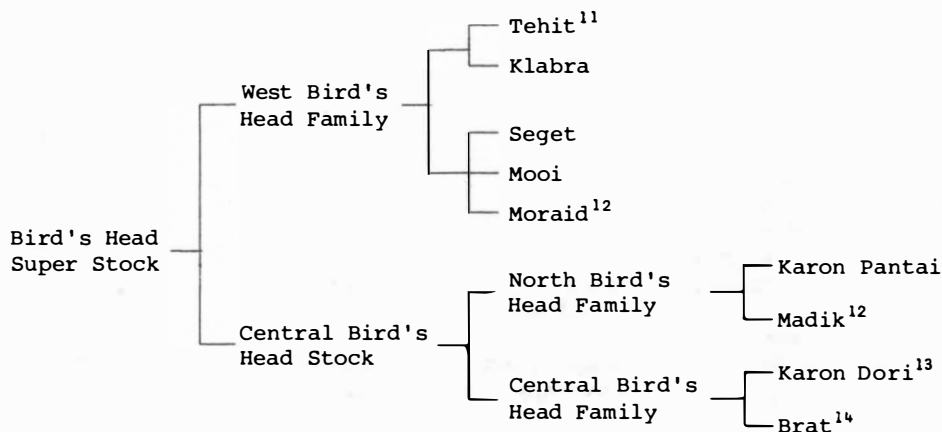
Language	Dialect	Hamlet	Village	District
		Konya	Konya	Ayfat
		Fanematu	Konya	Ayfat
		Fuokh	Fuokh	Ayfat
		Aykus	Fuokh	Ayfat
		Kamat	Fuokh	Ayfat
		Susumuk	Susumuk	Ayfat
		Kisor	Susumuk	Ayfat
		Kmurkek	Kmurkek	Ayfat
		Framsas	Kmurkek	Ayfat
		Kifur	Kifur	Ayfat
		Sory	Kifur	Ayfat
		Aysawyat	Aysawyat	Ayfat
		Aynot	Aysawyat	Ayfat
		Aykrer	Aysawyat	Ayfat
		Ayata	Ayata	Ayfat
		Aytrem	Ayata	Ayfat
		Aymau	Ayata	Ayfat
	7. Nakin/Sefa or Weta <sup>8</sup>	Aytinyo	Aytinyo	Aytinyo
		Yaksono	Yaksono	Aytinyo
		Erokwero	Yaksono	Aytinyo
		Kamro	Kamro	Aytinyo
		Sumanis	Kamro	Aytinyo
		Mohkamat	Mohkamat	Aytinyo
		Hauf	Mohkamat	Aytinyo
		Makroro	Makroro	Aytinyo
		Bagaraga	Makroro	Aytinyo
		(Mogotemin) <sup>10</sup>	Makroro	Aytinyo
		Kampungbaru	Kais	Inanwatan
		Siranggo	Kais	Inanwatan
XII Karon Pantai	-	Sausapor	Sausapor	Sausapor
		Pef	?	Sausapor
		Sadyak	?	Sausapor
		Baun	?	Sausapor
		Werur Kecil	?	Sausapor
		Werur Besar	?	Sausapor
		Nopmarey	?	Sausapor
		Kur	?	Sausapor
		Sanseba	?	Sausapor
		Warwandi	?	Sausapor
		Weibom	?	Sausapor
		Waw	?	Sausapor
XIII Ogit/ Mutuari	1. Osiri (Kaibus) <sup>9</sup>	Konda	Konda	Konda
	2. Konyok (see X 8)			
	3. Metamani	Mugim Yehadian	Migim Yehadian	Inanwatan Inanwatan
	4. Weta/ Kaiso	Kampungbaru Bagaraga	Kampungbaru Kampungbaru	Aytinyo Aytinyo

Language	Dialect	Hamlet	Village	District
		(Karumanggari) <sup>10</sup> (Mogotemin) <sup>10</sup>	Kampungbaru Kampungbaru	Aytinyo Aytinyo
XIV Ina(n)sa-watan/ Pyara/Suabo/Bira	-	Inanwatan	Inanwatan	Inanwatan
XV Miraga/Mogao/ Mogoago	1. Metamani (river)	Saga	Saga	Inanwatan
		Yamarema	Puragi	Inanwatan
	2. Metamani (inland)	Puragi	Puragi	Inanwatan
		Benawa	Benawa	Inanwatan
		Benawa II	Inanwatan	Inanwatan
	3. Metamani (coast)	Bibino	Inanwatan	Inanwatan
Isogo		Inanwatan	Inanwatan	
XVI Tarof/Yamu	-	Kasuweri	Tarof	Inanwatan
		Tarof	Tarof	Inanwatan
		Siwatori	Tarof	Inanwatan
		Migori	Tarof	Inanwatan
		Atori	Tarof	Inanwatan
		Negeri Besar	Negeri Besar	Inanwatan
		Udagaga	Negeri Besar	Inanwatan
		Tambani	Negeri Besar	Inanwatan

## 2. LANGUAGE CLASSIFICATION

Wurm 1971 places Moi/Mooi in the so-called Moi-Karon family of the West Papuan Phylum. This phylum was established by H.K.J. Cowan (see Bibliography) and was said to comprise quite a number of languages, amongst others the North-Halmahera Group, the non-Austronesian languages of the Bird's Head, the western part of the Bomberai Peninsula and the languages spoken on Alor, Pantar, Pura and Central and Eastern Timor (Stokhof 1975).

Voorhoeve 1975a and 1975b made a new division reducing the number of west-Papuan languages considerably. Below I list the languages spoken in the western part of the Vogelkop according to this new classification.





## 3. THE LISTS

## List of abbreviations

F	fricative
S	stop
vd	voiced
vcl	voiceless
T	trill
N	nasal
L	lateral
Cen	central
A	alveolar
P	palatal
Ve	velar
G	uvular
Gl	glottal
Q	long
-Q	non-long
V	vowel
C	consonant
#	word boundary
"	morpheme and/or syllable boundary
~	in free variation with
-	1. (in formulas) the relevant position in the word/syllable 2. (in Tehit forms) absence of a personal prefix (see note 16)
---->	is actualised as
<---	is the realisation of
[U, I, W, J, M]	voiceless sounds
/P, T, K, U, I/	archiphonemes
K	Kamma
M	Mooi
Mal.	Malay
T	Tehit
m	male
f	female
B	brother
Z	sister
F	(in kinship terms) father
M	mother
S	son
D	daughter
C	(in kinship terms) child
W	wife
H	husband
o	older
y	younger
(D/Sy)	dialect forms from Sayfi
(D/Ym)	dialect forms from Ymian or Imian
(D/Sf)	dialect forms from Sfaryere
(D/Fq)	dialect forms from Fqar
(D/Mf)	dialect forms from Mbolfle
(D/Yd)	dialect forms from Yadanfle
(D/Sw)	dialect forms from Sawyat
Lat.	Latin

The presentation of the materials is as follows:

1. first column : English glosses
2. second column : Mooi data
3. third column : Tehit data
4. comments

### 3.1. English glosses

The English glosses are taken from the introductory volume to the *Holle Lists* (see Biliography).

### 3.2. Mooi data

Transcription used in the Mooi list:

1. á [a<sup>^</sup>, a<sup>^</sup>ː, a:]                      ı [ɿ]
  - à [ɑ]    é [e]
  - ó, o [o]    è [ɛ]
  - ò [ɔ]    ě [ə]
  - oe [u: u:, y:, w̥]                              ng [ŋ]
  - i, í [i]    j [i̯, y]
2. unreleased (?) consonants are indicated by a superscript comma in front: 'k.
  3. underlined syllables are stressed: tòlòm I sit.
  4. g (= [g]) is sometimes in free variation with k.  
b (= [b]) is sometimes in free variation with w.
  5. diaeresis probably indicates a preceding syllable boundary: iŷ [i''i].  
In addition the author sometimes used other diacritics, e.g. in: *sew'k grasshopper*, however without indication of their function. Identical words are not always rendered in the same way, e.g.:

èli'k	foot
ělík tówo	back of the knee
ełìk k̄idi	toe nail

Kamma's (translated) additions are given between parentheses. All his informants spoke Malay, some of them were proficient in Biak.

6. The material available in Kamma's list suggests the existence of the following phonemes (compare the Tehit data below):

	L	A	P	Ve	G1
S	p	t		k	ʔ
T	b	d		g	
N	m	n		ŋ	
F		f	s		
L			l		
Cen	w		j		h

Chart 1: Moi consonants

ı	í		u(?)ú
è	é		ò ó
		ě (?)	
		à á	

Chart 2: Moi vowels

3.3. Tehit data

The Tehit data are written according to the phonemic transcription given in Flassy and Stokhof 1979:

	L		A		P	Ve		G	Gl
S	p	P	t	T		k	K	q	
T	b		d			g			
N	m		r	n		ŋ			
F		f	s						
L			l						
Cen	w	U			y	I			h

Chart 3: Tehit consonant phonemes

-Q	Q	-Q	Q	-Q	Q
i	ii			u	uu
e	ee			o	oo
		a	aa		

Chart 4: Tehit vowel phonemes

Commentary to charts 3 and 4:

- /p, b/, /t, d/ and /k, g/ are neutralised to /P, T, K/, respectively, in the following environments:

[v-(“C)#] where C stands for [M, w<sup>U</sup>, J<sup>I</sup>] (<---/m, w, y/, respectively):

/qòrik/	<i>pig, pigs</i>
/qòrikw/	<i>the boar, the pigs</i>
/qòrikm/	<i>the sow</i>
/qòriky/	<i>pigs</i>

[v-Fvcl.(C)v]: /mqàPseT/ *she makes a bilabial click with the right side of her mouth to express irritation*

[v-Svd.]: /tqáITgi/ *I bind*

[v-Gvcl.]: /táTqnaT/ *I taste*
- /w/, /u/ and /y/, /i/ are neutralised to /U/, /I/, respectively, in:

[v-##]:	/wóU/	<i>he</i>
[v-C]:	/fèIT/	<i>we (incl.) eat</i>
[##-“C]:	/Usqádyhoqm/	<i>he reminds her</i>
[v-v]:	/eUèr/	<i>to compete</i>

3. Unstressed /i/ and /u/ may always be replaced by /y/ and /w/, respectively, in [C-V], but the converse does not hold true: /tèsia, tèsya/ family name
4. Any stemfinal tauto-syllabic cluster /Vsy/ can be replaced by /VIs/ but the converse does not hold: /qasy/, /qàIs/ *chopstick*
5. The place of the stress is distinctive and is indicated by ['], /' / (on top of the vowel)

### 3.4. Comments

The items presented in the fourth column are all Tehidyit forms unless they are preceded by: K (= Kamma), M (= Mooi), Mal. (= Malay), Biak, Meybrat, etc. or the word dialects which indicates that the forms offered are from Kalabra and Imian.

### 3.5. Wordlist of Mooi – Tehit

English (E)	Mooi (M)	Tehit (T)	Comments/additions
1. a. body	kèsík	-qan ( <i>meat, flesh</i> ) -fàlaq ( <i>skin</i> )	(D/Yd, Ym) -qsik~ksik, -ksit
b. my body	tèkèsík	tfàlaq, tqan	
2. a. head	sáwá	-sa	
b. your head	nèsáwá	nsa	
3. a. face	sátá	-si	-sadá <i>forehead</i>
b. his face	wèsátá	Usl (id)*	
4. a. forehead	láwí	-sadá	
b. her forehead	méláwí	msadá	
5. skull	sàgiën (= <i>coconut shell</i> )	-fàqos	-sa <i>head</i> -gyën <i>hair</i>
6. hair	ságin (gin = <i>hair</i> , <i>body hair</i> )	-sàgiën~sàgyen	
7. bald	sábàlàk	-sàbleq (id) -sàndhaq -sàndala	-bleq <i>broken</i> -ndhaq <i>bald</i> -ndàla <i>opening</i>
8. crown (of the head)	ságámboek	-sá(qa)mbuK	-qambuK <i>bunch, bundle</i>
9. a. ear	tòök	-défiT	
b. auricle	tòökba	-défitlas	-las <i>leaf</i>
10. earwax	tòök foek	-défithoK, -défithoUK	hoK, hóUK <i>wax</i>
11. eye	soewò	-sfuòn	

\* (id) in idiomatic expressions

English (E)	Mooi (M)	Tehit (T)	Comments/additions
12. eyelid	soewò kèsík	-sífalaq	see 3 for -si, see 1 for -fálaq
13. eyelashes	soewò gin	-sígyen	see 5 for -gyèn
14. eyebrows	sigík gin	-singíngiT	(D/Ym) -sigít
15. tears	soewò kàlà (kàlà, kèlā = water)	-síglya	-glyà to flow
16. nose	lábà	-da	
17. nostril	laoe, lába kálì (kálì = hole)	-dadàI	-dàI hole
18. mucus	lábèk	-dámbeT	-mbeT dirty
19. cheek	kámoekba	-qamíT	-qamúK fist (kamoek = round, e.g. as a fist)
20. exterior part of the mouth	gík	-gyeT	
21. interior part of the mouth	gík wò (wò = road, path)	-gyé(t)qafuk	-qafúK interior
22. lip	gik kèsik	-gyé(T)falaq	-fálaq body, skin
23. moustache	gànggin	-dàgyen	see 6 and 16
24. chin	gàng	-áda	
25. beard	gàngkòk	-ádagyen	see 6 and 24
26. tongue	ádín	-mal	(D/Ym,Sf) -adél, -del
27. palate	samílí	-sámblit, -sámidi	
28. tooth	áfìk	-heq	
29. molar	áfìk déwì	-hekewi (< -heq + -qewí)	-qewí molar
30. gums	oedoen	-ndir	
31. brains	sàwòk	-sánduan	(D/Sy,Fq) -sawéq
32. throat	sàloewòk kásikbà	-sámblit	for -ba, comp. 6,19
33. neck	makòdoe, sàloewòk	-ngóro	<?Mal: tenggorok (D/Sy,Ym) -amáq
34. adam's apple	makòdoe	-ngór(o)qlyo	(D/Sy,Ym) -amaqlyo -qlyo dent, to stick out, protrude, see 33 -maqdu (D/F)
35. nape	màboen	-ngóro	see 33
36. breast	báfin	-qmuón	(D/Yd) -ba
37. breast (fem.)	soe	-syo	<?Mal: susu

English (E)	Mooi (M)	Tehit (T)	Comments/additions
38. nipple	soewoen	-syóqmbor -syóowon	-qmbor, -owón <i>nipple</i>
39. to suck at the breast	wèsoe	-áTsyó, -syoqónsyó	-aT <i>to eat</i> -syoqón <i>to suck</i>
40. breast milk	soe, soewoöek	-syóliT, -syó	-liT <i>to drip</i>
41. to suckle	masoe ( <i>to put to sleep, to suckle</i> )	-syó	msyo <i>she suckles</i>
42. rib	kílikba kòdoes (kílik = <i>brim</i> ), (kòdoes = <i>bone</i> )	-qlikhoni	-qlik <i>side</i> -hóni <i>bone</i> for -ba see 32
43. lung	kebà	-ndalyén	(D/Yd, Ym) -dlen
44. heart	kásoe	-qasó	
45. belly	síní kìsik	-qmaT	kìsik but kèsik see 1
46. intestines	sini	-qma(T)nduan -qma(T)liT	-nduan <i>contents</i> see 31, 45
47. liver	oegoek	-q(o)mbór	
48. bile	ásin	-fasyé	
49. spleen	síní woen (woen = <i>seed</i> )	-fasyédla	-dla <i>seed</i> (D/Sf) -fuón
50. kidney	síní kainboek	-qlikdlá	compare 42, 49
51. side	gísà, kílikba	-q(i)lik	compare 42 -qsya <i>armpit</i>
52. navel	siniboek	-efiT	
53. umbilical cord	sínigoeloen	-efi(t)lyó, -efi(T)solon	-lyó < -nglyó <i>surround, roll</i> -solón <i>pipe, tube</i> M: goeloen compare with Mal: gulung(an) <i>roll</i>
54. back	kèdiboe	-qèndimbi (< -qèndi + simbyele), -simbyele, -qèndi	
55. back bone, spine	kèdiboe kòdoes	-hón(i)simbyele <sup>v</sup> -hón(i)mbi	-simbyele <i>rear</i>
56. a. shoulder b. shoulder blade	òloe; kebè'k	-qmbyéq -mbadrén, -mbatrén	-òoli <i>upper arm, wing</i>
57. tailbone, coccyx	(átàwèk) ágoem	-qa(qa)ólov-qaqólo	-òlo <i>tree, origin</i>
58. buttocks, posterior	atawèk	-qaqá	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
59. anus	<u>à</u> w <sup>o</sup> e	-qa(qa)dáI	-dáI <i>hole</i> (D/Ym) -qawó~qawí
60. to defecate	(w)oe <u>g</u> oes	-asúK	
61. faeces	oe <u>g</u> oes	séndiK	
62. fart	<u>á</u> boe'k	qábuK ( <i>with sound</i> ) qásoT ( <i>without sound</i> )	
63. to fart	(w) <u>a</u> boe'k	-qábuK, -qásoT	(D/Y) -smik
64. a. to stink b. to smell	wá <u>m</u> oe'k	-mbán(sen), -ósin	see 858.
65. penis	l <u>à</u> k	-flaq	
66. testicle	l <u>à</u> kò	-qaafúKdla	-qaafúK <i>scrotum</i>
67. vagina	ib <u>i</u> lik, map <u>è</u> lì	-f <u>è</u> li	mf <u>è</u> li <i>her vagina</i> see 107
68. to have intercourse	wá <u>m</u> ín	-amyér, -amén	-amen <i>to coil up</i> , e.g. <i>rope</i> wamyér <i>he has inter-</i> <i>course</i> , see 107
69. to urinate	k <u>í</u> ní'k	-ásri	
70. piss, urine	k <u>í</u> ní'k	sri	
71. foot (plus lower leg)	<u>è</u> lí'k	-d <u>é</u> IT	
72. sole of foot	<u>e</u> lík bàg <u>á</u> l <u>à</u> 'k	-dekádaq (< -d <u>é</u> IT + -qádaq)	-qádaq <i>flat</i>
73. ankle	<u>è</u> lík kó <u>ö</u> e'k	-d <u>é</u> ng <sup>o</sup> q	-ng <sup>o</sup> q <i>knuckle</i>
74. heel	<u>è</u> kík díw <u>í</u> , doe	-d <u>é</u> (IT)giweq	-giw <u>é</u> q <i>to separate</i>
75. thigh	<u>è</u> lík to <u>e</u> woen	-d <u>f</u> in	
76. knees	<u>è</u> lík s <u>á</u> sí	-de(IT)sya	
77. back of the knee	<u>é</u> lík t <u>ó</u> wò, <u>é</u> lík f <u>á</u> tow	-d <u>é</u> lmbiK -q <u>á</u> r <u>f</u> en	-lmbiK < -mb <u>á</u> lmbiK <i>to bend</i>
78. calf	<u>é</u> lík k <u>á</u> soe	-d <u>é</u> kae	-qa <u>é</u> <i>lump</i>
79. shin	<u>é</u> lík mo <u>e</u> goe	-d <u>é</u> ngyas	-ngy <u>á</u> s <i>internode</i>
80. hand	n <u>í</u> n	-en <u>á</u> ~naa	
81. upper arm	ò <u>l</u> oetŷ	-óoli, -ol <u>ó</u> di	
82. armpit	kes <u>á</u>	-qsya	(D/Ym) -las <u>á</u>
83. elbow	n <u>í</u> ns <u>á</u> si	-en <u>á</u> asya	see 80
84. wrist	n <u>í</u> n m <u>à</u> s <u>è</u> 'k	-en <u>á</u> aq <u>mb</u> uos	-q <u>mb</u> u <u>ó</u> s <i>tendon</i> , <i>nerve</i> , <i>vein</i> , see 80
85. palm of the hand	n <u>í</u> n b <u>á</u> k <u>á</u> l <u>á</u> 'k	-en <u>á</u> aqadaq	-qádaq <i>flat</i> (D/Ym) -n <u>á</u> abaleleq -qal <u>á</u> q <i>to dig (with</i> <i>hands)</i>

English (E)	Mooi (M)	Tehit (T)	Comments/additions
86. lines in the palm of the hand	nín koeboes	-enáaqoroT	-qoróT <i>scratch</i>
87. finger	nín tòwò	-enáadofo	-dofó <i>spoke</i>
88. toe	elìk tòwò	-dédofó (< -dèIT + -dofó)	however, see 77
89. a. (finger) nail	nin kédí;	-enáakindi	-kindí <i>nail</i>
b. (toe) nail	elìk kidi	-dè(IT)kindi	
90. thumb	nin díme (díme <i>mother</i> )	-enáatofle (< -enáa + -dofó + -fle)	-fle <i>big, grand</i>
91. index finger	nin aingás (aingás <i>to point to</i> )	-enáa(tof)oosi (< -enáa + -dofó + -óosi)	-óosi <i>to point to</i> see 90
92. middle finger	nin faeloe ( <i>middle</i> )	-enáatofbri	-bri <i>middle</i>
93. ring finger	nin kòwònin	-enáatofnguen	-nguen < -qewen <i>intimate, close</i>
94. little finger	nin dàla kiam (dala = <i>man, husband</i> ; kiam = <i>little</i> )	-enáatof(o)qlili, -enáaqlili	-qlilí <i>branch</i>
95. the big toe	elìk tòwò díme	-dè(IT) tofle	
96. the little toe	elìk tòwò dàla kiam	-dèklili	see 94
97. bone	kòdoes	-hóni	(D/Yd,Ym) -qdis
98. blood	sedám	-hen	see 203
99. flesh	kím	-qan	
100. tendon, nerve	koeboes	-qmbuós	see 84
101. skin	kèsik	-fálaq	see 1
102. body hair	késik gin	-qángyen (< + g = ng) -fálaqqyen, -gyen	see 1 -gyen <i>hair, feather, fibre</i>
103. sweat	sibi	-sèmbi	
104. a. saliva	kòsoe	-qáTfyev-qáf dye	(D/SF) -qasóT
b. phlegm	sàloeka'k	-qáhaq	comp. with Mal: dahak
105. a. fist	nín kámoek	-enáaqamuk	
b. protruding part of joints in arm such as elbow	nin koöe	-enáakoforv -enáaqofor -enáangyas	-qofór, -kofór <i>claw</i>  -ngyas <i>internode</i>



English (E)	Mooi (M)	Tehit (T)	Comments/additions
106. a. to breathe b. to pant	wewìn wemàk	-qefin -áamaq	
107. a. to eat b. I eat c. you eat d. he eats e. she eats	ta'k nak wak mak	-aT taT naT waT maT	t- I n- you (sing.) w- he m- she, see 1076,1077
108. hungry	webátòlò, lampoelòñ	-qádoT -dimblye <i>starve</i>	(D/Yd,Ym) -batólo -mbádoqo <i>weak because of lack of food</i>
109. to drink	wò	-áaqo	(D/Yd,Fq) -wa
110. thirsty	wesàloewòkwàdà	-sídolo, -sádolo	
111. satisfied, replete	wàkíbí, tòbò	-qésiT, -dombò	-dombò <i>to knock at; to pat one's belly repeatedly as token of a well-filled stomach</i>
112. to bite	wàn	-adán	(D/Yd,Fq) -wyan
113. to swallow	wadòlòk	-dèleq	
114. a. to sleep b. to sleep somewhere out- side (without bed)	wásoe waoesalòm	-áase -áasetaban	M: wásoe or wáse ?  -tabàn <i>outside</i> tabàn <i>camp-fire</i>
115. to dream	wáoesini (sasini = <i>story</i> )	-áasrotni'v -áasroT	ni <i>something</i>
116. dream	sìndòwò	niéesroT	
117. sleepy	waoesàbòn	-sirombò	
118. to wake up	wasewòsebì	-aasén -mlaa(q)	-áasen <i>to stand up, to wake up</i> -mlaaq <i>being awake</i>
119. to get up	wébílí	-áasen, -sindik	
120. to stand	wesewòn	-qro	
121. to walk	wamoe	-àIn	Meybrat: -ámo <i>to go</i>
122. to lie	wawetesoe kesìk (actually: <i>to rest</i> )	-áasegyos	-gyos <i>to stretch</i>  see 1
123. to lie supine	wawebàwòsoelán (wasoelan = <i>upwards</i> )	-áasengyalhaq	-ngyálhaq <i>upwards</i>
124. to lie prone	waoebà	-áase(mba)qfiT	-mbàqfiT <i>to lay up-ward down</i>

English (E)	Mooi (M)	Tehit (T)	Comments/additions
125. to sit	wòlòm	-lèli	-lom to put her to sleep, to put her down
126. to sit (with the legs crossed)	wòlòm kaloemië (mië = <i>child</i> )	-lèliqaloq -lèliqaloq	-qaloq to make a dam
127. to sit (with the knees bent to one side)	wòlòm wílik làs	-lèliqafadoq	qáfadoq to shorten
128. to squat	wòlòm wadi wíli'k	-lèlisamorik, -lèlimbaadi	-sa head -óriK, -ádi downwards, below -mba- comp. with Mal: ber- and meN- -kan
129. to swim	wékíni	-g(i)nyé	(D/Ym) -knye
130. to take a bath	waseli	-syére	
131. to wash	swo wáseli	-syéreqaT, mbásyere	
132. to stammer	wáfèk làdà	-sàloryoro	-ryorò to tremble M: làdà comp. with -radà to shake
133. voice	sáloe	sálo	
134. hoarse	sáloe sè	-sálosre	
135. to laugh	wesèdì	-ásreren	wásreren he laughs see 107
136. to laugh at	wesèdì lò	-ásrerenfe, -ásrerenqalo	fe to, at, on, about -sqálor-lo 1. (of dogs) to follow a stranger barking, 2. to imitate a person
137. to weep	wí	-áwa	(D/Ym) -wo (D/Yd, Fq) -wi
138. to weep for	wiwòk	-áwafe, -áwasqalo	see 136
139. to smile	wesèdègoemoek	-ásreren frámuk -ásrerenqamu(K)	frámuk cork, stopper see 105a
140. to sigh	wegòlòksòwò	-h(e)lyéq	(D/Sf, Fq) -q(o)lò
141. to spit	wegòsoe	-qáTfyev-qáf dye	see 104
142. to vomit	wedò	-fdyeq	(D/Sf, Fq) -qdo
143. to sneeze	wesédě	-syénde	
144. to cough	wegíë	-gi(h)áv-giyá	
145. to hiccup	wemesòn	-dikmosor~mosór	
146. to choke	woeloek	-m(e)ngghó, -mblo	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
147. belch	wibi <u>l</u> òk	-mesén, -sel(e)mbháq	
148. to belch	bi <u>l</u> òk	-mesén, -sel(e)mbháq	
149. to yawn	wà <u>i</u>	-gè(T)fa	(D/Ym,Yd) -wawò <u>v</u> -wò
150. pregnant	et <u>à</u> n	-qmaT	
151. to be born	wen <u>i</u> nsoes	-syos	
152. afterbirth	mië wáloek kiam	-qyádyhol	qya bag, -dyhol <i>puffed up</i>
153. twins	mië m <u>à</u> nim	wékmbar wétamis wé(t)laK	-kmbar < -qambar <i>twin</i> -weT <i>child</i> Mal: kembar -amis <i>extra</i> , lak <i>two</i>
154. to live (alive)	wò <u>l</u> òm	-ron	
155. to die	wá <u>g</u> i	-ági, qaK	wagi <i>he died</i> , see 107
156. the deceased	sawò <u>l</u> ò, woemoek	égi-, qaK-	sáwolo <i>village of the dead, the dead land</i>
157. liquid formed during decomposition of the body	wò, sawò <u>l</u> ò kelà	was <u>i</u> T	
158. coffin	—	grandá, qmáqali	grandá <i>stretcher</i> qma <i>prow</i> -qáli <i>to bury</i>
159. to bury	wego <u>e</u> joek	-qaq, -qáliqaT	qaT (causative), see 131
160. grave	go <u>e</u> joek	wíqaliqaT ( <i>burial</i> )	wi <i>place</i>
161. to kill	wo <u>e</u> boen	- (no general word)	M: w/oeboen <? Mal: bunuh <i>to kill</i>
162. to wound	woebengk <u>l</u> ís, waleg <u>l</u> ís	-fe qlísfe	-fe <i>to do, to make</i> fe <i>to, about</i> , see 136
163. wound	I. k <u>l</u> ís ( <i>injury</i> ) II. k <u>l</u> ik ( <i>caused by illness, e.g. framboesia</i> )	(-ári) qlis ( <i>new wound</i> ) -yáfaT ( <i>old wound</i> )	-ári <i>with, together, together with, and</i>
164. scar	keb <u>l</u> ín	-han	-qbéIn <i>pouch (of marsupial)</i>
165. ill	wò <u>t</u> òk, weso <u>e</u> (---> 163)	-qányi, -qoqó	
166. to be in pain	kès <u>l</u> ík wò <u>t</u> òk	-ódoT	
167. healthy	kès <u>l</u> ík wò <u>b</u> òk	-qánmhes <u>v</u> -hes	see 1 -hes <i>to be in good health</i>

English (E)	Mooi (M)	Tehit (T)	Comments/additions
168. boil (tumour)	káwís	qáfes	
169. to be feverish	wesoe	-qámnya	
170. to have a stomach-ache	wesini wáwoen	-qmatodoT	-qmaT <i>stomach</i> see 166
171. to have diarrhoea	waselik	-qábreq (< -qaqa + -breq)	see 58 -breq <i>to make (a) sound(s), to wish,</i> e.g. <i>wind</i>
172. smallpox	soe semì (semi = <i>k.o.</i> <i>stinging nettle</i> )	sífrikya	(D/Yd) <i>sème</i>
173. swelling, swollen	sòbò	rombòq	see 178
174. goitre	sáloewòk sòbò	-ngórohin, -ngórofik -ádahin, -ádafik	-hin, fik <i>swollen</i> -ngóro <i>neck, nap</i> -áda <i>chin</i>
175. ichthyosis, tinea	gelìs	frit	(D/Ym, Yd) <i>qdik<sup>v</sup>qdis</i>
176. framboesia	kìk	yáfaTfle	-fle <i>big, grand</i>
177. scabies	dám	kiK <sup>v</sup> giK	see 176
178. leprosy	soe bòdò	- (no general word) -qánreren, -qánfodo, -qánroIT	-rerèn <i>being cracked</i> -fodò <i>swollen</i> -ròIT <i>to drip</i>
179. rheumatism	kèsík tòlò	-hóninglo	-nglo <i>to slow down</i>
180. to have a cold	lagoeloek	-dásror	tásror <i>a cold</i>
181. gone to sleep	mabó/mabá	-nglo, -ambáf -sirombo	
182. paralysed	kajín	-qánegi -qánsryan	-sryan <i>as if,</i> -égi <i>dead (pl)</i>
183. crippled	kantí'k	-mbáloq	-loq <i>unstable</i>
184. mute	dífling	-gié(T)min	-min <i>soundless</i>
185. deaf	toöek koenoek	-défi(t)ndiK <sup>v</sup> -ndiK	-ndiK <i>stopped</i>
186. blind	(soewò) selì'k	-síndra <sup>v</sup> -ndra	-si <i>face, eye</i> -ndra <i>blind</i>
187. to shut the eyes	wòsoewò gemoek	-síqafIT	-qáfIT <i>to turn over</i> (D/Sf) -siqmúk
188. squinting	soewò kedí	-síleleq, -símbafeleq	-mbáfeleq <i>to turn over</i>
189. cured	malàn, wesoe sòwò	-qánhes <sup>v</sup> -hes	
190. medicine	ariaun	qomíK	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
191. man, mankind	nè <u>mò</u> lò	nàd <u>qo</u> In	M: nè <u>mò</u> lò comp. with nàmroq <i>a lot of people</i> nàron <i>life men</i> mor <i>still alive</i>
192. name	kè <u>d</u> i	-qé <u>e</u> ndi	
193. man	nè <u>dà</u> l <u>à</u>	nà <u>n</u> dla	see 195
194. woman	nè <u>l</u> á <u>g</u> i	nà <u>n</u> gi	(D/Sf,Y) nad <u>l</u> i (D/Mb) narigi (D/Sy) nà <u>l</u> gi, see 196
195. male	dà <u>l</u> à	nd <u>l</u> a	
196. female	l <u>ag</u> i	ng <u>i</u>	(D/Sy,Ym) d <u>l</u> i, l <u>g</u> i
197. youth (male)	mi <u>j</u> ì (miè <u>mò</u> lò)	wè <u>n</u> d <u>l</u> amor	(< weT <i>child</i> + nd <u>l</u> a <i>male</i> + mor <i>youth</i> )
198. young girl	miè <u>g</u> ebang	wè <u>n</u> gimor	ng <u>i</u> <i>male</i> , see 191
199. old man	nè <u>dà</u> l <u>à</u> <u>k</u> aoeng	nà <u>d</u> rarw	
200. old woman	nè <u>l</u> ag <u>i</u> <u>k</u> aoeng	nà <u>d</u> rarm	
201. father	moem	-ò <u>no</u> (U)	
202. mother	am <u>i</u>	-é <u>me</u> (m)	
203. child	miè <u>g</u>	wethén ~ weT	-hen <i>red</i>
204. oldest child	miè tab <u>ansa</u>	wèT <u>f</u> lesa, wèT <u>f</u> lasa	-f <u>l</u> esa, -f <u>l</u> asa <i>the big one, the first one</i>
205. youngest child	miè get <u>ò</u> p <u>i</u>	wè(t)q <u>ya</u>	
206. little child	miè <u>k</u> iam	wè(T)qonon	
207. grandfather	á <u>bo</u> e	-adeU	
208. grandmother	ba <u>e</u>	-adém	
209. a. older brother	ebà	-amónw	
b. older sister	-	-há <u>no</u> m ( <i>for male ego</i> ) -á <u>f</u> om ( <i>for female ego</i> )	
210. a. younger brother	aloe' <u>k</u>	-á <u>l</u> (i)wyeTw ( <i>for m. ego</i> )	
b. younger sister		-amónw ( <i>for f. ego</i> ) -há <u>no</u> m ( <i>for m. ego</i> ) -á <u>l</u> (i)wyeTm ( <i>for f. ego</i> )	
211. grandchild	wà <u>k</u> iam	-adéw ( <i>male</i> ) -adém ( <i>female</i> )	
212. a. father's brother	o <u>o</u> es	-mbe <u>l</u> éU ( <i>older</i> )	
b. mother's brother	ká <u>k</u>	-do <u>Tw</u> ( <i>younger</i> ) -á <u>a</u> muKw	
213. a. father's sister	ebà	-á <u>a</u> muKm	
b. mother's sister	am <u>T</u> <u>k</u> jam	-mbe <u>l</u> ém ( <i>older</i> ) comp. <u>k</u> iam 206 -qé <u>s</u> im ( <i>younger</i> )	

English (E)	Mooi (M)	Tehit (T)
214. nephew, niece (cousin)	ebà ( <i>older</i> ) <u>al</u> oek ( <i>younger</i> )	FoBS = -amónw FoBD = -hánom ( <i>for m. ego</i> ) -áfom ( <i>for f. ego</i> ) FyBS = -álweyTw ( <i>for m. ego</i> ) -amónw ( <i>for f. ego</i> ) FyBD = -alwyeTm ( <i>for f. ego</i> ) -hánom ( <i>for m. ego</i> ) MBS = -amónw, -ásyoloU MBD = -hánom, -ásyolom, émem ( <i>for m. ego</i> ) -áfom, -ásyolom, -émem ( <i>for f. ego</i> ) FZS = -álwyeTw, -éfetqafeU ( <i>for m. ego</i> ) -amónw, -éfetqafeU ( <i>for f. ego</i> ) FZD = -hánom, -éfetqafem ( <i>for m. ego</i> ) -álweyTm, -éfetqafem ( <i>for f. ego</i> ) MoZS = -amónw MoZD = -hánom ( <i>for m. ego</i> ) -áfom ( <i>for f. ego</i> ) MyZS = -álwyeTw ( <i>for m. ego</i> ) -amónw ( <i>for f. ego</i> ) MyZD = -hánom ( <i>for m. ego</i> ) -álwyeTm ( <i>for f. ego</i> )
215. nephew, niece (brother's child, sister's child)		BC = -éfeT ( <i>for m. ego</i> ) -áloweT ( <i>for f. ego</i> ) ZC = -aró ( <i>for m. ego</i> ) -éfeT ( <i>for f. ego</i> )
216. parents-in-law (WF)  (HF)		WF = -árisw WM = -árism W's cousin = na-sis HF = -aréU HM = -ronóm
217. respective parents of the married couple	W's parents call HF = tegajám sòn HF calls WF: tekàk HM calls WM: tàmakìäm HM calls WF: tebà WM calls HM: temìjè	náfaIn, -fáIn
218. son-in-law daughter-in-law	òsòn (kiam) kai	-qonsyófoU -arém ( <i>for m. ego</i> ) -ronóm ( <i>for f. ego</i> )
219. brother-in-law	tisi	WB = ásyéU

English (E)	Mooi (M)	Tehit (T)	Comments/additions
220. sister-in-law	imis	woZ = -àrism wyZ = -àsyem HoB = -aréU HyB = -alweyTw HZ = -alweyTm WZH = -mèIsw WBW = -ámblem HZH = -máITw ZH = -máITw (for m. ego) and younger f. ego) -qónsyofou (for f. ego older than Z) BW = -áfom (for f. ego) and m. ego younger than B) -arém (for m. ego older than B)*	
221. related	gelì'k, gelèt	kèrèT, -giáni, -giánsisi	sìsi same
222. husband	dàlà	ndlàU	
223. wife	lági	n(i)nglm	
224. friend	bí	-anáq, -ámble	
225. friend (f.)	bí	-anáq, -ámble	
226. guest	nè sàfàn	naómuoq (stranger) nadáfaq (outsider) nadása (invited guest)	-ómuoq unripe -dáfaq layman -dasá to entertain
227. village	málá (= place, there is no special word for village)	tási	mía hill
228. hamlet	keik bàlà (bàlàgí = to stay temporarily)	sarís (Mal: dusun), féfaq (camp)	<?Dutch bivak
229. people (tribal)	egelìk	nása	-sa head; a group
230. vampire (witch, werewolf)	kesàs	láiT (nocturnal ghost)	
231. soul, spirit	kòlòk	qoló (spirit) qlémbeT (devil, satan)	
232. underworld	mala saoe(sò)	sáUla	

\* For further information see Flassy, Stokhof 1979.

English (E)	Mooi (M)	Tehit (T)	Comments/additions
233. vital spirit, vital strength	kòlòk	ron(m)	
234. god	nah	náagoU	nahá
235. statue representing (an) ancestor(s)	wah	-	-uwá soul
236. story	sàsini failegín	niraná	-sas to talk -raná to tell ni thing
237. sin	salì	erò(m) -sári (doing bad things)	-séele doing wrong
238. forbidden, taboo	fìlìk, kòfòk	-qòhoq, -hilìs	
239. priest	ne wáli (elders; only used for men)	náwuon, wuón	wuón (Tehit's traditional education)
240. shaman	nè lebí	námimíT, mimíT	
241. temple	keĩk kòfòk	mbòlqohoq, mbòlsqafila	-qòhoq holy, see 238 sqáfla place used for worship mbol house (D/Yf) kiit
242. village hall	keĩk sebàl'à lo	mbòlsqade	-sqáde to hold a meeting
243. men's house	keĩk mòlò	mbol hadàr	hadàr house for non-adult males
244. woman's house	-	-	
245. village head	nè gèdi	nálowi náqendi	-lowi to come/bring together -qèndi name
246. chieftain	welìkák	nafléfle	-fléfle comp. fle big
247. nobleman	foen	bóboT (rich man) kayóT (noble man)	
248. village elders	nè wáli	angóq (adviser) náqanolo (elders)	<?Mal. wali representative
249. slave	demàn	qawàr	
250. custom	legín	odíndrar	-odín to advise -drar old, ancient
251. criminal	nè sar (nè ibak = killer)	náero (sinner) násgya (bad people)	see 237 -sgya bad



English (E)	Mooi (M)	Tehit (T)	Comments/additions
252. to punish	wesoe hoekoem (nè wáli joöe waoek)	-qòdik (to torture) -awár (to chain)	Mal. menghukum For M. compare 248, wali
253. fine	waoe kòbòk	qlaT (noun) -àen (to pay the fine)	
254. credit bondsman	nè anggai (anggai, alegà = to take back)	nàqafe tamàn (man who has to pay back his debts) nàmbalfe (creditor)	-gàfe to carry on shoulders tamàn debt, credit -smbal to press for payment
255. funeral ceremony	igò	wuòq	
256. to circumcise	-	-	(tohmí : in the Meybrat area only)
257. filing of the teeth	wìdí gàdàk	ìirheq	not a Tehit custom
258. a. to marry, to take a wife b. to take a husband	wesimin  mesismin	-sma (to marry) -lòqnggi (to take a wife)  -sma	-lòoq to take n(η)gi wife, female
259. to give in marriage	oesoeh simin	-fè(I)sma (to make them marry) -syòqnggi(fe) (to take a woman)	-fe to make, to do fe to, for, about -syoq to make, to do
260. to divorce	gegìsi kelatöe (to reject) wafoe	-qàryeT~ryeT (to part)  -ahá(qaT) (to loose)	(D/Sf, Ym) -qlaat
261. bride price	kampàroe	qwaT (paid by the bridegroom when proposing) nòTsele (paid by the bridegroom when the bride arrives in his house)	there are several prices in the Tehit area
262. to give birth to	mini soes	-syos, -qáf(e)weT	weT child
263. to commit adultery	wamin kamseli	-amyérqaT (< with somebody's wife/ husband) -fe sembe (< with unmarried woman/man)	-amyér to have intercourse, see 68 qaT, see 159 sembe adultery
264. mask	newasata	uwási, uwásada	-uwá shadow, see 3

English (E)	Mooi (M)	Tehit (T)	Comments/additions
265. flute	keĩ ( <i>very small kind of flute</i> )	s(o)sól ( <i>in general</i> )	also s(e)sol
266. drum	kalin kòboe	qalín	
267. conch shell	oöen	mimó	
268. jew's-harp	-	mbreT	
269. to dance	wò sararà ( <i>round dance</i> )  awelì'k	lon ( <i>in general</i> ) srar ( <i>round dance</i> ) wùoroq ( <i>hip-dance</i> ) oróq ( <i>kind of round dance</i> ) sláwa	dance
270. song	àloejèn ( <i>song used in awelì'k dance</i> ) fìdí ( <i>song used in wò dance</i> ) sàràrá ( <i>song used in sàràrá dance</i> ) làndíng ( <i>song used during rowing</i> )	ámí, mengél ( <i>in general</i> ) nglélot ( <i>morning song</i> ) -lan qmarlangmá  eyèT ( <i>song used during rowing</i> )	ngle early in the morning
271. riddle	kaën tò'k	nírooq ( <i>something to guess</i> )	-rooq to guess
272. to ask a riddle	kaën tò'k	-róoqni	
to solve a riddle	-	-qafá	
273. to play	webì'k	-mbáIT	
274. top	-	qlfuó, gásin	Mal. gasing
275. to spin a top	-	-mbáIT qlfuó	
276. to hop	wíkanti'k	-mbáIT gityigityi	(gityi is not a local play)
277. to kick a person on the calves	-	-mbáIT hòyoq	-hòyoq to wrestle
278. house	keĩ'k	mbol	(D/Yd) kiit
279. hut, shelter	kei'k sàsáloe, keĩ'k bàlá	mbol syála	-syála to roof
280. ridge of roof	woen, oempalá	mbólsaryomon	-saryomon top
281. roofing	kalí	-syála	qáde roof
282. rafter	sidim	qsirín	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
283. porch	so <u>ra</u> bi	hrénde	Mal: serambi
284. door opening	wel <u>ín</u> sa	sgyéta, sgyeT	wlin <i>ladder</i> sa <i>head</i>
285. window opening	kamegá <u>li</u>	qléqdayi	qléq <i>opening</i> dáyí <i>hole</i>
286. corner	wetow, wá <u>so</u> es	syoqòr	
287. staircase, steps, ladder	wel <u>ín</u> ba'k	wámbe, wlin	
288. to climb into a house	walim keí'k	-arín mbol	
289. floor	keí'k wes <u>ín</u>	qòmo	
290. wall	tebà <u>nte</u>	tidír, qndá	qnda ( <i>esp. from leaves</i> )
291. midrib or palm (sago) frond	bà	mbar	
292. main post	soewò <u>n</u>	s(u)wòr	
293. ceiling beams	sam <u>par</u>	qlálo	
294. small room	kedà	siT	qnda <i>curtain, see 290</i>
295. sleeping mat	kà <u>lí</u> k/ká <u>lí</u> k	kíyer ( <i>plaited pandanus leaves</i> ) qá <u>di</u> K ( <i>pandanus leaves sewn together; also used as raincoat/ umbrella</i> )	
296. pillow	sewì <u>sà</u> ( <i>made from wood and bamboo</i> )	tingí <u>l</u> tingil dlan	-dlan <i>to be supported</i>
297. couch	doe'k	mbaréT	
298. attic (under the roof)	dafè <u>lì</u>	l(i)gí <u>k</u>	
299. rack above the fireplace	dafè <u>lì</u>	mbla <u>hè</u>	
300. hearth, fire- place	kewáksòr ( <i>hearth</i> ) jápàsì <u>gì</u> k ( <i>kitchen</i> )	sál(a)daloq	-dalóq <i>hearth, fire- place, see 301</i>
301. fire	jàk	sá <u>la</u>	
302. to make a fire	wetemoek jàk, woeloe jàk	-selí sála(m)	-selí <i>to burn</i>
303. to extinguish	wesì <u>lì</u> jà'k ( <i>with water</i> )	-sri sála(m) -mbásgi sála(m)	-sri <i>to extinguish (by using liquid such as water)</i>

English (E)	Mooi (M)	Tehit (T)	Comments/additions
304. to blow on a fire	w <u>o</u> eloe jàk	-fruò sàlam	-fruò <i>to blow</i>
305. extinguished	jàk w <u>e</u> t <u>o</u> en <u>o</u> ek jàk w <u>a</u> gi	sàla mdinìk sàla màgi	-dinìk <i>disappear</i> -àgi <i>gone to die</i>
306. smoke	jak soen	sàlammbi	-mbi <i>to smoke (intr.)</i>
307. ashes	jak <u>i</u> bi	qmbiàq, qmbuàq	(D/Sf,Sw) qbu
308. fire wood	oök t <u>a</u> loe'k	wqóITseli	-seli <i>to burn</i> wqóIT <i>wood</i>
309. space under the house	keïk toé	qmbi	
310. to build	wes <u>a</u> 'k keï'k	-hro ( <i>to erect</i> ) -syoq ( <i>to make</i> )	
311. to pull down	wefò <u>l</u> oek keïk	-ndaq ( <i>to tear down</i> ) -fòlo ( <i>to clear away</i> )	
312. coconut shell	giën	tiTyóqo mqma	tiTyóqo <i>coconut</i> qma <i>proa</i> -giën <i>hair, fibre,</i> <i>feather</i>
313. dish	bèm	fi <u>n</u> gèn	Mal: pinggan <i>dish</i>
314. drinking bowl	bèm mo(k)gè <u>l</u> a	meT	
315. earthenware dish	bèm pa <u>l</u> i	fi <u>n</u> gèn àmaq	àmaq <i>stone</i>
316. copper dish bowl	bèm g <u>e</u> nsa	fi <u>n</u> gèn bleq qembír	bleq <i>copper, tin</i> comp. with Mal: blik, blek Dutch: blik
317. knife	si <u>n</u> gi <u>a</u> m	saq	see 727
318. chopper	si <u>n</u> gi <u>l</u> ik	m(i)nyàn	
319. spoon	ke <u>b</u> ik	qáIs, sòndo	Mal: sendok qáIs <i>chopstick</i> see 320
320. ladle	kàt <u>a</u> ti	qáIsmeme, qbeq	
321. bamboo water container	ka <u>l</u> at <u>i</u> m	qodóse	see 470, 636
322. to fetch water	wet <u>a</u> fi gela	-dehe se	-tafi, -dèhe <i>to fetch</i>
323. basket (all sorts of)	wòd <u>i</u> , koewòk	qmòndiK, kátumbu ( <i>made from pandanus leaves</i> ) qeyá ( <i>from string and wood fiber</i> )	see 326, 392

English (E)	Mooi (M)	Tehit (T)	Comments/additions
324. lamp	l <u>amp</u> oer	soqàr (with resin) lâmpu plîta (with oil)	Mal: lampu, pelita
325. torch	lega (resin)	soqàr sqaa (of palm leaves, etc.)	
326. case	-	qdyambàr (of palm rib) qrandà (of wood)	
327. cooking pot	wòsoek	siròraron, blangàn fòsikraron	-raròn used Mal: belanga
328. to fire pottery	-	-	
329. earthen water barrel	bèm fiòm	mbhal ámaq	see 315
330. to cook (in pot) to cook in bamboo container	webòk wegoes	-fòsik -qòliT -rabús, -rebús (to cook something without oil or fat)	Mal: rebus to boil
331. to roast (in ashes)	wesebelài	-drin	
332. to grill, to roast	woesoek	-siit	-sgiT to rebuild an old camp fire -qmuòq to bake in ashes
333. to bake	wesinàwà	-óowo	
334. done	lísí(s)	-eendyé, -reefé (ripe)	(D/Ym) -eesyí
335. half done	welà, wàmoeK	-omuòq	
336. food	kamík (of sago flour)	érneIT, niéIT	ni things -aTréIT to eat
337. provisions	kamík lafì wò	érneITqlyan, niqlyan	-qlyan stock
338. vegetables	kàmlás	qàmlas, nimbra	-mbra green
339. meat	kìm	érwas	
340. dried meat	bàkàsà	érwas(s)loo	-sloo dry
341. fish	kòmòn	erèn	
342. rice plant	fas	pàsa	Biak: fas rice
343. harvested rice	fas amberbaken	pàsa	M: Amberbaken is the name of a place in the Bird's Head where rice is grown

English (E)	Mooi (M)	Tehit (T)	Comments/additions
344. husked rice	fas <u>waranda</u>	pása	Biak: Waranda <i>Dutch</i>
345. cooked rice	fas <u>waranda</u>	pása	
346. stalk	fas <u>wekèdi</u>	pásangias	-ngiás <i>stalk</i>
347. ear of rice, corn	sàli	-sàlyar~sàlyo	
348. rice barn, barn	-	- qmnga	
349. rice pounder, mortar	kam <u>koetoe</u> k fás	-	<u>koetoe</u> k, see 350
350. pounder	koetoe <u>k wé</u>	qodá	-qòdi <u>k</u> <i>to pound</i>
351. to pound	wekoetoe <u>k fás</u>	-qodá, -qòdi <u>k</u>	
352. sieve for rice	kàkràs	qàqras, nyíru	sámdeT <i>winnow esp. for sago</i>
353. chaff	fas <u>lebis</u>	-swin	
354. to grind	-	-qòdi <u>k</u>	see 350
355. rice porridge	-	pásaleleT	-laléT <i>to be liquid</i>
356. sago flour	wámoe'k	fa	
357. sago porridge	welí	ndahó(m)	(D/Sy, Ym) <i>wlit, hlit</i>
358. baked sago	isoewoe'k	fádifin ( <i>baked in ashes</i> ) sàkerar ( <i>baked in earthen/stone form</i> )	
359. a. sago tree, sago palm	wa wòlò wa gèlik	fà(m)olo, fa	
b. ~ (long stem and leaves)	wa gèlik	fálya	-lya <i>stiff, firm</i>
c. ~ (short stem and grey leaves)	wa bìloem	fámblen ( <i>without thorns</i> )	mblen marah <i>palm</i> Lat. <i>Nipa fruticans</i>
d. ~ (fine stem and leaves)	wa <u>senan</u>	fásinan ( <i>ribs of its leaves are used for arrows</i> )	sinán <i>arrow</i>
360. salt	gási	síra	tási <i>salty water, sea</i>
361. areca nut	dì	qlfuó	
362. betel	koetoem	ngrik	
363. lime	fálàs	-	
364. gambir	kesàk		
365. tobacco	-	qbatí	
366. palm wine	mòök	twuóq	Mal: tuak
367. drunk	òk	-smiit	(D/Sy, Ym) -msiit

English (E)	Mooi (M)	Tehit (T)	Comments/additions
368. coconut pulp	leb <sup>is</sup>	tiT <sup>y</sup> ogowis	-wis pulp
369. sarong	agoen k <sup>e</sup> dis	nóTsis	-sis to wear, esp. sarongs; sérasar <sup>v</sup> srásar kind of sarong
370. cloth	m <sup>á</sup> lè	noT	
371. trousers	s <sup>à</sup> nsoen n <sup>è</sup> lik	nóTqaraT	-q <sup>á</sup> raT to wear, esp. trousers Biak: sansun cloth
372. jacket (for woman and man)	s <sup>à</sup> nsoen n <sup>ò</sup> loe	nótriK (< noT + -driK)	-driK to wear see 370
373. head cloth (for woman and man)	toewara	bélan	
374. comb	s <sup>á</sup> k	sqaT	
375. fine tooth comb	-	sqaT	
376. finger ring	kòw <sup>ò</sup> nin	ingín	
377. arm ring	kam <sup>n</sup> in (for woman) lík (for woman) kompafík (for man, from pig tooth) mèdík (for man, from rattan) dam (for man, from leaves)	slaq (from metal) siin (from rattan and leaves) man <sup>g</sup> ét (hand guard made from wood, used by archers)	
378. earring	kamto <sup>ö</sup> ek	ngin	
379. necklace	ma lò	áfismaq	
380. bead	lí	sambéT	
381. sarong used as a sling	bawè	qefin	
382. loin cloth	agoen silim	fawósyeren, fawó	-syerén to wear esp. loin cloth
383. cotton fabric (local, European)	m <sup>á</sup> lí	noT	
384. to weave	wet <sup>á</sup> loe	-d <sup>á</sup> lo	
385. loom (weaving spool)	-	s <sup>u</sup> ban (ordinarily made from flying fox bones)	
386. bark cloth	agoen no <sup>ö</sup> ek agoen mai	qmndir máI, qmndir	qmndir sarong made from wood fibres máI a sort of wood esp used for loin cloth

English (E)	Mooi (M)	Tehit (T)	Comments/additions
387. to pound bark cloth	wòjim oòek kèsik	-qodá máI	
388. to weave	wetáloe	-dálo	see 384
389. to twine a rope	wemèjì ( <i>by hand</i> )	-fo áfis, -ryo áfis	áfis <i>twined rope</i>
390. rope	kí	omòs	qeyí, keyí <i>a sort of rattan</i>
	síjè ( <i>from wood fibres</i> )	séje ( <i>from wood fibres</i> )	
	belèk ( <i>fish line</i> )	yaafán ( <i>fish line</i> )	
391. to knot, to knit	wesá	-aafúk	
392. bag (woman's bag)	koewòk ( <i>made from fibres</i> )	qíya qatlóngo ( <i>used for tobacco, money, etc.</i> )	see 323
	lagi ( <i>used for sirih, pinang</i> )		
393. sword	sin wák	mnyándla, kléwan	myan <i>chopper</i> ndla <i>man, husband</i> Mal: klewang
394. sheath	sin bai	mnyanqáada	
395. to chip, cut, slash	wálà	-ála ( <i>to fell</i> ) -saT ( <i>to cut into pieces</i> )	
396. pike, lance	saojèk ( <i>shaft from ironwood or ebony</i> ) solòn	sawuá ( <i>wooden shaft, iron head</i> ) solòn ( <i>wooden shaft, bamboo head</i> ) qáhaT ( <i>made from wood or bamboo</i> )	
397. blowpipe	-	-	
398. bow	boesoe	táUr	Mal: busur
399. quiver	senàn	sinàn	
	-	sinánngaada (< sinán + qáada)	see 394
401. shield	gíli	qmbòremin lolonggar	qar, qmbor <i>protector</i> -lolon, -emin <i>to hide</i>
402. rifle	bámòn	minèq	
403. gunpowder	agar, kamík	-	
404. bullet	pankroe	pelòr	Mal: peluru
405. to shoot	soeloem	-han	



English (E)	Mooi (M)	Tehit (T)	Comments/additions
406. sling	makajo <sub>ö</sub> en	qí <sub>l</sub> aly, hiriT	
407. to wage war	feli <sub>l</sub>	-req qhan, -rèq(q)asin ( <i>to make enemies</i> )	see 408 -req <i>to direct</i> see 409
408. war	àlam	qhan	
409. enemy	àlam (hongí) ( <i>attacker</i> ) bàwà <sub>n</sub> àk ( <i>the one attacked</i> )	nàqhan ( <i>attacker</i> ) qasín ( <i>the one attacked</i> )	
410. to go head hunting	wálagad <sub>a</sub> k sèw <sub>a</sub>	-yambón	
411. fortification	mòbò ( <i>barricade from wood and bamboo</i> ) keik kálìk ( <i>hut in tree</i> )	qndàsni mbolqalìT <i>observation tower</i>	qnda <i>curtain</i> -sni <i>to lie prone</i>
412. defeated	jatand <sub>a</sub> oe	-di, lalèqereq	-lalè <i>side, under part</i> -qereq <i>broken off</i> -di <i>to fall down, to be defeated</i>
413. to gain the victory, to win	(mam)òlòs	-giriKsya	-giriK <i>cheering</i>
414. prisoner of war	dema <sub>n</sub> ( <i>slave</i> )	qawà <sub>r</sub> , lalèqriT ( <i>subjected/ conquered people</i> )	-qriT <i>to draw</i>
415. delegate	oöe nè	nádiik	-diik <i>to delegate</i>
416. tribute	oöek ( <i>debt</i> )	-	
417. to farm	késík	-àgo mbiéle, -àgo	-àgo <i>to burn, to set on fire, esp. new fields</i> -mbiéle <i>farm, dry field, garden</i> M: k <sub>é</sub> sík comp. k <sub>é</sub> sík <i>skin</i> , see 1
418. dibble	salè adiwè ( <i>for maize</i> )	selè(m)	
419. to make a hole (with a dibble in the ground)	wesà	-sqa <sub>a</sub> selè <sub>m</sub> -òoriK selè <sub>m</sub>	-sqa <sub>a</sub> <i>to stab</i> -òoriK <i>to plant</i>
420. spade	-	-	
421. knife for cutting grass	-	saqàdo (< saq + -qàdo), saqàIT	-qàdo <i>to impale</i> -qàIT <i>to bind</i>

English (E)	Mooi (M)	Tehit (T)	Comments/additions
422. knife for cutting rice plants	-	-	
423. hoe	sàlì	pátyol	Mal: pacul
424. rice-field (wet, sawah)	kěsik	mbyéle pása(U)	see 417
425. small dike in rice-field	dòlòn	lolón, bédén	Dutch: bedding Mal: bedeng
426. irrigation	-	-	
427. fence, hedge	dásé	ndesé(U)	
428. planting, recently planted crop, a newly established garden	kam mòlò	mbyeléolo, níoorik, nífagye	qam taro -òlo stalk, seed -fágye to plant seeds -òorik to plant non seeds
429. to sow (scattering the seeds about)	watèk	-mbádeT	
430. to plant (in the holes)	woeloe'k	-òorik, -fágye	see 428
431. to thresh with the feet	-	-	
432. seed-rice	kamjiní	pas(a)òlo	see 344, 428
433. ripe	kánas	-qánas, -refé	
434. unripe	kási	-qasyé, -ómuoq	
435. to harvest	sák, weíloefoek	-saT (to cut) -ngyeq (to peel) -dryé (to pull out)	
436. to pick	wáfík	-hliik	
437. maize, corn	kamoekak, fas	mbodén	(D/Ym,Sf) fása
438. millet	dam, pókém	mbodénbya, mbodénsalya	-bya, sálya ear of corn
439. beans and peas	awoeloe	qáflin	
440. cucumber	kami'kwon	qdolíK	
441. pumpkin	bati, kamoöek mawala	syaapl	(D/Ym,Sf) bétik
442. sugarcane	bisi	asá	comp. fsi (kind of cane the ears of which are used as vegetable) Mal: sayur lilin, trubus

English (E)	Mooi (M)	Tehit (T)	Comments/additions
443. onion	-	bàwan	Mal: bawang
444. gourd	bàòn	mbhal	
445. species of tuber	kibòek	qsasín ( <i>Manihot utilissima</i> )	
446. sweet potato <i>Ipomoea batatas</i>	tebìkí	qófik	
447. taro <i>Colocasia antiquorum</i>	im	qa(m)	see 428
448. cassava <i>Manihot utilissima</i>	tebìòök	qsasín	see 445, 446
449. red pepper	baisàn	marésan	
450. coconut (tree)	doewoe kèdi	t Tyoqo (mqéndim, mòlo)	
coconut (fruit)	doewoe woen	t Tyoqo (mqan, mfuon)	
451. breadfruit tree, bread- fruit fruit	gním	ànda ( <i>without seeds</i> ) mìgian ( <i>with seeds</i> )	
452. sugarpalm, aren tree	móök	tuòq, twúoq	Mal: tuak, see 366
453. lontar tree	joegoef	qmbiò	
454. nipa palm	sanèm	mblen	Lat. <i>Nipa fruticans</i>
455. kapok	oök weranda	táIkmbya, kápuK táIK ( <i>cotton plant</i> )	see 344, Mal: kapok
456. pandanus	kalík	qádik ( <i>grows in dry areas</i> ), qéri ( <i>grows in marshy areas</i> )	
457. mango	awí	wàè	
458. <i>Artocarpus integrifolis</i>	soealas ( <i>non- cultivated</i> ) soealaslain ( <i>cultivated</i> )	sirafòT	
459. <i>Nephelium lappaceum</i>	-	gyènqmbuK	-gyen hair -gmbuK bunch
460. <i>Durio zibethinus</i> , soursop ( <i>Auona muricata</i> )	-	d ron	Mal: durian
461. <i>Lansium domesticum</i>	loöem	rikín	(D/Sy) qlòqon

English (E)	Mooi (M)	Tehit (T)	Comments/additions
462. <i>Eugenia</i>	awi soe awi soe so (white) awi soe im (red) awi soe igík (black)	qèhiT ( <i>small fruits; not juicy</i> ), qdléIn, mòli ( <i>big fruits; not juicy</i> ), srindàn ( <i>Eugenia aquae</i> )	
463. <i>Ayerrhoa carambola, Carambola</i>	malibí	ùbaT, íbaT	
464. banana banana (wild) banana (fruit)	ò ògoek òwoen	òogo òogo foq òogo(m)fuon, òogo(m)qan, òogo	
465. species of citrus fruit	awí dò dòfí ( <i>Citrus maxima</i> )	òndo òndo kápal ( <i>Citrus maxima</i> )	Mal: kapal <i>ship</i>
466. indigo	-	-	
467. <i>Curcuma domestica</i>	loefoen	qràri, kúnin	Mal: kunyit
468. ginger	lílìnèm	lilín	
469. rattan, cane	kí <b>í</b> bik	omòs qeyí, qeyí	omòs <i>string, rope</i>
470. bamboo	kasík mesān ( <i>used for arrows</i> ) kamaom ( <i>big sort used as water container</i> )	qodó	
471. bamboo shoot, young sprout	kamaòmba	qodòngamuK (< qodó + -qamúK)	-qamúK <i>fist, bunch</i>
472. tree	oöek wolo, oöek kèdi ( <i>wood trunk</i> )	wqóIT (olo) wqóIT (qendi)	
473. wood	oöek	wqóIT, tám <sup>h</sup> bra ( <i>forest</i> )	
474. to climb a tree	walim oöek	-arín wqóIT	
475. to cut down a tree	walaoen	-alà wqóIT	
476. axe	làbòsà	tmaq	
477. branch, twig	oöekma oöekma	-gri -syàra	(D/Sf) -ma
478. the heart of the tree	langwòk	wqó(IT)ros	-ros <i>starch</i> see 472
479. root	wèlík	-dèIT	see 71

English (E)	Mooi (M)	Tehit (T)	Comments/additions
480. liana	kì	omòsfolo	
481. leaf	kedìnlàs	frálas	-las <i>sheet</i> fra <i>leaf</i>
482. falling of the leaves	bòloek	frámbruoT	-mbruoT <i>to fall</i> (D/Sf, Ym, Sf) lasbrik las <i>leaf</i> -brik <i>broken</i>
483. bark	oöek kèsík	wqóiTfalaq	see 1, 472
484. thorn, spine	gfník	kiník	
485. sap, gum	wöök	qamén	
486. resin	legà	qyir, soqàr	
487. damar tree	lega wòlò	quírolo	
488. flower	filík	nìdfia (noun) salua -mbafangà	-fànga <i>to bloom</i>  -mba (verb, possessive) comp. Mal: ber-
489. fruit	wìsin	nìdfuon, qwáafi	
490. to bear fruit	wèsin sagoe	-qan	comp. M. sagò <i>also*</i>
491. rind, peel	kèsík	-fàlaq	see 417
492. to peel	oesoek (a jambu, etc.) sedik (to skin) soloes (to skin, e.g. sugarcane)	-qesèq (a banana, etc.) -hi, sàlye (a mango, etc. with a knife)	
493. pip, stone	oewoen	-dla, -fuòn	
494. the flesh of the fruit	wegim	-qan	see 99
495. bunch	salí	-ngani (of nuts, Lansium domesticum, etc.) -mbàni (esp. of bananas), -mbúo	
496. oil	minik	m!nya, mnyeq	Mal: minyak
497. moss	loeboek	rmiT	
498. mushroom	ifén	esyèn	
499. ferns	filim las, filimbà	qnder!s	
500. grass	dèk	qláUleIs, qslýé	

\*The informant has probably said that item 490 is identical with 489.

English (E)	Mooi (M)	Tehit (T)	Comments/additions
501. <i>Imperata cylindrica</i> (kunai grass)	sananòloe	f(e)fàl	
502. <i>Saccharum spontaneum</i>	gási	qàIfa	
503. animal, beast	kám (means also thing(s), goods) kamlòlòm (animate)	nìqol	ni <i>thing(s)</i> -qol <i>wild</i>
504. young animal	kampè míjè	qòlweT	weT <i>child</i>
505. tail	(i)jèn	-qàIn	(D/Sf,Fq) -wyan
506. to keep animals	wegám	-àare	
507. paw	kampelík	-dekòfor (< -dèIT + -qofòr)	see 71
508. hoof	kampelik k̀idi	-dek̀indi	see 89
509. claw	isewik, jen fel̀is	-qofòr	see 507
510. udder	sapi woeso	-syo	see 37 Mal: sapi <i>cow</i>
511. mouth snout	kampegík kampegík	-gyèT -(da)wàngò	
512. snout, muzzle	lakalín	-neq	
513. bill, beak	afík	-dafqòK	see 16 fqòK <i>knot</i>
514. wing	òloe	-òoli	
515. feather	kàlém wegín	qlèngen (< qlèn + -gyèn)	see 6, 558
tail feather, plume	wádín	-gyènsyaala	-syáala <i>to wave</i>
516. to fly	mefelík	-sené	(D/Sf,Fq) -hri
517. nest	sák	qàahe	
518. egg	tòlòk	-eesyèn	
519. to lay eggs	wetòlòk	-dikeesyen	-dìK <i>to lay down</i>
520. to brood	wásoe	-àasedenger	-dengèr <i>towards to;</i> see 114
521. to hatch	webènmoefoe	-eesyènmbafla	-mbáfla <i>to break</i>
522. domesticated pig	baik	qorìKmbol	mbol <i>house</i>
523. piggery	lala baik	qorìKsqagi, qorìKqlalo	-sqági <i>to block</i> -qlálo <i>to fence in</i>
524. wild pig	baik gelím	qorìK-támбра	támбра <i>jungle</i>

English (E)	Mooi (M)	Tehit (T)	Comments/additions
525. to grunt	walago <u>en</u> oe	-ngor	
526. goat	nèk	-	
527. buffalo	-	-	
528. cow, ox	-	-	
529. to low, to bellow	wel <u>ì</u> k, wesaloe	-qwalán	
530. horse	-	-	
531. to neigh, to whinny	-	-ngengéq	
532. deer	mend <u>ja</u> na	-	Mal: menjangan
533. horn	esam <u>á</u> gak	-sáqdyadan	-qdyadán to have a branch
534. dog	ofoen	-mqaan	(D/Ym, Yd) hóIn
535. to bark	wetòloe	-(sqá)loo	
536. cat	bòki, mau	síka	
537. to miaow	wesaloe, wel <u>ì</u> k	-qwewén, -sálo	-sálo to make sounds
538. bear	-	-	
539. porcupine	dèl <u>í</u> m	ámsa	see 543
540. marsupial	baoe, matoek	ndon	
541. marten (Paradaxurua)	we <u>í</u> k	weq	
542. half-ape (?)	-	qáUres	
543. anteater (Manis javanica)	-	ámsa	
544. cassowary	kalè bá <u>le</u>	simáT	qlen-mble eagle
545. pigeon	kalèm moöek kiam kalèm mo <u>e</u> loek (crown pigeon) kalèm mík (?)	mbális (in general) mberíT (crown pigeon)	
546. crow	kalèm mà <u>k</u>	owèri	
547. hen, chicken cock, rooster hen mother hen	- kalèm tolè dela kalèm tolè lag <u>i</u> kalèm tolè dí <u>m</u> e	kokóK (in general)	
548. cock-fighting	bataroe kawa, kawa	kokóK Iyambón Isá kokóK Iqáfa kokóK IdóroT	-yambón to wind -sa head -qáfa to fight together -dóroT to bite each other M: bataroe, Mal: bertaruh to bet

English (E)	Mooi (M)	Tehit (T)	Comments/additions
549. duck	kalèm bebèk, kalèm	srikmbin (< -sriT + qmbin)	Mal: bebek -sriT <i>to dive</i> qmbin <i>shrimp</i>
550. parrot	kalèm w <u>al</u> as	qlèngras	-gras <i>to shout</i>
551. parakeet, budgerigar	kalèm w <u>il</u> ò	qlènggahe	see 517, 558
552. rice-bird	-	sisáwET	
553. hornbill	kalèm w <u>am</u> a	qlen wamàr	
554. quail	-	qlerngòngras	-qòngras <i>to scrape</i>
555. heron	kalèm mansir <u>ò</u> m	qlen wodir sfen ( <i>white</i> <i>heron</i> )	
556. bird of prey	kalèm teg <u>í</u>	sarás ( <i>in general</i> ) nayàr ( <i>eagle</i> )	
557. owl	kalèm f <u>í</u>	qlèhi, qlèki	-hi <i>to rustle, to</i> <i>reverberate</i>
558. bird	kalèm	qlen	(D/Yd) klen
559. squirrel	w <u>e</u> ik	wyaq	
560. bat	kalèm keb <u>ín</u>	alelé	(D/Ym) qbar
561. flying fox	kalem s <u>ò</u> m	suwàr, moqòl ( <i>small kind of</i> <i>flying fox</i> )	
562. deer	mendjana l <u>agi</u>	-	lagi <i>female</i> see 196, 532
563. cherrotain, mouse deer	-	-	
564. mouse	maj <u>ís</u>	sris	
565. shrew	maf <u>ò</u> n ( <i>rat</i> )	sris	
566. monkey	jak <u>ís</u>	qáUres, yákis	
567. to hunt	wábè ofoen	-himá	-mbe <i>to call</i> <i>domestic animals</i> -ofòn <i>to direct</i> <i>dogs after wild</i> <i>animals</i> M: ofún <i>dog</i>
568. trap for catching large game	-	hené	
569. trap	toèk ( <i>from</i> <i>rattan</i> ) kígabèlì ( <i>for</i> <i>the cassowary</i> )	hené ( <i>in general</i> )	



English (E)	Mooi (M)	Tehit (T)	Comments/additions
570. bamboo spikes	wá <sup>1</sup> fá (esp. for pigs)	waahá	
571. to fish	wamoesí weseba (to sniff, to nose - of hounds)	-ombíT (to go to sea) -mbáse (to catch fish by poisoning or drugging)	M: wamoe he goes si water -mba to poison se water
572. fish trap	sebalain	wánda	
573. net	djara	swieléT (cast-net) fúkaT (drag-net)	<? Mal: jala Mal: pukat
574. fish	komòn	erèn	
575. shark	mabír	widár	
576. ray	malí	fárfari tódak	Mal: ikan pari ikan layar
577. eel	kalakoeboes  delo kalájí weliwos	qliikse  ndráwae  los (kind of fresh water fish; <i>Plotosus coconius?</i> )	qliik snake se water Mal: morea M: kala water M: koeboes snake
578. louse	sajam	háIn	
579. nit	jamlas	há(In)nas	-nas < -qnasyé to give birth continuously
580. to delouse	wòsde sajam	-so(T)háIn	-soT to look for
581. louse	-	háIn	
582. flea	jam mòk	háIn	
583. spider	táboe	tambó	tambóse giant/big spider
584. spider's web	taboesè	tambó-awár	awár web
585. bluebottle fly	bóloek bala	mbrímbra (< mbliT + -mbra)	mbliT fly -mbra blue
586. wasp	sibín	smbyár	
587. bee	sibinmoe	smbyármí (reddish brown bee, builds nest in the earth/ground)	
588. honey	sibin toewò	towó	<? Mal: tawon bee
589. mosquito	gònòs	qforín, sínas (kind of small mosquito, <i>Ceratopogon</i> )	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
590. butterfly	kalem(boe <u>aga</u> ) boewòwága	qlémanga	
591. firefly	toewòn seg <u>ín</u>	towòn	see 621
592. caterpillar	kan <u>joek</u>	fir	
593. grasshopper	sew <u>ík</u>	qáambeT	(D/Ym,Yd) swik
594. beetle	soë	kowó	
595. cockroach	g <u>asi</u>	ngseT	
596. ant	kedòk	lál <sup>1</sup> ye	
597. white ant, termite	kedòk g <u>ili</u>	qndoq	
598. snake	owoen	qliik	
599. python	owoen pèlì	qliikflé	M: -pele T: -fle big
600. centipede	kamfilis	áfl <sup>1</sup> ye	
601. leech	joek	meesáT	
602. snail, slug	ogoem*	qar <u>ík</u>	
603. worm	loöek	hnáIT ( <i>earth worm</i> ) qnyèn ( <i>intestinal worm</i> )	
604. shrimp	kabak ( <i>in fresh water</i> ) kesim ( <i>in sea</i> )	qmbin ( <i>in general</i> ) mbísar ( <i>small sort; living in fresh water</i> ) qsgian ( <i>big sort; living in sea</i> ) mòngoT ( <i>big sort; living in fresh water</i> ) sáIpo ( <i>small sort; living in sea</i> )	
605. crab	kaf, kas	qóIn, édero	
606. shell	mafèn walák ( <i>turtle shell</i> ) kòtòk w <u>álak</u>	dembirfalaq ( <i>turtle shell</i> )	dembir <i>turtle</i> -fálaq <i>skin, bark</i>
607. crustacean	kòtòk	mbièn, asyá angáIT	
608. frog	ked <u>ák</u>	qaqó	Mal: kodok
609. toad	bòl <u>òk</u>	qaqó	
610. lizard	tìm keík ( <i>house</i> ) básak	tóqtoq, tókitoki s <sup>1</sup> ngin	Mal: tokek
611. iguana	siw <u>ín</u> , mampoen	qármbeT	

\*ogoem is probably an error; it means *hermit crab* of family Paguridae, Tehit: breersemit.

English (E)	Mooi (M)	Tehit (T)	Comments/additions
612. crocodile	anisa, kamkelawa, wonggor	wyār	Biak: wongōr <i>crocodile</i>
613. tortoise	joöek	dëmbir, kimbó	
614. turtle	mafèn	dëmbir, kimbó	see 606
615. a. sky b. heaven	joek málasò	iKw iKw	
616. sun*	dewì wesiwò	tálim	M: dewì <i>day</i> we <i>his</i> , siwò <i>eye(s)</i>
617. sun eclipse	naga wòbò dewì	táli mqaró	-qaró <i>to be turbid</i>
618. moon**	senà	snàU	
619. one month	senà màli	siró (mres)	mre(s) <i>one</i>
620. moon eclipse	naga mòbò senà	sna Uqaró	see 617
621. star	toewòn	towòn	
622. a. sunrise b. moonrise	dewì waselì, dewì wálim sena málim	táli maasén, msindik táli mmyasán sna waasén, wsindik sna Umbyasán	-aasen <i>to awaken</i> -sindik <i>to stand up</i> -mbiasán <i>to rise</i> M: -alín <i>to climb</i>
623. sunset moonset	(dewi)woöëna, wísik (sena) mísik	táli mdi sna UsriT	-di <i>to fall</i> -sriT <i>to dive</i>
624. earth (globe)	malawìn	fombi(m)	
625. air	wilím	wirín, iK(w), rowé	
626. rain	oeèlik	tqoIn(w)	(D/Yd,Fq) wlik
627. dew	toewòn kínik	sawùn, qlámoq(w)	
628. a. cloud b. evening clouds covering the sun c. cumulus d. rain clouds	- mandèk mòraelas metím	mbiqáIT ( <i>in</i> <i>general</i> ) qádili, iK wri ikmbial mbiqáItmbra	-mbi <i>smoke</i> -ri <i>yellow</i> -mbial <i>to expand</i> -qáIT <i>to bind</i> -mbra <i>blue</i>
629. fog, mist	woem	mbyas(w)	
630. rainbow	(ke)bangkèrilok	tmblyaq(m)	
631. thunder	loegoe	rgi	

\* In Mooi, sun is considered to be male, in Tehit it is female.

\*\* In Mooi, moon is considered to be female, in Tehit it is male.

English (E)	Mooi (M)	Tehit (T)	Comments/additions
632. flash, lightning	lèk	felèq(w), màlyeq(w)	
633. earthquake	soek	fréro	
634. wind	mò	forón	
635. storm	dewèr	safàr	
636. water	kelà	se, q̄la	
637. sea	tasík	ombiT tási ( <i>salt water</i> )	
638. lake	kalawoe, samanas	marú	
639. wave	mòbak	aloUq̄afa	<? Mal: ombak
640. bay	kampoetoēk, toek	ombiTdyhol	-dyhol <i>curved</i>
641. beach	bain megík	ombiTdefiT	see 637
642. sandbank	foes bainsò	fefò	
643. coral reef	foes kewak legòs kewak sèjò	sqèIT-se sqèIT-ombiT	
644. land	legi	fombidèIT	fòmbi <i>earth</i> -dèIT <i>foot</i>
645. island	ès, èf	rwe sadò ( <i>small island, isle</i> )	
646. cape	kampalawoen	wáango, t̄lwiT	
647. mountain	meí, malà	sfáU	
648. hill	malà kèdíboe	ryèreU	(D/Sf, Sy, Ym, Yd) mla
649. mountain climbing	walím malà	-hrīsfa	-hri <i>to rise, to climb</i>
650. to go down, to descend	woeloe	-syolòq	
651. plain	wìn, ages melìk	s(ne)nèq	
652. valley	kampelofoēk ( <i>shallow</i> ) kampoetoēk ( <i>deep</i> )	oròT ( <i>slope of the hill</i> ) lòlik ( <i>deep valley</i> )	
653. grassy plain	malawesàwà	sám̄di	
654. swamp	bàk	seqarò	
655. forest, wood	malamó̄i	tám̄bra	
656. jungle	malamó̄i	qeryèn	
657. bush	ööék dèk	fòlo	
658. footstep (footprint)	(i)n̄f̄	-ràane	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
659. companion, mate	wetà	-ánaq	
660. border, boundary	malawili, kampilfwì	-qdéIn (verb) sipat (noun)	
661. river	kela	ʃe(U), qla	
662. bridge	dolòn	fátar ( <i>construction of more than one plank</i> ) qni ( <i>one plank</i> )	
663. to go upstream	kelawěsà	-arínmbi	M: kela river wesa his head
664. to go down- stream	kelawèlà	-áasi	see 663
665. spring, source	kalawisiwò	sé(U)sidayi	-si eye -dáyì to have a hole see 661
666. flood	ìlík	qáahe	
667. stone	kewàk	ámaq	
668. earth, ground	agès	mbeT	
669. sand	bain	kiindí	
670. gravel	kwok mòmòr	(kiindí)sináq	-sináq gravel
671. iron	loöe'k	besí	Mal: besi
672. copper	gènsa	támbara	Mal: tembaga
673. silver	saràka	slaq	Jawa: salaka
674. gold	perówèn	mas	Mal: emas
675. sulphur	-	-	
676. smith	kemàsàn	náqodíK	na man -qódiK to pound see 677
677. smithy	sàsó	wíqodíK	wi place Jawa: kemasán Biak: kamasán see 676, 687
678. to forge, weld	webàm, wekoetoek	-qókiK; -mba	
679. charcoal	ja'k kamoen	sálangamin; ngrimik	sála fire, -ngamin to sprout
680. hammer	papír	qadá ( <i>from wood</i> ) mártelu ( <i>from metal</i> )	Mal: martil
681. anvil	papír doenálf	tingíl, lándas	Mal: landas(an)
682. tongs	kemáda keloöek osoegoe, loöek	awétheq	awÉT cockatoo -heq tooth

English (E)	Mooi (M)	Tehit (T)	Comments/additions
683. cinders, glowing coals	ja'k kamoen	sálangangan	-ngangan to be aglow
684. to sharpen, to grind	woejoek	-qéfyé, yiit, yiir	
685. a. grindstone b. bellows	kewak joek saso walagà	qéfyé sesólmbyes	s(e)sól flute -mbyés to blow
c. piston d. tinder	saso wedala ligi	sesólmbyes esyén	
686. merchant	nekamelìn, nèsik kamelìn	nàryer	-ryèr to peddle
687. shop	-	sfyèryer, wíryer	sfyé landing-stage wi place
688. market	-	henéfrin (barter market) wíryer, pásar	Mal: pasar
689. to trade	wamoe wesà	-réqryer	-req to direct
690. merchandise	kàmélin, kamsau	níryer, níqaaIn hryénsafo	-qaaIn to buy hryen goods -sáfo to sell
691. needle	áloes	memban (metal) egyén (bird's bone)	
692. to sew	wekídín	-sor (for cloth), -sik (for non-cloth e.g. pandanus leaves)	
693. price	maida	-hedá, -edá, -aT	-hedá to have a price -aT to eat
694. profit	oentoeng	-req, -regé	Mal: untung
695. loss	roegi	-réqsaliT	-saliT to give back Mal: rugi
696. to buy	wesilí	-qaaIn	
697. expensive	watòdòk	-dor, -ndodòq	-ndodòq to pile up
698. cheap	(kam)maida wòlò'k	-sème, -limbìT	-limbìT easy
699. debt	kòbòk	tamán	
700. to dun	wefai kòbòk	-smbálfe tamán, -smbal	fe about, because
701. to pay	waoek	-páyer, -páher	<? Mal: bayar
702. to sell	wesaoe	-sáfo	
703. a. to borrow	wabè, tabè	-syòqaner, -anér, -syoq	-anér to ask for -syoq to make
b. to lend to		-hnáqsyofó, -syófo	-syófo to lend to

English (E)	Mooi (M)	Tehit (T)	Comments/additions
704. to exchange	wesásigín	-hnáqanaq	-hnaq to give -anáq to exchange
705. to bargain	wekifín	-ryérfyen	-fyen to catch with one's hand
706. a. to fill (in bamboo, e.g. sago) b. to fill (a basket)	welowò wefoejoen	-qóliT -hliK	-lowuo to take together
707. proa, canoe	kemà	qma	
708. all sorts of vessels	-	mbembáq	
709. mast	padàren	ràrqada	-qadá to support
710. sail	sebòr	rar	
711. to sail	wesebòr	-fáyar, -fáyer	
712. rudder, helm	lemèk	-sáaIn	
713. to steer, to sail	woeloen	-áqsaaIn	-aq at, on
714. oar, paddle	wòlòs	salyén	
715. to row, to pull	wawòlòs	-salyén	
716. outrigger	semòn	mbaré	-mbaré to equal, to balance
717. thwarts	kofòmpès	qómo	
718. stem, bows	welà	-da	see 16
719. stern	woeloen	-sáaIn	
720. to take on cargo	wàjèn	-hryendwási, -dwási	hryen goods -dwási to load
721. raft	kíwi	mbembáq	
722. landing-stage	selè (in general) weloe (on the river)	sfye, qmádiK, wióriK (to anchor on the river, etc.)	qma proa -diK to place wi place -oriK to plant, to pole, to anchor
723. to disembark	jelím wosoe le(gi)	-sísiwa	
724. to sail away	wamoe, wawoemoe	-émbeTrar, -fáyar	-émbeT to lift up see 710
725. to capsize	pelèk	-mbáfeleq	
726. great, big	pelì, palì, betìn	-fle	
727. small	kiàm	-qeyá, -weT	see 203

English (E)	Mooi (M)	Tehit (T)	Comments/additions
728. a. long (things)	wí	-lismareT, -lis	
b. long (time)	samigi, weinák	-ndlo, slieq	
729. a. short (things)	kaboe	-dmálen, -dma	
b. short (time)	kediam	-átaren, arén	
730. a. big, fat	wetoem	-dfilik	
b. thick	wekòdòk	-qòndo	
731. meagre, skinny, thin	kaoen	-qliKfarye	-qlik <i>side, flank</i> -farye <i>in rows</i>
732. thin	menì	-lengé	
733. a. fat (adj.)	wetoem	-mnyeq	
b. a fat pig	baik kampèli	qorík waa mnyeq	
734. fat (subst.)	meník	mnyeq	
735. slim	bajèk, mejòk	-lengé	
736. boiled down, shrunken	kesik wòlòk	-slyòT	
737. to grow	woetoem	-fòri	<? Mal: tumbuh
738. tame	así, kamkínim	-àyi	
739. wild	gelím, gelì	-qoqòl, -qol	M: gelì, comp. Tehit 740
740. shy, ashamed	majín	-qelé	see 739
741. a. deep (river)	goemoe	-wáaIn	
b. deep (dish)	woetoek	-dyhol	
742. shallow	walinsà	-lása	
743. high	woenoì	-lismareT ( <i>in general</i> ) -qfanlis ( <i>human beings</i> ) -yeehéT ( <i>things</i> )	see 728 -qfan <i>body, structure</i>
744. low	kaboe kiam	-dmálen ( <i>in general</i> ) -dmadi ( <i>human beings</i> ) -mbáfombi ( <i>things</i> )	see 729 <i>di only, just</i> fombi <i>earth, land</i>
745. straight	wetoesoe	-droT	
746. crooked, bent	wekoejoek	-qrerèq	
747. curved, winding	waloe	-woq	
748. flat	sebèk	-snenéq, -sneq	
749. even	mínís	-snenéq, -sneq	
750. smooth	lewì	-seq	(D/Ym, Yd) -léfes
751. heavy	wegesòk	-dyan	



English (E)	Mooi (M)	Tehit (T)	Comments/additions
752. light	malán	-mlan	
753. slanting, sloping	walasòk wawòk ( <i>slanting, e.g. house or wood</i> )	-qrerèq -woq ( <i>oblique, of lines</i> )	
754. sharp	wàk	-aT, -raT	
755. a. blunt b. blunt (spear)	wàtoe boem	-qófis ( <i>dull</i> ) -dámbin, -mbin ( <i>blunt</i> )	see 762
756. pointed	salàk	-dásia, -sia	
757. hard	wekàtà	-qánas	
758. soft	talà	-lúa, -remín	
759. warm	lebòk	-oT	-rombòq <i>to get blisters</i>
760. cold	kebilì	-ngánan ( <i>things</i> ) -qomín ( <i>human beings</i> )	
761. to shiver	lòlò, (kesik)bòwòn	-ádaryoro	-áda chin -ryorò <i>to tremble</i>
762. a. round, circular b. round as a stick c. round as a dish d. global	dòlò boem boem	-ndhol -lálóq -lólóq, -filís	
763. square	oesoes fak	-syoqórhaT, -qórhaT	-syoqór <i>to form an angle, haT four</i>
764. broad	sebèk	-qádaq	
765. small	dòlò	-ndólo, -weT	
766. narrow	tedò	-hrodóT	
767. wide	loewoe	-qádaq, -ndlo	
768. strong	wòlòs	-qánas	
769. weak	mejòk	-qálua	
770. brave, bold	mánèk	-yaqá	
771. cowardly	bagòlò	-mbháIT, -ályeT ( <i>to be afraid</i> )	
772. lazy	gòlò	-nguéñ	-nglo <i>tired, powerless</i>
773. diligent	golò daoe	-sí(y)a	M: dau <i>not</i>
774. stingy	wadalè	-qreeq	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
775. mild, tender	wat <u>oe</u> boe	-rère	
776. dry	t <u>f</u> ë	-slòU	
777. to dry in the sun	fí	-slye	
778. wet	k <u>oe</u> boek	-sreT, -qdiK ( <i>dripping wet</i> )	(D/Sf) -qbis
779. humid	pe <u>l</u> im	-mbáfas, -sreT	
780. rotten	wam <u>oe</u> k	-mban	however, see 335
781. good	wò <u>b</u> òk	-hnyò	(D/Sf, Ym, Sy) -boT
782. bad	wobok da <u>oe</u>	-sgya	M: dau <i>not</i>
783. beautiful	fi <u>á</u> rí	-hnyò	
784. ugly	fiari da <u>oe</u>	-sgya	
785. wrong, false	sa <u>l</u> è	-sqáseele, -séele	see 237
786. true, right	mò <u>l</u> ò	-doròn ( <i>true</i> ) -sádroT ( <i>correct</i> )	
787. empty	si <u>d</u> i	-fáalaq	
788. full	wò <u>f</u> òn	-hon ( <i>filled by an agent</i> ) -fon ( <i>filled without demonstrable agent, e.g. river, stomach, etc.</i> )	
789. angry	pè <u>k</u>	-yaqá, -faq	
790. mad	walegam, ki <u>b</u> á	-qòli	
791. a. tightly bound	sa <u>t</u> í	-dòndo	
b. tightly fitting	ka <u>t</u> a	-qátre	
792. a. loose	fò <u>l</u> oek	-dàngaT, -mli, -loq	
b. loosely fitting	wa <u>l</u> òk	-loq	
793. old	ka <u>o</u> en	-drar	
794. a. old	w <u>e</u> ĩnak	-lwiéT	
b. worn	w <u>e</u> ĩnak	-raaná	
795. young	li <u>w</u> i	-fi firiqeI ( <i>recently</i> )	
796. new	li <u>w</u> i, sag <u>oe</u> ( <i>recently</i> )	-fi	
797. poor	ba <u>o</u> ek	-buosòq	
798. wealthy	ko <u>j</u> an	-kayòT	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
799. tired	wemàk	-qlowò, -los	(D/Sf,Sw) -maq
800. fast	mìlì	-babràq, -braq ( <i>quick</i> ) -mli, -sòli ( <i>quick, fast</i> )	
801. slow	feì	-lòqloq ( <i>to be careful</i> ) -homò ( <i>slow</i> )	
802. dumb	-	-sàmi ( <i>stupid</i> ) -ayi ( <i>not skilful</i> )	
803. clever	negámpòjoen ( <i>in making something</i> ) nételim ( <i>in hunting, etc.</i> )	-sia ( <i>in hunting, etc.</i> ) -sras ( <i>skilful</i> ) -samblì(T)droT ( <i>to have an orderly mind</i> )	<? Dutch: kampioen <i>champion</i>
	malegín falelí ( <i>in speaking</i> )	-gyè(T)soro ( <i>in speaking</i> )	-gyèT <i>mouth</i> -sorò <i>smooth</i>
804. sweet	wòs	-uás, -was	(D/Sf) -lomón
805. sour	(w)awí	-áafi	
806. bitter	wà	-oT	
807. hot, spicy	welèbò'k	-oT	see 759
808. salty	bilím	-mbásiira	-mba- is affix, compare Mal: ber-; siira <i>salt</i>
809. white	sò	-elèq	
810. black	wigf <sub>k</sub>	-ogin	
811. red	wem	-hen	see 98
812. brown	wem igik	-soqòl	M: see 810, 811
813. yellow	labè	-ri	
814. blue	bálà	-mbra, -widin	
815. green	bála	-mbra	
816. to look for	wefelìs	-hèngi	-fyelès <i>to be covered completely, e.g. by clouds, etc.</i>
817. to find	wesàw	-qáIn, -dyàq	M: wesàw, T: see 818
818. to give	wesoewoe	-sya, -hiT	
819. to hand, to pass	soewoenin	-òosi	
820. to accept	kafòlòm, wesík	-slon	
821. to take	wesík	-adìK	
822. to get	nananesík	-syàfen	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
823. to take away	wìlím	-adik(q)aT	
824. to take along	weĩn djoemoe	-wáIngaT	
825. to bring	wesík láfi	-qándwa	
826. to accompany, to bring	wátoewò	-áridwa	
827. to grip, to hold, to seize	wawetí	-slóngi qámgi	-slon to hold gi tight
828. to lead by the hand	nínkéĩ	-sgye, -slon	M: nin you kéI here, at
829. to make, to do	fásàs	-syoq	
830. to prepare, to make ready	foenoem	-syoqrèq	greq first
831. to wash	soewò	-wáare (dishes, cloth)	
832. to wash (clothes)	bam	-dódiK(-noT)	-mba to hit -dódiK to beat
833. to wash (face)	wesoewò wesàtà	-mbawáresi, -mbawáre	
834. to wash (hair)	wesìlí sagin, wesoewò wesàtà	-wáresagyen	
835. to know	féĩn	-noot -haná (to recognise)	Dutch: kennen
836. to think	woenoek	-sámblitwaIn -móotmol	-sámblit brain -wáIn to follow, see 837
837. to know	wìk	-noot	see 835 Dutch: weten
838. to remember	woenoek	-noot	
839. to have forgot- ten something	wegoemsélí	-onyéwaIn	
840. to deny	wekìsí	-qesyé	
841. to confess	manakoe	-sámeni	<? Mal: mengaku
842. to be silent	sòwò	-hne, -sádmor	T: qásmyet, -símet to pay no attention
843. to speak	fai legín	-sangír	
844. to sing	wálè	-wáale, -qáwle	
845. to whisper	wasámoe	-sál(o)míngIn, -sál(o)mu	-mu to hum, to buzz
846. to say	wemenà	-dómaana, -do	-ána to hearer

English (E)	Mooi (M)	Tehit (T)	Comments/additions
847. to call	tabì	-éefiT	(D/Ym,Yd) -bi, -wit
848. to abuse, to scold	wefòk	-máara, -haaT	
849. to be able to	dadi	(verb) + eri, soq	eri, soq <i>only, just</i>
850. to be allowed	dadi	soqmá + (verb)	soqmá <i>allowed</i>
851. to work	fasoekam, wekardjan	-syoq ni	Mal: (be)kerja
852. a. to carry (in general)		-adík	
b. on the shoulder	wekaloem	-owuór	
c. on the head	woek	-syéfe, -la	
d. something hanging	wesik wièk, wièk	-lo	
e. from the hand	wek		
f. on the hip	bawì	-gáafe	
g. in the hand	webà	-sion	
h. under the arm	wesai	-saé	
i. on the back (with strap over the shoulder or head)	selèn	-qefin	
853. to wake, to watch	wòlòm	-símlaq, -mlaq	
854. to guard, to watch	wefolowaitie nagentie ( <i>to look at and take guard</i> )	-qrogì, -sqági	see 855 M: nolóm tie to sit and watch
855. to wait	weik	-qro ( <i>to wait for, to stand, to watch</i> )	
856. to hear	wewání	-óoso	(D/Ym,Yd) -wa
857. to see	wagèn, wòwò	-soT	(D/Ym,Yd) -wo
858. to smell	wásoem	-asón	
859. to feel	féin	-saambá, -haná	
860. to feel, to touch	wefámàk	-enásasaq, -sásaq	
861. to taste	wa'ksĩ	-átSi, -átqnaT -adánsi, -adánqnaT	-adán to bite -aT to eat -qnáTsi to try
862. to slurp	waselòs, -wagetà	-syoqónsyar	-syar to spread
863. to suck	wín	-syoqón	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
864. to kiss	masòm ( <i>she kisses</i> )	-mbon	-asòn to smell see 858
865. to love	wesinági	-qésik	M: <i>he loves woman</i>
866. to approve	madìn	-sreq	
867. to want	madìn	-manife, -do	
868. to open	wiwin	-qowé	
869. to close	(woe)toeloek	-mbàqfiT, -qfiT	
870. to cut off	walagedík wàlágádà'k	-saT, -àlaqrodoq	
871. to multiply, to add, to increase	wakafoe	-lofi	
872. to spring, to jump	wafòtòk	-qàhri	-fòdo to cross over
873. to jump down	wasòlò	-dloq	-syolòq to go down a mountain
874. to hit, to touch	wedím	-àarin	
875. hit, touch	wedĩmsò	-ho	
876. a. to break (a stick)	weĩbòlòk,	-qòduaq	
b. to break (a rope)	waĩnbòlòk		
to shatter	weĩkadàk, weĩnkàdak weĩmòk	-qéreq, -qròdoq	
877. a. broken (a stick)	bòlòksò	-duàq	M: mòksò cracked
b. broken (a rope)	kàdàksò	-qéreq, -qròdoq	
878. a. to pinch	wògík	-qòfuog(iK)	
b. to squeeze	wògík	-qembèn	
879. to begin (tr.)	gòk	-yòomber	-mber to move
to begin (intr.)	gòk	-lòUkmbèr	
880. to finish (tr.)	fágoe	-háaraqat	
to finish (intr.)	soewòn ( <i>a walk</i> )	-qlá(t)mber	
881. to bind, to tie	sàk	-qakí	
882. to hide (some- thing to hide)	woemoensoeloe	-gyamàn	
883. to hide	wakálak	-amàn	-qlak to be lost
884. to ask	wewíníwái	-éef(iT)si, -éesfi	
885. to answer	wi	-aangá	(D/Ym,Yd) -wi
886. to ask for	wabì	-éesfife	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
887. to refuse	wewagoe, wedaoe	-qréqfe	
888. to cheat	wílís, pòlò ànggar	-foró	Biak: angar
889. to tell lies	wekalikwìn, kálik	-félme -sangirqwin	-sangir <i>talk, speak</i> -qwin <i>frivolously</i>
890. to steal	wasegà	-áslaT	
891. to throw away	wegalátoe	-sèleqaT, -qlaT	
892. to throw	webilik ( <i>a piece of wood</i> ) wegalák ( <i>a stone</i> )	-sqa	
893. to burn (tr.)	taloekaoes, taloepa'k	-riT	
894. to burn (intr.)	wakáoes	-aT, -mlaa	
895. to dig	wák, wejìn	-qaaq, -qá(q)deq, -qódeq	
896. to go	wamoe	-áIn-áali, -áali	-áali <i>to, in the direction of</i>
897. to go there	wamoe wananegi	-áali aná	
898. to send	wefátí	-dél	
899. to send (out), to order, to command	woöe, wesájoeK	-mbahé ( <i>to order</i> ) -diK ( <i>to send out</i> )	
900. to come	wafedìn	-aqá	-fdin <i>to touch</i>
901. to arrive	wílík	-aqá, -sisiwa ( <i>by vehicle</i> )	
902. to be coming	wafewàmà	-aqá -áali qo	
903. to depart	wamoe	-qádyre, -áIn	
904. to meet	wesán	-dyaq	(D/Ym,Yd) -san
905. to meet one another	wesan telí	-dyére	
906. a. to collect b. to gather	fágoe	-lowuó -mbálowuo	
907. a. to hit (to beat) b. to slap, etc.	wobìn	-mba ( <i>to hit</i> )  -déwa ( <i>with fists</i> )	
908. to take revenge	pelík	-hook ( <i>in deeds</i> )  -sáliT ( <i>in words</i> )	
909. one	mèli, máli	mre(s)	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
910. two	ali	laK	
911. three	tòloé'k	tolíK	
912. four	fak	haT	
913. five	mafoé'k	máhoT	Tehit new forms are:
914. six	maftanim, matenan máli	mtámre	támre
915. seven	matenan ali	mtánali	tnáli
916. eight	matenan tòloé'k	mándolík	ndolík
917. nine	matenan fa'k	mándahaT	ndáhaT
918. ten	fè matenan máfoek	yahár	
919. eleven	fètemoen ali máli	yahár tadi mre(s)	hármre(s)
920. twelve	fètemoen ali ali	yahár tadi laK	harlaK
921. thirteen	fètemoen ali toloe'k	yahár tadi tolíK	hártolík
fourteen, etc.	fètemoen ali fa'k	yahár tadi haT	hárhoT
922. nineteen	fetem(oen) ali matenàn fa'k	yáhar tadi mándahaT	hárndahaT
923. twenty	némali wági*	na mre wági	la(K)yár
924. twenty-one	némali wági neali wenín**	na mre wági whri fóqo mre(s)	layár mre(s)
925. thirty	némali wági neali wenín fè	na mre wági whri fóqo yahár	toyár
926. forty	nèali jigi <sup>+</sup>	na laK yégi	hayár
927. fifty	nèali jigi netòloek wenin fè <sup>+</sup>	na laK yegi whri fóqo yahár	mayár
928. sixty	nètóloe'k jigi	na tolík yégi	(m) tayár

\* Literally: *one man dead/finished.*

\*\* Mooi: *one man dead/finished, second man's hand one*, Tehit: *one man he dead/finished plus knot one.*

<sup>+</sup> Literally: *two man they dead/finished.*

<sup>++</sup> Literally, Mooi: *two man dead/finished, third man's hand*, Tehit: *two man they dead/finished plus knot ten.*



English (E)	Mooi (M)	Tehit (T)	Comments/additions
929. seventy	nètoloē'k j̄igi nefak wenin fè	na tolik yégi whri fóqo yahár	tnayár
930. eighty	nèfa'k j̄igi	na haT yégi	ndoyár
931. ninety	nèfa'k j̄igi nemáfoé'k wenin fè	na haT yégi whri fóqo yahár	ndayár
932. one hundred two hundred	oetin mali oetin áli	na máhoT yégi na yahar yégi	dirík, mrésdirík lákdirík
933. one thousand	tjalang, sjalang	na máhoT yégi yégi	yarík, mrésyarík
934. ten thousand	sjalang fè	na máhoT yégiyégiyégi	yaháryarík
935. a half	dewár ( <i>money</i> ) fawoeloe ( <i>wood</i> ) wiasi ( <i>soil</i> )	-qéendihara, -qéendi ( <i>path,</i> <i>wood, container</i> ) -da ( <i>stick, food,</i> <i>etc.</i> ) súku ( <i>money</i> )	
936. a quarter	kenák fa'k	-qnáthaT ( <i>stick, etc.</i> ) -harahaT ( <i>container</i> ) -kowár ( <i>money</i> )	<? Dutch: kwart
937. once	kedì máli	fémres, máamres	
938. twice	kedì áli	félaK, máalaK	
939. a. first (in space)	malewì	fémresqmo, máamresqmo	
b. first (in time)	kedì malewì	qmóqaT	
940. a. second (in space)	aliwì	félaK	
b. second (in time)	kedí aliwì	máalaK	
941. a. third (in space)	toloekwè	fétoliK	
b. third (in time)	kedí toloekwè	máatoliK	
942. a. the last (in space)	wegiàn	mrésdefeq	
b. the last (in time)		défe(q)qaT	
943. how much, how many	wasena ( <i>human</i> ) wasela ( <i>non-</i> <i>human</i> )	wáaqa	
944. many, much	límòk, safí	-roq	
945. few, a little	kiàm tan	qyámre(I)	
946. finished	weĩns	-foT, -mbosí, mbenis	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
947. there are	kamtináwi	lemáa qéI, lémqeI (this, near) raa aná (far)	-qámgi to hold na human being M: kamtináwi to hold somebody (?)
948. there are not	san daoe	-mbosí(-fèqo) (near) -mbosí(-fèana) (far)	
949. there is some- thing	kam waiselà	(mbo)ni mre	
is there some- thing?	kamwaisèl ?	metmáo	
950. there is nothing	kam wai dewowesò, mamē sidi (= we are empty)	ni-mre ngáIT (erí)	
951. there is nothing left	kam wai dewò soe'klesò	ni mre ngáIT óli(U)	
952. more	wàk (some- thing(?)) ják (human being) làk (things)	verb + smba, verb + óli	
953. less	woetoen	-lòlo	
954. all	nejeĩndík, kamleĩndík	sagóqaT	
955. whole	eĩndik, leĩndík	-roq sagóqaT	
956. together	fagoe, betí	-lòwaIn, -róro, -mbalowó	
957. alike, similar	wisiloek	-síloq	
958. enough	wìsis	-hiiT, -dol	
959. only, some	málè alidè	mreeri, mré(I)	
960. I	tit	teT	
961. I myself	tit tai'k	téTqeI, t(et)mrés	
962. you (sing.)	nin	nen	
963. a. he	wa (masc.)	wóU	
b. she	ma (fem.)	mom	
c. it	wò- (things)		
964. we	waw	faf	
965. we (excl.)	mam	mam	
966. you (pl.)	nan	nan	
967. they	miēdjí (male) miēma (female)	yiT, yiI	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
968. my (sing.)	tita	tedá, téfe	
969. a. our (incl.) b. our (excl.)	wawa mama	fafi, féfe mami, méfe	
970. a. your (sing.) b. your (pl.)	nina nana	nená, néfe nani, néfe	
971. their	mèëja ( <i>male</i> ) miëma ( <i>female</i> )	yedi, yéfe	
972. a. his b. her	wa ma	wowá, wéfe momá, méfe	
973. who?	nemasewà ?, nèsewa ?	syoo ? syoo maa èI ( <i>in general</i> ) syoo maa óU (m. sing.) syoo maa om (f. sing.)	
974. what?	kamsewà ?	waa ?, woo ? ( <i>invitation to repeat what was said</i> ) mètmaa óU ? ( <i>what is the matter?</i> )	
975. which house?	keĩk sewà ?	mbol qómsyoom ?	
976. this	koe	qo- ( <i>this, here</i> ) qóU ( <i>this one male</i> ) qom ( <i>this one fem.</i> ) qéI ( <i>these</i> )	
977. that	anajò	oqó	
978. over there, yonder	anegí	aaná(qo)	
979. here	mainkoe	(-áIn)qo, (-áq)qo	
980. there (near hearer)	see 977	see 977	
981. there	see 978	see 978	
982. which, who, that	main, jana, wò	raa	compare with Mal: yang
983. day	dewè	táliU	
984. daylight	dewè gàsá	táli (mhaaq)	
985. light	gàsá	-haaq	
986. a. night b. darkness	leĩm	amúK(w) -imyán	
987. dark	tòdoen	-imyán	
988. dry season	loewoek	melínslye	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
989. wet season	(m)oetomoe (símoēk), kamsimoēk (rainy, cloudy)	tqóInsmuoq, wersmuoq	-smuoq <i>wet</i> wer <i>season</i> tqóIn <i>rain</i>
990. year	dáwakmali	siró hárlak, táon	Mal: tahun see 920
991. now	kiam koe	raa qóU, raa qéI, raange(qóU, qéI)	
992. shortly	ketiám, kiám, kòloe	qyámre(smba)	qyámre <i>a little</i> smba <i>more</i>
993. formerly (re- cently)	loenkoeáwì	firiqeI, firiqou	
formerly (long ago)	à'kwána	qmuolo(-wáqou)	
994. later	dewè wénǎlí	sawún ( <i>later on</i> ), ngyán ( <i>in the</i> <i>future</i> )	
995. a moment ago	sagoejám	qdáli(wáqou) táli(wáqou)	
996. a moment	ketiám	qyámre	see 992
997. yesterday	leǎngǎí	ngróan(-wáqou)	
998. the day before yesterday	wasalégí	amúklak	
999. today	dewèkoe	síngo(qóU, qéI) raage(qóU, qéI), táliqou	
1000. this morning	lae'kwána	sawún wáqou	
1001. tomorrow	dewè lae'k	sawún	
1002. the day after tomorrow	wilis	wélis	
1003. a. morning	lae'k	sawún	
b. dawn, day- break	sǎkpága	syos, ngle	(Mal: fajar)
c. (approx. 05.30)	lae kamgìbí	qléki	time when the owls cry, see 557
d. (from 05.30 until 08.00)	lae'k	sawún	
e. (around 08.00)	dewi wemalán	táli msindíK	
f. (at 12.00)	dewi wololong	táli mqro	
g. (around 15.00)	dewi wosiana	siwít	(Mal: petang)
h. (evening)	jogoen (jowoen)	siwít, amúk	
i. (at 24.00, midnight)	leina pegidi faenoeloe	ámri	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
1004. evening	jewoen	siwIT	
1005. a. now and then b. only once	kedímálegài kiam kòloe	qyámremrefo verb + sóqsoq	
1006. when	wetìlífewa	amúK wáaqa, wáaqa	
1007. already	sì, sò, sà main(se)	walé(IT)	
1008. not yet	ati	ladyoT	
1009. not again	wai dewo wesò, leĩnsa	ngáIT oli -mbosì walé(IT) -foT walé(IT)	
1010. north	wòmroer	sébra Uqrò	
1011. south	mòsaoe'k	sébra mátan	M: mò <i>wind</i>
1012. east	moeroem	sébra smil	
1013. west	barèk	sébra Udi	
1014. left	aingedi	-enáawaIT, mwáIT	
1015. right	ainkalàk	-enáadqoIn, mdqòIn	
1016. up, upper, above	waoe lánngi	sa, ágo	
1017. on the road	waoe wò	-ána fan, -aq fan	
1018. from above	weĩn lánngí	-áIn ágo	
1019. under	alegi, alí	-qaqá, ádi	
1020. from underneath	weĩn alegí	-áIn ádi	
1021. from-to	weĩn-toempè	-áIn qawúaqnde	
1022. in, at, on	awí	-aq (at) -ána (on)	
1023. nearby	wadawòk	-átaren(-ána)	
1024. far	beĩs	-ndlo	
1025. around, surrounding	amoeaik	-hilís, -láloq, -leléq	
1026. outside	lǐgí	ra	
1027. to go outside	wegili, wòsoelì, wefedoek	-hoq (-áli ra)	
1028. inside, within	loenggí	nyán	
1029. to go inside	wòöem	-driK (-áli nyan)	
1030. where?	waoeseba, sewà	-aq syóo ?	
1031. how?	wònòsewà ?	-nde syé ?	
1032. like this	wònòsegí, wònòmainkoem	-ndéle qómqom	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
1033. why	wàwe <u>já</u> ma	raa fême ?, fême ?	
1034. like that	wò <u>nò</u> (sò), wò <u>nò</u> ma(sò)	-ndéle oqò	
1035. maybe	aji, d̀i	mbowaràa, mbo, waràa	
1036. very	mò <u>lò</u>	adjective/adv. + qáamiT	
1037. and	weká <u>foe</u>	-àri	
1038. with	weká <u>foe</u>	-àri	(D/Sf, Ym, Fq) -adién vadyén
1039. no	daoé	aaké, mbosi	
1040. yes	joöe	ee!, woo ?	
1041. not, no	daoé e <u>jì</u> fíloewoe, (filiwò)	aaké, mbosi háaU háaI	Mal: tidak Mal: bukan Mal: jangan
1042. only	má <u>inkai</u>	wo aa, verb + erí	
1043. almost	wadewòk, kiàm kòloe	qyámreI	
1044. however, nevertheless	má <u>inkàsò</u>	-nde walé(IT) nde + adj.	
1045. if	doe <u>ja</u> , di	nde + verb + rámbiT	
1046. although	gái	nde waníK (ámo)	
1047. because	wawim <u>ana</u> , wawisò	fe, -áambe	
1048. Come quickly!	nama mìlì!	naqá braq!	(D/Sf) nmlí naqá
1049. a. I do not want to!	tewá <u>goe</u> !	te(T) tahá!	
b. You do not want to!	newá <u>goe</u> !	ne(n) nahá!	
1050. a. He does not want to!	wewá <u>goe</u> !	wo(w) wahá!	
b. She does not want to!	mewá <u>goe</u> !	mo(m) mahá!	
1051. I would like to!	temá <u>dĩn</u> , tegò'k!	te(T) tsqeq sagò!	
1052. Do you want to or not?	nemá <u>dĩn</u> d̀i daoé?	nsqeq áfe náha aa?	
1053. Have a seat!	no <u>lom</u> ali mat <u>oe</u> !	nléli la!	
1054. Why are you crying?	ní <u>jama</u> ?	náwa fême?	
1055. I can not!	tit dadi daoé!	tseséq ngáIT!	M: dadi <Mal: jadi?

English (E)	Mooi (M)	Tehit (T)	Comments/additions
1056. I do not know yet!	tìk atí!	tnooT ládyoT!	
1057. I already know it!	tì'k s̀!	tnooT walé(IT)!	
1058. Put it (masc.) down!	noeloe'k (waoe (anejo) matoe)!	ndìk(q)aT láU wáIs!	K: M: anejo is the plural of wò, so, 3rd person plural non-animate; l̀ is used also, see 1067, 1068
1059. Where are you going?	nanasewà?	nàali syòo?	
1060. Where have you been?	neĩnsewà?	nàIn syòo?	
1061. Just a moment!	neĩ'k kadì!	nqro la!	
1062. I do not allow it!	(tì dao) tewá-goe!	tsáyo ngáIT!	
1063. He is dead! They are dead!	wagi si (sà)! jĩgi s̀ (sà)!	wági walé(IT)! yégi walé(IT)!	
1064. He is not dead yet!	wagi ati!	wági ládyoT!	
1065. Put it (masc.) on the fire!	nebòk, noeloe'k waoeja'k wesà!	nlaq wáana sála (msa)!	
1066. It is already boiling!	webà s̀!	síro máarin walé!	siro water set to boil
1067. It (masc.) is done!	wo (l)isis s̀!	wenjé walé!	
1068. The food is ready!	kamik(l)ágoek s̀	érneIT Udasá qéIn!	-dasá ready to eat
1069. I am going to bathe first!	tana tasílí ainè!	táIn tsyère la!	
1070. Have you bathed yet?	nasili sé?	nsyère walé?	
1071. What did you ask?	newinikwai kamsewa?	ndo ndésye? ndo mètma ee?	
1072. What do you want?	nab̀ kàmsewà?	nwané mètma ee?	
1073. Have a safe journey!	namoe mìlí! (go fast!)	ámuk ee! (goodbye) náIn homò ee! (take care)	
1074. Let us go!	wawoemoes̀	yo, neqá féIn; féIn ee!	
1075. Tomorrow two men will go away!	deẁ nedálà ali joemoe!	sawún, nándla lak Idò yéIn!	

English (E)	Mooi (M)	Tehit (T)	Comments/additions
1076. Eat up this rice!	na'k mà fas koe	naT la pása qom!	
1077. Eat up this rice (pl.):	naník ma fas koe	néIT la pása qom!	
1078. I want to buy a chicken	tegò tesìli kalèmtolì malì!	tdo tqáIn kokók mréU!	
1079. The pig which I killed	toe baik weinsò, baik ow toe jawesì	qorík raa tsqa (UqáK) óU!	
1080. Which beads are for me?	li sewa wetita?	sambèT raa qómsyeI (maa) yíne teT (eI) aa?	
1081. We will not leave for another ten days	dewi fè sò mamoemoe	amúk yahár óli maa mam mqádyre	
1082. He said that X had gone	wèmemà X wamoèsè	wdo, náfle ow wáIn walé(IT) <sup>15</sup>	

#### 4. SOUND CORRESPONDENCES

So far a first comparison of both lists offers the following sound correspondences:<sup>16</sup>

- 4.1. 1. M (C)V<sub>1</sub>CV<sub>2</sub> : T/(C)CV/(→[(Cə)CV(C)CV]) where V<sub>1</sub> is a, e (?=[ə]) or when V<sub>1</sub> and V<sub>2</sub> belong to the same (front or back) series (55x)
2. M C<sub>1</sub>VC<sub>2</sub> # : T/CV #/ where C<sub>2</sub> is k or m (10x)
3. M V<sub>1</sub>CV<sub>2</sub> # : T/VC #/ where V<sub>2</sub> is o or a (3x)
4. M CV # : T/C<sub>1</sub>VC<sub>2</sub> #/ where C<sub>2</sub> is /T, r, q, n(?), f(?)/ (9x)
5. M # (C)V : T # C<sub>1</sub>(C)V/ where C<sub>1</sub> is /q, f/ (6x)
6. M u : T /o/ in C-(C) # and in -w (20x)
7. M u : T /uo, wo/ in C-C # (5x)
8. M u : T /i/ in -k #, -k", in -N and in -# (14x)
9. M i, í, ì : T /e/ (2x)
10. M i, í : T /ie, ye/ (7x)
11. M a : T /e/ (7x)
12. M a : T /o/ (5x)
13. M e, é, è : T /a/ (8x)
14. M e, é : T /i/ (4x)
15. M CV : T /CyV/ (27x)
16. M k : T /q/ (35x)



17. M g : T /q/ (3x)  
 18. M k : T /T/ in V- # (13x)  
 19. M Svd. : T /NhSvd/ in # -V and V-V (27x)  
 20. M d : T /r/ in V-V (3x)  
 21. M t : T /d/ in # -V and V-V (7x)  
 22. M l : T /r/ in # -V and V-V (16x)  
 23. M l : T /d/ in # -V and V-V (9x)  
 24. M n : T /r/ in -# (5x)  
 25. M s : T /h/ in #- or "- (4x)  
 26. M p : T /f/ in # -V and V-V (5x)  
 27. M f : T /h/ in # -V and V-V (13x)  
 28. M w : T /f/ in # -V and V-V (13x)  
 29. M m : T /n/ in V- # (12x)

4.2. M(C)V<sub>1</sub>CV<sub>2</sub> : T / (C)CV / (→) [(Cə)CV(C)CV] where V<sub>1</sub> is a, e (?=[ə]) or when V<sub>1</sub> and V<sub>2</sub> belong to the same (front or back) series:

1. M forms without stress indication

kelà/qla	<i>river, water</i>
kalèm/qlen	<i>bird</i>
kilik/-qlik, -q(i)lìk	<i>side</i>
kílikba kòdus/-qlikhoni	<i>rib</i>
kílìs, kílí/s/qlis	<i>wound</i>
kedòk gili/-qndoq	<i>white ant</i>
palí, pelí/-fle	<i>big, great</i>
máli, mèli/mre(s)	<i>one</i>
masú/msyo	<i>she suckles</i>
nelik/D wlik	<i>rain</i>
welí/D wlit	<i>sago porridge</i>
bóluk bala/mbrímbra (<mbliT - mbra)	<i>bluebottle fly</i>
saràka/slaq	<i>silver</i>
awí/wae	<i>mango</i>

2. M forms with stress : v̄v̄

suwò/-sfuò	<i>eye</i>
kesá/-qsya	<i>armpit</i>
kubus/-qmbuòs	<i>tendon, nerve</i>
dàlà/ndla	<i>male</i>
áfík/-heq	<i>tooth</i>
suwòn/s(u)wòr	<i>main post</i>
malá(648)/D mla	<i>hill</i>
senà/sna	<i>moon</i>
kemà/qma	<i>proa</i>
meník/mnyeq	<i>fat (noun)</i>
malán/-mlan	<i>light (adj.)</i>

salàk/-sla	pointed
wafedìn to come/-fdin	to touch
kenàk fa'k/-qnat"haT	a quarter (e.g. of a stick)
kebè'k/-qmbiéq, -qmbyeq	shoulder
sararà/srar	round dance
kebín scar/-qbèIn	pouch (of marsupial)
welínba'k/wlin	staircase
lubuk/rmiT	moss
kedòk ant/qndoq	white ant

## 3. M forms with stress : VV

undun/-ndir	gums
samìlí/sà"mbliT	palate
wekíní/-g(i)nyè	to swim
nèmòlò mankind/námroq	many people
málá (227)/mla	hill
bala/-mbra	blue
bòluk falling of leaves/-mbruòT	to fall
lugu/rgi	thunder
gòlò/-nglo	tired, powerless
mìlì/-mli	fast
wakálak to hide/-qlak	to be lost
máfèn shell/mbièn, mbyen	crustacean
sábàlàk/-sablèq	bald
tabì to call/t"mbe	I call (animals)
mìlì/-mli	quick
kèsík/D-qsik	body
kòdus/D-qdis	bone
wegòlòksòwo/-h(e)lyèq, D-q(o)lò	to sigh
waddòlòk/-dèleq	to swallow
jakibì (<?jak-kibi)/qmbiàq (<?kibi-jak)	ashes
bisi sugarcane/fsi	kind of cane
gasi/ngseT	cockroach
tuwum/-dfin	thigh
wulu/-fruo	to blow (a fire)

4.3. M C<sub>1</sub>VC<sub>2</sub> # : T /CV #/ where C<sub>2</sub> is k or m:

1. k:

salàk/-sla	pointed
kòlòk/qolò	spirit
wefòluk to pull down/-fòlo	clear away
wekòdòk/-qòndo	thick
wafòtòk to spring/-fòdo	to cross over
tasík sea/tási	salt water
oguk/òogo	banana
2. m:

kiàm/-qeyá	small
webàm/-mba	to forge
bam to wash clothes/-mba	to hit

4.4. M V<sub>1</sub>CV<sub>2</sub> # : T /VC #/

dòlò/-ndhol	<i>round (of stick)</i>
miemolo/wèndla mor	<i>male youth</i>
saràka/slaq	<i>silver</i>

4.5. M CV # : T /C<sub>1</sub>VC<sub>2</sub> #/ where C<sub>2</sub> is /T, r, q, n(?) or f(?)/:

1. T:
 

sa"mìlǎ/-sá"mbliT	<i>palate</i>
welǎ/wliT (D/Sf,Ym)	<i>sago porridge</i>
gasi/ngseT	<i>cockroach</i>
2. r:
 

bà/mbar	<i>midrib of palm frond</i>
kalèm wama/qlen wamar	<i>hornbill</i>
3. q:
 

nemòlò man/námroq	<i>a lot of people</i>
wasòlo to jump down/-syolóq	<i>to go down</i>
4. n(?) or f(?)
 

suwò/-sfuón	<i>eye</i>
m"abá/-ambáf	<i>gone to sleep</i>

4.6. M # (C)V : T # /C<sub>1</sub> (C) V/ where C<sub>1</sub> is /q, f/

1. f:
 

asin/-fasyè	<i>bile</i>
gelis/friT	<i>ichthyosis, tinea</i>
lak/-flaq	<i>penis</i>
2. q:
 

sidim/qsirín	<i>rafter</i>
awu/-qa(qa)wó	<i>anus</i>
abuk/-qábuK	<i>fart</i>

## 4.7. M u : T /o/ in C-(C) #, and in -w:

1. M -C #
 

weninsus/-syos	<i>to be born</i>
tuwón/towón	<i>star</i>
wefóluk/-fólo	<i>to clear away, pull down</i>
mafú'k/máhoT	<i>five</i>
wisíluk/-síloq	<i>alike, similar</i>
mum/-óno	<i>father</i>
wásum/-asón	<i>to smell</i>
touk fuk/-défit"ho(U)K	<i>earwax</i>
wábè ofun/-ofón	<i>to direct dogs after quarry</i>
- N.B. suwun/-syoowon *nipple*  
wunuk/-nooT *to remember*

2. M C- # :	
makòdu/-ngóro	neck
su/-syo	breast (female)
kásu/-qasó	heart
sálu/sálo	voice
tábu/tambó	spider
ku/qo-	this, here
kòsu/D -qásot	saliva
àwu/D -qawó	anus
wetálu/-dálo	to weave, plait

3. M -w :	
tuwón/towón	star
tuwó/towó	honey
? wúsuk to grill/-fòsik	to cook

## 4.8. M u : T /uo, wo/ in C-C # :

kubus/-qmbuós	tendon, nerve
wámuk/-omuóq	half done
duwu wun/títuyoqo m"fuón	coconut fruit
wun/-fuón, -fwon	fruit
bòluk falling of leaves/-mbruót	to fall

## 4.9. M u : T /i/ in -k # and -k", in -N and in -# :

1. wulu'k/-òorik	to plant
tòlu'k/tolík	three
wekutuk/-qòdik	to forge
bóluk/mblit	fly (noun)
wúsuk to grill/-fòsik	to cook
kámuk"ba/-qamit	cheek
lubuk/rmit	moss
juk/i"kw	sky
2. jak kamun/sálangamin	charcoal
bum/-mbin	blunt
tuwun/-dfin	thigh
3. lugu/rgi	thunder
lau nostril/-dáI	hole
òlu/-òoli	wing
kèdibw/-qèndimbi	back
sibinmu/smbyàrmi	bee

## 4.10. M i, í, ì : T /e/ :

sijè/séje	rope made from wood fibres
kiám/-qeyá	small
mèli, máli/mre(s)	one

tit/teT	I
nin/nen	you (sing.)
wilis/wélis	the day after tomorrow
sílím/-syerén	to wear (especially loincloth)
kèsík rind/-qesèq	to peel (especially bananas)
wesai/-saé	to carry under the arm
káwís/qáfes	boil (noun)
? kabín scar/-qbéIn	pouch (of marsupial)
wámín/-amén	to have intercourse
áfík/-heq	tooth
sìbi/-sèmbi	sweet
amì/-ème(m)	mother
tawìk/-éfeT (for male ego)	brother's child
gelì wild/-qelè	shy
pelì, pali/fle	big, great
tabì to call/t"mbe	I call (animals)
su semì/D sème	smallpox
? weìk/weq	marten

## 4.11. M i, í : T /ie, ye/ :

wekìsi/-qesyè, -qesié	to deny
wekíní/-g(i)nyè, -g(i)nié	to swim
ságín/-sagyén, -sagién	hair
meník/-mnyeq, -mniéq	fat (noun)
waselì/-syère, -sière	to take a bath
kási/-qasyè, -qasié	unripe
gik/-qyeT, -giéT	mouth

## 4.12. M a : T /e/ :

tawìk/-éfeT (for male ego)	brother's child
amì/-ème(m)	mother
salè/selé(m)	dibble
(salè/séle <Mal. salah	mistake)
sawà/-sáwe	a part of the upper side of the head
sábàlák/-sabléq	bald
we"tafì/w"dehe	to fetch (water)

## 4.13. M a : T /o/ :

wa/wóU	he
ma/mom	she
wesa'k/-syoq	to make
lala baik/qorìKqlalo	piggery
kamik/qomìK	medicine

## 4.14. M e, é, è : T /a/ :

wegie/-giyá, -gi(h)á	to cough
nédàl <sup>à</sup> /nándla	man
némòlò <i>mankind, man/námroq</i>	a lot of people
wein/-áIn	from
dela, dàl <sup>à</sup> /ndla	male
dewì <i>day/táli</i>	sun
féin/-haná	to feel
wéik/wyaq	squirrel
N.B. wedím/-áarin	to touch, to hit
wemàk/-áamaq	to pant

## 4.15. M e, é : T /i/ :

senàn/sinàn	arrow
wa senan/fásinan	kind of sago palm
dewár/qéen'dihara	a half (of money)
nin k <sup>é</sup> di, k <sup>i</sup> di/-enàa kindi	finger nail
(vs. k <sup>é</sup> di/-q <sup>é</sup> (e)ndi <i>name</i> )	

## 4.16. M CV : T /CyV/ :

su/syo	breast (female)
wekíní/-g(i)nyé	to swim
waseli/-syére	to take a bath
wesédé/-syénde	to sneeze
weninsus/-syos	to be born
kásí/-qasyé	unripe
ságin/-ságyen, -ságien	hair
meník /mnye q	fat (noun)
wekísí /-qesyé	to deny
wasòlò <i>to jump down/-syolòq</i>	to go down
kiám tan/qyámreI	few, a little
wegòlòk sòwo/-h(e)lyéq	to sigh
keb <sup>é</sup> 'k <i>shoulder-blade/-qmbyéq</i>	shoulder
sáì/-sálya, -sályo	ear (of rice, corn)
sìlim/-syerén	to wear (especially lioncloth)
sibin/smbyar	wasp
lòlò <i>to shiver/-ryoró</i>	to tremble
masu/syò	to suckle
èlík sásí/-dè(IT)sya	knee
kesá/-qsya	armpit
wesá'k/-syoq	to make
gík/-gyeT	mouth
mafèn/mbyen, mbién	shell
kiám/qyám	small
ifén/esyén	mushroom
wámín/-amyèr	to have intercourse

## 4.17. M k : T /q/ :

áfìk/-heq	tooth
kóu'k/-ŋgoq	knuckle
kámuk/-qamúk	fist
káwís/qáfes	boil
kòfòk/-qòhoq	forbidden, taboo
kalin/qalín	drum
kámíás/qámíás	vegetables
kam/qam	taro
kánas/-qánas	ripe
kási/-qasyé	unripe
kédi/qéndi	(tree) trunk
kedòk gili/qndoq	white ant
meník/mnyeq	fat
wekòdòk/-qòndo	thick
wawòk slanting/-woq	oblique
walòk/-loq	loosely fitting
wekís/-qesyé	to deny
weíkadàk/-qéreq	to break a rope
kàdàksò/-qéreq	broken (of a rope)
kenàk/-qnat'haT	a quarter (e.g. of a stick)
kiàm"tan/-qyámreI	a little
wisiluk/-síloq	alike, similar
sàwòk/D -sawèq	brains
wémak/D -maq	tired
kemà/qma	canoe
ku/qo	here, this
we kòdòk/-qòndo	thick
kebè'k/-qmbiéq	shoulder(blade)
kédi/qeéndi	name
weík/wyaq	squirrel
kalèm/qlen	bird
kubus/-qmbuòs	tendon
kilikba/-q(i)lìk	side
àbu'k/qábuK	to fart (with sound)
kei'k káli'k hut in tree/ mbol qalìT	observation tower

## 4.18. M g : T /q/ (see section 3.2. no.4)

gelì wìld/-qelè	shy
gelìs/D qdis	tinea
wegòlòksòwò/D -q(o)lò	to sigh
gási/qáifa	Saccharum spontaneum
wàlegìlìs to wound/qìis	wound

## 4.19. M k : T /T/ in v- # :

gík/-qyeT	mouth
tak/-aT	to eat
wòtòk/-òdoT	to be in pain

tawik/-éfeT ( <i>for male ego</i> )	<i>brother's child</i>
sak/-saT	<i>to harvest</i>
ouk/wqòiT	<i>wood, tree</i>
wàk/-aT	<i>sharp</i>
fak/haT	<i>four</i>
wa'ksĩ/-àTsi	<i>to taste</i>
kenàk fa'k/-qnàthaT	<i>quarter (e.g. of a stick)</i>
mafu'k, mahot/màhoT	<i>five</i>
sigik gin/D -sigit	<i>eyebrows</i>
kei'k kàli'k <i>hut in tree/</i>	
mbol qalIT	<i>observation tower</i>

## 4.20. M Svd : T /NhSvd/ in # -V and V-V :

1. g:		
gòlò <i>lazy/-nglo</i>		<i>tired, powerless</i>
gasi/-ngseT		<i>cockroach</i>
wesédè" gumuk/-àsrerem"ngamùk		<i>to smile</i>
lāgi/n(i)ngi"m		<i>wife</i>
N.B. makòdu/-ngóro		<i>neck</i>
2. b:		
kebè'k/-qmbyeq		<i>shoulder (blade)</i>
kubus/-qmbuòs		<i>tendon, nerve</i>
sìbì/-sèmbi		<i>sweat (noun)</i>
tòbò/-dombó		<i>see 111</i>
webi'k/-mbàiT		<i>to play</i>
tábu/tambó		<i>spider</i>
bàla/-mbra		<i>blue</i>
bóluk/mbliT		<i>fly (noun)</i>
bóluk bala/mbrímbra		
(<mbliT + -mbra)		<i>bluebottle fly</i>
bum/mbin		<i>blunt</i>
tabì <i>to call/t"mbe</i>		<i>I call (animals)</i>
bà/mbar		<i>midrib or palm frond</i>
lábèk/-dámbeT		<i>snot</i>
3. d:		
kèdi/-q(e)èndi		<i>name</i>
kèdibu/-qèndi"mbi, -qèndi		<i>back</i>
kèdi, kidi/-kindi		<i>nail</i>
wesédè/-syènde		<i>to sneeze</i>
dásè/ndesé		<i>fence, hedge</i>
kedòk gili/qndoq		<i>white ant</i>
wekòdòk/-qòndo		<i>thick</i>
dòlò/-ndòlo		<i>small</i>
dàlā/ndla		<i>male</i>
nè gèdi/nàqendi		<i>village head</i>
watòdòk/-ndodòq		<i>expensive</i>



## 4.21. M d : T /r/ in V-V :

makòdu/-ngóro	neck
sidim/qsirin	rafter
wedim/-áarin	to hit, to touch

## 4.22. M t : T /d/ in # -V and V-V :

nin tòwo/-enáa dofo	finger
tòbò/-dombò	see 111
wòtòk/-òdoT	to be in pain
newasata/uwásada	mask
wetálu/-dálo	to weave
we"tafi/-déhe	to fetch (water)
òlutí/-olòdi	upperarm

## 4.23. M l : T /r/ in # -V and V-V :

waseli/-syere	to take a bath
wòlòm/-ron	to live
nè mòlò man/námroq	a lot of people
wesìli/-sri	to extinguish (with water)
wulu'k/-oorik	to plant
walim, walin/-arin	to climb
bala/-mbra	blue
wilim/wirin	air
lugu/rgi	thunder
pòlò/-ford	to cheat
mèli, máli/mre(s)	one
bóluk bala/mbrimbra	bluebottle fly
silim/-syeren	to wear (especially loincloth)
walas/-qras	to shout
lòlò to shiver/-ryorò	to tremble
sawòlò/sawòro	corpse
wulu/-fruo	to blow (a fire)
salì/-sári	sin

## 4.24. M l : T /d/ in # -V and V-V :

kàlík, kálík/qádiK	sleeping mat
kálík/qádiK	pandanus tree
alí/ádi	under
lau nostril/-dáI	hole
lábèk/-dámbeT	snot
samìlí/sámidi	palate
gelís/-qdis	tinea
welà/-da	stem, bows, nose
nín báká la'k/-enáaqadaq	palm of the hand
èli'k/-déIT	foot

## 4.25. M n : T /r/ in V- # and V-V :

wemesò̄n/-mosò̄r	<i>to hiccup</i>
suwò̄n/s(u)wò̄r	<i>main post</i>
udun/-ndir	<i>guns</i>
wámín/-amyér	<i>to have intercourse</i>
sibín/smbyar, smbiár	<i>wasp</i>

## 4.26. M s : T /h/ in # - and "- :

sajám/háIn	<i>louse</i>
wedím"so/-ho	<i>to hit, touch</i>
sorábi/hrende	<i>porch</i>
sedám/-hen	<i>blood</i>

## 4.27. M p : T /f/ in # -V and V-V :

mapèlì/-fèli	<i>vagina</i>
owun pèlì/qliik fle	<i>python</i>
pelèk/(-mbá) felèq	<i>to capsize</i>
pelì, palì/-fle	<i>big, great</i>
pòlò/-forò	<i>to cheat</i>
pèk/-fak	<i>angry</i>

## 4.28. M f : T /h/ in # -V and V-V :

áfìk/-heq	<i>tooth</i>
wòfòn/-hon	<i>full</i>
mafú'k/máhoT	<i>five</i>
fak/haT	<i>four</i>
fuk/hó(U)K	<i>earwax</i>
kalèmfí/qlèhi (<qlen-hi)	<i>owl</i>
òfun/D hóIn	<i>dog</i>
féin/-haná, -héIn	<i>to feel</i>
kòfòk/-qòhoq	<i>forbidden</i>
wáfá/waahá	<i>bamboo spikes</i>
wefòk/-haaT	<i>to abuse</i>
we"tafì (gèla)/-dèhe	<i>to fetch (water)</i>
wáfìk/-hliik	<i>to pick</i>

## 4.29. M w : T /f/ in # -V and V-V :

káwís/qáfes	<i>boil (noun)</i>
wa/fa	<i>sago</i>
wo/fan	<i>way</i>
wun/-fuòn	<i>450, 464 respectively</i>
mafèn walák/démbir fálaq	<i>turtle shell</i>
līwi/-(y)fi	<i>young, new</i>

wawí/-áafi	<i>sour</i>
waw/faf	<i>we (incl.)</i>
lewí/D -léfes	<i>smooth</i>
suwò/-sfuòn	<i>eye</i>
tòwò/-dofò	<i>finger toe</i>
tuwun/-dfin	<i>thigh</i>
w <u>u</u> lu/-frud	<i>to blow (a fire)</i>

## 4.30. M m : T /n/ in V-# :

wòlòm/-ron	<i>to be alive</i>
sìdim/qsirín	<i>rafter</i>
bìloem/mblen	<i>kind of palm</i>
wilím/wirín	<i>air</i>
bum/-mbin	<i>blunt</i>
wásum/-ason	<i>to smell</i>
wedím/-áarin	<i>to hit, to touch</i>
kalèm/qlen	<i>bird</i>
wèm/-hen	<i>red</i>
mum/-òno	<i>father</i>
sajam/háIn	<i>louse</i>
walim/-arín	<i>to climb</i>

## 5. NOTES

1. Special thanks are extended to the National Centre for Language Development (NCLD) Jakarta under whose aegis this note was written. A small part of this paper has appeared in Indonesian in the festschrift for J.W.M. Verhaar (see bibliography); the vocabularies are here published for the first time.
2. A kecamatan (district) comprises several desa (main village) and a desa comprises several kampung (village; hamlet).
3. The village and language names have been taken from different sources and may not always be acceptable to all speakers of the same language. In this list they are written according to the Indonesian spelling; elsewhere the T(ehit) variant may have been used, e.g. Ind: Khlabra but T: Kalabra, Klabra.
4. Both Tehit and Meybrat are spoken here.
5. Ogit is also spoken.
6. The status of this dialect is not yet determined, we have listed it here as a dialect of Tehit, but others consider it a dialect of Kalabra : further research is necessary.
7. Karon Dori is sometimes mistakenly mentioned as a dialect of Karon Pantai. See 1.2. and note 12.
8. The people are bilingual : Ogit and Meybrat.

9. This dialect is used in the neighbourhood of the river Kaibus.
10. Uninhabited since  $\pm$  1950.
11. Voorhoeve 1975a also mentions Kuwani; but not in 1975b. The language is unknown to us (see Flassy, Stokhof 1979).
12. According to our information Moraïd is a dialect of Mooi. Cowan 1953:17 considers Moraïd to be closely related to K(a)labra : further investigations are needed. Kamma states that Madik is related with Karon Pantai. This is in accordance with our own data.
13. Informants say that Karon Dori is a dialect of Brat.
14. Brat is also called Meybrat.
15. In the original manuscript a short story has been added together with a Dutch interlinear translation : Oegoem wakafoe kalèm sikér, Dutch: Het schelpdier en de strandvogel (the crustacean and the strandbird). This text has been published in the festschrift for J.W.M. Verhaar.
16. In the instances offered here Kamma's notation has been slightly simplified: oe is written u; the trema has been omitted. Just as in Tehit, Mooi shows personal prefixes on certain nouns, verbs and adjectives:

		Tehit	Mooi
1		t-	t-
2		n-	n-
3	masc.	w-	w-
	fem.	m-	m-
1	incl.	f-	w-
	excl.	m-	m-
2		n-	n-
3		y	w-, l-, j-

In the Mooi forms these prefixes have been maintained since we are not always certain whether the subsequent vowel is part of the prefix or of the stem. In the Tehit forms these prefixes have been replaced by '-' whenever they appeared to be irrelevant for the comparison in question. Mooi forms are in the left column; Tehit forms are given in phonemic transcription (central column). The meaning of a M form follows immediately after that form, if it differs from the meaning of the corresponding T form; if not, then it is given in the right column. The number (instead of a gloss) after an item refers to its place in the list. The following symbols are used in section 4:

/ or :	'corresponds with'
( )	optional sound or phoneme
,	(between two forms) doublets
?	correspondence uncertain
D	dialect (forms from Kalabra and Imian)
Nh	homorganic nasal

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## MAIN VERB FORMS IN ISIRAWA NARRATIVES

Hiroko Oguri

### 0. INTRODUCTION<sup>1</sup>

Since my partner and I began studying the Isirawa<sup>2</sup> language in 1973 the verbs have given us the most difficulty. While we eventually learned what the various verb affixes meant, we still did not know when to use them. We came to realise that an understanding of the use of verbs could only come about through an analysis of their function within entire discourses. The present paper is an attempt to describe the discourse functions of the main Isirawa verb forms in narratives.

### 1. THE TENSED VERBS IN NARRATIVES

Isirawa verbs can be suffixed by tense-aspect markers. These are -mi (which has an allomorph -pi) 'far past complete', -mai (which has an allomorph -pai) 'far past incomplete', -mo (which has an allomorph -po) 'near past complete', -mapi (which has an allomorph -papi) 'near past incomplete', -aai 'earlier today complete', -mano 'earlier today incomplete', -a (which has an allomorph -o) 'present complete' and -ii 'present incomplete'. (For a discussion of the special use of the present incomplete form, see section 3.). But in narratives these markers are not used in every sentence, and sometimes not a single one appears in a whole paragraph. In some narratives these forms of the verbs are used a lot, in others they are seldom used.

These suffixes have as a usual function that of indicating tense and aspect, that is, they usually show something about time. However, these forms also have other functions such as to place events within a certain time framework and to give prominence to certain events.

Discussion of these different functions follows.

#### 1.1. Placing the narrative in time

Of all the discourse genre in Isirawa, only narratives must be placed in a time context with the use of a tensed verb form. These forms relate the time of the events being related to the time of telling. However, in current event narratives which involve the speaker or the hearer, in which the time of the

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*Papers in New Guinea Linguistics* No.22, 131-138.  
*Pacific Linguistics*, A-63, 1985.

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story being related is already known, the use of these forms is optional. (See Erickson 1981 for discussion on the different types of narratives.)

The tensed verb forms in non-current event narratives are generally found either at the beginning of the narrative or in the middle when there is a scene change.

When occurring at the beginning of a narrative, this verb form is used either to introduce a character (generally with *-mai* 'far past incomplete') or to mark the first event of the narrative (generally with *-mi* 'far past complete'). Subsequent events do not need to be marked with tense-aspect as the time has already been established by the opening verb form.

Ex.1. Several stories begin with 'Iiye pese sue-mi' 'A man went to some place'.

Ex.2. A story about a big crazy man whose name is Momomowara begins with 'Momomowara pese maa-mai' 'There was a man (named) Momomowara'.

In the middle of a discourse the tensed verb form is used when there is a sudden and complete change in scene, usually involving a change in time, place and characters. In a play, this would be signalled by the rising of the curtains on the stage. In Isirawa narratives it is signalled by a tensed verb form which establishes the new time setting for the new scene. It marks the first event of that new scene.

Ex.3. In one story, while a young man and his father are travelling through the jungle, the young man gets lost. The narrative follows the young man for one week; then the story goes back to the old man. Here the narrator says, 'I will leave this story here and we will go back to the previous story'. He begins the new story, with its new time and place setting, 'Niitofe cevase ce wetai-mi' 'The old man shouted there'.

## 1.2. Referring to a prior event

In sequential events, when a narrator refers to a prior event, the tensed verbs are used with the verbal prefixes *ma-* *already* and *maa-* *at that time/there*. The tensed verb is always complete and the tense (i.e. whether far past, near past, present, etc.) tells how long before the events on the time line of the narrative the prior event occurred. These verb forms function much like the past perfect in English.

Ex.4. An old man departs from other members of the group. Later he catches up to the others, who are resting. The narrator notes, 'Anive mamaana-neviis-e' 'The fire had just been built'. The form of this verb is present complete.

Ex.5. A young man is travelling in order to rescue his father. In the middle of his relating the events of his travels, the narrator says 'Eniwe maaa-toekrana-mo' 'Someone had cut an eniwe tree about a month ago'. The form of this verb is near past complete.

## 1.3. Prominence

Some parts of a narrative are more important than others and the narrator generally employs some linguistic means to indicate those parts which he wants his hearer to pay most attention to. This feature of discourse is called



prominence. "Prominence refers to any device whatever which gives certain events, participants or objects more significance than others in some context. ... It covers the entire area for which investigators have used such terms as theme, attention, focus, foreground, figure, topic and emphases". (Callow 1974) At least one type of prominence in Isirawa is shown with the tensed verb forms.

Prominence is given to generic events, in contrast to more specific events which give the details relating to the generic events. The generic event is represented by a generic verb which may occur with a list of the detailed verbs, which serve to fill out the narrative. This generic verb may precede the detailed verbs or may follow them, as a kind of summary. In either case, the generic verb is the only one to receive the tensed verb marking.

Ex.6. In one story, one set of events tells about a journey. It begins with the statement 'Paii pese miiriis-mi' '*They went fast*'. This is followed by a listing of events about how they went, i.e. they crossed the Taavaawari River, they went down from a place called Sopi-Masia, etc. Only the initial verb is marked with the tensed verb form.

Ex.7. In one story, a cannibal man, Saticana, is visiting his cousin. The cousin offers him various sorts of food but Saticana puts down each one of them. A series of these events concludes with 'Peii paii pe suaas-mi' '*He put it down*'. This final verb, the only one in the series to receive the tensed verb form, serves to stand for all the individual acts of putting the food down. In this sense it is considered generic, although it has the same verb stem as the previous verbs.

The generic action can also be given without the accompanying details. In one narrative a kind of autobiography, the narrator describes his life in very general, all-encompassing terms. Except for one section, he does not fill in the narrative with any extra details. Thus almost the entire narrative consists of backbone material, that is, material essential to the telling of the story, and significantly, almost all the verbs are marked with the tensed form.

Ex.8. 'Aiiye afo pese wariis-mi. Afo aikiie pese mai-mi. E vise. Afo takii aikii peso ca weriipa-pi'. '*My mother had a baby, me. Mother watched me. I became big. Father and mother took me (to school)*'.

Another kind of prominence is given to significant events. When the narrator is excited or surprised, the event becomes prominent and is marked by the tensed verb.

Ex.9. In one story, an old man unknowingly does a bad thing to a spirit bird. She becomes very angry with him and wants to attack him. The narrator relates their meeting and her attack in an excited manner: 'Moiife mariifase werapo-mai. Aivaoofe moiie kraarii-mi. Paai, paai, paai, paai. Pese piseipa-pi'. '*The old man was still going up (from the river) in this direction. She pulled him with a stick of aiva vine (which has thorns). Paai, paai, paai, paai (the sound of beating). She hit him*'.

Ex.10. When the crazy man arrives at a cannibal village, he sees a cannibal man who has some dried meat of humans lying on a shelf. Then the narrator relates the following event in an excited manner: 'Cecevaeo pe wesri-mi'. '*He threw them (pieces of meat) away*'.

If one event is contrasted with another, the second event is considered as prominent and is marked by the tensed verb. This analysis is supported by the fact that, when contrast sentences with 'but' are elicited in isolation, the verb of the second clause nearly always receives the tensed verb.

- Ex.11. In one story, an old man gets himself into trouble. All his older sons say, 'Forget him. Let him be eaten'. But the youngest boy is quiet with concern for his father. The narrator says 'Mamueriya ... cene rarauna-mi. Asiiva maii ... pope samru-mi. ... pe wetu-mi'. *'The older brothers said... But the youngest one kept quiet. He did not say a word (because of his concern for his father)'*.
- Ex.12. A man finds a jungle hen nest and begins digging for the eggs. A girl comes and is angry with him, saying 'Who told you to come and get the jungle hen's eggs! That's what I came for'. 'Iiye pope samru-mi'. *'But he just kept quiet'*.

When one looks at the story which has the smallest percentage of tensed verb forms, the prominence indicated by these forms becomes clear. The content of the story is as follows: After some boys make a bridge, they go swimming. But they get too far from the shore, and the adults get angry with them. So they swim away even further. Some of the boys go back to shore and there are disciplined by the village authority. Seeing that, the rest swim away further to the next coastal village, Siaratesa. But their village authority comes to Siaratesa to catch them. They run back to their own village. It is already night when they arrive. Very early the next morning they run away to the jungle village and stay there until the adults' anger disappears.

In this story only a few generic events and some events which the narrator (who is the main participant of the narrative) is excited about are marked with a tensed verb. The following generic events are marked by the tensed verbs. 'Ariye taru-mi. ... Pipinavao vinana-mi. Vinana-mi ... Ne arien navraau-mi. ... Ne pehe ri-mi ... Pe yen navraau-mi'. *'We built the bridge. ... We went in the ocean. We went (far from the shore). ... We stayed (in Siaratesa). ... We slept. ... We stayed (in the jungle village)*. The rest of the events which are marked by this verb form are events which the boys see happening to their friend who has gone ashore. The narrator relates these events in an excited manner. 'Wakere momoii pe niiapa-pi. Pope fafiis-mi. ... arie pisei-mi'. *'Wakera (the village authority) came to him. He tried to grab him. ... He beat him up'*.

## 2. THE TENSELESS COMPLETE VERBS IN NARRATIVES

In Isirawa there is a form of the verb which shows a completed event without tense. Most of the verb forms consist of the entire verb stem, others are only a part of the stem and some are quite different forms from the stem, but all are short.

As this form does not express tense, an event which happens at any time can be expressed with this form. Explanatory and procedural discourses almost exclusively use this verb form. The reason for this is that each step of the procedure is considered to be finished before the next one is begun. The time these actions occur in relation to the time of the telling of the discourse is not important; therefore, a tenseless verb form is used. In narrative discourse this form shows absence of prominence compared with the tensed verbs. Completed events which are specific rather than generic, or completed events which are viewed as ordinary are expressed with the shortened forms of the verbs.

In narratives these verb forms are semantically the same as the tensed complete verb forms. Therefore, it is not surprising that in the retelling of

a story, the form of a particular verb might be switched from a tensed complete form to a tenseless complete form, or vice versa. The difference between the two forms is strictly one of function in the discourse. Depending on the speaker's preference at the moment in regard to what he wants to give prominence to, he will choose one form over another.

## 2.1. Specific events

The specific events could provide a background explanation for some event or give details of some generic event. (The event which is explained and the generic event would receive the tensed verb form, as discussed in section 1.) These kinds of events are expressed with this tenseless complete form of the verb. These detailed forms may even occur without any mention of the generic event or the event being explained.

- Ex.13. Some boys go to a coastal village from a jungle village in order to get drums. After mentioning the generic event, 'Ne pero caan niia-pi fati mavaye'. *'We went for drums'*, the narrator gives the details of their trip. 'An miirapav maso, ... pewave Enosa maii an miirav Moraaraso. Naafa a friin, ... an miirav Seriyani'. *'We ran to here (the coastal village), ... then Enos and I ran to Moraaraso, we ate papeda, ... We ran to Seriyani (the jungle village)'*.
- Ex.14. A cannibal man shows interest in eating a little boy and his father decides to kill the boy. 'Taate sri me nonoaii pe tasuwoo-mi, ari por'. *'The father did it, he killed him'*. The generic event 'did' is elaborated as 'killed' and the second clause is expressed with a tenseless complete verb, while the first has the tensed complete verb form.
- Ex.15. When a girl is taken by a crocodile, her brother tries to rescue her. But it does not work. The narrator says that 'Dekiye pope tumomi. Deki vo naii piimaa cokaakaasii eriya mai. Dekiye Engarina tum'. *'Deki let her go. When the crocodile pulled him also, Deki let Engarina go'*. The second repetition of 'let her go', which gives the reason for the first mention, is expressed with the tenseless complete verb.
- Ex.16. In the story about the cannibal, after the cannibal eats the boy, the boy's stepfather decides to get revenge on him. When the cannibal is sleeping, the stepfather asks his brother to turn on the light so he can carry out his act. Then 'Sapare peso ce soef, komer, wewev'. *'They two moved (the cannibal's) arrows, and hid them, and finished'*. The generic event 'they disarmed him' is not mentioned explicitly; only the details are laid out by the narrator, using the tenseless complete verb forms.

## 2.2. Expected events

An event which is very natural to both speaker and listeners (i.e. they all know what will happen or what will be said next) is not prominent and so receives the tenseless complete verb form. In narratives which include for the most part experiences shared by both narrator and listeners, more events tend to be marked with this form than in third person narratives.

- Ex.17. One story is about a crazy man who has a custom of cutting off everybody's ears. The first three times his actions are related with excitement, using tensed verbs forms, but after the fourth time these actions are no longer exciting to the speaker or listener, for everyone can predict what will happen next. Therefore the tenseless verb forms are used. 'Cana oofe taai, tot, tot'. 'He caught (him) with his hands and cut and cut (he cut both ears)'.
- Ex.18. 'Simtrowe' is a story about a man whose brother's wife's nose-stick is taken by Simtrowe's daughter. Having been told by Simtrowe where she is, the man goes to the cannibal village and gets the nose-stick and comes back to Simtrowe's house. The closure of the narrative is about him coming back to his own house and telling the sister-in-law about his finding the nose-stick. It is expected for someone to return home after having obtained what he left to find. Therefore it is not surprising or interesting, and so the description of his return home is made with the tenseless verb form. 'Pii terapav caweraafa pepaa trirumaina so. Oooo ef sao poek'. 'He came back to the place where he had been getting the jungle hen eggs, then arrived home'.

### 3. THE PRESENT INCOMPLETE VERBS IN NARRATIVES

In Isirawa, the present incomplete is manifested by the suffix -ii (which becomes zero after a high vowel). In narrative discourse, this present incomplete verb form usually co-occurs with one of the prefixes which shows time/space location; four of them indicate only location in space: no- *near*, ni- *far*, paa- *down*, pu- *up*; the fifth, maa-, indicates both time and space location and means *at that time*, *at that place* or *in this place*. These prefixes can be preceded by other prefixes which indicate notions such as inchoative, habitative, repetitive, etc. Some examples are pori- *start to*, piri- *also start to*, start *again* and pii- *just*.

These present incomplete verb forms are the usual means of expressing imperfective or incomplete notions. The past tense incomplete form is very rare, even in past narratives. Instead, incomplete actions in past narratives are expressed by present tense incomplete verb forms. The actual time setting of a narrative is usually established at the beginning with either -mai 'far past incomplete' or -mi 'far past complete'. Therefore subsequent verbs do not need tense markings, so tenseless forms are used for past complete actions (see section 2.) and present incomplete forms are used for past incomplete actions and states. The purpose of the time/space location markers, then, is to connect these present tense verbs with the times and places which have been previously established. These have several functions in narratives, including to introduce a new participant, to give a description of participants, props or places, and to establish the setting of a narrative.

#### 3.1. Introduction of participants

When a participant is introduced on a stage (other than the introduction of a participant or participants at the opening of a narrative), he is usually introduced in association with the time or location of the event or situation which is going on. Therefore the verbs which introduce these participants take the time/space location prefixes and the present incomplete verb forms.

- Ex.19. Some boys go to a village which has invited them to a dance. On their way there, they dance. They are still on the path when people from another village join them. On the stage, that is, on the path, these new participants are introduced; 'Esiyarkor me pirima-navraa unapaii, Yusupa maii'. *'At that time the Esiyarkor people, Yusupa and others also started to be = started to join us'*.
- Ex.20. An old man and an old woman are introduced with a description of what actions they are carrying out at the time they are first seen by the main character of the story. 'Kemaare ermatone porimaa-fraisii. ... Sumerowawe momoi piiyarimaa-sausanaii'. *'At that time (that is, while the crazy man was walking) an old man was cutting an ermatona tree. An old woman was running away'*.
- Ex.21. The big crazy man is approaching a cannibal village. The cannibal chief Aifo and his cousin Sovraaite are introduced as follows: 'Aifowe peso no-tiyau. ... Savraaite naiva niiai ni-mii'. *'Aifo was dancing near there (near where the crazy man was approaching). The cousin Sovraaite was far over there (far from the crazy man)'*.

### 3.2. Description

As these are non-prominent and incomplete, these verb forms may be used for describing participants, props or places. In this function the verbs are generally copulative verbs.

- Ex.22. In one story, a narrator describes the main participant as follows: 'Wawariisa soniia Kalepa marari rimaa-mii. Iyavare nenfii rari rimaa-maakii'. *'From his birth he was the size of Kalepa (a boy's name). Soon he came to be our size'*.
- Ex.23. A young man is travelling from one village to another village. The narrator gives a description of one of the villages. 'Poi warofa. Mutiye peho ma-moi. Savoke peho ma-moi. Iiye poi roriifa'. *'There were many snakes. There was much food there. There was much tobacco there. The people were like snakes'*.

### 3.3. Setting

As the co-occurring prefixes on these verbs carry meanings of time or place, time and place settings are generally expressed with these forms. This analysis is supported by the use of the present incomplete verb form and maa- to establish the setting of the main clause within a single sentence.

- Ex.24. Periife porimaa-srowaru, Masiitnanaii neve sapara wave. *When they started shouting, the girl's cousin (came) with arrows.*
- Ex.25. A female spirit bird comes to an old man's house to kill him. He is hiding under the floor. When dawn comes she has to go back. The narrator starts the new day's events with the following setting: 'Aifoe popiripu-tisripai Iniansiira wiina ceiifaii nani ceceropoi. U me some rimaa-su'. *'Aifo birds started to call out like dogs up there in the direction of the head of the Iniansiira River. The earth began to become (white) like sago'*. This is more than just a description of the morning. Rather it sets the stage for the events that will follow.

- Ex.26. In the story of the big crazy man, he finds an old man and an old woman on the path and orders them to take him to their village. As they make their way, their village comes closer. The narrator says 'Pese vaareimi. Saeo pu-ri'. *'They went. There was the village up there'*. Subsequent events will take place in the 'village up there'.

## NOTES

1. The data on which this paper is based was collected between 1973 and 1980 under the auspices of the UNCEN/SIL Project. I wish to express my appreciation to Marit Kana for helping me express myself more clearly in English.
2. Isirawa is a language spoken by about 2,000 people who live on the north coast of Irian Jaya in the Jayapura district. It is a member of the Kwerba Stock of Papuan languages.

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# ISIRAWA CLAUSES

Hiroko Oguri

## 0. INTRODUCTION<sup>1</sup>

In this paper I will discuss Isirawa<sup>2</sup> clause structure. Section 1 describes the structure of the five basic clause types and section 2 deals with two special clause types, the relative clause and the noun clause.

## 1. BASIC CLAUSE TYPES

Isirawa clauses are of the following basic types:

One termed clauses:

CL<sub>1</sub> = (OPP) S (PP) PRED<sub>1</sub>

CL<sub>2</sub> = (OPP) S CPRED<sub>1</sub>

Two termed clauses:

CL<sub>3</sub> = (OPP) S (PP) O PRED<sub>2</sub>

CL<sub>4</sub> = (OPP) S O CPRED<sub>1</sub>

CL<sub>5</sub> = (OPP) S PN CPRED<sub>2</sub>

Clauses are here classed according to the number of nuclear grammatical functions (i.e. subject (S) and object (O)) which are associated with the predicate (PRED) of each clause. Nuclear terms are formally distinct from non-nuclear ones (i.e. postpositional phrases (PP) and orientational postpositional phrases (OPP)) in that the verb is marked for *agreement* with nuclear terms, but not with non-nuclear terms.

### 1.1. One termed clauses

a. CL<sub>1</sub> = (OPP) S (PP) PRED<sub>1</sub>

This expression can be more fully developed in the following tree diagram which summarises the basic constituents and their preferred order:





S PP (direction) PRED<sub>1</sub>  
 (3) Iiye Sarme -ii afafa caan- sue -no  
*man name of city -dir. quickly sbj.dl.-go(sbj.sg./dl.)-t.n.p.c.*  
*(Two) men went quickly to Sarmi.*

S PP (indirect destination) PRED<sub>1</sub>  
 (4) Efiware saticana -iiv e- vinana -mi  
*they(pl.)pitch pine-ind.dest. sbj.3 pl.-go(sbj.pl.)-f.p.c.*  
*They went to get pitch pine.*

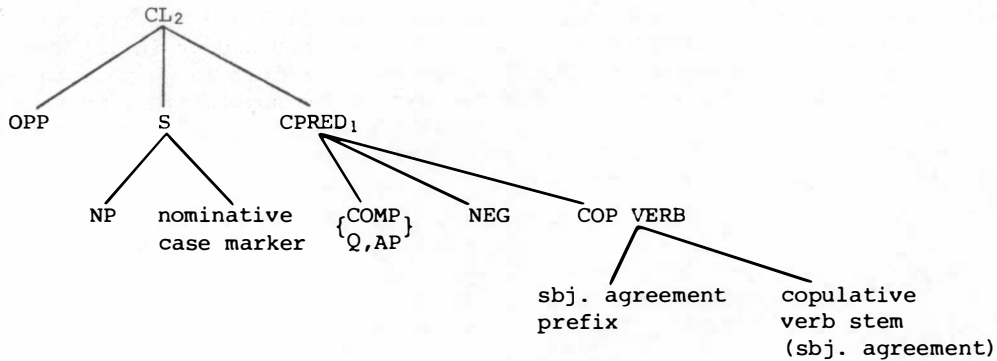
Example (1) is a simple intransitive clause. In (1) the verb stem *ripo* *grow* shows plural subject while in (2) the stem is *rapo* for the dual. This is an example of subject number being marked in the verb stem by vowel suppletion. It will be noted in (3) above that the verb prefix *caan-* marks number agreement with the subject and the verb stem *sue go* also uniquely signals the number of the subject as *singular/dual*. Note by contrast that for the *plural*, as in example (4), the stem *go* is not *sue* but *vinana*.

In examples (1) and (2) the subjects are marked with the nominative case marker *-n(ii)*.

Example (2) shows an OPP location phrase *taanaaina-vase on the mountain*, (3) gives an example of ADJ, and (3) and (4) give examples of PP.

b. CL<sub>2</sub> = (OPP) S CPRED<sub>2</sub>

This clause type (called *stative* in Oguri 1976) can be more fully represented as follows:



This clause type also has the subject (S) as the only occurring nuclear term. The nominative case marker *-n(ii)* occurs on S, only if S is especially emphasised. The clause type differs from the CL<sub>1</sub> type in having a copulative predicate (CPRED<sub>1</sub>) in place of a verbal predicate. The CPRED<sub>1</sub> consists of an obligatory complement (COMP), which may be a quantity word (Q) or an adjectival phrase (AP), and either a negative (NEG) or a copulative verb (COP VERB). The copulative verb is usually deleted. The only non-nuclear constituent that occurs with this clause type of OPP, which is generally clause initial.

Subject-verb agreement is as follows for CL<sub>2</sub>:

(i) The verb prefix, as with CL<sub>1</sub>, agrees with the number and, if plural, the person of the subject.

(ii) Subject agreement is marked on the verb stem by choice of stem. Both subject number (singular/dual or plural) and *subject animateness* (animate or inanimate) are indicated in the stem, giving a four-way choice of verb stem (see chart 1).

Examples of Cl<sub>2</sub> clauses are the following:

- S CPRED<sub>1</sub>(COMP:Q)  
 (5) Ef tiire navsra  
*his child three*  
*He has three children. (Lit. His children (are) three.)*
- S CPRED<sub>1</sub>(COMP:AP)  
 (6) Sao ce vise sri  
*house that big very*  
*That house (is) very big.*
- S CPRED<sub>1</sub>(COMP:AP)  
 (7) Sao ce vise paii  
*house that big not*  
*That house is not big.*
- OPP(time) S CPRED<sub>1</sub>(COMP:AP COP VERB)  
 (8) Maamrari-se nani-ne avaaca a- navraau -mai  
*old-time-time dog -sbj. good sbj.3 pl.-be(pl.ani.)-f.p.inc.*  
*Long ago (all) dogs were good.*

In examples (5) and (6) the copulative verbs are deleted. (5) is an example of a quantity word as a complement, while (6), (7) and (8) are examples of adjectival phrases as complements. Note that *paii* NEG occurs in (7) and the copulative verb may not co-occur with it. (8) is an example in which both an OPP and a copulative verb occur. It has *navraau* as the copulative verb stem because the subject is animate plural. If the subject is animate and non-plural (singular or dual) the stem is *maa*; if it is inanimate plural, then *amoi*; and if inanimate non-plural then *raa* or *ri*.

The following chart shows the copulative verb stem alternants:

number of S	animateness of S	
	animate	inanimate
non-plural	maa(n)	raa(v)/ri(n)
plural	navraau(n)	amoi(n)

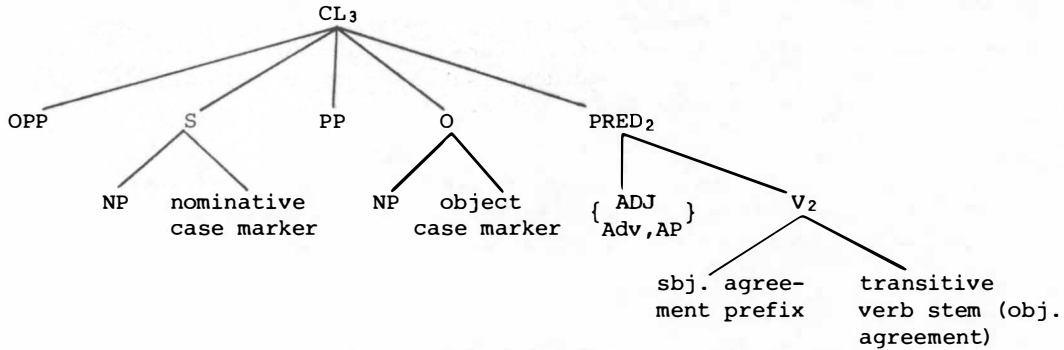
Chart 1: Copulative verb stem alternants

The full stem form includes the final -n or -v, but the full stem does not occur in independent indicative clauses.

## 1.2. Two termed clauses

a.  $CL_3 = (OPP) S (PP) O PRED_2$ 

The constituents of  $CL_3$  can be represented by the following tree diagram:



The predicate in this clause type has two nuclear terms, S and O. The nominative case marker *-n(ii)* and the object case marker *-v(o)* are usually deleted, unless one is being emphasised or there is a possibility of ambiguity between subject and object.  $V_2$  is a transitive verb.

Concerning other constituents, this clause type has the same possibilities of occurrence as  $CL_1$  type has (see 1.1.a.).

The formula above is the preferred order, but many kinds of permutations are allowed. If O is topicalised, it precedes either S or OPP, in which case both S and O are obligatorily marked with their case markers. If the preverbal information is too heavy, or if the speaker wants to add information as an afterthought, any of the arguments may be postposed after  $PRED_2$ . In such cases, the postposed argument usually occurs with its case marker. If PP is reason, direction or indirect destination, it is frequently permuted to follow O.

Agreement rules are as follows:

- (i)  $V_2$  must agree with both S and O.
- (ii) The verb prefix agrees with the number and, if plural, the person of the subject.
- (iii) The verb also agrees with O such that:
  - (a) The verb stem indicates the number of the object (sg., dl. or pl.) by verb stem choice or a marker.
  - (b) If the object is singular, its magnitude (masculine gender or small size versus feminine gender or large size) is marked on the verb stem by vowel suppletion.
  - (c) When the subject is plural the verb stem forms are usually the same as for singular subject. However, when the object is also plural, there is a separate verb stem form.

See Chart 2 on the following page for examples of these different forms of agreement.

Examples of  $CL_3$  are as follows:

- (9) S O PRED<sub>2</sub>  
 Mii efo e- viiviisu -mi  
*you (sbj.) him/her sbj.sg.-oppose (obj.sg.fem/big) -f.p.c.*  
*You opposed her.*
- (10) S O PP (Ind. Dest.) PRED<sub>2</sub>  
 Masetaanana pe aise taate -iiv e- ninaaina -mi  
*girl that shrimp father-ind.dest. sub.sg.-give (obj.dl.) -f.p.c.*  
*The girl gave (two) shrimps to the father.*
- (11) OPP (time) S O PRED<sub>2</sub>  
 Piniya-ve ave me sosowe omomet e- riraaaina -mi  
*night -time woman this vegetable secretly sub.sg.-give (obj.pl.) -f.p.c.*  
*At night the woman secretly gave vegetables.*
- (12) O S PRED<sub>2</sub>  
 Tiira-vo iririve-n ena- roois -e  
*child-obj. hornet -sbj. sbj.3 pl.-bite (obj.sg.masc/small) -pres.c.*  
*The boy was stung by hornets.*
- (13) OPP (loc.) S PP (accompaniment) O  
 Usira -se Fransa -ne teramoaii-cave wepii vise-vo  
*jungle-loc. boy's name-sbj. friend -acc. pig big -obj.*
- PRED<sub>2</sub> PP (instrumental)  
 caa- rowiis -mi, sapara-oofaii  
*sbj. dl.-shoot (obj.sg.fem/big) -f.p.c. arrow-inst.*  
*In the jungle, Fransa and a friend shot a big pig with (bow and) arrows.*

Example (9) above shows a simple form of CL<sub>3</sub>. In (10) the verb stem *ninaaina give*, which signals dual object, shows contrast with *riraaaina give*, which signals plural object in example (11). If the object is singular masculine/small, the verb stem is *vraaaina*; if it is singular feminine/large, the verb stem is *vraauna*. If both the subject and the object are plural, it is *niaauna*. These forms can be charted as follows:

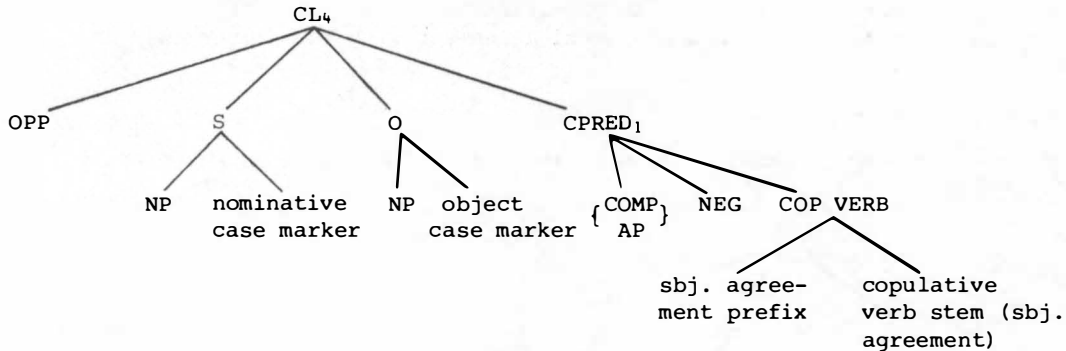
obj. \ sbj.	singular		dual	plural
	masculine/small	feminine/large		
non-plural	vraaaina	vraauna	ninaaina	riraaaina
plural				niaauna

Chart 2: Forms of the verb 'give'

(12) is an example of a clause in which the object has been preposed. The object is obligatorily marked by the object marker -v(o) and the subject is also obligatorily marked by the nominative marker -n(ii). The preverbal information in (13) is too heavy, so one of the arguments, instrumental PP, is postposed after the verb.

b. CL<sub>4</sub> = (OPP) S O CPRED<sub>1</sub>

This clause type can be represented as follows:



This interesting clause type has two nuclear terms, S and O, as does the verbal clause type CL<sub>3</sub>. The object noun phrase usually takes object marker -v(o) though it is not obligatory. The subject NP, however, (as in other clause types) generally occurs *without* its case marker. In this clause type the verb shows *no agreement with the object*; it only agrees with the subject. CPRED<sub>1</sub> consists of a complement, which is an adjectival phrase, and either NEG or the copulative verb, the same as in CL<sub>2</sub>. A very limited number of adjectives occur as the nucleus of the adjectival phrase. So far only four adjectives have been observed in this construction. They are *niiifota knowledgeable*, *taatora unknowledgeable*, *mona pleased with* and *viye displeased with*.

As in other copulative predicate clause types, OPP is the only non-nuclear constituent allowed.

Subject agreement rules are the same as for CL<sub>2</sub> (see 1.1.b.).

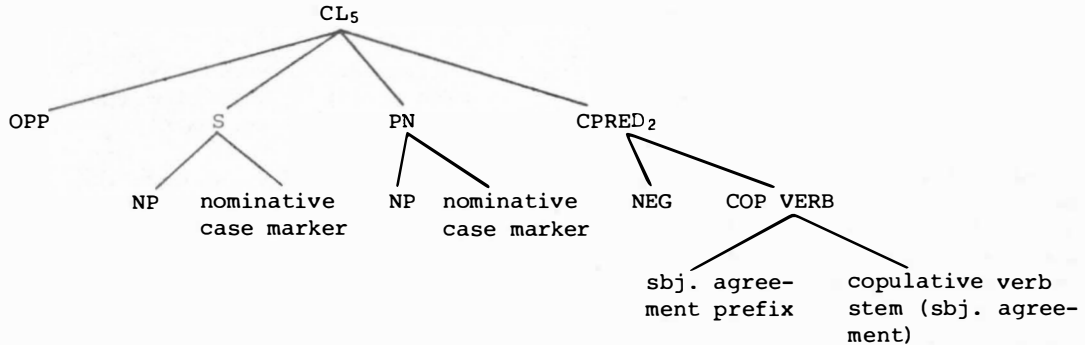
Examples of CL<sub>4</sub> are as follows:

- (14) S O CPRED<sub>1</sub>(COMP:AP)  
 Tiire efo mona  
*child him pleased with*  
*Children like him. (Lit. Children are pleased with him.)*
- (15) S O CPRED<sub>1</sub>(COMP:AP COP VERB)  
 Efoware rarara ma -vo niiifot(a) e- maa -mai  
*he story this-obj. knowledgeable sbj.sg.-be(sbj.sg./dl.ani.)-f.p.inc.*  
*He knew this story. (Lit. He was knowledgeable of this story.)*
- (16) OPP (time) S O CPRED<sub>1</sub>(COMP:AP COP VERB)  
 Maamrare-se efiware naafa -vo taatora sri  
*old-time-time they(pl.) sago pudding-obj. not-knowledgeable very*  
*a- navraau -mai*  
*sbj.3 pl.-be(sbj.pl.ani.)-f.p.inc.*  
*Long ago they did not know at all about sago pudding. (Lit. In olden days they were very unknowledgeable of sago pudding.)*

(14) is an example of a regular, simple form of this clause type. Though the literal translations may make it difficult to see why the O's are treated as objects, observe that the O's in both (15) and (16) have the object marker -vo and in (14) the pronoun is in the objective form. Examples (15) and (16) have copulative verbs which show the usual agreement with the number and animateness of S.

c. CL<sub>5</sub> = (OPP) S PN CPRED<sub>2</sub>

This clause type (called equational in Oguri 1976) can be represented by the following tree:



This clause type has the predicate noun (PN) phrase as a nuclear term in addition to the subject (S). PN is the identification of the subject. It is obligatorily marked with the nominative marker only when the copulative verb occurs. It never receives a marker if the copulative verb is deleted. Just as in other copulative clause types (CL<sub>2</sub>, CL<sub>4</sub>), COP VERB is usually deleted and never occurs in the context of NEG. Only time, but not location, is allowed in the OPP constituent.

Agreement rules are the same as in the CL<sub>2</sub> and CL<sub>4</sub> types (see 1.1.b.).

Examples of the CL<sub>5</sub> are as follows:

S PN  
 (17) Ce apre  
       *that bird*  
       *That (is) a bird.*

OPP (time) S PN  
 (18) Maamrarii-se ef wiiye Fransa  
       *old-time -time his name boy's name*  
       *Long ago his name (was) Fransa.*

S PN  
 (19) Ef ave -ne Siwanoro avi  
       *his mother-nom. name of village woman*  
       *His mother (is) a woman of the Siwanoro village.*

S PN CPRED<sub>2</sub>  
 (20) Ce nenetora sao -n e- ri  
       *that cannibal village-nom. sbj.sg.-be (sbj.sg./dl.inani.)*  
       *That is a cannibal village.*

(17) is a regular simple form of this clause type. (18) is an example which has a time as OPP. In example (19) S is marked with the nominative case marker -n(ii). (20) is an example which has CPRED<sub>2</sub>, therefore PN is obligatorily marked with the nominative marker -n(ii).

## 2. SPECIAL CLAUSE TYPES

### 2.1. Relative clauses

The relative clause is embedded within a noun phrase of an independent clause, and modifies the head of the noun phrase.

The relative clause is distinguished from the independent clause as to the form of its verb. The relative clause verb takes the following affixes:

{saa-}	verb	{-a(ii)}
{paa-}	stem	{-na(ii)}

If the relative clause indicates a future event, it takes the set of relative affixes saa- and -a(ii) and the full stem of the verb. If the clause indicates a non-future event, it takes the other set of relative affixes paa- and -na(ii) and a reduced verb stem plus a tense/aspect marker. There are other non-future relative prefixes depending on the distance between the speaker and the action, but for purposes of the present paper these details will not be discussed.

Examples of the relative clause are as follows:

- PRED
- (21) Tiira saa- ∅- wariis -a ce faaraasa  
*child rel.-sbj.sg.-bear(obj.sg.masc./small)-rel. that holy*  
*The child whom (you) will bear is holy.*
- S PRED
- (22) Tiira pe -n paa- ∅- nii -pi -nii pe ef oorowa  
*child that-nom. rel.-sbj.sg.-come(sbj.sg./dl.)-f.p.c.-rel. that his son*  
*The child who came is his son.*
- O PP (instrument)
- (23) Efoware sacana Saticana -vo pe -oo paa- ∅- sa  
*he arrow man's name-obj. that-inst.rel.-sbj.sg.-kill*
- PRED
- mi -na pe -v e- ririipa -pi
- (obj.sg.masc./small)-f.p.c.-rel. that -obj. sbj.sg.-bring(obj.pl.)-f.p.c.  
*He brought the arrows with which he killed Saticana.*
- O CP(AP COP VERB)
- (24) Ii rarara pe -vo nii fota pe paa- ∅- maa  
*man story that-obj. knowledgeable that rel.-sbj.sg.-be(sbj.sg./dl.ani.)*  
-mai -nii pe -n e- nii -pi  
*-f.p.inc.-rel. that nom.-sbj.sg.-come(sbj.sg./dl.)-f.p.c.*  
*The man who knew that story came.*

(21) is an example in which the relative clause indicates a future event. The relative clauses of (22), (23) and (24) are non-future events. In example (21) a noun in the main clause is coreferential with the object in the relative





## NOTES

1. The data on which this paper is based was collected between 1973 and 1979 under the auspices of the UNCEN/SIL Project. I wish to express my appreciation to Dr Ken Gregerson for suggestions regarding the general approach of this paper and to Marit Kana for all her help, especially in correcting the English of earlier drafts.
2. Isirawa is a language spoken by about 2,000 people who live on the north coast of Irian Jaya in the Jayapura district. It is a member of the Kwerba Stock of Papuan languages.
3. The following abbreviations appear in the examples in this paper:

acc.	accompaniment
ani.	animate
assoc.	association
c.	complete
cpn.	comparison
dir.	direction
dl.	dual
fem.	feminine
f.p.	far past
fut.	future
habit.	habitulative
inani.	inanimate
inc.	incomplete
ind. dest.	indirect destination
inst.	instrument
loc.	location
masc.	masculine
neg.	negative
nom.	nominative
n.p.	near past
obj.	object
pl.	plural
pre.	present
rel.	relative marker
sbj.	subject
sg.	singular
t.	today
ten/asp.	tense/aspect
v.	verb
voc.	vocative



## -wave (with inanimate)

Ave pe ef oorowa-v awa -wave pe -vas e-  
 mother that her son -assoc. bone-acc. that-loc. sbj.

maana -pi  
 sg.-sit(sbj.sg./dl.)-f.p.c.  
 The mother sat there with her son's bone.

## -oowa (with inanimate)

Mii nenfiivo ni avaaca-oo pii- ma- ye-  
 you us(pl.) body good -acc. habit.-already-sbj.sg.-

nuras -ai  
 wake(obj.pl.)-t.f.p.c.  
 This morning you again woke us up with healthy bodies.

Efoware naafe apre-ooow e- frii -mi  
 he sago bird-acc. sbj.sg.-eat(obj.pl.)-f.p.c.  
 He ate sago with bird meat.

## Reason:

-tayaso Efoware sacama fiitowena pev -tayas e- fiitoweraaus  
 he ear pain that-reason sbj.sg.-cry with pain  
 -mai  
 (sbj.sg./dl.)-f.p.inc.  
 He was crying out because his ear hurt.

-vaavo Efoware sacama fiitowena pev -vaav e- fiitoweraaus  
 he ear pain that-reason sbj.sg.-cry with pain  
 -mai  
 (sbj.sg./dl.)-f.p.inc.  
 He was crying out because his ear hurt.

## Location:

-so Efoware rara-s e- riita -pai  
 he path-loc. sbj.sg.-sleep(sbj.sg./dl.)-f.p.inc.  
 He slept on the path.

Ø- miiriisaapav rara-so  
 sbj. 3 pl.-run(sbj.pl.) path-loc.  
 completed  
 They ran up to the path.

-vaso Niipara ce -vase raat  
 bench that-loc. sleep(sbj.sg./dl.)  
 imperative  
 Sleep on that bench!

-vaoo U -vaoo rim- manapa -ii  
 ground-loc. inceptive-land(sbj.sg./dl.)-pre.inc.  
 It's just landing on the ground.

-iso Efoware sosowa -v e- feita -mi,  
*he vegetables-obj. sbj.sg.-pick (obj.pl.)-f.p.c.*  
 Nokonaame muna -iso.  
 river name mouth -loc.  
*He picked vegetables at the mouth of the Nokonaame River.*

## Time:

-so Piniyofa-se ce -soniife porim-∅- poekraaus  
*morning -time that-source start-sbj. 3 pl.-arrive (sbj.*  
*-ii*  
*pl.)-pre.inc.*  
*In the morning they were arriving from there.*

-vaso Nawace vaavresina -vase pii- ∅- suen  
*moon shine (sbj.sg./dl.)-time habit.sbj.sg.-go (sbj.sg./pl.)*  
*nominalised v. potential*  
*You can go while the moon is shining.*

-wa Iiniiniiana-w e- poekrapo -mi  
*evening -time sbj.sg.-arrive (sbj.sg./dl.)-f.p.c.*  
*He arrived in the evening.*

-vo Pini ma -v e- ri -mi  
*night this-time sbj.sg.-sleep (sbj.sg./dl.)-f.p.c.*  
*He slept through that night.*

## Source:

-sona Namoera -son e- tei -mi  
*girl's name-source sbj.sg.-hear (obj.pl.)-f.p.c.*  
*I heard it from Namoera.*

Naafa-sona caan- poekrapo -mi  
*sago -source sbj.dl.-arrive (sbj.sg./dl.)-f.p.c.*  
*They arrived from (getting) sago.*

-soniifaii Piniyofa-se ma -soniif e- teriis -i  
*morning -time this-source sbj. 3 pl.-go back (sbj.pl.)-t.f.p.c.*  
*They went back from here this morning.*

-pona Mii omana-pon e- niaa -iito?  
*you where-source sbj.sg.-come (sbj.sg./dl.)-pre.inc.*  
*Where are you coming from?*

-poniifaii Mana-poniife po- ar- e- taariis  
*here-source now-polite imperative-sbj. 1 pl.-go down*  
*-∅*  
*(sbj.pl.)-fut.*  
*Let's go down from here.*



-roa Efoware weta pe -vo rove iva -roa piimaa-Ø-  
*he shout that-obj. bird type voice-cpn. habit.-sbj.*

tei  
 sg.-hear (obj.pl.)  
*He also heard that rove-like shout.*

-rari Efoware tiira France -rari-v e- warii  
*he child boy's name-cpn.-obj. sbj.sg.-see (obj.sg.)*

-mi  
 masc./small)-f.p.c.  
*He saw a boy like France.*

## Vocative:

-a Aiiiii-ya, waa-iive Amiirii puwe po- Ø-  
*mother-voc. my -ind.dest. river name water now-sbj.sg.-*

sirii  
*get water (obj.sg.masc./small)*  
*Mother, get water from the Amiirii river for me.*

Papu -wa, maii ofoa-iivo  
*uncle-voc. this you -ind.dest.*  
*Uncle, this is for you.*

(-a is -ya after a front vowel, -wa after a back vowel)

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## TABLA VERB MORPHOLOGY

Kenneth Collier and Kenneth Gregerson

### 0. INTRODUCTION

This paper describes in preliminary outline the verb system of Tabla.<sup>1</sup> Specifically, it sketches the main features of the morphology, and to a lesser extent, the syntax of the verb.

#### 0.1. Verb and clause syntax

Typologically, Tabla is an OV language. The full sequence of clausal constituents may be summarised as follows:

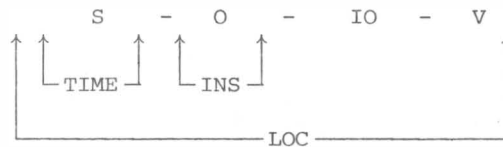


Figure 1

That is, the constituents SUBJECT, OBJECT, INDIRECT OBJECT and VERB may occur with TIME, INSTRUMENT and LOCATION interspersed in characteristic positions as indicated. The major CLAUSE TYPES built of the above constituents are briefly illustrated in the following sentences:

(1) Transitive:

Ne   éi   te   meko -we  
S-O-V   3sg. canoe Omkr make -3sg.S  
*He is making a canoe.*

(2) Intransitive:

Ne   nepe   tetéupeko  
S-V   3sg. already died 3sg.S  
*He died.*

(3) Bi-transitive:

De   se   te   ne   te   i   -k   -a   -na   -re  
S-O-IO-V   1sg. axe Omkr 3sg. IOmkr give-pst-1sg.-3sgIO-Smkr  
*I gave an axe to him.*

*Papers in New Guinea Linguistics* No.22, 155-172.  
*Pacific Linguistics*, A-63, 1985.

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In passing, we may also identify two additional clause types as follows:

## (4) Stative:

Da épe neko-neko  
*this pot black*  
*This pot is black.*

## (5) Equative:

Ne dena yayauna  
 3sg. *my friend*  
*He is my friend.*

## 0.2. Verb phrase

The verb (V) is the core of a phrasal complex which includes preceding elements, adverb (ADV) and auxiliary verb (AUXV), and a postposed negative (NEG). The VP is summarised as follows:

VP = ADV - AUXV - V - NEG

The only obligatory constituent of the VP is the verb. Following are some examples of the verb phrase, with an adverb present:

- (6)a menase-menaseye érewe  
*slowly speak*  
*Say it slowly.*
- b poi -ye ber -aie  
*well grow -3pl. imprf*  
*They are growing well.*

In (6)a the verb érewe *speak* is modified by ADV menase-menaseye *slowly* and the VP constitutes in this case an entire imperative utterance. In example (6)b, the adverb poi-ye *well* is formed from the Tabla word poi *good*, by using the instrumental suffix -ye *with*.

As an example of VP with AUXV, consider the following sentences:

- (7)a De semo te meko-te -mb -o -nde énde  
 1sg. *letter* Omkr *make-1sg. -sg.O-prf.-Smkr go*  
*I will send the letter.*
- b yepo-te -p(e)-o -nde me -n -aie  
*pull-1sg.-pl.O-prf-Smkr come -fu. -3pl.S*  
*I will pull them here.*

In (7)a what is glossed as 'send' is constructed of two Tabla verbs, AUXV mekotembonde *I make it* and main V énde *it will go*, that is, *I will cause go the letter*. In (7)b the two verbs yepo *pull* plus me *come* show causal action and resultant movement. yepo *pull* is a special case of causal AUXV with special relevance for a motion verb like 'come'.

Post positional NEG is illustrated in (8):

- (8) Ne mi pai  
*He come not*  
*He didn't come.*



The VP *mi pai* in the above example is formed from the verb *me come* in its negative variant *mi* and followed by the negative morpheme *pai*. (For further discussion of NEG see section 5 in this paper.)

0.3. Verb affixation

The major set of options for the morphemic constituents of the verb may be summarised as follows:

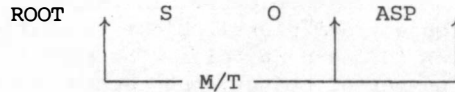


Figure 2

That is, the nominal suffixes, S and O, typically follow the ROOT in the order indicated. They occur in accordance with the transitivity type of the verb. The occurrence and ordering of verb elements are heavily bound up with ASPECT distinctions (cf. 3.5. in which S is postposed in Past Perfect singular forms). The Mode/Tense (M/T) placement varies depending on the M/T form selected. A fuller discussion of these features of verb morphology follows below

1. VERB ROOT

Verb roots may be divided, from one important standpoint, into three groups according to whether the root refers to:

- (a) a single direct object,
- (b) dual and plural object, or
- (c) singular, dual or plural object.

For example: Group (a) *ku fell one tree.*

- (9) *ku -tere*  
*fell -lsg.S imprf*  
*I will fell a tree.*

Group (b) *dése fell two or more trees.*

- (10)a *dése -te -k(e) -o -nde*  
*fell -lsg.S-dl.O -prf -Smkr*  
*I will fell two trees.*

- b *dése -te -p(e) -o -nde*  
*fell -lsg.S -pl.O -prf -Smkr*  
*I will fell many trees.*

Group (c) *pero cut.*

- (11) *pero -te -mb(e) -o -nde*  
*cut -lsg.S -sg.O -prf -Smkr*  
*I will cut it.*

- (12) pero -te -k(e)-o -nde  
*cut* -lsg.S-dl.O-prf -Smkr  
*I will cut two.*
- (13) pero -te -p(e)-o -nde  
*cut* -lsg.S -pl.O -prf -Smkr  
*I will cut them.*

Thus the verb root carries varying degrees of the semantic load as to the *magnitude* of the object. The root *ku fell one tree* implies only one object, while *dése to fell* implies multiple objects. In the case of *dése* the finer distinction between dual object and plural object is carried grammatically however, by the suffixes -k 'dl' and -p 'pl'. The root *pero to cut* carries no presupposition about the number of object, but rather the suffixes -mb 'sg', -k 'dl', and -p 'pl' carry all that load. There is thus a trade off between the lexical load of magnitude marking through choice of root morpheme and the grammatical load carried in the more purely grammatical affixes. A fuller discussion of magnitude and the object suffixes is entered upon below in section 4.

## 2. ASPECT, MODE AND TENSE

Aspect mode and tense distinctions are created in *Tabla* by an interplay of overt morphemes, zero marking ( $\emptyset$ ), and choice of subject suffix set (S). The overall system may be summarised as in the following table:

	IMPERFECTIVE	PERFECTIVE
NON-FUTURE/ REALIS	(a) -y 'past' $\emptyset$ 'present', plus: (b) -are set of SUBJECT suffixes (c) no OBJECT suffix	(a) -k 'past', plus: (b) -are set of SUBJECT suffixes (c) OBJECT suffix (d) -o ~ -i 'prf' marker
FUTURE/ IRREALIS	(a) $\emptyset$ 'non-past', plus: (b) -te set of SUBJECT suffixes (c) no OBJECT suffix	(a) $\emptyset$ 'non-past', plus: (b) -te set of SUBJECT suffixes (c) OBJECT suffix (d) -o ~ -i 'prf' marker

That is, an aspectual opposition (IMPRF vs. PRF) intersects with a *modal* opposition (REALIS vs. IRREALIS). These intersections to some extent correlate with tense distinctions, though not absolutely enough to obviate the need to recognise some independence for tense. In what follows we shall refer to the above table from the separate view points of aspect and mode/tense.

2.1. Aspect

The familiar aspectual dichotomy of PERFECTIVE vs. IMPERFECTIVE (cf. Comrie 1976; Hopper and Thompson 1980) appears in Tabla with experience as *process* vs. experience as *product* respectively, as the core semantic distinction. In terms of Hopper-Thompson Transitivity, the Tabla PRF clearly takes verbs with *definite* and *individuated* objects while IMPRF does not. Compare the following sentences:

(14) De ére -mbe -k -(o) -are  
 lsg. say -sg.O -pst-prf -lsg.S  
*I said it.*

(15) De ére -y -are  
 lsg. say -pst -lsg.S  
*I was speaking.*

As specified in Table 1 above (upper right quadrant), the PERFECTIVE sentence (14) takes -k as its 'past/realis' marker, the -are set of subject suffixes, -mbe 'sg.Object marker' and -o 'prf' (morphophonemically deleted there adjacent to a following vowel). By contrast, sentence (15), as an IMPERFECTIVE, takes -y 'past/realis', the -are set of subject suffixes, but *no object marker* (and, of course, no -o 'prf' marker).

The Tabla PERFECTIVE, as predicted by aspectual theory, views events in a more holistic way, while IMPERFECTIVE sees them as partial or in process. The following sentences are illustrative:

(16) De éi te meko -te -mb -o -nde  
 lsg. canoe Omkr make-lsg.S-sgO -prf -Smkr  
*I will make a canoe.*

(17) De éi te meko -te -re  
 lsg. canoe Omkr make -lsg.S -Smkr  
*I will be making a canoe.*

In sentence (16) the PRF verb is characteristically signalled by -o 'prf', by an object suffix (in this case mbe 'sg'), and the -te set of subject suffixes occurs. The meaning conveyed is one of an act yet to be accomplished in the (non-actualised) future, but one in which the final effect, the result and end point, rather than the process, is typically in focus and it is thus perfective. Table 1 above registers the suffix -o ~ -i which is a consistent (though morphophonemically deletable preceding another vowel) signal of the PRF verb. The selection between -o and -i is conditioned by the class of verb root. The following contrastive paradigms (in NON-FUT/REALIS) are illustrative of verbs with -o vs. those that take -i:

pero *to cut* (-o 'prf')

Singular	Dual	Plural
1. pero-mbe-k-(o)-are	per(o)-a-mbe-k-o	per(o)-ane-mbe-k-o
2. pero-mbe-k-(o)-é	pero-mbe-k-o	per(o)-au-mbe-k-o
3. pero-mbe-k-o	per(o)-éi-mbe-k-o	per(o)-ai-mbe-k-o

déte *to lay out a garment* (-i 'prf')

1. déte-tu-k(i)-are	déte-n(e)-ti-k-i	dét(e)-an(e)-ti-k-i
2. déte-tu-k(i)-é	déte-tu-k(i)-u	déte-tu-k(i)-au
3. déte-tu-k(i)-u	dét(e)-i-ti-k-i	dét(e)-ai-ti-k-i

Thus, roots of the *pero* type above take o 'prf' while those of the *déte* type take i 'prf'.

## 2.2. Mode/tense

Conceptually the modal distinction, REALIS vs. IRREALIS, which refers to actualised ('real') events vs. non-actualised or hypothetical ones, naturally correlates, at least partially, with tense distinctions. Thus, as indicated in Table 1 above, FUTURE events may equally be termed IRREALIS events. In Tabla FUT/IRREAL verbs are reflected in the choice of the -te subject suffix set for both PRF and IMPRF forms. REALIS or NON-FUTURE (past/present) verbs, by contrast, take the -are subject suffix set. The following verbs cast in the framework of Table 1 are illustrative:

Table 2		
	IMPERFECTIVE	PERFECTIVE
NON-FUTURE/ REALIS	suku -y -are wash -pst-lsgS <i>I was washing.</i>  suk(u) -are wash -lsg <i>I am washing.</i>	suku-mbe-k-(o)-are wash-sgO.-pst-prf-lsg.S <i>I washed it.</i>
FUTURE/ IRREALIS	suku -te -re wash -lsgS-Smkr <i>I will wash.</i>	suku -te -mb -o -nde wash -lsg.S-sgO-prf -Smkr <i>I will wash it.</i>

The distinction between the -are and -te subject suffix sets above will be more fully detailed below in section 3.

Although tense and mode correlate to a high degree, e.g. future is irrealis, whether prf. or imprf., the one point at which an independent tense distinction emerges clearly in Tabla is in the non-future/realis imperfective (upper left quadrant of Table 2). Thus *suku -y -are* and *suk(u)-are* contrast only as to the tense distinction *past (-y) vs. present (∅) action*.

It is perhaps worth observing too in connection with mode that the modal features REALIS vs. IRREALIS appear in Tabla to be rather independent of the aspectual features PERFECTIVE vs. IMPERFECTIVE. Thus the Hopper-Thompson (1980) Transitivity hypothesis, which seems to predict an ideal correlation of PRF:REALIS and IMPRF:IRREALIS, appears to be too strong if taken overly literally.

## 3. SUBJECT

Tabla subject suffixes in the verb indicate person and number, thus first, second and third person multiplied by singular, dual and plural generate the nine subject forms.

As indicated earlier under MODE/TENSE (2.2.), subject suffixes are of two types as follows:

- (i) -are set, which occurs in NON-FUTURE/REALIS mode,
- (ii) -te set, which occurs in FUTURE/IRREALIS mode.

The same subject suffixes are used for both transitive and intransitive verbs.

### 3.1. The underlying forms

The following table introduces the underlying forms of Tabla subject markers for PRF and IMPRF aspect, in both FUTURE/IRREALIS and NON-FUTURE/REALIS. For clarity of exposition, the forms represented first are the underlying forms. The surface forms will then be shown to be derived by morphophonemic processes (3.4.).

Table 3							
	IMPERFECTIVE			PERFECTIVE			
	sg	dl	pl	sg	dl	pl	
NON-FUTURE/ REALIS  -are set	1	-a	-one	-ane	-a(+re)	-one	-ane
	2	-é*	-oʷu	-au	-é	-oʷu	-au
	3	-oʷu	-éi	-ai	-oʷu	-éi	-ai
		plus -re (* except 2sg.)			plus -re only in lsg		
FUTURE/ IRREALIS  -te set	1	-te	-a	-ma	-te	-a	-ma
	2	-we*	-pe*	-mbe*	-∅	-pe	-mbombe
	3	-ne	-ne éi	-ne ai	-ne	-ne éi	-ne ai
		plus -(r)e (* except 2nd person)			plus -ne plus -re (except 2nd person)		

As revealed in Table 3 above, the forms for NON-FUT/REAL (PRF and IMPRF) are the same, the IMPRF generally having the element -re added. The FUT/IRREAL (IMPRF and PRF) underlying forms are the same with the IMPRF having a re element added, while the PRF has a nasal formative ne, as well as the re added. The full string of elements associated with SUBJECT suffixation is as follows:

$$\text{SUBJ SUFXN} = \text{SUBJ PRSPN} - (X) - (\text{ne}) - (\text{SUBJ CASE mkr} -\text{re})$$

The formula above conveys that a SUBJECT PERSONAL PRONOUN suffix is followed, sometimes with intervening elements (X), by a formant -ne in certain specified cases and finally by a SUBJECT CASE MARKER -re. These are illustrated and described next.

### 3.2. Subject case suffix -re

To the underlying SUBJECT suffixes in the verb there is added, according to the pattern indicated in 3.1., a morpheme -re. The surface shape of this element varies according to morphophonemic rules which will be specified in

3.4. below. What is significant about *-re* is its place in Tabla case relation marking.

The form *-re* as a verb suffix marking SUBJECT, is most usefully understood in association with *re* as LOCATIVE SOURCE marker on NP's, where it is glossed 'from', and may be contrasted with *te to*, for example:

(18)a De Jayapura re meyare  
lsg Jayapura from came  
I came from Jayapura.

b De Jayapura te tere  
lsg Jayapura to go  
I am going to Jayapura.

The function of *te to* is best characterised broadly as GOAL marker. Consider the following sentences:

(19) É o te pero -ma -re  
lpl wood Omkr cut -lpls -Smkr  
We will cut wood.

(20) É to te we te i -ma -we -re  
lpl coconut Omkr 2sg lomkr give-lpls -2sg -Smkr  
We will give you a coconut.

In sentence (19) the noun *o wood* is marked as an Object by the postposed *te*. In sentence (20) both the Direct Object *te coconut* and Indirect Object *we '2sg'* get *te* markers. Thus whether for LOCATIVE GOAL as in (18) or TRANSITIVE GOALS as in (19) and (20), the marker *te* is used.

Looking at (19) and (20) again, this time at the verbs, one observes the occurrence of the suffix *-re* glossed Smkr (Subject marker). Recalling that in (18)a *re* functioned as SOURCE marker for LOC NPs (i.e. 'from') parallel to *te* in (18)b as GOAL marker for LOC NPs (i.e. 'to'), one can also easily observe that in (19) and (20) *re* is operating again as a Transitive SOURCE marker in the sense that SUBJECT is a kind of Transitive SOURCE in the verb just as *te* functions as a Transitive GOAL marker on Direct and Indirect OBJECT NPs. The situation may be summarised as follows:

Table 4		
	SOURCE	GOAL
LOCATIVE	NP <sub>loc</sub> + <i>re from</i>	NP <sub>loc</sub> + <i>te to</i>
TRANSITIVE	(a) NP + Ø but, (b) Sub case suffix on verb = <i>-re</i>	(a) NP <sub>D.O.</sub> + <i>te</i> I.O. but, (b) Obj case suffix on verb = Ø

As indicated above SUBJ takes no case marking for NPs but does so in the verb morphology with -re. OBJ, on the other hand, marks NPs with te, but carries no purely case marking element in the verb. Thus SPATIAL ARRAY becomes the analogical basis for ACTION ARRAY, i.e. spatial SOURCE and GOAL model transitive SOURCE (SUBJECT) and GOAL (OBJECT).

### 3.3. Future/irrealis perfective formant marker -ne

The underlying formant -ne is inserted preceding the subject case marker -re in FUTURE/IRREALIS PRF. This ultimately results in the surface form -nde, via the morphonemic processes to be discussed next. Without the -ne element most imperfective and perfective forms would be identical in FUTURE/IRREALIS mode. These details are confirmed in section 3.5. below.

### 3.4. Some morphophonemic processes

The relevant morphophonemic rules which link the underlying SUBJECT suffix elements cited in 3.1. with the surface forms of 3.5. are briefly summarised next. Throughout the discussion underlying elements which are deleted or changed appear in parentheses.

The SUBJECT marker -re is affected by the following two rules:

- (i) The r in -re is lost following i or o.

$r \rightarrow \emptyset / \{i\} \_\_\_ e$

Thus -re becomes -(r)e in forms like:

meko -y -o -(r)e (3sg. Imprf past)  
/mekoyoe/ *He was making*

mek(o) -ai(r)e (3pl. Imprf pres)  
/mekaie/ *They are making*

- (ii) e is deleted following a stressed syllable and a nasal.

$e \rightarrow \emptyset / \acute{V}n \_\_\_$

For example:

meko -y -án(e) -re (1pl. past Imprf)  
/mekoyande/ *we were making*

This rule produces the conditions upon which rule (iii) acts.

- (iii) The r of -re becomes d following n.

$r \rightarrow d / n \_\_\_$

This rule applies to forms like that just cited in (ii):

meko -y -an(e) -re (1pl. Imprf past)  
/mekoyande/ *We were making*

(iv) A sequence of identical vowels reduces to one vowel.

$$V_x + V_x \rightarrow V_x$$

Thus compare the following forms (in which the o + o becomes o in the second case):

meko -y -o(r)e	(3sg. past Imprf)
/mekoyoe/	<i>He was making</i>
mek(o) -o(r)e	(3sg. pres Imprf)
/mekoe/	<i>He is making</i>

These four processes will be readily observed in the paradigms summarised next in 3.5.

### 3.5. Surface forms

Past/Realis Imprf		meko <i>make</i>	( <i>x was making</i> )
Singular		Dual	Plural
1	meko-y-a-re /mekoyare/	meko-y-on(e)-re /mekoyonde/	meko-y-an(e)-re /mekoyande/
2	meko-y-é /mekoyé/	meko-y-o-(r)e /mekoyoe/	meko-y-au-(r)e /mekoyaué/
3	meko-y-o-(r)e /mekoyoe/	meko-y-éi-(r)e /mekoyéie/	meko-y-ai-(r)e /mekoyaie/
Present/Realis Imprf		meko <i>make</i>	( <i>x is making</i> )
Singular		Dual	Plural
1	mek(o)-a-re /mekare/	mek(o)-on(e)-re /mekonde/	mek(o)-an(e)-re /mekande/
2	meko-é /mekoé/ <sup>2</sup>	meko-(o)-(r)e /mekoe/	mek(o)-au-(r)e /mekaué/
3	meko-(o)-(r)e /mekoe/	mek(o)-éi-(r)e /mekéie/	mek(o)-ai-(r)e /mekaie/
Future/Irrealis Imprf		meko <i>make</i>	( <i>x will be making</i> )
Singular		Dual	Plural
1	meko-te-re /mekotere/	mek(o)-a-re /mekare/	meko-ma-re /mekomare/
2	meko-we /mekowe/	mekope /mekope/	meko-mbe /mekombe/
3	meko-n(e)-re /mekonde/	meko-n(e)-éi-(r)e /mekonéie/	meko-n(e)-ai-(r)e /mekonaie/



Past/Realis Prf	meko <i>make</i>	( <i>x made it</i> (sg. D.O. mbe))
Singular	Dual	Plural
1 meko-mbe-k-(o)- <u>a-re</u> /mekombek <u>are</u> /	mek(o)- <u>a</u> -mbe-k-o /mek <u>ambeko</u> /	mek(o)-ane-mbe-k-o /mek <u>anembeko</u> /
2 meko-mbe-k-(o)- <u>é</u> /mekombek <u>é</u> /	meko-mbe-k-(o)- <u>o</u> /mekombeko <u>o</u> /	mek(o)-au-mbe-k-o /mek <u>auembeko</u> /
3 meko-mbe-k-(o)- <u>o</u> /mekombeko <u>o</u> /	mek(o)- <u>éi</u> -mbe-k-o /mek <u>éimbeko</u> /	mek(i)-ai-mbe-k-o /mek <u>aimbeko</u> /
Future/Irrealis Prf	meko <i>make</i>	( <i>x will make it</i> )
Singular	Dual	Plural
1 meko-te-mb(e)-o-n(e)-re /mekotembonde/	mek(o)-ane-mb(e)-o-ne-re /mek <u>anembonde</u> /	meko-ma-mb(e)-o-n(e)-re /mek <u>omambonde</u> /
2 meko-mb(e)-o-n(e)-re /mekombonde/	meko-ne-p(e)-o-pe /mekone <u>poppe</u> /	meko-ne-mb(e)-o-mbe /mekone <u>mbe</u> /
3 meko-ne-mb(e)-o-ne-re /mekone <u>mbe</u> /	meko- <u>néi</u> -mb(e)-o-ne-re /mek <u>onéimbonde</u> /	meko-nai-mb(e)-o-n(e)-re /mek <u>onaimbonde</u> /

4. OBJECT

Transitivity is inevitably bound up with the character of the Grammatical Object. In Tabla OBJECT can be adequately described only within a frame of reference which specifies the MAGNITUDE of referent for OBJECT (Direct and Indirect Object). This MAGNITUDE OF TRANSITIVITY may be depicted as follows for Tabla verbs:

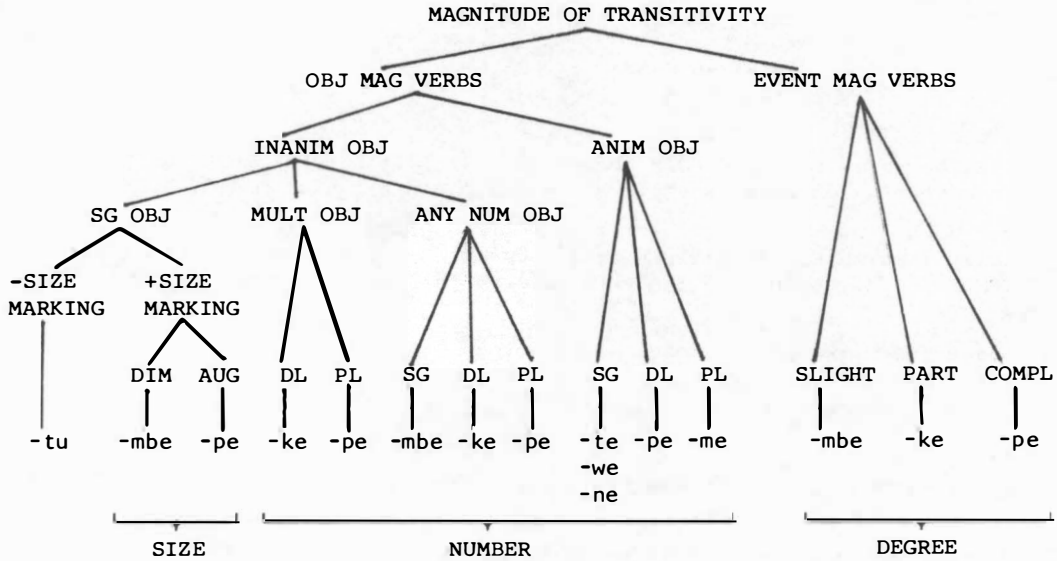


Figure 3

The tree above conveys that verbs involve a specification of the MAGNITUDE of transitivity with reference either to the OBJECT or the EVENT itself. OBJECT MAGNITUDE involves a contrast between ANIMATE and INANIMATE referents. MAGNITUDE is realised variously as: SIZE, NUMBER, DEGREE. The details of the relevant forms and functions are taken up next.

In terms of morphological form, the MAGNITUDE scheme sketched above involves three sets of OBJECT suffixes as follows (with various functions noted):

- |                                 |            |                 |
|---------------------------------|------------|-----------------|
| I. DIM/SG/SLIGHT                | DL/PARTIAL | AUG/PL/COMPLETE |
| -mbe                            | -ke        | -pe             |
| II.                             | SG         | DL PL           |
| 1st pers -te                    | } -pe -me  |                 |
| 2nd pers -we                    |            |                 |
| 3rd pers -ne                    |            |                 |
| III. Simple presence of OBJECT: | -tu ~ -su. |                 |

#### 4.1. Set I OBJECT suffixes

MAGNITUDE has as its exponents at least the following three notions as indicated in the tree above: SIZE (DIMINUTIVE vs. AUGMENTATIVE)  
NUMBER (SINGULAR, DUAL, PLURAL)  
DEGREE (SLIGHT, PARTIAL, COMPLETE)

Set I suffixes signal all these readings in Tabla. MAGNITUDE is manifested as SIZE if the lexically presupposed OBJECT referent for the verb root is *singular* and *inanimate*. Consider the following examples with the verb *kete* *cut* (*one object*):

- (21)a De kete -te -mb(e)-o -nde  
lsg *cut* -lsg.S -DimO -prf -Smkr  
*I will cut one small object.*
- b De kete -te -p(e) -o -nde  
lsg *cut* -lsg.S -AugO -prf -Smkr  
*I will cut one large object.*

Thus in (21)a -mb(e) signals a DIM OBJECT while in (21)b -p(e) marks an AUG OBJECT in a verb which permits application only to a singular OBJECT.

Other verbs intrinsically involve a MULTIPLE OBJECT. Again the referent is typically inanimate. MAGNITUDE for such verbs becomes a matter not of SIZE but of NUMBER, i.e. DL or PL. The verb *dése* *to fell* (*two or more trees*) is illustrative:

- (22)a *dése* -te -k(e) -o -nde  
*fell* -lsg.S -dl.O -prf -Smkr  
*I will fell two trees.*
- b *dese* -te -p(e) -o -nde  
*fell* -lsg.S -pl.O -prf -Smkr  
*I will fell many trees.*

In (22)a -k(e) marks a dual object while in (22)b -p(e) signals plural. Here it is not SIZE, but NUMBER distinctions that are conveyed. The form p(e) functions in both systems.

A further class of verbs, recalling the tree diagram above (Figure 3), permits ANY NUMBER OF (INANIMATE) OBJECT. Here all the Set I OBJECT suffixes are used to manifest NUMBER. The verb *meko make* is a verb of this type:

- (23)a De éite meko -te -mb(e) -o -nde  
*I canoe make -1sg.S-sg.O -prf -Smkr*  
*I will make a canoe.*
- b De éite meko -te -k(e) -o -nde  
*I canoe make -1sg.S -dl.O -prf-Smkr*  
*I will make two canoes.*
- c De eite meko -te -p(e) -o -nde  
*I canoe make -1sg.S -pl.O -prf-Smkr*  
*I will made many canoes.*

In addition to SIZE and NUMBER, Set I suffixes turn up in an instance which would seem to imply an interpretation of DEGREE (slight, partial, complete). Consider the following forms of the verb *nare to be lost/hidden*:

- (24)a nare -mbe -k -o  
*lost -sg.O -pst -prf*  
*It is hidden.*
- b nare -ke -k -o  
*lost -dl.O -pst-prf*  
*He has lost his way.*
- c nare -pe -k -o  
*lost -pl.O -pst -prf*  
*It is lost.*

The preceding examples seem to show what may be termed the 'degree of lostness' in each case. Example (24)a has the marker *-mbe*, which here indicates that the item in question is out of sight, hidden, but its whereabouts are known. In (24)b, the suffix *-ke* indicates a referent who has lost his way while on the trail. Finally, the *-pe* suffix of (24)c indicates an item that is completely lost, and no one knows where it is. Thus, as indicated in the earlier tree, EVENT as well as OBJECT appears to need specification for MAGNITUDE. Something similar to overall Transitivity Magnitude seems to occur in Kwerba also (cf. DeVries and DeVries).

4.2. Set II object suffixes

Set II OBJECT suffixes, unlike those of Set I, involve PERSON (in the SINGULAR) as well as NUMBER. They are used for ANIMATE OBJECTS and in sense verbs.

Set II OBJECT suffixes as summarised above may be compared with the '-te set' of SUBJECT suffixes listed in section 3

	sg	dl	pl
1	-te	-pe	-me
2	-we	-pe	-me
3	-ne	-pe	-me

	Sg	dl	pl
1	-te	-a	-ma
2	-we	-pe	-mbe
3	-ne	-ne éi	ne ai

The above comparison reflects the fact that the OBJECT suffixes mark PERSON only in the SINGULAR, but for DUAL and PLURAL use forms -pe and -me respectively, which latter bear striking formal resemblance to the second person DL and PL forms, -pe and -mbe, for the SUBJECT suffixes. In this connection, one may note in passing that -pe is presumably to be associated with the numeral *be two* and -me is perhaps to be connected with *me hand* to mean *many*.

Set II OBJECT suffixes are used for ANIMATE referents as illustrated in the following forms:

- (25)a te -nai -te -re  
 see -3pl.S -1sg.O -case  
*They will see me.*
- b te -nai -we -re  
 see -3pl.S -2sg.O -case  
*They will see you.*
- c te -nai -ne -re  
 see -3pl.S -3sg.O.an. -case  
*They will see him.*
- d te -nai -pe -re  
 see -3pl.S -pl.O.an. -case  
*They will see the two of them/you/us.*
- e te -nai -me -re  
 see -3pl.S -pl.O.an. -case  
*They will see all of them/you/us.*

Thus PERSON is indicated in the singular (25)a-c by -te, -we, and -ne respectively, while only NUMBER is specified for DUAL and PLURAL in (25)d,e by -pe and -me. This same Set II OBJECT suffix is used to mark Indirect Object, as a role type that is typically animate. The following verb forms from the root *i give* are illustrative:

- (26)a Ne se te de te i -ne -te -re  
 he axe Omkr me IOmkr give -3sg.S -1sg.IO -Smkr  
*He will give the axe to me.*
- b Ne se te we te i -ne -we -re  
 he axe Omkr you IOmkr give -3sg.S -2sg.IO -Smkr  
*He will give the axe to you.*

- (26)c Ne se te ne te i -ne -ne -re  
*he axe Omkr he IOmkr give -3sg.S -3sg.IO -Smkr*  
*He will give the axe to him.*
- d Ne se te de/ we /ne te i -ne -pe -re  
*he axe Omkr us/you/them IOmkr give -3sg.S -dl.IO -Smkr*  
*He will give the axe to the two of us/you/them.*
- e Ne se te de/ we /ne te i -ne -me -re  
*he axe Omkr us/you/them IOmkr give -3sg.S -pl.IO -Smkr*  
*He will give the axe to all of us/you/them.*

In (26)d and e, the verb suffixes -pe 'dl' and -me 'pl' mark all persons, as is distinguishable in the IO NP preceding the verb. (26)a-c show that in the singular again PERSON is distinguished.

### 4.3. Set III object suffix

From a MAGNITUDE point of view, the simplest OBJECT suffix is -tu ~ -su, which occurs with a limited number of verb roots that may *only* take SINGULAR OBJECT (cf. the tree diagram earlier). Thus -tu ~ -su enters into no contrastive sg, dl, pl number paradigm, as do the other OBJECT suffixes, nor does it mark SIZE. This suffix merely says 'object present' and the verb root says, 'object is singular'.

What the suffix -tu ~ -su lacks in complexity of MAGNITUDE contrasts, however, it makes up in the variety of morphophonemic shapes in which it appears. The following relevant morphophonemic conditions will make the upcoming examples more transparent:

- (i) Roots whose last (or only) syllable have /t-/ initial consonant take -tu and roots with /s-/ take -su. Thus:

ROOT		OBJECT SUFFIX
sa	<i>put</i>	-su
déte	<i>lay out</i>	-tu
ti	<i>plug up</i>	-(n)tu

- (ii) The vowel of {-tu / -su} is fronted preceding a high front vowel in a following surface, as follows:

$$\left\{ \begin{array}{l} -tu \\ -su \end{array} \right\} \rightarrow \left\{ \begin{array}{l} -ti \\ -si \end{array} \right\} / \text{_____} k(a) i$$

For example:

dét(e)	-an(e)	-tu	-k	-i
<i>lay out</i>	-lpl.S	-OBJ	-pst	-prf
		↓		
dét	-an	-ti	-k	-i
/détantiki/ <i>We laid it out.</i>				

- (iii) The vowel of {-tu / -su} is deleted if it occurs immediately preceding another vowel, that is:

$$\begin{Bmatrix} -tu \\ -su \end{Bmatrix} \rightarrow \begin{Bmatrix} -t\emptyset \\ -s\emptyset \end{Bmatrix} \xrightarrow{\quad} v$$

For example (with deleted vowel in parenthesis):

sa -te -s(u)-i -ne -re  
 put -lsg.S -OBJ -prf -fut -Smkr  
 ↓  
 s∅ -i  
 /satisinde/ I will put it...

The following paradigms illustrate the occurrence of  $-tu \sim -su$  with the two verbs *sa put* and *dete lay out* in PAST PRF and FUTURE PRF forms. Forms are cited in an underlying morphemic segmentation and also a surface phonological string (parenthesis marking elements destined for deletion):

Past tense PERFECTIVE. *sa place, put*

	Singular	Dual	Plural
1	sa- <u>su</u> -k-(i)-are /sasukare/	s(a)-an(e)- <u>su</u> -k-i /sansiki/	s(a)-an(e)- <u>su</u> -k-(i)-an(e)-re /sansikande/
2	sa- <u>su</u> -k-(i)-é /sasuké/	sa- <u>su</u> -k-(i)-u /sasuku/	sa- <u>su</u> -k-(i)-au-(r)e /sasukaue/
3	sa- <u>su</u> -k-(i)-u /sasuku/	sa- <u>su</u> -k-(i)-(é)i /sasiki/	sa- <u>su</u> -k-(i)-ai-(r)e /sasikaie/

Future tense PERFECTIVE.

1	sa-te- <u>s</u> (u)-i-n(e)-re /satisinde/	s(a)-a- <u>s</u> (u)-i-n(e)-re /sasinde/	sa-ma- <u>s</u> (u)-i-n(e)-re /samasinde/
2	sa- <u>su</u> (we)-n(e)-re /sasunde/	sa- <u>s</u> (u)-i-pe /sasipe/	sa-n(e)- <u>s</u> (u)-i-imbe /sansimbe/
3	sa-n(e)- <u>s</u> (u)-i-n(e)-re /sansinde/	sa-n(e)i- <u>s</u> (u)-i-n(e)-re /sanisinde/	sa-nai- <u>s</u> (u)-i-n(e)-re /sanaisinde/

The morphophonemic rules (ii) and (iii) of section 3.4. apply to these forms as well:

Past tense PERFECTIVE. *dete lay out garment*

1	déte- <u>tu</u> -k-(i)-are /détetukare/	déte-n(e)- <u>tu</u> -k-i /détentiki/	déte-an(e)- <u>tu</u> -k-i /détantiki/
2	déte- <u>tu</u> -k-(i)-e /détetuke/	déte- <u>tu</u> -k-(i)-u /détetuku/	déte- <u>tu</u> -k(i)au /détetukau/
3	déte- <u>tu</u> -k-(i)-u /détetuku/	dét(e)-(é)i- <u>tu</u> -k-i /détitiki/	dét(e)-ai- <u>tu</u> -k-i /détaitiki/

Future Tense PERFECTIVE.

1	déte-te- <u>t</u> (u)-i-n(e)-re /détetitinde/	dét(e)a- <u>t</u> (u)-i-n(e)-re /détatinde/	déte-ma- <u>t</u> (u)-i-n(e)-re /détematinde/
2	déte- <u>tu</u> -n(e)-re /détetunde/	déte-t(u)-ipe /détitipe/	déte-t(u)-i-mbe /détitimbe/
3	déte-n(e)- <u>t</u> (u)-i-n(e)-re /détetinde/	déte-n(e)-(e)i-ti-n(e)-re /détenitinde/	déte-n(e)-ai- <u>tu</u> -i-n(e)-re /détenaitinde/

5. NEGATIVES

The basic process of NEGATION may be summarised in the following formula:

ROOT + -i + pai

1. pai (negative) is postposed to the verb root.
2. Negative morpheme {-i} is suffixed to the root (and preceding pai). Thus:

buru	<i>mix</i>	burui pai	<i>not mix</i>
tua	<i>try</i>	tuai pai	<i>not try</i>

3. High front and central vowels /i/ and /e/ in the root are deleted in the syllable preceding the negative morpheme {-i}:

mape	<i>suck</i>	mapi pai	<i>not suck</i>
diki	<i>help</i>	diki pai	<i>not help</i>

For certain verbs, but not all, /u/ is also deleted before {-i}, e.g.:

nuku	<i>squeeze</i>	nuki pai	<i>not squeeze</i>
nutu	<i>smash</i>	nuti pai	<i>not smash</i>
duru	<i>wrap up</i>	duri pai	<i>not wrap up</i>

4. Vowels in the first syllable of the root may optionally also be regressively palatalised in the context of a following {-i} 'negative' in the following ways:

(a) In vowel initial roots the initial vowel may take a palatal onset [y] in anticipation of the following {-i} 'negative', for example:

aru	<i>put in</i>	yarui pai	<i>not put in</i>
ére	<i>say</i>	(y)éri pai	<i>not say</i>

(b)1. In consonant initial roots with non-high back vowels in the first syllable, that first syllable vowel may be palatalised, for example:

dése	<i>fell trees</i>	d(i)ési pai	<i>not fell</i>
pero	<i>cut</i>	píroi pai	<i>not cut</i>
koro	<i>put many things</i>	kīroī pai	<i>not put (many things)</i>

2. Certain single syllable verbs with front vowels may insert a palatal vowel preceding the initial consonant, for example:

te	<i>see</i>	iti pai	<i>not see</i>
se	<i>to hang</i>	īsi pai	<i>not hang</i>

3. Consonant roots with high back vowel /u/ in the first syllable do not assimilate a palatal feature, for example:

buru	<i>mix</i>	burui pai	<i>not mix</i>
suku	<i>wash</i>	sukui pai	<i>not wash</i>

Class III verb roots, that is those that take tu, ti, su, si as OBJECT marker, typically insert that OBJECT morpheme between -i and pai, for example:

ére	<i>carry on shoulder</i>	(y)ériti pai	<i>not carry (something)</i>
ti	<i>plug up</i>	ititi	<i>not plug up (something)</i>

## NOTES

1. Tabla is a Papuan language spoken by approximately 4,000 people living in thirteen villages on the North Coast of Irian Jaya, in Kabupaten Jayapura (Kecamatans Demta and Depapre). Tabla belongs to the Sentani Stock, Tanah Merah Group (Voorhoeve 1975:41, 42). The data for this paper were collected between 1978 and 1982 in the village of Doromena, which has a population of about 650 people.
2. Phonetically /mekoé/ receives an epenthetic palatal transition between o and é, thus [makɔyɛ]. This phonetic [y] is to be distinguished, however from the *morphemic* -y in 2sg Past/Realis Imprf, where it means 'past'.

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## ONO PHONOLOGY AND MORPHOPHONEMICS

Thomas R. Phinnemore

### INTRODUCTION

This paper describes the phonology and morphophonemics of the Ono language spoken in the Finschhafen Electoral District of Papua New Guinea. The analysis was originally begun using the theoretical model of K.L. Pike. The elements of Pike's phonological hierarchy employed in this analysis are: stress group (word), the syllable, and the phoneme with its allophonic variation. Further, the insights of generative phonology were employed to explain in a more accurate way the allophonic submembers of each phoneme and the morphophonemic rules which are conditioned by grammatical structure.

In Ono the phoneme /gb/ has no voiceless counterpart as do other voiced stops. There are rules to predict the syllabicity of the vowels /i, e, a, o, u/ in sequences. Rules also predict the possible consonant sequences. In Ono morphophonemic fluctuation between the dental and alveolar segments /t, d, n, r/ is common. The alternation between /p/ and /u/ in nouns and verbs has been recognised.

Ono is a member of the Western Huon family, Huon Peninsula Stock (McElhanon and Voorhoeve 1970). The language is spoken by 4,400 people in twenty-six villages. An additional 1,500 to 2,000 people use Ono as a second language.

The Ono people live on the eastern slopes of the Cromwell mountains between 6,000 feet and sea level. The area, bounded on the north by the Sanga River and the south by the Tewae River, is part of the Finschhafen Electoral District. One is divided into two major dialects, Amugen and Ziwe. Amugen, the dialect described in this paper, is the one most commonly used for trading with the neighbouring Nomu and Sialum speakers.

The data presented here were gathered during periodic field trips between 1972 and 1980. The writer's residence was in Kip Village.

### PREVIOUS STUDY

K. Wacke of the Neuendettelsau Mission entered the Amugen area in 1917 and by 1922 he had published a Bible Story Book of close to 200 pages. In 1931 he published his 'Formenlehre Der Ono-Sprache', in which he described the phonology and set out in paradigmatic form his accounting of morphology.

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*Papers in New Guinea Linguistics* No.22, 173-214.  
*Pacific Linguistics*, A.63, 1985.

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The sound system Wacke worked out for Ono was practical. He made little attempt to explain the allophonic submembers of each phoneme and only briefly accounted for the morphophonemic changes that take place at morpheme boundaries. Wacke's phonemic inventory includes contrasting labio-velar double stops /kp/ and /gb/ and an additional contrasting labio-velar nasal /ŋ/. After a thorough investigation of my data /kp/ and /gb/ have not been found in contrast nor has /kp/ been recognised as an allophone of /gb/. A further investigation of Wacke's data in the articles mentioned above failed to yield contrast between /kp/ and /gb/. (The phonetically complex sequence [gb] for the purpose of this paper will be written [gb].) No /kp/ sequences have been found in Ono. The labio-velar nasal /ŋ/ was only found in three words used by Wacke and these are pronounced as /m/ by Ono speakers today.

## PRESENT STUDY

The present description of Ono follows the theoretical model of K.L. Pike (Pike 1947 and 1967) and takes advantage of notational devices and insights of generative phonology advanced by Chomsky, Halle and others since 1968. These works are listed in the bibliography.

Succeeding sections will deal with: stress group (word), the syllable, and the phoneme with its allophonic variation. Morphophonemic rules in the last section account for phonemic distribution particularly at morpheme boundaries.

### 1. STRESS GROUP

Primary stress occurs regularly on the first syllable of stress group while secondary stress falls on subsequent alternating syllables. Juncture (indicated by space) is the boundary of the stress group. At juncture a slight pause occurs and morphophonemic changes never occur. (Primary stress is marked by ['] and secondary stress by [˘].) Monosyllabic words occurring at the beginning of a noun phrase carry stress but stress on the word following will be lenis, (marked by <sub>T</sub>), as in the sequence *ŋéi ɛ̀do those men*. In the sequence *ŋéi, ɛ̀rep men, wómen*, with an intervening pause, both carry stress but in the same sequence without the pause, *ŋéiɛ̀rep people*, only the first syllable takes the stress.

Stress is predictable. The following examples were observed in words up to five syllables in length. The reader would be aided here by referring to vowel sequence interpretation procedures on page 187.

Single syllable words carry only primary stress. Examples are: *ŋéi man* and *kúm palm bark*.

Two syllable words carry only primary stress on the initial syllable. Syllable breaks are indicated by (.). Examples are: *sé.kao space under a house* and *dé.ne my eye*.

Three and four syllable words carry primary stress on the initial syllable and secondary stress on the third syllable. Examples are: *á.ri.lè I went*, *ló.lot.nè many*, *mé.si.kè.ne you will sit*, and *ó.kan.mài.le I am doing it*.

In words of five or more syllables primary stress remains on the first syllable with secondary stress occurring on either the third or fifth syllable or both. Examples are: á.ri.mà.ge.à.ke *he always goes*, and mét.o.kàn.i.kè.te *we (dl.) will often sit (there)*.

## 2. SYLLABLE

A syllable consists of a simple nucleus of one vowel or a complex nucleus of two vowels plus an optional consonant onset or coda. The complex nucleus consists of a base vowel which glides off to a very short vowel. This complex vowel nucleus is the same length as the simple nucleus. The basic syllable pattern is  $(C_1)V(V)(C_2)$ .  $C_1$  is any consonant and  $C_2$  represents all voiceless stops and nasals. Vowels are represented by a V. Restrictions are noted below in the following section. This basic syllable pattern yields the following syllable types: V,  $C_1V$ ,  $VC_2$ ,  $C_1VC_2$ , VV,  $C_1VV$ ,  $C_1VVC_2$ , and  $VVC_2$ .

### 2.1. Vowel distribution with the syllable

The vowel sequences au, ao, ae, ai, ou, oe, ei, and eu occur as complex vowel nuclei. The vowels i and u never occur as the first member of a complex nucleus and the vowel a never occurs as the second member of a complex nucleus. These complex nuclei have been observed in the syllable patterns  $C_1VVC_2$ ,  $C_1VV$ , VV,  $VVC_2$ , as follows:

in  $C_1VV$  and  $C_1VVC_2$  all complex nuclei occur;  
in VV only oe, eu, ai, and au occur;  
and in  $VVC_2$  only au occurs.

Non-complex vowel nuclei occur in the syllable patterns as follows:

in  $C_1V$ ,  $C_1VC_2$ , V all vowels occur;  
and in  $VC_2$  all vowels except i occur.

### 2.2. Consonant distribution within the syllable

Consonants occur in syllables as follows: in  $C_1V$ ,  $C_1VC_2$ ,  $C_1VVC_2$ , and  $C_1VV$  all consonants occur in the initial position but only voiceless stops and nasals occur in the syllable final position; in  $VC_2$  only voiceless stops and nasals occur; in  $VVC_2$  only t has been found at present.

### 2.3. Distribution of syllable types within the stress group (word)

All syllable types have been found in mono-syllabic words except  $VVC_2$ . All types have been found in polysyllabic words. Examples are:

V	o	<i>yes</i>	i.ka	<i>here (unseen)</i>
VV	oe	<i>what?</i>	au.ke.te	<i>we (dl.) will join</i>
$VVC_2$	aut.ke.mai.ke	<i>it withers</i>		
$C_1V$	ba	<i>sugarcane</i>	ni.nom	<i>you give it to me</i>

C <sub>1</sub> VV	ŋei	<i>man</i>	ŋau.ne	<i>my husband</i>
C <sub>1</sub> VVC <sub>2</sub>	kaun	<i>kind of bird</i>	gbauk.ne	<i>my banana</i>
VC <sub>2</sub>	oŋ	<i>yes (emphatic)</i>	on.mai.ke	<i>it look at them (pl.)</i>
C <sub>1</sub> VC <sub>2</sub>	kum	<i>palm bark</i>	mat.i.ne	<i>his house</i>

The syllable patterns V, VC<sub>2</sub>, C<sub>1</sub>V, and C<sub>1</sub>VC<sub>2</sub> occur word initially, medially, and finally. Examples are:

V	i.kop	<i>now</i>
	a.ri.u	<i>you (pl.) go</i>
	tau.i.ne	<i>his thigh</i>
VC <sub>2</sub>	ot.mai.ke	<i>it looks at them (dl.)</i>
	bo.aŋ	<i>later</i>
	ki.ek.mai.ke	<i>he starts (something)</i>
C <sub>1</sub> V	ki.ma.ne	<i>my friend</i>
C <sub>1</sub> VV	dei.ne	<i>his eye</i>
	met.mai.ke	<i>he sits</i>
	a.ri.kei	<i>they will go</i>
C <sub>1</sub> VC <sub>2</sub>	met.mai.ke	<i>he sits</i>
	o.kan.mai.ke	<i>he does it</i>
	i.kop	<i>now</i>

The C<sub>1</sub>VVC<sub>2</sub> pattern has been observed word initially and finally. Examples are:

gbauk.ne	<i>my banana</i>
a.ri.keit	<i>you (dl.) will go</i>

The VV pattern is found only word initially as in:

au.ke.te	<i>we (dl.) will join</i>
----------	---------------------------

The VVC<sub>2</sub> pattern has only been found in one word at present and may be a residual form:

aut.ke.mai.ke	<i>it withers</i>
---------------	-------------------

Further restrictions on vowel and consonant sequences will be discussed under the topic of morphophonemics and in the Appendices.

### 3. PHONEMES

One has sixteen consonant phonemes; p, t, k, b, d, g, gb, s, z, m, n, ŋ, l, and r. The consonants are differentiated by contrast in the manner of articulation, into voiced and voiceless, stops and grooved fricatives, a lateral, and a flap. The stops contrast at the bilabial, dental, velar and labio-velar points of articulation. Nasals contrast at the bilabial, dental and velar points of articulation. The lateral and the flap are alveolar.

Vowels contrast in the high, mid and low tongue positions. The high and mid vowels contrast as to front unrounded and back rounded.

3.1. One feature matrix

The feature matrix accounts more accurately for the dynamics of phonemic contrast in Ono. The matrix should be seen as a refinement of the articulatory description given above. Consonant and vowel matrices are listed separately.

Table A: Consonant phoneme feature matrix														
	p	t	k	b	d	g	m	n	ŋ	s	z	l	r	gb
<b>General Category</b>														
Syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sonorant	-	-	-	-	-	-	+	+	+	-	-	+	+	-
<b>Manner</b>														
Continuant	-	-	-	-	-	-	+	+	+	+	+	+	+	-
Voice	-	-	-	+	+	+	+	+	+	-	+	+	+	+
Strident	-	-	-	-	-	-	-	-	-	+	+	-	-	-
Nasal	-	-	-	-	-	-	+	+	+	-	-	-	-	-
Lateral	-	-	-	-	-	-	-	-	-	-	-	+	-	-
Abrupt Offset	-	-	-	-	-	-	-	-	-	-	-	-	-	+
<b>Place</b>														
Anterior	+	+	-	+	+	-	+	+	-	+	+	+	+	+
Coronal	-	+	-	-	+	-	-	+	-	+	+	+	+	-
Back	-	-	+	-	-	+	-	-	+	-	-	-	-	+
Labial	+	-	-	+	-	-	+	-	-	-	-	-	-	+

Table B: Vowel phoneme feature matrix							
	i	e	a	o	u	ɤ	ɨ
Syllabic	+	+	+	+	+	-	-
Consonantal	-	-	-	-	-	-	-
High	+	-	-	-	+	+	+
Low	-	-	+	-	-	-	-
Back	-	-	-	+	+	+	-

3.2. Phonemic contrast

Segments sharing features in common and thus considered suspect phonemically are contrasted in the list below.

## 3.3. Consonant contrast

The bilabials contrast in identical or analogous environment as follows:

/p/ and /b/			
	/pese/	<i>sit down</i>	
	/bese/	<i>bean</i>	
	/kopu/	<i>smoke</i>	
	/kobu/	<i>theft</i>	
/b/ and /m/			
	/bat	<i>play</i>	/mat/ <i>house</i>
	/kobu/	<i>theft</i>	/komu/ <i>coconut</i>
/b/ and /gb/			
	/bane/	<i>my sugarcane</i>	
	/gbane/	<i>my younger sister</i>	

The dentals and alveolars contrast in identical and analogous environment:

/t/ and /d/		
	/teine/	<i>very</i>
	/deine/	<i>his eye</i>
	/ŋeto/	<i>we (dl.ag.)</i>
	/ŋedo/	<i>we (pl.ag.)</i>
/s/ and /z/		
	/sepet/	<i>sago leaf</i>
	/zepe/	<i>ashes</i>
	/tatse/	<i>our (dl.) older brother</i>
	/tatze/	<i>our (pl.) older brother</i>
/t/ and /r/		
	/metene/	<i>my hand</i>
	/mere/	<i>sat (past)</i>
	/tomok/	<i>scrub bush</i>
	/romon/	<i>back</i>
/d/ and /r/		
	/doramaike/	<i>she carries (on her head)</i>
	/roremaike/	<i>she carries it out (of a string bag)</i>
	/bodi/	<i>famine</i>
	/bori/	<i>no good</i>
/t/ and /l/		
	/teuemaike/	<i>he carries it</i>
	/li <sup>h</sup> maike/	<i>she stirs it</i>
	/ <sup>h</sup> eti/	<i>above</i>
	/ <sup>h</sup> e <sup>h</sup> le/	<i>flesh</i>
/d/ and /l/		
	/dokoine/	<i>dependants</i>
	/lokoine/	<i>watery (of food)</i>
	/bodi/	<i>famine</i>
	/bole/	<i>a star or planet</i>

/t/ and /s/			
/takot/	<i>shirt</i>		
/sakot/	<i>shell</i>		
/ueti/	<i>above</i>		
/uesi/	<i>stone</i>		
/okante/	<i>we (dl.) do it</i>		
/tokanse/	<i>our (dl.) design</i>		
/d/ and /z/			
/dun/	<i>fall</i>	/zun/	<i>a dive</i>
/medep/	<i>child</i>	/meze/	<i>our (pl.) faces</i>
/r/ and /l/			
/riueŋ/	<i>support pole</i>		
/liuaŋmaike/	<i>she stirs it</i>		
/goreŋine/	<i>coconut oil</i>		
/golokine/	<i>dew</i>		
/d/ and /n/		/nine/	<i>you ate</i>
/dine/	<i>dirt</i>	/ŋino/	<i>from</i>
/ŋido/	<i>you (pl.)</i>		

The velars contrast in identical and analogous environment:

/k/ and /g/			
/kima/	<i>friend</i>	/gim/	<i>arrow shaft</i>
/wokom/	<i>bundle</i>	/wagom/	<i>drum</i>
/g/ and /ŋ/			
/gamu/	<i>shame</i>	/ŋamu/	<i>milk, breast</i>
/magak/	<i>father</i>	/maŋo/	<i>who?</i>
/g/ and /gb/			
/gemaike/	<i>he walks</i>		
/gbemaike/	<i>he hits it</i>		

The nasals contrast in identical and analogous environment:

/m/ and /n/			
/magaine/	<i>his father</i>		
/nagaine/	<i>his mother</i>		
/momo/	<i>wind</i>		
/manom/	<i>you take it (imp.)</i>		
/zun/	<i>dive</i>		
/zum/	<i>post partum recovery period</i>		
/n/ and /ŋ/			
/namuŋ/	<i>pool</i>	/ŋamu/	<i>milk, breast</i>
/maŋo/	<i>who?</i>	/manom/	<i>you take it (imp.)</i>

### 3.4. Vowel contrast

Vowels /i, e, a, o, u/ contrast with each other in the following identical and analogous environment.

/merile/	<i>I sat</i> (N.past)
/mirile/	<i>I cooked</i> (N.past) <i>it</i>
/morile/	<i>I put</i> (N.past) <i>it</i>
/matine/	<i>his house</i>
/mutop/	<i>vine</i>

The phonemically suspect vowel pairs /i/ and /e/, and /o/ and /u/, contrast in identical environment as follows:

/i/ and /e/			
/dine/	<i>dirt</i>	/dene/	<i>my eye</i>
/kaet/	<i>afraid</i>	/kait/	<i>face</i>
/o/ and /u/			
/ɔtmaike/	<i>he looks at us</i> (dl.)		
/ɔtmaike/	<i>he looks at you</i> (dl.)		
/kululu/	<i>a swing</i>		
/kololo/	<i>a spider web</i>		

#### 4. ALLOPHONIC PROCESSES

##### 4.1. Description of consonant phonemes

The allophonic sub-members of consonant phonemes vary freely for the most part. A few phonemes are sensitive to their environment. The Table C shows the allophonic description and distribution of contour phonemes. The subscript (<sub>̣</sub>) indicates non-syllabicity when occurring beneath a vocoid, for example [ɥ<sub>̣</sub>] and an unreleased quality when beneath a voiceless stop, e.g. [p̣].

##### Phoneme /p/

Word initially and intervocalically the phones [p], [p<sup>h</sup>], and [f] vary freely. Initially they vary with equal frequency but intervocalically there is a higher frequency of [p<sup>h</sup>] and [f]. Syllable final [p̣] and [f] vary freely but following consonants [p] varies with [p<sup>h</sup>]. Free alternation is indicated by (v).

/pani/	[pani]	~	[p <sup>h</sup> ani]	~	[fani]	<i>bamboo</i>
/kepe/	[kepe]	~	[kep <sup>h</sup> e]	~	[kefe]	<i>ground</i>
/gerep/	[geɾεp̣]	~	[geɾεf]	~		<i>fire</i>



Table C: Allophone distribution chart														
Phonemes	/p/	/t/	/k/	/b/	/d/	/g/	/m/	/n/	/ŋ/	/s/	/z/	/l/	/r/	/gb/
Word initial	[p] [p <sup>h</sup> ] [f]	[t] [t <sup>h</sup> ]	[k] [k <sup>h</sup> ]	[b] [ <sup>m</sup> b]	[d] [n <sup>d</sup> ]	[g] [ŋ <sup>g</sup> ]	[m]	[n]	[ŋ]	[s]	[z] [dz]	[l]	[ʃ]	[gb]
Inter-vocalic	[p] [p <sup>h</sup> ]	[t] [t <sup>h</sup> ]	[k] [k <sup>h</sup> ]	[b] [ <sup>m</sup> b]	[d] [n <sup>d</sup> ]	[g] [ŋ <sup>g</sup> ]	[m]	[n]	[ŋ]	[s]	[z] [dz]	[l]	[ʃ]	[gb]
Syllable final	[p] [f]	[t] [t̚]	[k] [k̚]				[m]	[n]	[ŋ]					
Following consonants	[p] [p <sup>h</sup> ]	[t] [t <sup>h</sup> ]	[k] [k <sup>h</sup> ]				[m]	[n]	[ŋ]	[s]	[z]			

## Phonemes /t/ and /k/

The phones [t] and [t<sup>h</sup>] vary freely and the phones [k] and [k<sup>h</sup>] vary freely word initially, intervocalically and following consonants. Intervocalically there is a higher frequency of the aspirated phones [t<sup>h</sup>] and [k<sup>h</sup>]. Phones [t̚] and [k̚] occur syllable final.

/teine/	[te̚ine]	~	[t <sup>h</sup> e̚ine]	<i>very</i>
/kito/	[kito]	~	[k <sup>h</sup> it <sup>h</sup> o]	<i>kick, sweep</i>
/matko/	[mat̚ko]	~	[mat̚k <sup>h</sup> o]	<i>toward the house</i>
/okante/	[okante]	~	[ok <sup>h</sup> ant <sup>h</sup> e]	<i>we (dl.) do</i>
/takot/	[takot̚]	~	[t <sup>h</sup> ak <sup>h</sup> ot̚]	<i>shirt</i>
/arokmaike/	[arok̚ma̚ike]	~	[arok̚ma̚ik <sup>h</sup> e]	<i>he cries</i>
/gbalak/	[gbalak̚]			<i>white sand</i>

The following feature rules describe where the allophone of /p/, /t/ and /k/ occur. Some of the rules are labelled 'optional' to indicate free variation in a given position.

optional

$$(1) \begin{array}{c} p, t, k \\ \left[ \begin{array}{l} +cns \\ -vd \\ -con \end{array} \right] \end{array} \longrightarrow \begin{array}{c} p^h, t^h, k^h \\ [+asp] \end{array} \quad / \underline{\quad} v$$

The feature of aspiration, [+asp], is added here to specify the feature that separates allophones.

optional

$$(2) \begin{array}{c} p \\ \left[ \begin{array}{l} +cns \\ -vd \\ -lab \end{array} \right] \end{array} \longrightarrow \begin{array}{c} f \\ \left[ \begin{array}{l} +std \\ +cor \end{array} \right] \end{array} \quad / \underline{\quad} \left\{ \begin{array}{l} \# \\ \checkmark \end{array} \right\}$$

optional

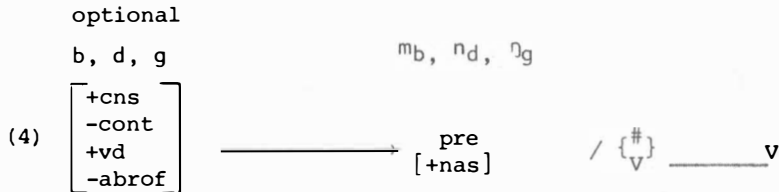
$$(3) \begin{array}{c} p, t, k \\ \left[ \begin{array}{l} +cns \\ -vd \\ -cont \end{array} \right] \end{array} \longrightarrow \begin{array}{c} p, t, k \\ [+unrel] \end{array} \quad / \underline{\quad} \$$$

The (\$) signals syllable boundary. The feature unreleased is added here to specify the feature that distinguishes the unreleased allophones.

## Phonemes /b/, /d/, /g/, and /gb/

The phones [b], [d], and [g] vary with [ᵐb], [ᵐd] and [ᵐg] word initially and intervocalically. Initially, prenasalisation occurs infrequently and is very short when it does occur. Intervocalically prenasalisation is still infrequent but the nasal may be as long as the stop.

The phone [gb] has no allophones and occurs word initially. It occurs word medially only where reduplication occurs. Ono speakers seem to look on [gb] as a unit rather than a sequence. When confronted with the sequence [gb] initially in a word, literate Ono speakers fail to read it. However, when the sequence was replaced by a single segment, /q/, the literates rarely failed to read it. Since no other CC sequence occur initially in words, the sequence /gb/ will be considered as a unit and will be written as /q/. Unlike /b/, /d/, and /g/, the /q/ has no voiceless counterpart and breaks the symmetry one would expect to find between voiced and voiceless stops.



/bese/	[bese]	~	[ <sup>m</sup> bese]	bean
/lobo/	[lobo]	~	[lo <sup>m</sup> bo]	outsider
/danam/	[danam]	~	[ <sup>n</sup> danam]	pandanus fruit
/madet/	[madεt̚]	~	[ma <sup>n</sup> dεt̚]	door
/gim/	[gim]	~	[ <sup>ŋ</sup> gim]	arrow shaft
/magak/	[ma <sup>ŋ</sup> gak̚]	~	[magak̚]	father (term of address)
/gbokgbokine/	[gbok̚gbokine]			bamboo thicket

Phonemes /m/, /n/, /ŋ/

These nasals occur in all consonantal positions in words.

/mat/	[mat̚]	house
/momo/	[momo]	wind
/uratamde/	[uratamde]	work (a little)
/kum/	[kum]	palm bark
/arokmai̚ke/	[arokmai̚ke]	he cries
/nalu/	[nalu]	market
/danam/	[danam]	pandanus fruit
/okante/	[okante]	we (dl.) do
/yaben/	[jaben]	black stone
/tatne/	[tatne]	my older brother
/ŋamu/	[ŋamu]	milk, breast
/eŋet/	[eŋet̚]	song, name
/arimaŋkene/	[arimaŋkene]	you will always go
/tatŋone/	[tatŋone]	your older brother
/kuluŋ/	[kuluŋ]	tea, soup

Phonemes /s/ and /z/

The voiceless alveolar fricative [s] occurs word initially, intervocalically and following consonants. Its voiced counterpart [z] varies freely with [dz] word initially and intervocalically. Allophone [z] occurs following consonants.

- optional
- z                      dz
- (5)  $\left[ \begin{array}{c} +std \\ -vd \end{array} \right] \longrightarrow \left[ \begin{array}{c} -std \\ -cont \end{array} \right] \quad / \{ \underset{v}{\overset{\#}{i}} \} \_\_\_\_\_ v$
- |             |                   |                                   |
|-------------|-------------------|-----------------------------------|
| /sari/      | [saʁi]            | <i>come (imp.)</i>                |
| /mosikene/  | [mosikene]        | <i>you will plant (something)</i> |
| /tatse/     | [tatse]           | <i>our (dl.) older brother</i>    |
| /zizi/      | [ziʒi] ~ [dzidzi] | <i>watermelon</i>                 |
| /belakamze/ | [belakamze]       | <i>tongue</i>                     |

Phonemes /l/ and /r/

The voiced alveolar lateral [l] and voiced alveolar flap [ɾ] occur word initially and intervocally.

- |           |           |                            |
|-----------|-----------|----------------------------|
| /lom/     | [lom]     | <i>hole</i>                |
| /ɲole/    | [ɲole]    | <i>his younger brother</i> |
| /rarapko/ | [ʁaʁapko] | <i>afternoon</i>           |

4.2. Description of vowel phonemes

The vowels with the feature [-bac], /i/, /e/, and /a/, are environmentally sensitive. Table D describes the phonetic detail of the vocoids.

Table D: Description of vowel allophones								
			Front		Central		Back	
			unrd.	rd.	unrd.	rd.	unrd.	rd.
vd.	High	Close Open	i   i̥ ɪ					u   u̥
	Mid	Close Open	e ɛ					o
	Low	Close Open	æ		a			

Phoneme /i/

The voiced high close front unrounded phone [i] varies freely with the high-open front unrounded phone [ɪ] in simple vowel nuclei contiguous to a following nasal. Elsewhere the phone [i] occurs.

optional

$$(6) \begin{array}{c} i \\ \text{[+syl]} \\ \text{+hi} \\ \text{-bac} \\ \text{+tns} \end{array} \longrightarrow [-tns] / \text{_____ [+nas]}$$

/ginikale/	[gɪnikale]	~ [ginikale]	<i>I will give it to you</i>
/ikop/	[ikop]		<i>now</i>
/biɑŋɑ/	[biɑŋɑ]		<i>flying fox</i>
/ŋei/	[ŋei]		<i>man</i>
/momoine/	[momoine]		<i>cold</i>

Phoneme /i/

The voiced high close back rounded non-syllabic vocoid [i] has no allophonic variation.

Phoneme /e/

The voiced mid-open front unrounded vocoid [ɛ] occurs between consonants in simple vowel nuclei and word initially. The voiced mid-close front unrounded vocoid [e] occurs in all vowel sequences and word final.

$$(7) \begin{array}{c} e \\ \text{[+syl]} \\ \text{-hi} \\ \text{-lo} \\ \text{-bac} \end{array} \longrightarrow [-tns] / \left\{ \begin{array}{c} \# \\ C \end{array} \right\} \text{_____ c}$$

/emen/	[ɛmɛn]	<i>louse</i>
/gaemaɪke/	[gaemaɪke]	<i>it burns you</i>
/eu/	[eɥ]	<i>garden</i>
/arimageake/	[arimageake]	<i>he will always go</i>

Phoneme /a/

The voiced low-open central unrounded vocoid [a] varies with the voiced low, close front unrounded vocoid [æ] in simple vowel nuclei contiguous to alveolar and dental consonants. Elsewhere only [a] occurs.

optional

$$(8) \begin{array}{c} a \\ \text{[+syl]} \\ \text{+lo} \\ \text{-bac} \\ \text{-tns} \end{array} \longrightarrow [+tns] / \text{_____ [+cor]}$$

/manmaike/	[mænmaɪke]	~	[manmaɪke]	<i>he gives it</i>
/oŋaŋa/	[oŋaŋa]			<i>shadow, picture</i>
/dapotpi/	[dæpotpi]	~	[dapotpi]	<i>you (pl.) read it</i>

## Phoneme /o/

The voiced mid-close back rounded vocoid [o] has no allophonic variation.

/onoka/	[onoka]	<i>what?</i>
/ruo/	[ʀuo]	<i>night</i>
/boaŋ/	[boŋ]	<i>later</i>

## Phoneme /u/

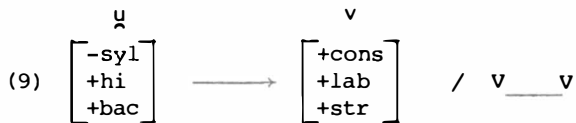
The voiced high-close back rounded vocoid [u] has no allophonic variation

/ukude/	[ukude]	<i>today</i>
/qauk/	[qauk]	<i>banana</i>
/ruo/	[ʀuō]	<i>night</i>
/ariu/	[aʀiu]	<i>you (pl.) will go</i>

## Phoneme /ʉ/

The voiced high-close back rounded non-syllabic vocoid [ʉ] varies with the labio-dental voiced fricative [v] intervocalically. Word initially only [ʉ] occurs.

optional



/uikin/	[uikin]		<i>pain</i>	
/kaiue/	[kaiue]	~	[kaiue]	<i>sun</i>
/moiaua/	[moiaua]	~	[moiaua]	<i>enough</i>

## 4.3. Interpretation of contoid and vocoid sequences

## 4.3.1. Vocoid interpretation

Vocoid sequences containing from two to five units have been observed in the following words:

[moiaua]	~	[mojava]	<i>enough</i>
[suaiine]	~	[suaiine]	<i>big</i>
[peam]			<i>peace</i>
[puanmaike]			<i>he smokes (tobacco)</i>
[ieya]	~	[ieva]	<i>there</i>
[kaiue]	~	[kaiue]	<i>sun</i>
[jai]			(exclamation!)
[uaiine]			<i>its seed</i>

The sequences that may occur are noted in Table E. These are arranged in two vocoid sequences for the purpose of description and because no non-subject sequences of more than two vocoids occur.

ii	ie	ia	io	iu
ei		ea	eo	eu
ai	ae		ao	au
oi	oe	oa		ou
ui	ue	ua	uo	uu

There are two types of vowel nuclei that can fill the peak of a syllable; one is complex and the other simple. The complex nuclei, ei, eu, ai, ae, ao, au, oi, oe, and ou, constitute one syllable peak. All simple nuclei are the five vowels i, e, a, o, and u. Both the complex and the simple nuclei above are spoken at the same speed; i is the same length as ei for example.

Vowel sequences other than the complex ones above do occur: i.e, i.a, i.o, i.u, e.a, e.o, o.a, u.i, u.e, u.a, and u.o. These sequences are twice the length of either a complex nucleus or a simple nucleus.

Another set of sequences occurs in the initial position in words. These are the on-glide, non-syllabic sequences beginning with i or u. These on-glides and their following vowel are spoken at the same speed as a simple vowel nucleus: ia, ie, io, iu, ua, ue, uo, ui.

Some examples of complex nuclei, simple vowel sequences and non-syllabic on-glides are displayed in Appendix B.

The phoneme /a/ never occurs first in the sequences of two simple nuclei. In complex sequences /i/ and /u/ never occur as the first member of the sequence except where they are non-syllabic on-glides /a/ is never the second member of a complex sequence. A sequence of two simple nuclei has two syllable peaks while complex sequences have only one.

The following rules predict the syllabicity or non-syllabicity of vocoids when they occur in the sequences above.

$$(10) \begin{matrix} i, u \\ [+syl] \\ [+hi] \end{matrix} \longrightarrow \begin{matrix} \underset{\cdot}{i}, \underset{\cdot}{u} \\ [-syl] \end{matrix} / \# \underline{\quad} v$$

[j̥atne]	<i>yesterday</i>	[jeine]	<i>no</i>
[ar.i.kei]	<i>they (pl.) will go</i>		
[i.kop]	<i>now</i>		
[u.ku.de]	<i>today</i>		
[qaɯk]	<i>banana</i>		

$$(11) \begin{matrix} e, o \\ [+syl] \\ [-lo] \end{matrix} \longrightarrow \begin{matrix} \underset{\cdot}{e}, \underset{\cdot}{o} \\ [-syl] \end{matrix} / \begin{matrix} [+syl] \\ [+lo] \end{matrix} \text{ —————}$$

[daɛ.pi.ne]	<i>last born</i>
[kaɣt]	<i>fear</i>
[ka.saa]	<i>tree</i>
[naɣk]	<i>mother</i>

The simple nucleus sequence e.o is an exception to the above rule. The sequence is only found in demonstrative and interrogative words on which the o may be a separate morpheme.

[a.ʃi.mai.ke.o]	<i>he goes (conditional)</i>
[me.te.o]	<i>on his hand</i>

Vowel length has been found in some circumstances. The ii and uu noted in Table E fluctuate in free variation with the simple nuclei i and u. Non-contrastive examples follow:

/pine/	[pine] ~ [piine]	<i>his lips</i>
/uakonmaike/	[uakonmaike] ~ [uuakonmaike]	<i>it begins</i>

#### 4.3.2. Contoid interpretation

The complex phones [ᵐb], [ᵐd], [ᵐg], [pʰ], [tʰ], [kʰ], [gb], and [dz] are interpreted as the unit phonemes /b/, /d/, /g/, /p/, /t/, /k/, /gb/, and /z/ respectively for the following reasons: non-suspect consonant clusters do not occur word initially. All the above complex phones except [gb] vary freely with their respective simple phones. Non-suspect sequences of two consonants occur only across syllable boundaries. If the above sequences were permitted, suspect sequences of three units would occur. There is no /h/ phoneme. Examples are:

[aʃimaŋkʰɛthe]	<i>we (dl.) will always go</i>
[dafotɰhi]	<i>you (pl.) read</i>

### 5. MORPHOPHONEMIC RULES

Morphophonemic rules account for changes that occur when morphemes are juxtaposed. These rules are not always stated in "purely phonological terms" (Harms 1968). The morphophonemic rule is a working hypothesis about the language data the investigator has before him (Loos, lecture notes 1976). These rules may change from time to time as the analyst tests additional data with the rules he had formulated.

The discussion of Ono morphophonemics will be treated as follows: general processes that occur in all types of words; verb morphophonemics and non-verb morphophonemics.

The use of the second two categories verb and non-verb is merely for use of handling the material. Many of the suffixes that occur with verb stems never occur with nouns. Some of the changes that occur with these suffixes seem to only occur with a particular morpheme, and the author is hesitant to make them more general.

Readers will note also that when special morphological conditions apply they are written under the rule they correspond with. Phonological features only are handled in the rule itself for the sake of clarity.



5.1. Consonant distribution in sequences (cf. Appendix D)

Some general comments need to be made on the distribution of consonants in sequences. In the previous section on the syllable, some restrictions were mentioned. C<sub>1</sub> is described as any consonant and can fill the onset of a syllable. C<sub>2</sub> represents all voiceless stops and nasals and these can fill the coda position of a syllable.

CC sequences only occur across morpheme boundaries. At this point the above general statement breaks down. Although any consonant may fill the onset of a syllable, at morpheme boundaries r and l, with the feature, [+son], never occur as the second member of a consonant sequence. The phonemes b, d, and g never follow their voiceless counterparts p, t, and k. Further, r, l, s, and z never occur initial in a consonant sequence. When two identical consonants are juxtaposed, one always deletes. Nasals never occur before their homorganic voiced stops and bilabial nasals do not occur before the phoneme /p/. These statements will be further explained in the rules to follow. Table F represents the sequences that may occur by the symbol (x). Table F can be further corroborated by the data condensed in Appendix D.

		Syllable Initial										
		p	t	k	b	d	g	m	n	ŋ	s	z
Syllable Final	p	x	x					x	x	x	x	x
	t	x		x				x	x	x	x	x
	k	x	x					x	x	x	x	x
	m			x		x	x		x	x	x	x
	n		x	x	x		x	x		x	x	x
	ŋ		x	x	x				x	x		x

Verb stems are often reduplicated to form nouns. When the stem ends in a consonant, the stem final consonant is deleted when followed by the liquids l and r, marked [+son].

$$(12) C \longrightarrow \emptyset / \text{---} \left[ \begin{array}{l} -\text{syl} \\ +\text{son} \end{array} \right]$$

Display:

liua -mai-ke  
meet-pres.-he

/liua -liuaŋ/  
[liua<sup>h</sup>liua<sup>h</sup>ŋ]  
meeting

met-mai-ke  
sit-pres.-he

[me<sup>h</sup>met]  
chair

lolik-mai-ke  
encircle-pres.-he

/lolik-lolok/  
[lolilolok]  
round, circular

uret mit-mai-ke  
paint cook-pres.-he

[uret mi<sup>h</sup>mit]  
painter

The k of -ko- (R.past), -ki *he* (M), -kep *he* (imp.) and -ko (dir.) becomes g when it is preceded by a non-homorganic, stem final nasal.

$$(13) \begin{array}{c} k \\ \left[ \begin{array}{l} +cns \\ -vd \\ \alpha place \end{array} \right] \end{array} \longrightarrow \begin{array}{c} g \\ [+vd] \end{array} / \begin{array}{c} n \\ \left[ \begin{array}{l} +cns \\ +vd \\ -\alpha place \end{array} \right] \end{array} \longrightarrow$$

Condition: Nasal is stem final

Display:

<i>/ari-okan-ko-le/</i>	<i>/tom-ko/</i>	<i>/ari-maŋ-kote/</i>
<i>go-dur.-R.past-I</i>	<i>chicken.pen-dir.</i>	<i>go-hab.R.past-I</i>
<i>[aʔi-okan-go-le]</i>	<i>[tom-go]</i>	
<i>I went repeatedly</i>	<i>to the chicken pen</i>	<i>I always went</i>

Reduction

Some kinds of reduction take place with verbs and non-verbs. The nasals ŋ reduces before its homorganic voiced stop.

$$(14) \begin{array}{c} \text{optional} \\ \text{ŋ} \\ \left[ \begin{array}{l} +cns \\ +nas \\ +bac \end{array} \right] \end{array} \longrightarrow \emptyset / \begin{array}{c} g \\ \left[ \begin{array}{l} +cns \\ -con \\ +vd \\ +bac \end{array} \right] \end{array}$$

There is a suggestion of a wider rule including all nasals but so far the data does not support it and n does not delete before t.

Display:

<i>/menəŋ-go/</i>	<i>/pɛre -go-le/</i>
<i>old garden-dir.</i>	<i>scrape-past-I</i>
<i>[menəgo]</i>	<i>[pɛre-go-le]</i>
<i>to the old garden</i>	<i>I scraped</i>

The stem final p of nouns with a  $\left[ \begin{array}{l} +syl \\ +hi \end{array} \right]$  vowel preceding it, that p becomes optionally u.

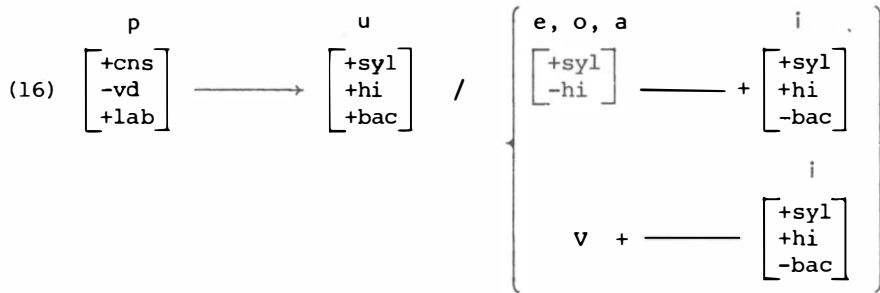
$$(15) \begin{array}{c} \text{optional} \\ p \\ \left[ \begin{array}{l} +cns \\ -vd \\ +lab \end{array} \right] \end{array} \longrightarrow \begin{array}{c} u \\ \left[ \begin{array}{l} +syl \\ +hi \\ +bac \\ +vd \end{array} \right] \end{array} / \begin{array}{c} u, i \\ \left[ \begin{array}{l} +syl \\ +hi \end{array} \right] \end{array} \longrightarrow \begin{array}{c} i \\ \left[ \begin{array}{l} +syl \\ +hi \\ -bac \end{array} \right] \end{array}$$

Display:

	/pizup-ine/ <i>beard-his</i>		/pizup-ine/ <i>beard-his</i>
Rule 15	pizuu-ine		pizup-ine
Rule 20	[pizuine] <i>his beard</i>		[pizup-ine] <i>his beard</i>
	/zolip-ine/ <i>finger.nail-his</i>	/zolip-ine/	/zolip-ine/
Rule 15	zoliu-ine	zoliu-ine	zolip-ine
Rule 18		zoliu-ne	
	[zoliuine] <i>his fingernail</i>	[zoliune]	[zolipine]

Phoneme p obligatorily becomes u when it is an affix on a verb stem preceded by a  $\begin{bmatrix} +syl \\ +hi \end{bmatrix}$  vowel. p obligatorily becomes u also when the p is noun stem final and preceded by  $\begin{bmatrix} +syl \\ -hi \end{bmatrix}$  vowels.

obligatory



Display:

	/gerep-ine/ <i>firewood-his</i>		/nagap-ine/ <i>thumb-his</i>
Rule 16	gereu-ine		nagau-ine
Rule 20	gereu-ne		nagau-ne
	[gεreune] <i>his firewood</i>		[nagaune] <i>his thumb</i>
	/ari-pi/ <i>go -they</i>	/ore-pi/ <i>sing-they</i>	/peu-pi/ <i>weave-they</i>
Rule 16	ari-ui	ore-ui	peu-ui
Rule 19	ari-u	ore-u	peu-u
Rule 20			peu-∅
	[ariu] <i>they go</i>	[oreu] <i>they sing</i>	[peu] <i>they weave</i>

Phoneme u becomes b when it follows a verb stem final voiced consonant.

$$(17) \begin{array}{c} u \\ \left[ \begin{array}{c} +\text{syl} \\ +\text{hi} \\ +\text{bac} \end{array} \right] \end{array} \longrightarrow \begin{array}{c} b \\ \left[ \begin{array}{c} +\text{cns} \\ +\text{vd} \\ +\text{lab} \end{array} \right] \end{array} / \begin{array}{c} \left[ \begin{array}{c} +\text{cns} \\ +\text{vd} \end{array} \right] + \text{---} \end{array}$$

Display:

<p>/okan-ue/ <i>do-I</i></p> <p>[okanbe] <i>I do</i></p>	<p>/perɛŋ-ui/ <i>scrape-they</i></p> <p>[perɛŋbi] <i>they scrape</i></p>
--	--

Phoneme i optionally deletes when it is the first letter of the possession suffix on a noun, when the last two letters of the noun are i and u respectively.

optional

$$(18) \begin{array}{c} i \\ \left[ \begin{array}{c} +\text{syl} \\ +\text{hi} \\ -\text{bac} \end{array} \right] \end{array} \longrightarrow \emptyset / \begin{array}{c} i \\ \left[ \begin{array}{c} +\text{syl} \\ +\text{hi} \\ -\text{bac} \end{array} \right] \end{array} \quad \begin{array}{c} u \\ \left[ \begin{array}{c} +\text{syl} \\ +\text{hi} \\ +\text{bac} \end{array} \right] \end{array} + \text{---}$$

Display:

	/zɔlip-ine/	/zɔlip-ine/	/zɔlip-ine/
Rule 15	zoliu-ine	zoliu-ine	
Rule 18		zolinu-ne	
	[zoliuine]	[zoliune]	[zɔlipine] <i>his fingernail</i>

Phoneme i obligatorily deletes when is part of a verb suffix preceded by u and any other V respectively. It also obligatorily deletes when it is the first letter of the possessive suffix preceded by u and any other V obligatorily.

obligatory

$$(19) \begin{array}{c} i \\ \left[ \begin{array}{c} +\text{syl} \\ +\text{hi} \\ -\text{bac} \end{array} \right] \end{array} \longrightarrow \emptyset / \left. \begin{array}{l} \begin{array}{c} u \\ v + \left[ \begin{array}{c} +\text{syl} \\ +\text{hi} \\ +\text{bac} \end{array} \right] \text{---} \\ \\ e, o, a \quad \begin{array}{c} u \\ \left[ \begin{array}{c} +\text{syl} \\ -\text{hi} \end{array} \right] \quad \left[ \begin{array}{c} +\text{syl} \\ -\text{hi} \\ +\text{bac} \end{array} \right] + \text{---} \end{array} \end{array} \right\}$$

Display:

	/ari-pi/	/gerep-ine/
Rule 15	ari-ui	gereu-ine
Rule 19	[ari-u] <i>they go</i>	[gɛreu-ine] <i>his firewood</i>

Identical consonants and vowels reduce when juxtaposed.

(20) [Fi] → ∅ / [Fi] \_\_\_\_\_

Display:

/ari-i-le/ go-N.past-I [ari-le]	<i>I went</i>
/tat-me-etne/ older brother-dim.-3rd.dl.poss. [tatmeɛtne]	<i>their (dl.) older brother</i>
/purup-pe/ spit-I [purupe]	<i>I spit</i>
/batik-ka/ pig's tail-like [batika]	<i>like a pig's tail</i>
/det-te/ hear-you (dl.) [dete]	<i>you (dl.) hear</i>

5.2. Verb morphophonemics

Verb stems ending in the vowels a and e are raised to the next highest [-bac] vowel when followed by the near past tense morpheme -i-. a and e take on the features of [-hi], [-lo], and [+hi], respectively, as stated in the rule below. The reader is referred to Appendix E for reference throughout this discussion. Additional reference is found in the verb displays in Appendix F.

(21) 
$$\begin{matrix} a, e \\ \left[ \begin{array}{c} +syl \\ -bac \\ -hi \\ \alpha lo \end{array} \right] \end{matrix} \longrightarrow \begin{matrix} e, i \\ \left[ \begin{array}{c} -\alpha hi \\ -lo \end{array} \right] \end{matrix} / \text{---} \begin{matrix} i \\ \left[ \begin{array}{c} +syl \\ -bac \\ +hi \end{array} \right] \end{matrix}$$

Condition: the structural description is verb stem final.

Display:

/ka-i-le/ <i>see.it-N.past-I</i> [kele]	Rule 21	/gbe-i-le/ <i>hit.it-N.past-I</i> [gbi-le]
---	---------	--

The phoneme i deletes in the near past tense and future tense when preceded by [-lo] vowels.

(22) 
$$\begin{matrix} i \\ \left[ \begin{array}{c} +syl \\ -bac \\ +hi \\ +tense \end{array} \right] \end{matrix} \longrightarrow \emptyset / \begin{matrix} e, i, o, u \\ \left[ \begin{array}{c} +syl \\ -lo \end{array} \right] \end{matrix} \text{---}$$

Display:

(N.A. stands for 'not applicable')

/ka-i-le/ <i>see-N.past-I</i>		/peu-ike-ne/ <i>plait-fut.-you</i>
ke-i-le	Rule 21	
[ke-le]	Rule 22	[peu-ke-ne]
/ari-i-ne/ <i>go-N.past-you</i>		/kito-ike-te/ <i>cut-fut.-you</i>
[ari-ne]		[kito-ke-te]

The phoneme *i* deletes in the present tense morpheme when there is [+hi] vowel in the environment of the final syllable.

$$(23) \begin{array}{c} i \\ \left[ \begin{array}{l} +\text{syl} \\ -\text{bac} \\ +\text{hi} \\ +\text{tense} \end{array} \right] \longrightarrow \emptyset / \text{---} \text{C} \begin{array}{c} i \\ \left[ \begin{array}{l} +\text{syl} \\ -\text{bac} \\ +\text{hi} \end{array} \right] \quad (\text{C}) \# \end{array}$$

Display:

/ari-mai-mit/ <i>go-pres.-you (dl.)</i>	
[ari-mai-mit]	Rule 23

The phoneme *k* in the penultimate syllable deletes when there is a *k* in the final syllable of a word. This occurs throughout when third person singular -*ke*, follows -*ko-* (R.past), and -*ike-* (fut.).

$$(24) \begin{array}{c} k \\ \left[ \begin{array}{l} +\text{cns} \\ +\text{bac} \\ -\text{vd} \\ +\text{tense} \end{array} \right] \longrightarrow \emptyset / \text{---} \text{v} \begin{array}{c} k \\ \left[ \begin{array}{l} +\text{cns} \\ +\text{bac} \\ -\text{vd} \end{array} \right] \quad \text{v} \# \end{array}$$

Display:

/ari-ko-ke/ <i>go-R.past-he</i>	
[ari-ke]	Rule 24

For some reason the *o* phoneme of far past also deletes. There is, however, phonological evidence that the non-complex vowel sequence *i.o* has very restricted distribution. This writer has only located one example of it in his data. Compare this to Appendix B.

The *g* of the habitual aspect marker -*mage-* takes on the feature of [+nas] when there is a *k* in the penultimate syllable.

$$(25) \begin{array}{c} g \\ \left[ \begin{array}{l} +\text{cns} \\ +\text{bac} \\ -\text{vd} \end{array} \right] \longrightarrow [+nas] / \text{---} \text{v} \begin{array}{c} k \\ \left[ \begin{array}{l} +\text{cns} \\ +\text{bac} \\ -\text{vd} \end{array} \right] \end{array}$$

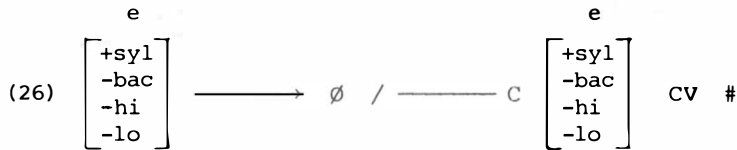
Condition: The environment is in the penultimate syllable.

Display:

/ari-mage-ike-ne/  
 go-hab.-fut.-you      Rule 21 N.A.  
 ari-mage-ke-ne      Rule 22  
                                  Rule 23 N.A.  
                                  Rule 24 N.A.  
 \*ari-mage-ke-ne      Rule 25

\*Rule 20 brings the above intermediate form to surface form.

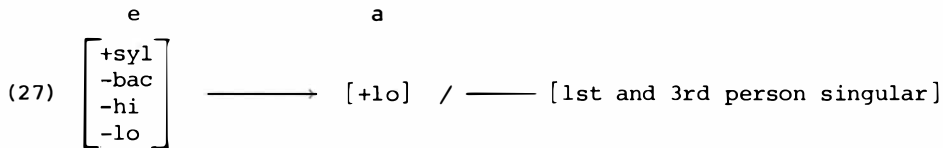
The e of the habitual aspect marker -mage- deletes when followed by the consonant e, another CV pattern and juncture.



Display:

ari-mage-ke-ne  
 go-hab.-fut.-you  
 [ari-maŋ-ke-ne]      Rule 26

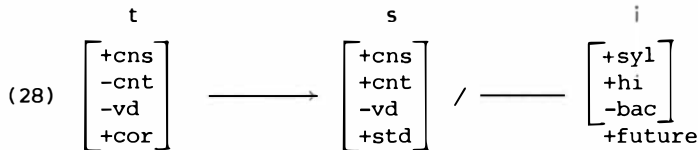
The e of the future tense morpheme -ike- becomes a when the environment has the features of first and third person singular. There is no phonological constraint here to change e to a or any other vowel for that matter. The constraint is morphological.



Display:

/ari-ike-le/  
 go-fut.-I  
 [ari-ke-le]      Rule 22  
 [ari-ka-le]      Rule 27

When a verb stem ends with t, the t becomes s when i of the future tense follows.



Display:

/det-ike-ne/  
*hear-fut.-you*  
 [des-ike-ne]                      Rule 28

t on the same stems becomes r before i (N.past). This is treated as a morpheme feature.

Display:

/det-i-le/  
*hear-N.past-I*  
 [der-i-le]

Similar variations between t and r occur with some stem final t's on nouns before vowels. Wacke (1931) suggests that there is in fact free variation between stem final t and r before vowels. This will be treated further under non-verb morphophonemics.

### 5.3. Non-verb morphophonemics

There are relatively few suffixes added to non-verbs. These suffixes are possession, number, a diminutive, and a locative. Case and emphatic markers are attached to free pronouns. The case endings for nominative and agent are rarely used with nouns. A set of possessive suffixes is also attached to obligatorily possessed nouns such as body parts and kin terms. The possessive 3rd person singular seems to act like an adjectiviser on nouns but whether or not there is a semantic distinction in the mind of the Ono speaker between third person possessive and adjectives has not been resolved.

For the sake of clarity I will discuss the following rules under the headings 'nouns' and 'pronouns' since the nouns and pronouns have different suffixes juxtaposed.

Nouns

As I mentioned before, only a few nouns are obligatorily possessed. Likewise few suffixes affect morphophonemic change.

The u or the locative morpheme uo deletes when any vowel except i stands stem final in a noun.

u

(29)  $\left[ \begin{array}{l} +\text{syl} \\ +\text{hi} \\ +\text{bac} \end{array} \right] \longrightarrow \emptyset / \text{v} \text{ ---}$

Condition: The vowel is not i and following morpheme is locative.

Display:

/tiri- <u>uo</u> /	/zake- <u>uo</u> /
<i>steps-<u>on</u></i>	<i>table-<u>on</u></i>
[tiri- <u>uo</u> ]	[zake- <u>o</u> ]

Rule 29



The same u of the locative becomes k when it follows a stem final consonant.

$$(30) \begin{array}{c} u \\ \left[ \begin{array}{c} +syl \\ +hi \\ +bac \end{array} \right] \end{array} \longrightarrow \begin{array}{c} k \\ \left[ \begin{array}{c} +cns \\ -vd \\ +bac \end{array} \right] \end{array} / C \text{ —————}$$

Condition: folloiwng morpheme is locative.

Display:

/mat-yo/  
house-at  
[mat-ko]                      Rule 30

I noted before there is some fluctuation between t and r in the stem final position of nouns and verbs. Wacke has noted this. When the possessive -ine follows a noun such as tat- *sibling*; the t is often r but Ono speakers seem to prefer to see it as t, tatine *his older sibling*, when reading.

However, when the numeral -etke- *two* follows tat-, literate Ono speakers read the t as r, tar-etke-ne *my two older siblings*.

Similarly, the final voiceless stop noun stem final becomes voiced when followed by -ze 1st (pl.). The Ono reader prefers to see t rather than d written on the page. CC patterns do not allow voiced stops initial in a sequence.

Examples:

[tat-se]    *our* (dl.) *older sibling*  
[tad-ze]    *our* (pl.) *older silbing*

When noun stems are reduplicated and t or d stand initial, the t and d become r in the reduplicated portion of the word. Examples are the following:

takot    *shirt*                                      takorakot    *an exchange*  
doku    *water*                                      dokuroku    *slippery*

$$(31) \begin{array}{c} t, d \\ \left[ \begin{array}{c} +cns \\ -con \\ +cor \end{array} \right] \end{array} \longrightarrow \begin{array}{c} r \\ \left[ \begin{array}{c} +cns \\ +con \end{array} \right] \end{array} / \text{stem} \neq \text{———— VCV(C)}$$

Condition: Structural description is noun stem initial.

Pronouns

The pronoun paradigm on the following table, exhibit some similar changes found elsewhere in Ono speech. The nominative, possessive, locative and comitative personel and emphatic pronoun suffixes operate similarly. The agentive case will be handled separately.

The underlying forms are the following.

Personal pronouns

	Singular	Dual	Plural
1st person	naŋ-	ŋer-	ŋen-
2nd person	geŋ-	ŋir-	ŋin-
3rd person	eŋ-	er-	eŋ-

## Emphatic pronouns

	Singular	Dual	Plural
1st person	na-	ner-	nen-
2nd person	geŋ-	ŋir-	ŋin-
3rd person	eŋ-	er-	en-

The emphatic pronouns underlying forms are:

	Singular	Dual	Plural
1st person	-e-	-s-	-z-
2nd person	-ŋon-	-ŋitin-	-ŋin-
3rd person	-in-	-etin-	-nen-

The case endings are:

Nominative	-e-
Possessive	-wane
Comitative	-erop ~ arek
Locative	-wo ~ wano

## Personal Pronouns

		Singular	Dual	Plural
1st person	Nominative	na	ner-e	nen-e
	Agent	noŋo	ŋeto	ŋedo
	Possessive	naŋ-ane	ner-ane	nen-ane
	Locative	naŋ-ano	ner-ano	nen-ano
2nd person	Nominative	ge	ŋir-e	ŋin-e
	Agent	goŋo	ŋito	ŋido
	Possessive	geŋ-ane	ŋir-ane	ŋin-ane
	Locative	geŋ-ano	ŋir-ano	ŋin-ano
3rd person	Nominative	eŋ-e	er-e	eŋ-e
	Agent	oŋo	eto	edo
	Possessive	eŋ-ane	er-ane	eŋ-ane
	Locative	eŋ-ano	er-ano	eŋ-ano

## Emphatic Pronouns

		Singular	Dual	Plural
1st person	Nominative	na-e	ŋet-s-e	ŋet-z-e
	Agent	noŋom	ŋetom	ŋetom
	Possessive	na-e-ŋane	ŋet-s-ane	ŋet-z-ane
	Comitative	na-e-rop	ŋet-s-arek	ŋet-z-arek
	Locative	na-e-ŋo	ŋet-s-ano	ŋet-z-ano
2nd person	Nominative	geŋ-on-e	ŋir-itin-e	ŋin-ŋin-e
	Agent	goŋom	ŋitom	ŋidom
	Possessive	goŋ-on-ane	ŋir-itn-ane	ŋin-ŋin-ane
	Comitative	geŋ-on-erop	ŋir-itn-arek	ŋin-ŋin-arek
	Locative	geŋ-on-o	ŋir-itn-o	ŋin-ŋin-o

		Singular	Dual	Plural
3rd person	Nominative	eŋ-in-e	er-etn-e	en-ŋen-e
	Agent	eŋom	etom	edom
	Possessive	eŋ-in-ane	er-etn-ane	en-ŋen-ane
	Comitative	eŋ-in-erop	er-etn-arek	en-ŋen-arek
	Locative	eŋ-in-o	er-etn-o	en-ŋen-o

On the basis of the paradigm and these underlying forms the following rules can be formulated.

The final vowel *-i-* in the emphatic second person dual *-ŋitin-* deletes when a CVC precedes it and a C and morpheme boundary follow it.

$$(32) \quad v \longrightarrow \emptyset / \text{CVC} \text{ — } C \text{ —}$$

Condition: CVC — C is the penultimate morpheme.

Display:

/ŋir-ŋitin-arek/  
 ŋir-ŋitn-arek  
*you (two) together* (emp.)      Rule 32

The u beginning forms such as *uane* (poss.), *uo ~ uano* (locative) delete following consonants. The above forms are all found as free forms elsewhere in the language.

$$(33) \quad \begin{matrix} w \\ \left[ \begin{array}{l} -\text{syl} \\ -\text{cns} \\ +\text{hi} \\ +\text{bac} \end{array} \right] \end{matrix} \longrightarrow \emptyset / C \text{ —}$$

Display:

/ŋer-uano/ [ŋer-ano] <i>to our (two)</i>	Rule 33	/en-ŋen-uo/ [en-ŋen-o] <i>towards them</i> (emp.)
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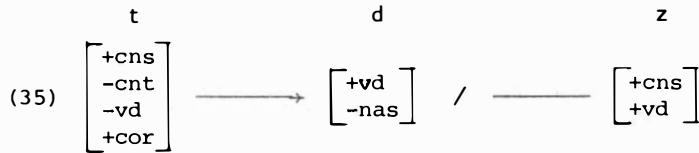
The pronoun stem final *r* and *n* become *t* before consonants [+std].

$$(34) \quad \begin{matrix} r, n \\ \left[ \begin{array}{l} +\text{cnt} \\ -\text{str} \\ +\text{vd} \\ -\text{lat} \\ +\text{cor} \end{array} \right] \end{matrix} \longrightarrow \begin{matrix} t \\ \left[ \begin{array}{l} -\text{cnt} \\ -\text{vd} \\ -\text{nas} \end{array} \right] \end{matrix} / \text{ — } [+str]$$

Display:

/ŋer-s-arek/ [ŋet-s-arek] <i>we (two) together</i> (emp.)	Rule 34	/ŋen-z-arek/ [ŋet-z-arek] <i>we</i> (pl.) <i>together</i> (emp.)
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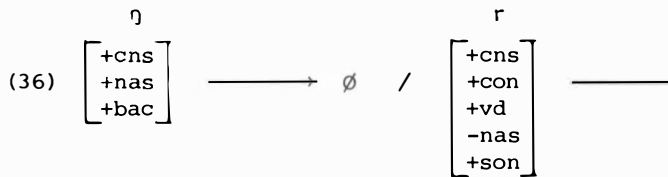
*t* then becomes *d* when followed by a voiced consonant.



Display:

/ŋen-z-arek/  
 ŋet-z-arek                      Rule 34  
 [ŋed-z-arek]                    Rule 35  
*we (pl.) together (emp.)*

ŋ deletes when it follows the stem final liquid r. The CC pattern of Ono does not permit a nasal to follow a consonant +son. Cf. page 189, rule 12.



Display:

/ŋir-ŋitin-arek/  
 ŋir-ŋitn-arek                    Rule 32  
 [ŋir-itn-arek]                   Rule 36  
*you (two) together (emp.)*

The agentive forms require further explanation. They do not easily break into morphemes. There is an agentive suffix -ŋo that is sometimes added to nouns. This would possibly account for the first, second, and third person singular personal pronouns forms noŋo, goŋo, and oŋo. The ŋ would delete adjacent to an ŋ and vowel harmony would occur. However, when the dual and plural forms are examined, vowel harmony breaks down and the ŋ deletes with no apparent reason. It is the author's view that, whatever happened historically in the language, the intervocalic t and d in the dual and plural forms seem to represent a CC sequence in the minds of Ono speakers. This proposed CC sequence does not allow the vowel harmony to take place.

The emphatic agent marker may historically be -ŋom, analogous to -nom (2nd person imperative), used with verbs. The same process described above would take place. At any rate, further data will be needed before a solution can be reached.

APPENDIX A: LIST OF SYMBOLS AND ABBREVIATIONS

Symbols

C	= any consonant
V	= any vowel
∅	= null segment: infers deletion of a segment
→	= 'becomes' (when one segment is replaced by another)
+ or -/	= morpheme boundary
#	= word boundary
/ —	= 'the environment of'
{ }	= choice of one of several environments within braces
\$	= syllable boundary in rules. . = syllable boundary in text
Fi	= represents all the features of whatever it represents consonant or vowel

Abbreviations

ag.	= agent
dl.	= dual
dur.	= durative aspect
F.	= clause final person-number verb suffix
fut.	= future tense
hab.	= habitual aspect
imp.	= imperative
M.	= clause medial person-number verb suffix
N.past	= near past tense
pl.	= plural
R.past	= remote past tense

APPENDIX B

Complex vowel sequences

ei	nei <i>man</i> teine <i>ivory</i>	ieine <i>nothing</i>
eu	beuk <i>death</i> seuseu <i>death</i>	peumaike <i>he smokes</i> eu <i>garden</i>
ae	baem <i>gable end</i> kaet <i>fear</i>	kasae <i>kind of tree</i>
ai	maine <i>good</i> dai <i>white hardwood</i>	kait <i>face</i>
au	gaune <i>husband</i> naok <i>mother</i>	uaom <i>big man</i>

oe	oe <i>what</i> koboemaikē <i>it pulls straight</i> toe <i>he tears it</i>	soep <i>meat</i>
ou	touk <i>grass</i> qoune <i>its smell</i>	uoune <i>seed</i>
oi	uoine <i>his urine</i> momoine <i>cold</i>	lokoine <i>watery</i>
au	zaun <i>arrow</i> iaup <i>nothing</i>	naune <i>leafy</i>

## Non-complex vowel sequences

i.a	niat <i>cockroach</i> sia <i>island</i>	tiak <i>chicken</i> biana <i>flying fox</i>
i.e	uiemaikē <i>he gets up</i> kiek <i>start</i>	kiene <i>my foot</i>
i.o	lopio <i>cult worship</i>	
(This is the only sequence of this kind found in the language.)		
i.u	siukmaikē <i>he gets lost</i> ariu <i>you (pl.) go</i>	
e.a	peam <i>peace</i> memea <i>earthquake</i>	beap <i>bride price</i>
e.o	deo <i>where</i> yaleoka <i>at once</i>	daleo <i>what</i>
u.i	asuine <i>its breath</i> duine <i>its lid</i>	muiuo <i>kind of yam</i>
u.e	qelue <i>cassowary</i>	
u.a	suabit <i>snake</i> suamaikē <i>he grows up</i>	kuluak <i>kind of bird</i>
u.o	ruo <i>night</i>	uekuoka <i>on one place</i>
o.a	boaq <i>later</i> boakmaikē <i>to swear to something</i>	maloam <i>flea</i>

## APPENDIX C: UNDERLYING FORMS

-ne (1st sing poss.), -ine (3rd sing poss.)

momop <i>circle</i>	mopmopne	mopmoune	
mulap <i>vine</i>	mulapne	mulaune	
bokup <i>walking stick</i>	bokupne	bokupine	bokuine
sasap <i>dead leaves</i>		sasaune	
sip <i>insect</i>	sipne	siune	
solip <i>comb</i>	solipne	soliuine	solipine

timup <i>wood bore</i>		timupine	timuine
uap <i>father's brother</i>	uapne	uanune	
zipzip <i>dry</i>		zipziune	zipziuine
			zipzipine
zolip <i>fingernail</i>	zolipne	zoliune	zoliune
			zoliuine
			zolipine
asu <i>breath</i>	asune	asuine	
zop <i>hair</i>	zopne	zoune	
bitop <i>boil</i>	bitopne	bitoune	
quop <i>smell</i>	qopne	qoune	
uop <i>stomach</i>	uopne	uoune	
ɲerep <i>woman</i>	ɲerepne	ɲereune	
mukep <i>sleeping mat</i>	mukepne	mukeune	
medep <i>child</i>	medepne	medeune	
mep <i>chin</i>	mepne	meune	
nagap <i>thumb</i>	nagapne	nagaune	
gerep <i>fire</i>	gerepne	gereune	
pizup <i>beard</i>	pizupne	pizupine	
ɲilip <i>pig tusks</i>		ɲilipine	ɲiliuine
			ɲiliane
			ɲilipine
bakop <i>a kind of taro</i>	bakopne	bakoune	
kolop <i>arm pit</i>	kolopne	koloune	
metezamop <i>passed down possessions</i>	metezamopne	metezamoune	

APPENDIX D: CONSONANT SEQUENCES IN VERB PARADIGMS

	-pe <i>I (imp.)</i>	-te <i>you (dl.)</i>	-kep <i>he (imp.)</i>	-mai (pres.) <i>-ke he</i>	-nom <i>you (imp.)</i>	-ɲem <i>we (imp.)</i>
purup <i>spit</i>	purupe	purupte	purupkep	purupmaike	purupnom	purupɲem
det <i>hear</i>	detpe	dete	detkep	detmaike	detnom	detɲem
qak <i>pour</i>	qakpe	qakte	qakep	qakmaike	qaknom	qakɲem
okan <i>become</i>	okanbe	okante	okangep	okanmaike	okanom	okanɲem
murunɟ <i>lead</i> <i>the way</i>	murunɟbe	murunɟte	murunɟkep	murunɟmaike	murunɟnom	murunɟem

## APPENDIX D: CONSONANT SEQUENCES IN NOUNS

	-ne <i>my</i>	-se <i>our</i> (dl.)	-ze <i>our</i> (pl.)
uap <i>father's brother</i>	uapne	uapse	uapze
tat <i>older sibling</i>	tatne	tatse	tatze
uaom <i>lord</i>	uaomne	uaomse	uaomze
aton <i>daughter-in-law</i>	atone	atonse	atonze
aborj <i>belongings</i>	aborjne	aborjse	aborjze

	-ko (dir.)	-ka <i>like</i> never changes
talop <i>mountain</i>	talopko	
mat <i>house</i>	matko	
tomok <i>bush</i>	tomoko	
tom <i>chicken pen</i>	tomgo	
digin <i>flat ground</i>	digingo	
menaj <i>old garden</i>	menago	
ueŋem <i>blood</i>		wenemka
kizen <i>blue</i>		kizenka

## APPENDIX E

Below are listed the underlying forms of the morphemes that undergo morphophonemic change. The verb stem *ari- to go* is used throughout the paradigms. The suffixes are ranked according to the distance from the stem.

Aspect: -mage- (habitual action)  
 -okan- (durative action)

Tense: -mai- (pres.)  
 -i- (N.past)  
 -ko- (R.past)  
 -ike- (fut.)

## Pronoun affixes

Person-number:

-le *I*  
 -ne *you*  
 -ke *he, she, it*  
 -te *we* (dl.)  
 -ne *we* (pl.)  
 -mi *you, they* (pl.)  
 -mit *you, they* (dl.)  
 -i *you, they* (pl.)  
 -it *you, they* (dl.)



Imperative person-number affixes

- pe *I*
- nom *you*
- kep *he, she, it*
- ŋem *we*
- te *we (dl.)*
- pi *you, they (pl.)*
- pit *you, they (dl.)*

The above person-number affixes are all clause final forms. The imperative with one variation, 'he, she, it' is used on clause medial verb forms signalling subject change in the clause final form of the verb.

Suffix ranking

	Stem	I	II	III
Pres	ari-		-mai-	-le
	ari-		-mai-	-ne
	ari-		-mai-	-ke
	ari-		-mai-	-ne
	ari-		-mai-	-te
	ari-		-ma-	-mi
	ari-		-ma-	-mit
Near past	ari-			-le
	ari-			-ne
	ari-			-ke
	ari-			-ne
	ari-			-te
	ari-			-mi
	ari-			-mit
Far past	ari-		-ko-	-le
	ari-		-ko-	-ne
	ari-		--	-ke
	ari-		-ko-	-ne-
	ari-		-ko-	-te
	ari-		-ko-	-i
	ari-		-ko-	-it
Future	ari		-ka-	-le
	ari		-ke-	-ne
	ari		-a-	-ke
	ari		-ke-	-ne
	ari		-ke-	-te
	ari		-ke-	-i
	ari		-ke-	-it
Imperative	ari			-ue
	ari			-nom
	ari			-kep
	ari			-ŋem
	ari			-te
	ari			-u
	ari			-ut

	Stem	I	II	III
Habitual past	ari-	-maŋ-	-ko-	-le
	ari-	-maŋ-	-ko-	-ne
	ari-	-mage-	--	-ke
	ari-	-maŋ-	-ko-	-ne
	ari-	-maŋ-	-ko-	-te
	ari-	-maŋ-	-ko-	-i
	ari-	-maŋ-	-ko-	-it
Habitual future	ari-	-maŋ-	-ka-	-le
	ari-	-maŋ-	-ke-	-ne
	ari-	-mage-	-a-	-ke
	ari-	-maŋ-	-ke-	-ne
	ari-	-maŋ-	-ke-	-te
	ari-	-maŋ-	-ke-	-i
	ari-	-maŋ-	-ke-	-it
Habitual imperative	ari-	-mage-		-ue
	ari-	-mage-		-nom
	ari-	-mage-		-kep
	ari-	-mage-		-ŋem
	ari-	-mage-		-te
	ari-	-mage-		-u
	ari-	-mage		-ut
Durative present	ari-	-okan-	-mai-	-le
	ari-	-okan-	-mai-	-ne
	ari-	-okan-	-mai-	-ke
	ari-	-okan-	-mai	-ne
	ari-	-okan-	-mai-	-te
	ari-	-okan-	-ma-	-mi
	ari-	-okan-	-ma-	-mit
Durative near past	ari-	-okan-	-i-	-le
	ari-	-okan-	-i-	-ne
	ari-	-okan-	-i-	-ke
	ari-	-okan-	-i-	-ne
	ari-	-okan-	-i-	-te
	ari-	-okan-	-i-	-mi
	ari-	-okan-	-i-	-mit
Durative far past	ari-	-okan-	-go-	-le
	ari-	-okan-	-go-	-ne
	ari-	-okan-	--	-ge
	ari-	-okan-	-go-	-ne
	ari-	-okan-	-go-	-te
	ari-	-okan-	-go-	-i
	ari-	-okan-	-go-	-it
Durative future	ari-	-okan-	-ika-	-le
	ari-	-okan-	-ike-	-ne
	ari-	-okan-	-ia-	-ke
	ari-	-okan-	-ike-	-ne
	ari-	-okan-	-ike-	-te
	ari-	-okan-	-ike-	-i
	ari-	-okan-	-ike-	-it

	Stem	I	II	III
Durative imperative	ari-	-okan-		-be
	ari-	-okan-		-nom
	ari-	-okan-		-gep
	ari-	-okan-		-ŋem
	ari-	-okan-		-te
	ari-	-okan-		-bi
	ari-	-okan-		-bit
Clause medial forms	ari-			-ue
	ari-			-nom
	ari-			-ki
	ari-			-ŋem
	ari-			-te
	ari-			-u
	ari-			-ut

The verb stems affect some morphophonemic changes in the affixes. Verbs may have the following segments in the stem final position: the nasals n, and ŋ the stops p, t, and k; and all the vowels i, e, a, o, and u. Only the paradigms that deviate from the regular forms used with *ari to go* will be listed here. Some semantically impossible forms are listed in the paradigm but are marked by an asterisk (\*).

	nan- <i>give</i> <i>to me</i>	I	II	III
Near past	*nan-		-i-	-le
	nan-		-i-	-ne
	nan-		-i-	-ke
	*nan-		-i-	-ne
	*nan-		-i-	-te
	nan-		-i-	-mi
	nan-		-i-	-mit
Far past	*nan-		-go-	-le
	nan-		-go-	-ne
	nan-		--	-ge
	*nan-		-go-	-ne
	*nan-		-go-	-te
	nan-		-go-	-i
	nan-		-go-	-it
Imperative	*nan-			-be
	nan-			-nom
	nan-			-gep
	*nan-			-ŋem
	*nan-			-te
	nan-			-be
	nan-			-bit
Clause medial form	*nan-			-be
	nan-			-nom
	nan-			-gi
	*nan-			-ŋem
	*nan-			-te
	nan-			-bi
	nan-			-bit

	nan- <i>give</i> <i>to me</i>	I	II	III
Future	*nan- nan- nan- *nan- *nan- nan- nan-		-ika- -ike- -ia- -ike- -ike- -ike- -ike-	-le -ne -ke- -ne -te -i -it
	perɛŋ- <i>to</i> <i>scrape, strum</i>			
Near past	perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ-		-i- -i- -i- -i- -i- -i- -i-	-le -ne -ke -ne -te -mi -mit
Far past	perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ-		-go- -go- -- -go- -go- -go- -go-	-le -ne -ge -ne -te -i -it
Imperative	perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ-			-be -nom -kep -em -te -bi -bit
Clause medial form	perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ-			-be -nom -ki -ŋem -te -bi -bit
Future	perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ- perɛŋ-		-ga- -ge- -gea- -ge- -ge- -ge- -ge-	-le -ne -ke -ne -te -i -it

	purup- <i>to spit</i> ( <i>of betelnut</i> )	I	II	III
Near past	purup-		-ki-	-le
	purup-		-ki-	-ne
	purup-		-ki-	-ke
	purup-		-i-	-ne
	purup-		-ki-	-te
	purup-		-ki-	-mi
	purup-		-ki-	-mit
Imperative	purup-		-ke-	-pe
	purup-		-ke-	-nom
	purup-		-ke-	-kep
	purup-		-ke-	-ɲem
	purup-		-ke-	-te
	purup-		-ke-	-mi
	purup-		-ke-	-pi
Clause medial form	purup-		-ke-	-pe
	purup-		-ke-	-nom
	purup-		-ke-	-ki
	purup-		-ke-	-ɲem
	purup-		-ke-	-te
	purup-		-ke-	-pi
	purup-		-ke-	-pit
Future	purup-		-ika-	-le
	purup-		-ike-	-ne
	purup-		-ia-	-ke
	purup-		-ike-	-ne
	purup-		-ike-	-te
	purup-		-ike-	-i
	purup-		-ike-	-it
	det- <i>to hear</i>			
Present	det-		-mai-	-le
	det-		-mai-	-ne
	det-		-mai-	-ke
	det-		-mai-	-ne
	det-		-mai-	-te
	det-		-ma-	-mi
	det-		-ma-	-mit
Near past	der-		-i-	-le
	der-		-i-	-ne
	der-		-i-	-ke
	der-		-i-	-ne
	der-		-i-	-te
	der-		-i-	-mi
	der-		-i-	-mit

	det- <i>to hear</i>	I	II	III
Far past	det-		-ko-	-le
	det-		-ko-	-ne
	det-		--	-ke
	det-		-ko-	-ne
	det-		-ko-	-te
	det-		-ko-	-i
	det-		-ko-	-it
Imperative	det-			-pe
	det-			-nom
	det-			-kep
	det-			-ŋem
	det-			-te
	det-			-pi
Clause medial form	det-			-pe
	det-			-nom
	det-			-ki
	det-			-ŋem
	det-			-te
	det-			-pi
	det-			-pit
	det-		-ika-	-le
	det-		-ike-	-ne
	det-		-ia-	-ke
	det-		-ike-	-ne
	det-		-ike-	-te
	det-		-ike-	-i
	det-		-ike-	-it
	<i>pilik- to extin-</i> <i>guish (a fire)</i>			
Near past	pilik-		-i-	-le
	pilik-		-i-	-ne
	pilik-		-i-	-ke
	pilik-		-i-	-ne
	pilik-		-i-	-mi
	pilik-		-i-	-mit
Far past	pilik-		-ko-	-le
	pilik-		-ko-	-ne
	pilik-		--	-ke
	pilik-		-ko-	-ne
	pilik-		-ko-	-ne
	pilik-		-ko-	-te
	pilik-		-ko-	-i
	pilik-		-ko-	-it

	pilik- <i>to extinguish (a fire)</i>	I	II	III	
Imperative	pilik-			-pe	
	pilik-			-nom	
	pilik-			-kep	
	pilik-			-ŋem	
	pilik-			-te	
	pilik-			-pi	
Clause medial form	pilik-			-pit	
	pilik-			-pe	
	pilik-			-nom	
	pilik-			-i	
	pilik-			-ŋem	
	pilik-			-te	
Future	pilik-			-pi	
	pilik-			-pit	
	pilik-		-ika-	-le	
	pilik-		-ike-	-ne	
	pilik-		-ia-	-ke	
	pilik-		-ike-	-ne	
	pilik-		-ike-	-te	
	pilik-		-ike-	-i	
	pilik-		-ike-	-it	
		peu- <i>to make a string bag</i>			
	Imperative	peu-			-ue
		peu-			-nom
peu-				-kep	
peu-				-ŋem	
peu-				-te	
peu-				-u	
	peu-			-ut	
		kito- <i>to cut</i>			
	Imperative	kito-			-ue
		kito-			-nom
		kito-			-kep
		kito-			-ŋem
kito-				-te	
kito-				-u	
	kito-			-ut	
		qi- <i>hit it</i>			
	Near past	qi-			-le
		qi-			-ne
		qi-			-ke
		qi-			-ne
qi-				-te	
qi-				-mi	
	qi-			-mit	

	qe- <i>hit it</i>	I	II	III
Future	qe-		-ka-	-le
	qe-		-ke-	-ne
	qe-		-a-	-ke
	qe-		-ke-	-ne
	qe-		-ke-	-te
	qe-		-ke-	-i
	qe-		-ke-	-it
Imperative	qe-			-ue
	qe-			-nom
	qe-			-kep
	qe-			-nem
	qe-			-te
	qe-			-u
	qe-			-ut
	ka- <i>to see it</i>			
Near past	ke-			-le
	ke-			-ne
	ke-			-ke
	ke-			-ne
	ke-			-te
	ke-			-mi
	ka- <i>to see it</i>			
Future	ka-		-ika-	-le
	ka-		-ike-	-ne
	ka-		-ia-	-ke
	ka-		-ike-	-ne
	ka-		-ike-	-te
	ka-		-ike-	-i
	ka-		-ike-	-it
	ka-			-ue
	ka-			-nom
	ka-			-kep
	ka-			-nem
	ka-			-te
	ka-			-u
	ka-			-ut

## APPENDIX F: VERB DISPLAYS

/ka-i-le/  
see it-N.past-I

ke-i-le

[ke-le]

Rule 15

Rule 16

[qe-i-le]  
hit it-N.past-I

qi-i-le

[qi-le]



Exception i of future tense does not raise the stem final vowels in the surface forms below.

[ka-ika-le]		[qe-ka-le]
<i>see it-fut.-I</i>		<i>hit it-fut.-I</i>
/ari-mai-mit/		/ari-mai-mi/
<i>go-pres.-they</i> (dl.)		<i>go-pres.-they</i> (pl.)
[ari-mai-mit]	Rule 17	[ari-ma-mi]
/ari-mage-ike-le/		/ari-mage-ike-ne/
<i>go-hab.-fut.-I</i>		<i>go-hab.-fut.-you</i>
ari-mage-ke-le	Rule 17	ari-mage-ke-ne
ari-maŋe-ke-le	Rule 19	ari-maŋe-ke-ne
ari-maŋ-ke-le	Rule 20	[ari-maŋ-ke-ne]
[ari-maŋ-ka-le]	Rule 21	
/ari-mage-ike-ke/		
<i>go-hab.-fut.-he</i>		
ari-mage-ke-ke	Rule 17	
ari-mage-e-ke	Rule 18	
[ari-mage-a-ke]	Rule 21	
/ari-okan-ko-ke/		/ari-okan-go-le/
<i>go-dur.-R.past-he</i>		<i>go-dur.-R.past-he</i>
ari-okan-ke	Rule 18	
[ari-okan-ge]	Rule 14	[ari-okan-go-le]
/nan-ki/		/nan-kep/
<i>see me-he</i> (M)		<i>see me-he</i> (imp.)
[nan-gi]	Rule 18	[nan-gep]

ACKNOWLEDGEMENTS

I would like to acknowledge the help of the Ono speakers, particularly those of Kip village, Finschhafen Electoral District, Papua New Guinea, in teaching me their language. Edeŋ and Efami Awakile are two men who have worked with me closely. To my advisory committee, Dr Eugene Loos, Chairman, Dr John Crawford, and Dr Joe Peterson, I wish to express my appreciation. Dr Eugene Loos has given me his time unreservedly in both practical and theoretical help. Dr Crawford has been a great source of encouragement also. I also want to thank those of my church and family in Thornhill, Ontario, Canada, for their support, financially and spiritually, through my three and a half years in Papua New Guinea.

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## A SKETCH OF AU MORPHOLOGY AND SYNTAX

David Scorza

### INTRODUCTORY REMARKS

Au is an unusual Papuan language spoken by some 4,100 inhabitants living in the East-West Wapei Council area east of Lumi, the subprovince headquarters of the West Sepik Province in Northern Papua New Guinea.

The data used in this paper are the result of research in Au carried out by the author and his wife from 1968 to 1977. Fieldwork has been done primarily in the Central dialect in the village of Tumentonik. Other dialects include the Eastern dialect and the Southern dialect which are all mutually intelligible. All research has been conducted under the auspices of the Summer Institute of Linguistics.

Much of the data was extracted from the morpheme by morpheme concordance of Au consisting of 43,332 words of text made on the IBM 1410 Computer at the University of Oklahoma by the Linguistic Information Retrieval Project and partially funded by National Science Foundation Grant GS-934.

I gratefully acknowledge the assistance of several men from Tumentonik and a number of linguists from the Summer Institute of Linguistics in Papua New Guinea, without whom the analysis upon which this paper is based could not have been done.

I am particularly grateful to Karl Franklin who has generously given of his time and expertise in directing the writing of this paper through all of its stages. And I wish to express my appreciation to Stephen Wallace, Marvin Mayers and Kenneth McElhanon for their helpful suggestions in the revision and editing of the manuscript.<sup>1</sup>

### 0. GENERAL INTRODUCTION

The Au language is spoken by 4,100 people living in the East-West Wapei Council area east of Lumi, the subprovince headquarters of the Sandaun Province in Papua New Guinea. There are three dialects: the Eastern spoken by 2,300 people living in eight villages, the Western spoken by 600 people living in three villages, and the Central, upon which this analysis is based, spoken by 1,200 people living in eight villages.

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*Papers in New Guinea Linguistics* No.22, 215-273.

*Pacific Linguistics*, A.63, 1985.

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Au is a member of the Wapei family, which together with other languages make up the Wapei-Palei stock, part of the larger Torricelli Phylum. These languages are spoken along the Torricelli mountains. Laycock (1973:7), an authority on the area states, "The Torricelli group appears to have no related languages outside of the Sepik-Ramu area...the phonology differs from that of most other Sepik groups in permitting vowel sequences and in having a large number of vowel phonemes". In a later volume (1975:768) he states, "The Torricelli Phylum appears to constitute a genetic group in itself; that is, no other languages in the New Guinea area appear to be even distantly related to it". Earlier in the same volume (1975:178) a very detailed comparison is given of features separating Australian, the Trans-New Guinea Phylum, the Sepik-Ramu Phylum and Melanesian (an Austronesian subgrouping). In having compared the chart of general characteristics outlined by Wurm with Au, we find the results suggest that Au does not compare favourably with any of them. (See Section 4. for a detailed explanation.) Apart from the survey work carried out by Laycock (1967-68, 1970-71), none of the languages of the Torricelli Phylum have been studied in detail. As part of the Torricelli Phylum, Au is part of a little studied genetic group different from any other phylum of Papua New Guinea languages. Both the Trans-New Guinea Phylum and the Sepik-Ramu Phylum have medial verb forms and a rigid subject-object-verb word order. Au has no medial verb forms, and its basic word order is rigidly fixed as subject-verb-object. Although these features would therefore make Au seem like an Austronesian type language, it remains distinct by virtue of other criteria.

### 0.1. Theory

The analysis presented in the following sections describes in detail the word classes, phrases and clauses, or an overview of the basic grammatical structure of Au, using a format adapted from the tagmemic model of Pike (1967).

The analysis presented here uses a simple prose description for word classes and phrases unless there are several classes of fillers for the phrases. In such cases and for clauses, a bi-dimensional array of the internal structure of the construction which is under consideration is also given, followed by the normal prose elaboration of the array. In every case, examples of the external distribution of the constructions are given.

### 0.2. Contrastive features

Contrastive features are those features which distinguish the various types of classes or constructions within a level. The general rule which has been followed is taken from Longacre (1964:47), who states that there must be at least two contrastive features between constructions and at least one of these differences must involve the nuclear and/or obligatory tagmas (constituents). Contrastive features which distinguish distinctive types of constructions for the levels above word are:

- (1) Contrastive categories, functions and distribution of constituents.
- (2) Number of obligatory constituents and their potential expansion.
- (3) Number of optional constituents and their potential expansion.

These are all related to the internal structure of the construction. External distribution is also important and is the primary criterion of formation for

word classes which will be discussed in sections 2 and 3. Chart A summarises the contrastive features used within each level. Tense restrictions, subject restrictions and linking devices have been omitted from consideration because they are pertinent only on levels above clause.

Contrastive features	Phrase	Clause	Sen	Para	Discourse
Kinds of constituents	X	X	X	X	X
Number of obligatory constituents	X	X	X	X	X
Number of optional constituents	X	X	X	X	X

Chart A: Contrastive features

#### 0.2.1. Kinds of constituents

The kinds of constituents and their relationships to one another is a very significant contrastive feature and is the basis for distinguishing types of constructions on each level. The name of the constituents reflects as much as possible the contrastive categories, functions and relationships that exist between constituents in a given construction type so that these features are more quickly recognised. For example, an intensive pronoun phrase indicates that the word class pronoun has a particular function (intensive) and is a phrase level construction.

#### 0.2.2. Number and potential expansion of obligatory constituents

The number and potential expansion of obligatory constituents is significant in that some types of constructions have more obligatory constituents than others. Most constructions at each level have at least two obligatory constituents. Also, in some types the obligatory constituents have optional expansion possibilities. For example, the Counter 1 of a general numeral phrase may occur up to six (6) times, whereas the Counter 2 may occur only once.

#### 0.2.3. Number of optional constituents and their potential expansion

The number of optional constituents and their potential expansion is significant in that some types have no optional constituents while others do. In some constructions the optional constituents are potentially able to occur more than once, while in others they may occur only one time.

#### 0.2.4. Linking devices

Although linking devices are primarily manifested at the sentence level or higher, they are one of the phenomena which distinguish Au from other languages in Papua New Guinea, especially non-Austronesian languages. Most of these languages have special forms for the verbs which occur medially in the sentence. These serve to chain together sentences which are part of a larger unit. In Au although there are no medial verb forms, there is the common Papuan phenomenon known as recapitulation, a type of chaining that links sentences together within higher units. When this occurs, the final verb of the final clause (and occasionally two to three final clauses) is repeated at the beginning of the next sentence. Clause level constituents other than the verb may also occur in the recapitulation, including the subject of the final clause. Often the recapitulation linkage may carry new information which is an amplification of the previous clause.

Juxtaposition is another linking device. Clauses are usually chained together in this manner, and the pronominal subject markers, which normally occur in the clause, will be omitted in subsequent clauses.

#### 0.3. Presentation

In our outline and presentation of Au grammar in this paper, an inventory of Au phonemes is given first, followed by comments on stress (which is predictable), and concluded with the few basic morphophonemic rules that occur.

Section 1 treats verb classes first from the perspective of derivation; following that, the verb classes are considered in relation to their inflection.

Section 2 treats non-verbal word classes in a manner parallel to section 1, looking both at derivation and inflection.

Section 3 outlines the basic phrase types and shows the extensive agreement of numerals, personal pronouns and all noun-adjuncts to the nuclear or primary constituent (or head) of the constructions under consideration.

Section 4 focuses on the Au clauses. Clauses are described by dividing them into independent and dependent clauses and describing them from the perspectives of transitivity and mode. Subject cross-reference is also discussed with examples used to reflect its operation between constituents, particularly reference back to the subject.

Section 5 is a summary of the syntactic and morphological features which have been described in the earlier sections with an explanation of their significance in the overall function of Au grammar.

Section 6 outlines features described up to this point in the grammar, as well as additional features not discussed earlier by comparing them to other Papuan languages. The results of this comparative study show that Au has many aberrant features which give a solid basis for Laycock (1975:768) to rate the Torricelli Phylum as a linguistic group separate from other Papuan languages.

### 0.3.1. Segmental phonemes

There are 17 phonemes which represent the phonological system for Au; there are eight consonants, two semivowels and seven vowels. These are indicated below:

Consonants:	stops	:	/p/	/t/	/k/	
	fricatives	:	/s/	/g/	(voiced velar fricative)	
	nasals	:	/m/	/n/		
	flap	:	/r/			
Semivowels:	/w/	/y/				
Vowels:	high front close unrounded	:	/i/			
	high central close unrounded	:	/ɨ/			
	high back close rounded	:	/u/			
	mid central close unrounded	:	/ʌ/	symbolised /e/		
	mid back close rounded	:	/o/			
	low central close unrounded	:	/a/			
	low central close unrounded	:	/aa/	(lengthened vowel)		

The lengthened vowel symbolised as /aa/ has two distinct manifestations. In the central dialect, the lengthened vowel is interrupted by a glottal stop. /aʔa/, but in the phonological analysis has been considered as a single syllabic unit. This phenomenon does not occur in the Eastern dialect.

### 0.3.2. Stress

Stress normally occurs on the first syllable of a word, which may have up to four syllables. Some exceptions are noted below:

(a) The vowel /ɨ/ is never stressed unless the only vowels in the word are /e/ or another /ɨ/. Examples are:

- |            |              |               |                 |
|------------|--------------|---------------|-----------------|
| (1) mɨ́tɨk | <i>man</i>   | (4) k-ɨ́rɨr   | <i>he-flees</i> |
| (2) mɨ́te  | <i>woman</i> | (5) k-ɨ́sáwɨn | <i>he-hides</i> |
| (3) hɨ́ne  | <i>knife</i> | (6) k-á́tɨp   | <i>he-talks</i> |

(b) The vowel /e/ is never stressed unless the only other vowels are /ɨ/ or another /e/. Examples are:

- |              |                   |                |                  |
|--------------|-------------------|----------------|------------------|
| (7) né́pere  | <i>dog</i>        | (9) k-ewá́t    | <i>he-gives</i>  |
| (8) pé́rpere | <i>flying fox</i> | (10) k-ekíntɨp | <i>he-steals</i> |

### 0.3.3. Morphophonemics

Stem reductions and vowel alternations are the two most important types of changes occurring in Au when affixation occurs on verb stems.

(a) Stem reduction — there are two types which occur:

(1.) The last vowel /ɨ/ is lost when a suffix is attached to the verb stem.\*  
Examples are:

- (11) k-atɪn k-etn-ɪwek *he cuts it*  
*he-cuts he-cuts-it*

\*This happens only to the vowel /ɪ/.

- (12) k-ɪnkətɪn k-ɪnketn-ɪwek *he hunts for it*  
*he-hunts for he-hunts for-it*

(2.) The final vowel of the initial word of any sequence is dropped when the next word begins with a vowel. Examples are:

- (13) pɪk pɪk ano *I will return*  
*again again I-will go*

(b) Vowel alternation

(1.) Initial verb stem vowel a alters to e and initial verb stem vowel u alters to ɪ when followed by p (the continuous aspect marker) or when a pronoun object is suffixed to the verb as in example (16). Examples are:

- (14) k-atɪp k-e-(p)-tɪp *he keeps on talking*  
*he-talks he-cont-talks*
- (15) k-uwaai k-ɪ-(p)-waai *he keeps on sleeping*  
*he-sleeps he-cont-sleeps*
- (16) k-atɪn k-etn-ɪwek *he cuts it*  
*he-cuts he-cuts-it*

(2.) All initial verb stem vowels alter to a when future tense/aspect is formed. The subject-marking prefix is also reduplicated, and this second form appears immediately following the altered stem vowel. Examples are:

- (17) k-ewat k-(a)-k-wat *he will give*  
*he-gives he-(give)-will-give*
- (18) k-uwaai k-a-k-waai *he will sleep*  
*he-sleeps he-(sleep)-will-sleep*

(c) Vowel epenthesis, or the insertion of a vowel, occurs in some forms when the future tense/aspect is formed. This is to separate homorganic stops or nasals from occurring juxtaposed and causing one of them to be deleted. Examples are:

- (19) n-en n-an-+no *they will go*  
*they-go they-will-()-go*
- (20) k-akɪp k-akɪ-kɪp *he will strike him*  
*he-hit-him he-will-hit-him*
- base forms: before epenthesis  
 n-an-no *they will go*  
 k-ak-kɪp *he will hit him*

(d) Vowel raising

(1.) Initial verb stem vowels which are low or mid-central are raised when the imperative aspect prefix e is affixed to the initial verb stem. Examples are:

- (21) k-entar e-k-ɪntar  
*he-because imp-he-because*



- (22) k-erp            e-kɪrp  
       *he-stands*      *imp-he-stands*

(2.) The last low or central vowel in verb stems raises to e when an object is affixed to the stem. The last central vowel in the verb stem raised to ɪ when an object suffix with a front or central vowel is affixed to the verb stem.

Examples are:

- (23) k-entar            k-enter-ik  
       *he-on*            *he-on-it*
- (24) k-ɪnain            k-ɪnein-ɪk  
       *he-fears*        *he-fears-it*
- (25) k-ises            k-isis-a  
       *he-follows*      *he-follows-me*
- (26) k-ehimɪtan        k-ehimɪten-ɪwek  
       *he marks*        *me-marks-for him*

## 1. VERBAL WORD CLASSES

### 1.1. Introduction

In Au the verb is the most diverse and interesting of all the word classes; verbs are interesting because of their unusual inflectional activity. Within the verbal framework, there are various classes distinguished on the basis of the different inflectional affixes which may occur, and also on the basis of the stem changes and formation, along with the distribution of verbs in higher level constructions. The verb classes are: (1) transitive, (2) ditransitive, (3) intransitive, and (4) stative. The various affixation phenomena which appear with each class will be discussed in pertinent subsections below. These affixes include subject markers, tense/aspect markers, object markers, plural/diversification markers, and reciprocation marking affixes.

Before considering the verbal classifications in any detail, it is first necessary to comment on word formation. Several of these words in the above named classes do not follow the normal pattern of affixation and need to be explained on the basis of word derivation.

### 1.2. Derivation

Verbs may be formed in Au through compounding into noun-verb, verb-noun or verb-verb combinations. The restrictions on affixation will be discussed under each of the appropriate sections as the various compound words are considered.

#### 1.2.1. Noun-verb compounds

The nouns which combine with the verbs to make up this set of compound words are restricted to body parts. The verb inflects for the person, gender and number of the noun which it follows, and describes the state of that noun. Examples of these compounds are:

- (27) han - k-aa            *forgets*  
       heart - *it-dies*
- (28) han - tewen-in      *likes; feels affection toward*  
       heart - *bends-pl*
- (29) hemkre - m-enep-am      *desires strongly; covets*  
       blood - *they-hit- recip.*

### 1.2.2. Verb-noun compounds

In this set of compound words, the verb occurs in primary position and the noun (again limited to body parts) acts as qualifier of the action. Since most nouns do not inflect (see section 3.3.), no concord is shown between the verb and the noun. The verb, however, does take on an affix and inflects for person, gender and number of the subject of the construction in which it appears as the predicate. Examples are:

- (30) k-eket - han            *he remembers*  
       *he-digs out - heart*
- (31) k-ewen - naan        *he spys on*  
       *he-bends down - eye*
- (32) k-uwaai - naan        *he looks around*  
       *he-lays down - eye*
- (33) k-ewir - his          *he punches*  
       *he-throws - hand*
- (34) k-uwaai - hit         *he kicks*  
       *he-lays down - leg*
- (35) k-ikia-m - naan      *he looks up*  
       *he-lifts-them - eye*

### 1.2.3. Verb-verb compounds

This set of compounds is different from those in previous sets. Both of these verbs inflect; in the other sets only one constituent took on affixation. Both of these verbs must inflect identically for person, gender and number of the subject of the construction in which they appear. They manifest the predicate in clause constructions. Examples are:

- (36) k-enke - k-ari        *he hangs upside down*  
       *he-falls - he-pulls*
- (37) k-atip - k-ises        *he gossips*  
       *he-talks - he-follows*
- (38) k-ewirnak - k-eitet    *he warns against*  
       *he-throws - he follows*

### 1.3. Inflection

Inflectional affixation, as mentioned in the introduction of this section, is one of the primary bases for distinguishing classes of verbs. Even though some of the verbs have subject or object markers as part of their construction, there are others which may optionally infix the object markers preceding the final syllable of the word. There are co-occurrence restrictions which occur with some of these classes, which will be handled as each type is described.

It is interesting to note that in their uninflected state, all verbs begin with a vowel while all the nouns begin either with a semivowel or a consonant.

#### 1.3.1. Inflectional affixation

Before any of the classes of verbals can be adequately described, it first will be necessary to show the order in which the affixes occur in relation to the verb stem. There are three types of affixes: prefixes, infixes and suffixes.

##### (a) Prefixes

Prefixes are subject markers which inflect in accordance with the cross-reference system which occurs in Au. These prefixes mark the subject of a clause, as well as optionally marking tense/aspect. See Chart B.

	Singular	Dual	Plural
1st person	h-	w-	m-
2nd person	h-	y-	y-
3rd person			
masc	k-	t-	n-
fem	w-	n-	
neut	k-	m-	m-

Chart B: Subject marking prefixes

Examples are:

- (39) k-ir    *he-sees*;                      k-ak-ir    *he-will-see*  
 (40) k-enep *he-hits*;                      k-ak-nep    *he-will-hit*

(b) Infixes function in two ways, either by marking the verb for tense/aspect, or by marking the object within the verb stem. Aspect marker p occurs optionally following the first vowel of the verb. Examples are:

- (41) k-at-i-p    *he talks*                      k-e-(p)-t-i-p    *he keeps on*  
       *he-talks*                                      *he-talks-(cont)-talks*    *talking*  
 (42) k-au        *he sits*                                      k-e-p-u            *he keeps on*  
       *he sits*                                      *he-sits-(cont)-sits*    *sitting*

Infixed object markers optionally occur preceding the last syllable of the verb. Only certain transitive verbs take these markers in this position (see section 1.3.2.-(d)). They only occur when the object of the verb in a clause level construction is a bound form.

(c) Suffixes

There are four types of suffixes: (1) resultative (first order), (2) benefactive (second order), (3) objective (third order), and (4) reciprocal action. The reciprocal action suffix generally appears alone, and is mutually exclusive with benefactive and objective, but occurs occasionally following resultative.

Resultative suffix is formed by duplicating the final consonant of the verb and adding a vowel to maintain a pattern of vowel harmony. If the final syllable contains a high vowel, the reduplicated vowel will be /i/, but if it is a low or mid vowel, the reduplicated vowel will be an /e/. Resultative suffix refines the basic semantic content of the verb. Examples are shown below.

- |      |                               |                    |   |                                   |
|------|-------------------------------|--------------------|---|-----------------------------------|
| (43) | k-erekir<br><i>he-cuts-it</i> | <i>he cuts it;</i> | k-erekir- <u>ir</u><br><i>he-cuts-it-re</i> | <i>he cuts in into<br/>pieces</i> |
| (44) | k-eniuwes<br><i>he-laughs</i> | <i>he laughs;</i>  | k-eniuwes- <u>is</u><br><i>he-laughs-pl</i> | <i>he laughs and<br/>laughs</i>   |

Benefactive suffix affixes only to ditransitive verbs. Examples of these forms can be seen in 1.3.3. Chart C below indicates their formation.

	Singular	Dual	Plural
1st person	-o / -au	-awir	-ai / -aiu
2nd person	-ut / -it	-i	-i
3rd person			
masc	-uwek	-uwek <i>it</i>	-or / -ir
fem	-uwe	-or / -ir	
neut	-uwek	-irem	-irem

Chart C: Benefactive suffixes

Objective suffixes follow benefactive suffixes when they co-occur affixed to ditransitive verbs. Examples of these forms can be seen in 1.3.3. Suffixes manifesting 3rd person singular and dual have several manifestations which are phonologically determined. See Chart D.



(b) Subclass two transitive verbs may only take free noun objects. Examples are:

(50) k-irak tukin      *he beats the slit gong drum*  
       *he-beats slit gong*

(51) k-enep sak      *he shot the pig*  
       *he-shot pig*

(c) Subclass three transitive verbs have discontinuous morphemes as their stems; the infixed pronoun refers to the subject, not the object as is the case in other transitive verbs. Examples follow where *inatin* is the stem for *to hunt*.

(52) k-in-(k)-atin sak      *he hunts for pigs*  
       *he-hunts-(he)-hunts pig*

(53) w-in-(w)-atin wise      *she hunts for grasshoppers*  
       *she-hunts-(she)-hunts grasshoppers*

(d) Subclass four transitive verbs have an object occurring as part of the verb stem. These objects occur only in the third person and may be singular, dual or plural. These are indicated in Chart E.

	Singular	Dual	Plural
3rd person			
masc	-k-	-t-	-n-
fem	-h-	-n-	
neut	-k-	-m-	-m-

Chart E: Verb stem object markers

Examples are:

(54) k-ere-k-ir      *he cuts it*  
       *he-cuts-it-cuts*

(55) k-a-k-ip      *he hits him*  
       *he-hits-him-hits*

(e) Subclass five transitive verbs optionally take infixed object pronouns in place of free pronouns. These verbs take the benefactive object pronouns as an infix while at the same time taking direct object pronouns as a suffix. Examples are:

(56) k-it-uwek-hi-em      *he asks him about them*  
       *he-asks-him-asks-of them*

(57) k-emit-uwek-pin      *he lies to him*  
       *he-lies-to him-lies*

(f) Subclass six transitive verbs take no subject marking or tense/aspect prefixes. These are composed of derived verbs. See section 2.2.1. for a full explanation. Examples are:

- (58) han k-aa hine kirak he forgot his knife  
heart it-dies knife it-his
- (59) han tewen-en nikan k-ire she mourns for her son  
hear bends-pl son it-hers

(g) Subclass seven transitive verbs are irregular. The stem changes for each person because the object pronoun is wholly integrated into the verb and as such is indistinguishable from it. See Chart F for examples.

	Singular	Dual	Plural
1st person	k-eiyep he-hit-me	k-ewep-ir he-hit-us (two)	k-ewep he-hit-us (pl)
2nd person	k-itep he-hit-you	k-iyep he-hit-you (two)	k-iyep he-hit-you (pl)
3rd person			
masc	k-akip he-hit-him	k-aksip he-hit-them (two)	k-anip he-hit-them (pl)
fem	k-aaup he-hit-her	k-anip he-hit-them (two)	k-anip he-hit-them (pl)
neut	k-akip he-hit-it	k-amip he-hit-them (two)	k-amip he-hit-them (pl)

Chart F: Irregular stem verb

### 1.3.3. Ditransitive verbs

Ditransitive verbs do not divide into classes. They take both benefactive and direct object suffixes optionally in place of free nouns that normally occur in that position. Examples are:

- (60) k-etp-uwek-em he tells something to him  
he-tells-to him-them
- (61) k-ewet-uwe menmen he gave food to her  
he-gave-to her food

### 1.3.4. Intransitive verbs

There are two subclasses of intransitive verbs, regular and irregular. Intransitive verbs manifest the predicate constituent of intransitive clauses.

(a) Subclass one intransitive verbs are regular in that the stem does not change when co-occurring with future tense/aspect affixation. Examples are:

- |      |           |            |               |               |
|------|-----------|------------|---------------|---------------|
| (62) | k-ekir    | he washes; | k-ak-ikir     | he will wash  |
|      | he washes |            | he-will-wash  |               |
| (63) | k-irire   | he dances; | k-ak-rire     | he will dance |
|      | he dances |            | he-will dance |               |

Note the morphophonemic rules in operation in the future tense examples of the above verbs. See section 0.3.3. on rules of vowel alternation.

(b) Subclass two intransitive verbs are irregular in that the stem changes when co-occurring with future tense/aspect affixation. Examples are:

- |      |                 |           |                     |              |
|------|-----------------|-----------|---------------------|--------------|
| (64) | k-en            | he goes;  | k-ak-no             | he will go   |
|      | he-goes         |           | he-will-go          |              |
|      | basic stem: -en |           | altered stem: -ano  |              |
| (65) | k-an            | he comes; | k-ak-nen            | he will come |
|      | he-comes        |           | he-will-come        |              |
|      | basic stem: -an |           | altered stem: -anen |              |

## 2. NON-VERBAL CLASSES

### 2.1. Introduction

Non-verbal word classes are distinguished on the basis of their external distribution in phrase and clause level constructions, and by the internal structure of the particular word class. Some words are grouped into subclasses on the basis of additional distribution and internal structure (inflection versus non-inflection). Since non-inflecting words do not demonstrate concord with other constituents of higher level constructions (i.e. clauses and sentences) in which they appear, they are totally dependent on their juxtaposed constituents (on the levels, particularly phrase) to show how they relate to these higher level constructions. In Au, the largest class of non-inflected words appearing in the lexicon are nouns, although other classes or words also have members which do not inflect; these include some adverbs and adjectives.

Words which may inflect constitute the most important classes which occur in Au. The inflection which marks the words for person, gender and number makes up the main component of the cross-reference system which operates on the clause and sentence levels. As has been previously demonstrated in section 2, the verbal word classes are very complex, taking affixation which not only includes prefixes and suffixes, but infixes as well; they may have instances of up to five syntactic categories marked by inflection in one word. The non-verbal classes, however, when inflected, have affixation preceding or following the word, and such affixation is limited to one occurrence per word.

In this section we will consider the derivation of non-verbal words, and then relate inflection to the word classes as they are applicable.

### 2.2. Derivation

Non-verbal words can be formed in Au through compounding. This involves grouping words such as non-adjective, noun-noun, and the reduplication of words and stems.



## 2.2.1. Reduplicated stems

Most non-verbal words in Au are uninflected free forms which are complete units in themselves. There are, however, a few reduplicated stems which occur, such as the following classes:

## (a) Adjectives

(66) yain-yain      *lazy*(67) wei-wei      *soft*

## (b) Adverbs

(68) main-main      *slowly; quietly*(69) was-was      *quickly*

## (c) Nouns

(70) kukir-kukir      *noise (of footsteps)*(71) tapin-tapin      *gooseflesh bumps*(72) ker-ker      *noise (of pounding)*(73) hin-hin      *arrow design*

## (d) Verbs

(74) han-han      *desire; love*(75) ehin-hin      *to be startled*(76) eper-per      *shake with fear*(77) etari-tari      *to be insensible; crazy; drunk*

The morphophonemic rule of vowel deletion occurs in the formation of verbs (75)-(77); this rule is discussed in section 0.3.3.

## 2.2.2. Noun-adjective compounds

The words which combine with adjectives are limited to body part nouns. These form new words which describe a state of being or a condition. Examples are:

(78) hit - noki-m      *a long way*  
leg - long-them(79) han - enu-k      *unhappy; angry*  
heart - bad-it(80) yink - enu-m      *embarrassed*  
skin - bad-them(81) yink - sisi      *fever*  
skin - hot

## 2.2.3. Noun-noun compounds

These compounds combine a noun in primary position which takes the role of qualifier. There are others which reduplicate and show a function of diversification or plurality. Both of these are described below.

## (a) Noun-noun qualifier compound

This compound involves a noun in primary position containing a generic term, followed by a noun expressing a specific name or relation. Examples are:

- |      |                                    |                                     |
|------|------------------------------------|-------------------------------------|
| (82) | mani Opan<br>river Opan            | <i>Opan river</i>                   |
| (83) | maam n pu<br>grandparent appendage | <i>clan hero; great grandparent</i> |
| (84) | nikan suware<br>son chicken        | <i>man's sister's son; nephew</i>   |
| (85) | hore him<br>bird mouth             | <i>eagle; hawk</i>                  |
| (86) | meni nikan<br>Tumbuan son          | <i>Tumbuan son figure</i>           |
| (87) | sak miyak<br>pig marsupial         | <i>animals</i>                      |

## (b) Noun-noun compound – diversification/plurality

This compound involves reduplicating the first word to produce the effect of diversification or plurality. Examples are:

- |      |  |                                      |
|------|--|--------------------------------------|
| (88) | wit - wit<br>village - village                               | <i>everywhere; in all villages</i>   |
| (89) | wi ham - w <sup>+</sup> - ha-m<br>day some - day - some-them | <i>sometimes</i>                     |
| (90) | ekrit - ekrit<br>morning - morning                           | <i>daily; every morning</i>          |
| (91) | n-iutip n-iutip<br>they-one - they-one                       | <i>everyone; each one; one each</i>  |
| (92) | tipmain tipmain<br>later - later                             | <i>forever; a long time from now</i> |

## 2.3. Inflection

The most frequently occurring class of inflecting non-verbal words is the pronoun. This class includes general pronouns (subject), reflexive pronouns, demonstrative pronouns and possessive pronouns, all of which occur as free forms. The interrogative pronouns (also free forms) are described below in the section on interrogatives. The bound pronoun forms occurring as affixes in conjunction with verbals include both benefactive and objective classes which have been discussed in section 1.3.1.-(c) where verbs and their affixation are described.

Other word classes which may be inflected include adjectives, nouns (including numeral and locational) and interrogatives. Inflection will be discussed in relation to how each of the above classes manifest it.

### 2.3.1. Nouns

Numerals and locational nouns may inflect for person, personal nouns inflect only for number. These are the only classes of nouns that inflect. Their description follows.

(a) General personal nouns change their basic form to show number and appear in most noun phrases. The few forms which occur manifest no consistent pattern of inflectional endings. Examples are:

- (93) *mīt*            *men* (plural)  
       *men*
- (94) *mītik*        *man*  
       *man*
- (95) *mītikit*      *men*  
       *men*
- (96) *mīte*         *woman*  
       *woman*
- (97) *miyepir*     *women* (dual and plural)  
       *women*

(b) Kinship personal nouns have the same co-occurrence restrictions as the general personal nouns. These kinship nouns are obligatorily possessed. They also inflect to show number as illustrated in (99) and (101). In this class *rer* (plural) is the only form suffixed to show plurality. Examples are:

- (98) *maam*        *k-ai*            *my grandfather*  
       *grandparent he-mine*
- (99) *maam-rer*    *n-aiu*          *our ancestors*  
       *ancestor-pl they ours*
- (100) *haai*        *k-irak*         *his father*  
       *father he-his*
- (101) *haai-rer*   *n-aiu*          *our fathers, our leaders*  
       *father-pl they-ours*

(c) Locational nouns function as the main locational and modifier constituents in general locative phrases (examples 102-104) and in the main locational position in the positional locative phrase (example 105). Examples are:

- (102) *k-inik*      *winak*         *under the house*  
       *it-under house*
- (103) *k-entar*     *yeno*           *on the bed*  
       *it-on bed*
- (104) *k-irapit*    *winak*         *next to the house*  
       *it-adjoins house*

- (105) menep ein        *near there*  
       near there

(d) Numerals inflect for gender and number, but the person expressed is always third person. Only the primary numerals one and two inflect. Examples are as follows:

- (106) k-iutip        *one*  
       he/it-one
- (107) p-iutip        *one*  
       she-one
- (108) wiketer-es     *two*  
       two-dl.male
- (109) wiketer-em     *two*  
       two-dl.neut
- (110) wiketer-i      *two*  
       two-dl.fem

### 2.3.2. Adjectives

Adjectives function as modifiers in phrase level constructions and inflect for the gender and number of the constituent which they modify. In some instances, adjectives function the same as adverbs by intensifying the quality of the modifier (examples 113-114). Examples of adjectives as modifiers are:

- (111) paap noki-k     *long stick*  
       stick long-it
- (112) menmen enu-m    *bad food*  
       food bad-them
- (113) winak weini-k    *empty house*  
       house empty-it

Examples of adjectives functioning the same as adverbs are:

- (114) noki-m    enu-m        *very long*  
       long-them very-them
- (115) toki-k enu-k        *very old*  
       old-it very-it

### 2.3.3. Interrogatives

There are five interrogative forms, translated by the question words 'who, what, why, where, when and how', and these function as interrogative constituents in clause level constructions. Some examples are:

- (116) k-ewai meruri    *when?*  
       it-when
- (117) k-enmak         *why?*  
       it-why

- (118) k-erkeik    *how; where?*  
           *it-how*
- (119) k-eimtn    *who?*  
           *he-who*
- (120) meka-k    *what?*  
           *what-it*

#### 2.3.4. Free pronouns

Free pronouns are the most frequently occurring class of words in Au. Since they always occur in clause constructions manifesting subject or object constituents, they are vital to the smooth operation of the cross-reference system. This will be explained in detail in section 5.

There are four subclasses of free pronouns. These generally substitute for nouns but, unlike nouns, may not be modified by adjectives. Pronouns may manifest subject and object constituents in clause level constructions, and intensifier, possessive and specifier constituents in phrase level constructions. The classes of bound pronouns which occur affixed to verbs have been described previously in section 1.3.1. The four subclasses of free pronouns are described below.

(a) General pronouns manifest subject constituents in clause level constructions, and Head 1 in co-ordinate phrases when substituting for a noun. Chart G indicates the basic pronoun forms.

	Singular	Dual	Plural
1st person	hī	hawīr	haiu
2nd person	ti	yi	yi
3rd person			
masc	hīrak	hīrakīt	hīr
fem	hīre	hīr	
neut	hīrak	hīrem	hīrem

Chart G: Personal pronouns

(b) Reflexive pronouns (subclass two) function only as intensifier constituents in the intensive pronoun phrases (i.e. you yourself, he himself, etc.) which are described in section 3. Chart H indicates the basic pronoun forms.

	Singular	Dual	Plural
1st person	hira-kes	hira-kses	hira-s
2nd person	hira-kes	hira-s	hira-s
3rd person			
masc	hira-kes	hira-kses	hira-s
fem	hira-hes	hira-s	
neut	hira-kes	hira-mes	hira-mes

Chart H: Reflexive pronouns

(c) Subclass three demonstrative pronouns function as qualifier constituents in the general noun phrases (i.e. *these things, those things, etc.*). Chart I indicates the basic forms.

	Singular	Dual	Plural
this	ik	it	im
that	eik	eit	eim

Chart I: Demonstrative pronouns

(d) Subclass four pronouns are possessive which function as possessive constituents in general noun phrases.

Of all word classes which are non-verbal, the possessive pronouns are the most complex and occur more often than nouns in phrase constructions. The initial consonant marks the gender and the number of the item possessed, and the remainder of the word marks the person, gender and number of the possessor. Chart J illustrates this by means of two parameters: the horizontal parameter indicates the item possessed, while the vertical parameter indicates the possessor. This class set as a whole illustrates the concord between constituents more clearly than any other class of inflecting words.

	Masc-Neut Singular	Feminine Singular	Masculine Dual	Masc-Fem Plural	Neuter Plural
1st sing	k-ai	p-ai	t-ai	n-ai	m-ai
2nd sing	k-it	p-it	t-it	n-it	m-it
3rd sing masc/neut	k-irak	p-irak	t-irak	n-irak	m-irak
	k-irak	p-irak	t-irak	n-irak	m-irak
fem	k-ire	p-ire	t-ire	n-ire	m-ire
1st dual	k-awir	p-awir	t-awir	n-awir	m-awir
2nd dual	k-i	p-i	t-i	n-i	m-i
3rd dual masc	k-irakit	p-irakit	t-irakit	n-irakit	m-irakit
	k-ir	p-ir	t-ir	n-ir	m-ir
	k-irem	p-irem	t-irem	n-irem	m-irem
fem	k-ir	p-ir	t-ir	n-ir	m-ir
neut	k-irem	p-irem	t-irem	n-irem	m-irem
1st pl	k-aiu	p-aiu	t-aiu	n-aiu	m-aiu
2nd pl	k-i	p-i	t-i	n-i	m-i
3rd pl masc/fem	k-ir	p-ir	t-ir	n-ir	m-ir
	k-irem	p-irem	t-irem	n-irem	m-irem
neuter	k-irem	p-irem	t-irem	n-irem	m-irem

Chart J: Possessive pronouns

### 3. PHRASE LEVEL CONSTRUCTIONS

#### 3.1. Introduction

The first three sections have been primarily concerned with describing word classes in Au, including derivation (word compounding). We also took note of the inflectional affixation when words are incorporated into different phrase level constructions and manifest person, number and gender to show agreement or concord with other constituents of these constructions.

In this section we will outline the various types of phrase level constructions which are manifested by the verbal and non-verbal word classes. The phrase level is not complicated enough, for the most part, to warrant a bi-dimensional chart (Longacre 1972) and therefore, a simple prose description will normally be used to describe phrases, immediately followed by examples. When multiple fillers exist for any of the constituents, some confusion may arise for the more complex constructions, and therefore, a bi-dimensional chart will precede the prose description. In such charts names of the constituents, as well as their optional or obligatory status, are indicated along the horizontal parameter. The names of the class fillers which we have observed in the data are listed along the vertical parameter. An example of a bi-dimensional chart appears below.

Constituents	+ A	+ B	+ C
Classers of fillers	X	Y	Z

Model bi-dimensional chart

The system of agreement between constituents will be illustrated on the phrase level. The phrase is potentially composed of two or more words: when the construction is binary (only two constituents possible), both constituents are obligatory and they are considered nuclear to that construction; when there are more than two constituents, the nuclear item or items are obligatory, and the peripheral items occur optionally and expand or modify the nuclear items.

An Au phrase is defined as a construction in the grammatical hierarchy between the word level and the clause level. Phrase constructions generally manifest constituents in clause level constructions, although there is frequent recursion or embedding of phrases within other phrase level constructions, as can be seen, for example in the general noun phrase.

Since phrases are constituents of clause level constructions, they will necessarily fit into the cross-reference system operating on that level. Thus, if the phrase manifests Instrument in a clause, this grammatical relationship will be reflected in showing cross-reference affixation with the Subject of the clause. A verb phrase will inflect to show person, number and gender agreement with the Subject. Phrase constructions embedding in other phrase level constructions will inflect to show agreement only for the nuclear constituent(s) of that construction in which it is embedded.

### 3.2. Phrase types

Phrases in Au are classified on the basis of word classes which manifest nuclear constituents, the number of nuclear and peripheral (non-nuclear) constituents and their possible expansion, as well as the distribution of these various constructions in clause level constructions.

There are six major types of phrases, as enumerated in Chart K.



Phrase type	Nuclear constituent manifestation	Clause/Phrase level role manifested by phrase
Pronoun	Pronoun	Subject - Clause level
Noun	Noun	Subject, object - Clause level
Adjective	Adjective	General noun phrase
Adverb	Adverb	Manner - Clause level
Relator-axis	Locative/Possessive Instrument Duration-Temporal	General noun phrase Instrument - Clause level
Verb	Verb	Predicate - Clause level

Chart K: Phrase types

## 3.2.1. Pronoun phrase

There are two subclasses of pronoun phrases, both of which have pronouns manifesting the Head. Pronoun phrases manifest only the Subject in clause level constructions, and for that reason they are presented first in this section. Nouns have a wider distribution and are described later on in this section. The non-Head constituents in both pronoun phrases (intensifier and qualifier) may inflect for person, gender and number and therefore mark the type of agreement which exists between constituents on all levels. The pronoun phrases are described below.

## (a) Qualified pronoun phrase

A qualified pronoun phrase consists of a Head and a Qualifier, both of which have obligatory fillers with the pronoun functioning as Subject within a clause. The Head is manifested only by a free subject pronoun, and the qualifier is manifested by a general noun phrase which may act in apposition to the pronoun. The Head of a general noun phrase is optional when it occurs in apposition to the Head of a qualified pronoun phrase. Examples are:

- (121) hi kereke-k                    *just me; I alone (masc)*  
       I *only-he* (3rd sg)
- (122) hire kerepe-p                *just her; she alone (fem)*  
       she *only-she*
- (123) hire p-iutip kerepe-p        *she the only one*  
       she *she-one only-she*
- (124) hirak haai k-irak            *he, (that is) his father*  
       he     father *he-his*

## (b) Intensive pronoun phrase

The intensive pronoun phrase consists of a Head and an Intensifier, both of which are obligatory, with the pronoun functioning as the Subject in a clause. The Head is manifested only by a free pronoun (subject), and the Intensifier is manifested by *hira-self*, representing a class which inflects for person, gender and number. Chart H in section 1.3.4.-(b) illustrates the range of inflection for reflexive pronouns. Examples of the intensive pronoun phrase are illustrated below.

- (125) *hīrak hira-kes*     *he himself*  
       *he self-he*
- (126) *hi hira-hes*        *I myself (fem)*  
       *I self-she*
- (127) *haiu hira-s*        *we ourselves (pl)*  
       *we pl self-pl*

## 3.2.2. Noun phrase

Noun phrases are the most extensive and complex of all constructions on the phrase level. There is a great deal of embedding of other phrase types into noun phrases, but other phrase type structures have relatively little embedding.

Noun phrases primarily manifest Subject and Object constituents in clause constructions, but they may also manifest Location and Time constituents. There are four noun phrases, which are now described.

## (a) Numeral phrase

The numeral phrase consists of a Counter 1, Counter 2 and Quantity. All are optionally manifested, but at least two must appear, and one of these must be a Counter constituent. Counter 1 is manifested by the numeral 'ten'. Counter 2 is manifested by the numeral 'five'. Quantity may be manifested by the numerals 'one', 'two', 'three' or 'four'. Any number in the Au counting system can be formed from these numeral combinations. The Au people count from 1-10 by using fingers on their right and left hands. A doubled fist denotes five (5) and both fists doubled denote ten (10). These are kinetic correlates of language because the people count with their fingers as they simultaneously speak with their mouths. The relationship is always additive, one element building upon another.

The numeral phrase manifests a Quantity function in the general noun phrase constructions. Counter 1 may occur up to six times. Examples are:

- (128) *hispinak k-iutip*     *six*  
       *five it-one*
- (129) *hispinak tekyait*     *nine*  
       *five four*
- (130) *hiswiyen hispinak*     *fifteen*  
       *ten five*
- (131) *hiswiyen hispinak k-iutip*     *sixteen*  
       *ten five it-one*

- (132) hiswiyen hiswiyen twenty  
 ten ten

(b) Co-ordinate noun phrase

The co-ordinate noun phrase consists of a Head 1 and Head 2 both filled by a pronoun, noun or general noun phrase, conjoined by *ekite* *with, and*. The Head 2 constituent may be repeated up to five (5) times. Both Head 1 and Head 2 constituents may be manifested by proper nouns as well as by pronouns. When Head 2 is manifested by a pronoun, it is a bound form which appears affixed to the conjunction, as illustrated by example (138). Examples of the co-ordinate noun phrase are:

- (133) Yinen k-ekite haai k-irak Yinen and his father  
 Yinen he-and father he-his
- (134) hi h-ekite masta I and the expatriate (white man)  
 I I-and expatriate
- (135) nepere kerepe-p w-ekite haai miye just a female dog and the  
 dog only-she she-and father mother owners
- (136) Nowiyen k-ekite Weisu Nowiyen and Weisu  
 Nowiyen he-and Weisu
- (137) hirak k-ekite haai k-irak t-e Punak he and his father  
 he he-and father he-his they-from Punak both from Punak
- (138) haiu m-ekite-ri we all and them  
 we-pl we-and-they

Co-ordinate noun phrases manifest the Subject and Object on the clause level and the Head of general noun phrases.

(c) Temporal phrase

A temporal phrase manifests the Time constituent in clause constructions. The function of the phrase is to mark a Definite time and a Head, both of which are obligatory manifested. The Definite time constituent is manifested by definite time nouns, such as 'yesterday', 'today', 'tomorrow', etc. while the Head constituent is manifested by specific span time nouns as 'morning', 'afternoon', and 'night'. Examples are:

- (139) teip ekrit tomorrow morning  
 tomorrow morning
- (140) napup hinkiuwe yesterday afternoon  
 yesterday afternoon
- (141) patepin ekrit this morning  
 today morning
- (142) teip witaan tomorrow night  
 tomorrow night
- (143) meisu hinkiuwe later this afternoon  
 later afternoon

(d) General noun phrase

The general noun phrase is probably the most frequent phrase type in Au. Its structure is complex enough that a bi-dimensional chart with all classes

of fillers which manifest each constituent will be helpful. The general noun phrase manifests the Subject and Object in clause level constructions and on the phrase level it embeds with the Relator-axis and Qualified pronoun phrases.

In the general noun phrase (see Chart L below for the ordering of constituents in the phrase), only the Head is obligatory, and may be considered the minimal position within a manifestation of the general noun phrase. There are six other functions with classes which co-occur with the Head, but these occur optionally with certain co-occurrence restrictions among them. Generally, no more than two other entities may co-occur with the Head constituent, but some instances have been found with three.

Examples with specific embedding will be indicated following the free translation in the right hand margin. These examples will be presented below following Chart L.

+ Specifier	+ Head	+ + Possessive	+ Description
pronoun	noun	poss. pronoun	adjective
proper noun	co-ord. phrase		adj. phrase
			interrog.- adjective

Cont...

+ Quantity	+ Rel-Axis	+ Qualifier
numeral	relator- axis phr.	kereke- only-
num. phr.		dem. prn.
interrog.- adverb		

Chart L: Bi-dimensional chart of general noun phrase

- (144) nikan k-irak k-iut+p kereke-k      *his only son*  
 son    *he-his he-one only-he*
- (145) mit ha-n            n-e            Tumentonik (embedded Relator-axis phrase)  
 men *some-they they-from Tumentonik*  
 some men from Tumentonik
- (146) Yinen haai    kirak            *Yinen's father*  
 Yinen father *he-his*
- (147) hirak k-ekite haai    k-irak t-e            Puank (Co-ord. phr. and Loc  
 he    *he-and father he-his they-from Puank*            R-A phr)  
 he and his father (both) from Puank village
- (148) nu    marmenu-m            *how many pieces of wood?*  
 wood *how many-them*
- (149) menmen meka-k            *what food?*  
 food    *what-it*

## 3.2.3. Adjective phrase

An adjective phrase consists of a Head and a Qualifier, both of which are obligatory to the construction. The Head is manifested only by adjectives, while the qualifier may be manifested by either adverbs of intensity, or by adjectives of size acting in the role of adverbs. The adjective phrase manifests the Description function in general noun phrases. Examples are:

- (150) toki-k enu-k            *very old; very hard*  
       ole-it very it
- (151) yaai-k wetpen         *very good; very nice*  
       good-it very
- (152) kike enu-k            *very little*  
       little very-it
- (153) yina-k enu-k         *very short*  
       short-it very-it
- (154) noki-k kike           *fairly long (adjective in role of adverb)*  
       long-it little
- (155) toki-k iuwe          *quite strong (adjective in role of adverb)*  
       hard-it big

## 3.2.4. Adverb phrase

The adverb phrase consists of two obligatory units and one optional unit. Head 1, manifested by an adverb, the Intensifier, manifested by enu- *very*, and an optional Head 2, which is a reduplicated form of the Head 1. Adverb phrases manifest the manner in clause level constructions and emphasise the intensity of the action described by the predicate. Examples are:

- (156) mainmain enu-m        mainmain     *very slowly*  
       slowly very-them slowly
- (157) waswas enum          waswas        *very quickly*  
       quickly very-them quickly
- (158) hisiuwe enu-k        hisiuwe       *very loudly*  
       loudly very-it loudly

## 3.2.5. Relator-axis phrase

There are four distinct relator-axis phrases. Three of them occur in clauses and the fourth occurs within general noun phrases. These phrases contrast on the basis of their manifesting classes, the number of constituents, and their distribution in various constructions.

## (a) Possessive/origin phrase

The possessive/origin phrase is manifested by *-e from, belonging to* functioning as Relator. The relator inflects to agree with the filler of Head in the general noun phrase. The Axis is manifested by nouns, proper nouns and by general noun phrases. The Relator may also inflect for plurality and tense/aspect when the clause level construction in which the general noun phrase occurs requires that it do so to show concord with the Predicate. Examples are:

- (159) k-e haai k-irak (possession) *belonging to his father*  
*it-of father he-his*
- (160) k-e Yito (possession) *(the knife) belonging to Yito*  
*it-of Yito*
- (161) k-e Wititai (origin) *(the man) from Wititai*  
*he-from Wititai*
- (162) menmen m-e mit n-e Puank (possession and origin)  
*things they-of men they-from Puank*  
*things belonging to the men from Puank*
- (163) mit miyepir n-e-rer wit wit (plurality and origin)  
*men women they-from-pl village village*  
*men and women from all the villages*

## (b) Duration-temporal phrase

The duration-temporal phrase is manifested by two obligatory constituents, and is similar in construction to the possessive/origin phrase. This phrase type functions as Time in clause level constructions. The Relator is manifested by *-e during* and inflects to agree with the filler of the Axis. The Axis is manifested by temporals as well as by nouns. Examples are:

- (164) m-e witaan *during the night*  
*they-during night*
- (165) m-e wepni *during the day*  
*they-during sun*
- (166) m-e hawi hitan *during the rainy season*  
*they-during rainy season*
- (167) m-e wepni yaaiki *during the dry season*  
*they-during dry season*

## (c) Instrument phrase

The instrument phrase is manifested by two obligatory constituents, although the second constituent may appear as a bound form affixed to the first constituent. This phrase type functions as Instrument in clause level constructions. The relator is manifested by *-eriuwe by means of, with*. The Axis is manifested by a pronoun (bound), a noun or a general noun phrase. As can be seen above, *-eriuwe* must take a prefix which shows person, gender and number and also agrees with the tense/aspect of the Subject and Predicate of the clause level construction in which it appears. Occasionally, *-eriuwe* will show accompaniment instead of instrument and when this occurs, the predicate will be manifested by an intransitive verb. Instrument always occurs with a transitive verb manifesting the predicate constituent. Examples are:

- (168) k-eriuwe hine k-irak (Instrument)  
*he-with bow it-his*  
*(he shot) by means of his bow*
- (169) k-eriuwe hen-ik ha-k (Instrument)  
*he-with bamboo arrow a-it*  
*(he killed him) with a bamboo arrow*

- (170) tɪpɪr k-ɪrɪr k-eriuwe-rek (accompaniment)  
*spirit he-fled he-with-it*  
*the spirit fled with it (stuck in his head)*
- (171) w-eriuwe-rek (Instrument)  
*she-by means of-it*  
*(she chipped off sago pith) with it*

(d) Locative phrase

The locative phrase consists of two obligatory units, and manifests the Location in clause level constructions. The Relator is manifested by a class of locationals, all of which inflect for person, gender and number; tense/aspect also occurs. (See example 175). The Axis is manifested by locational nouns and by general noun phrase; occasionally, the Axis may be manifested by bound pronoun forms, which must appear affixed to the Relator. Only three of the locationals observed in the data allow this. Examples of locative phrase are:

- (172) k-au niu                      *up high*  
*it-on sago*
- (173) k-au-wik                      *on the ground*  
*it-on-it*
- (174) k-eit winak eik              *at the house*  
*it-at house that*
- (175) k-ak-waai              yayiwe      *will be on the road*  
*it-will-lie on road*
- (176) k-ɪrapɪt winak              *next to the house*  
*it-next house*
- (177) k-ɪnɪk winak              *under the house*  
*it-under house*
- (178) k-enter-ik                      *on the bed*  
*it-on-it*
- (179) k-ɪriu nu                      *against the tree*  
*it-against tree*

### 3.2.6. General verb phrase

There appears to be only one type of verb phrase. Although there are two other constructions which might appear to match the description of a verb phrase, when they are considered more closely the particular features involved concern the particular class of Predicate fillers. One such phrase is reduplicated verbs, which appear only to mark motion. The second is a sequence of verbs which have already been described in the section on verbal word class derivation (section 2.2.).

Since the general verb phrase is the only construction on the phrase level manifested by verbal word classes, it is more complicated than the normal phrase construction, and we have outlined it below in Chart M.

<u>±</u> Aspect	+ Head	<u>±</u> Accomplishment
ap	any verb	nepei au
wen		wen au
nepei		au werek
p̄ike		
am̄i		
are		

Chart M: General verb phrase

There are three possible functions in the phrase, and only the Head is obligatory. As can be seen in Chart M above, the Head may be filled by any verb from any class. The Aspect is manifested by ap 'not', wen 'yet', nepei 'completive', p̄ike 'repetitive', am̄i 'intensive', and are 'desiderative'. The Accomplishment may be separated from the Predicate when Object and non-diagnostic constituents occur following the Predicate; it then must occur as the last item in the clause. Examples of general verb phrase are:

- (180) ti ap ano Witne do not go to Witne  
*you not you-will-go Witne*
- (181) hirak nepei k-en Yenkok he already went to Yenkok  
*he completive he-went Yenkok*
- (182) n-esip-aak nepei au they already carved it  
*they-carve-it completive*
- (183) hirak k-eiȳm k-en wen au  
*he he-got-them he-went non-completive*  
*he has not yet gotten them and taken them away*
- (184) hi am̄i ak̄ip I intend to hit him  
*I intensive I-will-hit him*
- (185) hirak k-are k-ak-no Lumi he wants to go to Lumi  
*he he-desir. he-will-go Lumi*

## 4. CLAUSES

### 4.1. Introduction

In the preceding section we described word classes, their formation and how these classes fit into various phrase level constructions. In this section we demonstrate how the different phrase types manifest various clause level constituents as they function in the clauses.

An Au clause has been defined as a construction in the grammatical hierarchy which occurs between the phrase level and the sentence level. The construction consists of or includes one Predicate or predicate-like constituent, and various peripheral constituents. The clause construction in turn usually manifests sentence level constituents.



The clause requires only one Predicate constituent which may be manifested by a word level construction which is fully inflected to show a cross reference with the other clause constituents. As was shown in section 1, a Predicate constituent may be manifested by two verb words compounded, but these do not indicate two Predicate constituents in the clause. Although both verbs inflect, only one lexical item (derived form) results. The Predicate may also be manifested by any single verb word.

Although embedding of clauses into other clause level constructions is not extensive, it does occur. In cases of embedding, the predicate constituent of the embedded clause is not included among the constituents of the clause construction under consideration.

In addition to the Predicate constituent which is obligatory in clause constructions, other optional constituents include Subject, Object, Location, Time, Manner and Instrument/Accompaniment. These optional constituents are diagnostic because they show contrast in clause types and are distinguishing features of various clauses.

Clauses are classified into two major types: Independent clauses and Dependent clauses. These contrast in the constituents manifesting clause level constructions and in their distribution in sentence level constituents.

The Equative clause has an obligatory Comment constituent functionally equivalent to the Predicate constituent although it is manifested by non-verbal word classes. See 4.2.1.-(e) for a discussion on the Equational Predicate.

## 4.2. Independent clause

The Independent clause manifests all bases in non-link sentences (those sentences whose constituents are conjoined by simple juxtaposition) and all bases except Link in the link sentences (those sentences whose bases are conjoined by an overt conjunction). Independent clauses consist of five basic types: (1) Transitive, (2) Ditransitive, (3) Intransitive, (4) Stative, and (5) Equative. These clause types are arrayed in Chart N along the horizontal parameter marked for transitivity. They are further distinguished in relation to their occurrence along the vertical mode parameter which includes Declarative, Interrogative and Imperative clauses. There are no Stative or Equative Imperative clauses listed, which gives a total of thirteen (13) clause types as reflected in the chart. The clauses across the transitivity parameter will be described first, and following this, the clauses of the mode parameter.

### 4.2.1. Transitivity parameter

Across the transitivity parameter the five clause types contrast in the manifesting class of the predicate constituent and in the optional diagnostic constituents which manifest each clause type. These are now described on the following page.

<----- Transitivity parameter ----->

	Independent transitive	Independent ditransitive	Independent intransitive	Independent stative	Independent equative
	(IT)	(ID)	(II)	(IS)	(IE)
mode parameter	$\underline{+} S + P \underline{+} O$ vITrDc	$\underline{+} S + P \underline{+} IO + O$ vIDTrDc	$\underline{+} S + P$ vIITrDc	$+ S + P + O$ vISDc	$+ Tp + Cm$ (v) IEDc
Interrogative information*	$+ Ig \underline{+} S + P \underline{+} O$ vITr	$+ Ig \underline{+} S + P$ $\underline{+} IO \underline{+} O$ vIDTr	$+ Ig \underline{+} S + P$ vIITr	$+ Ig + S + P + O$ vIS	$+ Ig + Tp + Cm$ (v) IE
Imperative	$\underline{+} S + P \underline{+} O$ vITrIp	$\underline{+} S + P \underline{+} IO \underline{+} O$ vIDTrIp	$\underline{+} S + P$ vIITrIp		

Chart N: Independent clauses

- \* The interrogative may occur either in initial or clause final position depending on its function in the clause (subject/object). (See 4.2.2.-(b) Interrogative clause.)

## (a) Transitive clause

The transitive clause functional points and permissible fillers are as follows:

+ Subject	+ Predicate	+ Object	+ Instrument	+ Location
noun	trans. vb	noun	inst. phr.	loc noun
pronoun	trans. vb-phr.	pronoun		
gen n-phr.		gen n-phr.		

The Predicate is the only obligatory item and is manifested by a transitive verb or verb phrase. Optional constituents include the items displayed in the above bi-dimensional array. A Subject, whose constituent may be animate or inanimate, occurs as an independent form when present, but Object, which occurs following the Predicate, may occur as an independent form (noun) or may appear affixed to the Predicate, as a pronoun. Examples are:

- (186) h-enep-ik (P, O)  
*I-made-it*  
*I put it together*
- (187) hır n-ınap n-eriwe-rek (S, P, I)  
*they they-shouted they-with-it*  
*(as they brought it) they shouted with it*
- (188) hır n-ewis-im m-au si (S, P, O, L)  
*they they-put-them they-on fire*  
*they placed them on the fire*
- (189) hır n-ime wınon m-e pınak m-e pınak (S, P, O, L)  
*they they-make tips they-of side they-of side*  
*they carved tips on either end*

The capital letters which appear in parentheses represent the constituents which manifest clause level constructions: S = Subject, P = Predicate, and so on.

## (b) Ditransitive clause

A ditransitive clause is represented by the following:

+ Subject	+ Predicate	+ Benefactive	+ Object	+ Instrument
noun	di.tr.verb	noun	noun	inst. phr
pronoun	di.tr. v-phr.	pronoun	pronoun	
gen n-phr.		gen n-phr.	gen n-phr.	

The Predicate is obligatory and is manifested by a ditransitive verb or verb phrase. Optional, but diagnostic constituents, include the items displayed in the array above. A ditransitive clause has the potential of having either Benefactive or (direct) Object or both. These may be marked either as suffixes

attached to the Predicate, or independently and separately as nouns or noun phrases. The Subject must always be manifested by an animate noun. Examples are:

- (190) hīrak k-atip (S, P)  
*he he-said*  
*he spoke*
- (191) hīrak k-atip haai k-īrak (S, P, B)  
*he he-said father he-his*  
*he spoke to his father*
- (192) hīrak k-ewet (S, P)  
*he he-gave*  
*he gave*
- (193) hīrak k-ewet-iwek-em (S, P-B-O)  
*he he-gave-to him-them*  
*he gave these things to him*
- (194) k-ewet-or teipe (S-P-B, O)  
*he-gave-to them sago jelly*  
*..he gave them sago jelly*
- (195) hire w-ewen-iwek-or-naan (S, P-B-O)  
*she she-spies for him-on them-spies*  
*she spies on them (others) for him*

(c) Intransitive clause

An intransitive clause may be represented as follows:

<u>+</u> Subject	+ Predicate	<u>+</u> Location
noun	intr. verb	loc. noun
pronoun	intr. v-phr.	loc.phr.
gen n-phr.		

The Predicate alone is obligatory and is manifested by intransitive verbs. The other diagnostic constituents are optional and are listed above in the bi-dimensional array. Note that Benefactive and Object constituents do not occur. The following are examples of intransitive clauses:

- (196) wepni k-īr (S, P)  
*sun it-sees*  
*the sun is shining*
- (197) hīrak k-enke (S, P)  
*it it-fell*  
*it fell over*
- (198) hire w-enke-win w-eit yaank Puko (S, P, L)  
*she she-fell-anm. she-at forest Puko*  
*she fell down in Puko forest*

- (199) manpen k-uwaai yayiwe (S, P, L)  
*snake it-lies road*  
*a snake is lying on the road*
- (200) hīne k-ai k-īnatin k-ekre hei (S, P, L)  
*knife it-my it-fell it-into hole*  
*my knife fell into a hole*
- (201) k-epu (P)  
*he-cont-sits*  
*he continues sitting*

(d) Stative clause

The stative clauses are very rare and are represented as follows:

<u>±</u> Subject	+ Predicate	+ Object
noun	stat. verb	noun
pronoun		pronoun
gen n-phr.		gen n-phr.

The Predicate and Object are obligatory, but the free pronoun Subject is optional. The Predicate is manifested by a stative verb, which is a compound word. The Object may be manifested by a free form such as a noun or a general noun phrase, or it may appear affixed to the verb. The few examples from the data are:

- (202) si t-aa-k winak (P, O)  
*fire they-ate-it house*  
*the house burned down (fire ate the house)*
- (203) hirak si t-aa-k his (S, P, O)  
*he fire they-ate-it hand*  
*he burned his hand (fire ate the hand)*
- (204) si t-a-(t)-īknēn-i (P, O)  
*fire they-burn-(will)-burn-you*  
*the fire will burn you*

The Predicate is manifested in the previous examples by a verb that follows no normal inflection rules and never appears in any other form. Although, on the one hand, it appears to fit into the class of noun-verb compounds (2.2.1. noun-verb compounds), its particular formation allows us to place it in a unique class.

(e) Equative clause

The equative clause is a binary construction consisting of the following:

+ Topic	+ Comment
pronoun	possessive pronoun adjective adverb interrogative pronoun interrogative adjective

The Equative clause as a binary construction differs from other clause constructions in this regard. Further, there are no verbal classes which manifest the Predicate constituent; rather, the obligatory Comment constituent serves as predicate of the construction. Examples of the equative clause are:

- (205) im yapruwe            *there are many of these*  
          *these many*
- (206) ik yaai-k             *this one is good*  
          *this good-it*
- (207) hirak enu-k kike      *it is too small*  
          *it bad-it little*
- (208) hirem werək         1. *those are okay, 2. that is enough*  
          *they-neut well*
- (209) hire enu              *she is naughty*  
          *she bad-she*
- (210) meka-m im            *what are these?*  
          *what-them these*
- (211) ti k-emɪn             *who are you?*  
          *you he-who*
- (212) hi k-ai ek            *it is mine*  
          *I it-my it*

#### 4.2.2. Mode parameter

The vertical mode parameter of Chart N demonstrates the contrast in the internal structure of the verb manifesting the Predicate constituent, as well as the peripheral constituents. It also reflects the situational context and subsequent response elicited from the hearers. The Declarative, Interrogative and Imperative clauses all manifest sentence level constituents.

##### (a) Declarative clause

In the mode parameter (see Chart N), the Declarative is manifested by all five clause types which occur across the transitivity parameter. The Predicate is manifested by verbs which take regular inflectional affixation, but which are also affixed for the declarative mode. Examples of declarative clauses may be found above in section 4.2.1.

## (b) Interrogative clause

In the interrogative clause, the presence of an interrogative constituent is obligatory, occurring in a portmanteau relationship with the constituents with which is co-occurs or replaces (i.e. those manifesting Subject, Object, Location, Instrument/Accompaniment and Time). For example, in the clause *keimɪn kan who came?*, *keimɪn* marks both the interrogative as well as the subject constituent in portmanteau relationship with it (*k-emɪn he-who*). Interrogatives may occur clause initial or final depending on their use in the clause. 'Who', 'why' and 'when' occur initially. 'Who' (used as object), 'what', 'where' and 'how many' occur in clause final position. An interrogative clause evokes several responses: a simple information response, and a yes/no response; it may also be used as a rhetorical question, that is, expecting no response; if this occurs, a tag question particle *a* occurs in clause final position. Examples of interrogative clauses are:

- (213) *hire w-enep p-eimɪn* (interrogative object)  
*she she-hit she-who*  
*what woman did she hit?*
- (214) *k-eimɪn nepɪ k-aa* (interrogative subject)  
*he-who completive he-died*  
*what man has died?*
- (215) *hirakit t-eit nu meka-m* (interrogative adjective)  
*they-masc.dl they-got wood what-them*  
*what kind of wood did they get?*
- (216) *hir n-en neiyɪn*  
*they they-went where*  
*where did they go?*
- (217) *k-uwaai meruri hirak k-ɪr-ep*  
*he-when he he-saw-her*  
*when did he see her?*
- (218) *ti h-epɪtari-em a*  
*you you-do not know them r-p*  
*(someone stole the taro but) you would not know about these*  
*things would you?*
- (219) *hirak k-ewɪr marmenu-m*  
*he he-threw how many-them*  
*how many did he throw?*

## (c) Imperative clause

Imperative clause constructions have verbs which manifest Predicate constituents inflected for the imperative mode. Often the subject is absent in such constructions, especially if they appear in speech quote sentences. No stative or equative clauses appear inflected for the imperative mode. Imperative clauses entail an appropriate subsequent action by the audience. Examples are:

- (220) *yi eimtau him m-ai*  
*you you-must-hear word they-my*  
*you must listen to my words*

- (221) epau in e  
*you-stay here*  
*you remain here*
- (222) amnep mite ip e  
*we-must-kill woman this*  
*let us kill this woman*
- (223) awaai ein  
*you-must-go there*  
*(later on, you go to the river) and you must sleep there*

### 4.3. Dependent clause

The dependent clause constructions have the same transitivity parameter as independent clause constructions. They also have the same contrast in the Predicate manifestation and in the diagnostic constituents. The transitivity parameter will therefore be omitted as redundant in our consideration of dependent clause types, and we will focus instead on the vertical parameter. Along this parameter the dependent clauses are distinguished according to Contingency, Simultaneity, Purpose, Reason and Duration. Each clause contrasts in terms of diagnostic constituents and in sentence level distribution. See Chart O, which indicates the full range of dependent clause types which have been observed — some 21 types in all.

#### 4.3.1. Reason dependent clause

A Reason dependent clause is manifested by the connective *entar* *because*, *on account of* which occurs as the initial constituent of the clause and inflects to show cross-reference with the Subject of the independent clause which precedes the dependent clause. Reason dependent clause manifests the Base 2 of a Reason sentence. Examples are:

- (224) k-entar yuwenep hirak k-aa-k  
*he-because of flying fox he he-ate-it*  
*(he got sick with dysentary) because of the flying fox he ate*
- (225) w-entar hire yink enu-m  
*she-because she skin bad-them*  
*(she ran away) because she was ashamed*
- (226) w-entar hawir w-enain  
*we-because we (dual) we-feared*  
*(we did not come and dance with them) because we were afraid*

#### 4.3.2. Duration dependent clause

The Duration dependent clause is manifested by the particle *ere* *until* which occurs as the initial constituent in the clause. The particle may reduplicate the final syllable (-re) up to three (3) times to intensify the duration of the action. Duration dependent clause manifests the Base 2 of a Span Sentence. Some examples are:



<----- Transitivity parameter ----->

<----- Vertical parameter ----->

	Dependent transitive	Dependent ditransitive	Dependent intransitive	Dependent stative	Dependent equative
Reason (R)	+R <u>+S</u> +P <u>+O</u> DTrR	+R <u>+S</u> +P <u>+IO</u> <u>+O</u> DDTrP	+R <u>+S</u> +P DITrR	+R <u>+S</u> +P +O DSR	+R +Tp +Cm DER
Duration (D)	+D <u>+S</u> +P <u>+O</u> DTrD	+D <u>+S</u> +P <u>+IO</u> <u>+O</u> DDTrD	+D <u>+S</u> +P DITrD	+D <u>+S</u> +P +O DSD	+D +Tp +Cm DED
Contingent (C)	+C <u>+S</u> +P <u>+O</u> DTrC	+C <u>+S</u> +P <u>+IO</u> <u>+O</u> DDTrC	+C <u>+S</u> +P DITrC	+C <u>+S</u> +P +O DSC	
Simultaneous (SM)	<u>+S</u> +P <u>+O</u> DTrSm	<u>+S</u> +P <u>+IO</u> <u>+O</u> DDTrSm	<u>+S</u> +P DITrSm	<u>+S</u> +P <u>+O</u> DSSm	
Purpose (Ps)	+Ps <u>+S</u> +P <u>+O</u> DTrP	+Ps <u>+S</u> +P <u>+IO</u> <u>+O</u> DDTrP	+Ps <u>+S</u> +P DITrP		

Chart 0: Dependent clauses

- (227) hīrak manpen k-e-p-riuwet                    meinmein ere k-en  
*he snake he-shoved-cont-shoved slowly until he-went*  
 k-e-pi-kre tu k-irak  
*he-in-cont-in intestine he-his*  
*the snake shoved slowly until he went into (the man's) intestines*
- (228) hīrak k-en ere-re k-ip-iun witeik  
*he he-went until-pl he-cont-arrived village*  
*he went (and kept going) until he reached the village*
- (229) hīrak k-e-p-ket tikaap k-e-p-nep perpere  
*he he-shot-cont-shot arrows he-shot-cont-shot flying fox*  
 ere k-e-p-nemtin  
*until he-finish-cont-finished*  
*he kept releasing the arrows and shooting flying foxes until (the arrows were) finished*

#### 4.3.3. Contingent dependent clause

A Contingent dependent clause is manifested by the particle *maain* after and by *ewaai meruri* when; whenever which occur as the initial constituents of the clause; *ewaai meruri* inflects to show Subject cross-reference. Contingent dependent clause manifests the Base 1 of a Contingent Sentence, and the Base 1 of a Narrative Sentence. Some examples are:

- (230) maain ti ano ewaai mani eik hi pike  
*after you you-will-go you-will-sleep river that I again*  
 awis-ut pauwiye  
*I-give-you headdress*  
*after you go and sleep at the river, I will return your headdress*
- (231) k-ak-waai meruri hīrak k-ak-nen hi pike h-irir  
*he-fut-whensoever he he-will-come I again I-flee*  
*whensoever the arrives, I will run away again*
- (232) maain wesiuon o miyak menmen k-enektin wenmek hīrak  
*later rat or animal something it-trips trigger it*  
 wenmek kenep k-akip  
*trigger it-release it-kills-it*  
*after a rat or some animal bumps the trigger, it will release*  
*and (the trap) will kill it*

#### 4.3.4. Simultaneous dependent clause

A Simultaneous dependent clause has a Predicate constituent manifested by a continuous aspect inflectional affix attached to the verb; this operates in opposition to a predicate which follows in the next clause which has an obligatory simple past verb form. This clause manifests the Base 1 of a Narrative Sentence. Some examples from the data are:

- (233) hīrak k-īp-waai            hi h-an    h-en  
*he he-cont-sleeps I I-came I-went*  
*while he was sleeping, I came and left*
- (234) hīrak k-e-p-kip            miyak hīrak k-akip  
*he he-shoots-cont-shoots animal he he-shot him*  
*while he was shooting an animal, another man shot him*

#### 4.3.5. Purpose dependent clause

The Purpose dependent clause is manifested by the particle *te* *then; but; lest; so; so that* which occurs as the initial constituent of the clause. The Purpose dependent clause manifests the Base 2 of a Conditional sentence. Examples are:

- (235) hi ap aitep            te ekiuwe            anen  
*I not I-will-strike so you-imper-come down you-imper-come*  
*I am not going to kill you, so come down*
- (236) hīr n-eiyim n-an        te            hīr n-ankip  
*they they-got they-came so that they they-will-kill him*  
 n-anik  
*they-will-eat him*  
*they collected these things and came back in order that they*  
*might kill him and eat him (with the things they had collected)*
- (237) te hīrak akimtau        hisiuwe ekimamik  
*lest he he-imper-hear loudly he-imper-doing-it*  
*(but he did not chew it loudly) lest the man hear him doing it*

#### 4.4. Peripheral constituents

In addition to the contrastive diagnostic functions and their constituents, there are peripheral ones which optionally occur in Dependent and Independent clause constructions. These are Time, Manner, Instrument/Accompaniment and Location. These functions and their manifesting classes are indicated below in Chart P.

Time	Manner	Instrument/Accompaniment	Location
noun	adverb	Instrument Phrase	noun
Temp. phr.	Adv. phr.		Loc. phr.

Chart P: Peripheral constituents

The ordering of the diagnostic and peripheral constituents for each of the clause types across the transitivity parameter of Chart M is given in Chart Q which follows.

The ordering given in Chart Q is the most frequent ordering of the constituents. However, there are times when peripheral constituents may shift their order, such as when prominence is given to a particular constituent in the construction. The Time constituent may be shifted from its initial position in the clause to a position following the subject in order that the subject might be made prominent. The Object may appear in initial position for the same reason. When the Object is shifted, a bound object affixed to the verb manifesting the Predicate must also be present. In an Interrogative clause, the Subject may appear twice: once initially and the second time in its normal position preceding the Predicate constituent. No other shift of constituents has appeared in the data.

No peripheral constituents have been observed in Equative clause. Some examples are:

- (238) *h̄irak nepup k-an witeik* (Subject fronted)  
*HE yesterday he-came village*  
*he came to the village yesterday*
- (239) *m̄ite h̄irak m̄itik k-etp-uwe k-are* (Object fronted)  
*woman he man he-said-to her he-this*  
*this WOMAN, the man said to her...*
- (240) *ti h-enmak te ti h-an* (Subject fronted in  
*you you-may then you you-came* interrogative)  
*then why have YOU come?*

Transitive clause	<u>+</u> T	<u>+</u> S	+ P	<u>+</u> O	<u>+</u> M	<u>+</u> I	<u>+</u> L
Ditransitive clause	<u>+</u> T	<u>+</u> S	+ P	<u>+</u> IO <u>+</u> O	<u>+</u> M	<u>+</u> I	<u>+</u> L
Intransitive clause	<u>+</u> T	<u>+</u> S	+ P	<u>+</u> A	<u>+</u> M		<u>+</u> L
Stative clause	<u>+</u> T	<u>+</u> S	+ P	+ O		<u>+</u> I	<u>+</u> L
Equative clause		+ Tp	+ Cm				

Chart Q: Order of clause constituents

Along the horizontal parameter, the Declarative clause follows the same ordering given for the transitivity parameter as shown earlier. The Interrogative clause has an obligatory constituent which may occur in place of any one constituent when the focus is on that constituent (i.e. Subject, Object, Location, etc.); this does not include Predicate or Topic. For example, the Interrogative may replace the noun constituent functioning as Instrument and then appear where the Instrument would normally appear in the clause.

In a normal text, only one of two peripheral constituents, in addition to diagnostic ones, occurs in a clause.

#### 4.5. Negation

The negative formula for Independent and Dependent clauses is as follows: when a clause occurs medially in the sentence, the Aspect, manifested by *ap not*, occurs with the Predicate and negates the clause. When a clause occurs

in sentence final position, an optional negative particle *au not* occurs in clause final position. If both the particle *au* and the particle *ap* occur in the same clause, *au* functions as a sentence level constituent meaning 'but'; see example (243). Examples are:

- (241) *hire w-atip a tinaa m-enti au*  
*she she-said hey mushrooms they-sprout not*  
*she said, "Hey, those mushrooms have not sprouted"*
- (242) *au k-irep pauwi k-auwiye au*  
*but he-saw-her genitals it-on her not*  
*but he saw that she had no genitals*
- (243) *hire w-en w-irek terwe ap k-enti au*  
*she she-went she-saw-it tulip tree not it-grew but*  
*she went and looked at it, but the tulip tree had not grown*

#### 4.6. Embedding

In Au, embedding is very common and usually involves the clause and phrase levels. There are two types of embedding: clause embedded in clause (commonly called recursion - Longacre 1972) and clause embedded within a phrase level construction (backlooping).

##### 4.6.1. Recursion

Recursion is generally limited to sensory verbs which include cognition and perception, and these usually have a verbal complement following which explains what was recognised or perceived. The embedded clause may only occur with a minimum of constituents (with free pronoun subject omitted) or it may include two peripheral constituents. Examples of recursion are:

- (244) *hi hanhan ahit menmen m-irak*  
*I desire I-will-get something they-his*  
*I desire to obtain his possessions*
- (245) *hi h-enain h-enkewin m+niu*  
*I I-fear I-fall down-an mountain*  
*I am afraid that I will fall down the mountain*
- (246) *hirak k-ir sak k-irak k-irir*  
*he he-saw pig it-his it-fled*  
*he saw that his pig was running away*

##### 4.6.2. Backlooping

Backlooping occurs quite frequently in narrative text material. In backlooping, clauses embed themselves in phrase level constituents, usually in apposition to a noun manifesting the clause level constituents of Subject, Object, Instrument or Location. Examples are:

- (247) *hirak k-en k-ir tuwaan perpere m-aa-k (object)*  
*he he-went he-saw breadfruit flying fox they-ate-it*  
*he went and looked at the breadfruit tree that the flying foxes*  
*had been eating from (object)*

- (248) w-enke w-e(p)ri tuwaan kerek nem(p)ai  
*she-fell she-(cont) pulled breadfruit where before (cont)*  
ein perpere m-enan-ek k-e(-)wi-k ek e (Object)  
*there flying fox they-carry-him he-(cont) sits-it that*  
*she hung upside down on the breadfruit tree from where the flying*  
*foxes before had carried him as he sat there (Object)*
- (249) k-eit wit kerek hore k-enke kuwaa i t i (Location)  
*he-at place where bird it-fell it-on ground*  
*...at the place where the bird fell to the ground (Location)*
- (250) k-eriuwe hine nipaa h-ewet-iwek-em (Instrument)  
*he-with bow before I-gave-to him-them*  
*...with the bow which I had previously given to him (Instrument)*

#### 4.7. Ellipsis

Another common feature in Au is ellipsis, where much of a redundant clause appears elided for the sake of brevity or convenience. This is frequent in everyday speech, but appears less in text material. The two most common types that occur in text are either an ellipsis of apposition or one of alternative. A more rare type, total ellipsis of a full sentence, may occur following a sentence which is to be negated. This can be seen in the final example below. Examples are:

- (251) nu nu k-e wi (apposition)  
*wood wood it-of pathway*  
*they make a trap of wood...wood for a pathway*
- (252) hi h-erekir his his yaaim m-ai (apposition)  
*I I-cut-it hand hand right they-my*  
*I cut my hand...my right hand*
- (253) hire w-ine nikan o niki? (alternative)  
*she she-bore son or daughter*  
*did she bear a son or (did she bear) a daughter?*
- (254) hire w-en w-eit wik o wikak? (alternative)  
*she she-went she-got two or three*  
*did she go and get two or (did she get) three?*
- (255) hir nirak-em haiu m-am-no m-etiwem; au, au (negation)  
*they they-do-them we we-will-go we-get-them no no*  
*if they do these things then we go and arrest them; (if they)*  
*don't, (then we) don't*

## 5. SUMMARY

### 5.1. Introductory remarks

In the previous five sections we have outlined the basic features of Au morphology and syntax. The approach has been taxonomic (based on a tagmemic model) with items which function on lower levels manifesting constituents of higher levels.

In this section we summarise the most important features of Au grammar.

## 5.2. Important features of Au grammar

There are three areas of Au grammar which have features significantly different from those normally found in Papuan languages. These are: the system of agreement (which includes various classes), the verb classification (the transitive verbs in particular) and the multi-gender pronominal system, and its occurrence with both verbal and non-verbal word classes. Each of these will now be considered with examples.

### 5.2.1. The agreement system

There are two types of agreement which occur on various hierarchical levels in Au. These are the agreement between a noun and its modifiers, and the cross-reference between the Subject and other constituents of the clause. The constituents must agree with the Subject in person, number and gender.

Nouns and their modifiers are the main components of the agreement system. Because nouns rarely inflect, the modifier marks the person, gender and number of the phrase construction. Examples are:

- (256)  $\overbrace{\text{mitik} \quad \text{enu-k}} \quad \text{evil man}$   
           man       bad-he
- (257)  $\overbrace{\text{mite} \quad \text{enu-}\emptyset} \quad \text{evil woman}$   
           woman     bad-she
- (258)  $\overbrace{\text{nikan} \quad \text{k-iutip}} \quad \text{one son}$   
           son       he-one
- (259)  $\overbrace{\text{niki} \quad \text{p-iutip}} \quad \text{one daughter}$   
           daughter   she-one
- (260)  $\overbrace{\text{mitik} \quad \text{ha-k} \quad \text{k-ere-k-e-k}} \quad \text{only a man}$   
           man       s-he     only-he-that-he
- (261)  $\overbrace{\text{mite} \quad \text{ha-p} \quad \text{kere-p-e-p}} \quad \text{only a woman}$   
           woman     s-she    only-she-that-she

Subject, Predicate and other constituents of clause level constructions also show agreement (or concord). Since Au has no inflectional endings to show case relationships, it depends heavily upon word order and subject reference to show subject-object relationships. In intransitive clauses, the Predicate inflects to show concord with the Subject; when Location is present, it inflects as well to show concord with the Subject. An example is:

- (262) hirak k-enkewin k-eit witeik  
 he he-fell down he-at village  
 he fell down at the village

In a transitive clause, when Instrument occurs, it inflects in a similar manner as does Location, reinforcing the identity of the Subject. An example is:

- (263) hirak k-enep sak k-eriuwe henmik  
 he he-shot pig he-with bamboo arrow  
 he shot a pig with a bamboo arrow

As has been illustrated with the above examples, the agreement system includes various classes of words both verbal and non-verbal and assists in the tracking of participant reference.

### 5.2.2. Verb classification

The distinguishing characteristic which sets transitive verbs apart from other verbs is the occurrence of infixed subject or object markers in the verb stem. This feature is apparently unique to the Torricelli Phylum. There are two types of such verbs: in the first type, the object is a part of the verb stem; in the second, the object or benefactive suffix has been optionally incorporated into the verb, occurring prior to the final verb stem syllable. Examples are:

- (264) hir n-aa-m ninpin they ate the food  
 they they-ate-them food

- (265) hirak k-ere-k-ir nu he chopped down a tree  
 he he-chopped-it-chopped tree

- (266) hirak k-it-iwek-hi he asked him...  
 he he-asked-him-asked

In both the transitive and intransitive verbs irregular forms occur. With the occurrence of first, second or third person, or singular, dual or plural number, the stem of the verb changes and the person, gender and number of the noun under focus is marked. Irregular verbs are of course not peculiar to languages of the Torricelli Phylum, but verb stems which inflect in this manner are. Examples are:

- (267) hi ninpi m-eiyo I am hungry  
 I insides they-hunger me



- (268)  $\overbrace{\text{hirak}}^{\text{he}} \quad \overbrace{\text{ninpi}}^{\text{insides}} \quad \text{ma-aak} \quad \text{him} \quad \text{he is hungry}$   
*he insides they-hunger him*
- (269)  $\overbrace{\text{hit}}^{\text{leg}} \quad \overbrace{\text{k-eiyewo}}^{\text{it-pains me}} \quad \text{me} \quad \text{my leg hurts}$   
*leg it-pains me*
- (270)  $\overbrace{\text{hit}}^{\text{leg}} \quad \overbrace{\text{k-ekek}}^{\text{it-pains him}} \quad \text{him} \quad \text{his leg hurts}$   
*leg it-pains him*

(See Chart F for a full paradigm of an irregular verb.)

### 5.2.3. Pronominal system

The pronouns are very important in Au and phrase and clause structure reference depends heavily on them. Free pronouns usually occur in place of nouns (they may co-occur with them when the subject is to be made prominent as in examples (271-272)), manifesting both Subject and Object. They may occur affixed to non-verbals as well, including Location, Instrument, Co-ordinate and Accompaniment. Outside the Torricelli Phylum, these features would be highly unusual, for subject-marking affixes occur only with the verbs.

The pronominal system is also unique in that it incorporates not only a gender system of masculine and feminine, but includes a separate category for neuter as well. The possessive pronouns again are unique because they are inflected for a possessed item as well as a possessor. The pronominal system is the prime example of the extensive network of inter-related classes which function in the Au agreement system. Examples of free pronouns are:

- (271)  $\overbrace{\text{mitik}}^{\text{man}} \quad \overbrace{\text{hir-ak}}^{\text{3rd-sg masc}} \quad \text{k-en} \quad \text{yaank} \quad \text{(Subject)}$   
*man 3rd-sg masc he-went forest*  
*the man went to the forest*
- (272)  $\overbrace{\text{mite}}^{\text{woman}} \quad \overbrace{\text{hir-e}}^{\text{3rd-sg fem}} \quad \text{w-en} \quad \text{Yemnu} \quad \text{(Subject)}$   
*woman 3rd-sg fem she-went Yemnu*  
*the woman went to Yemnu*
- (273)  $\overbrace{\text{hirak}}^{\text{he}} \quad \overbrace{\text{k-ewet-o}}^{\text{he-gave-me}} \quad \overbrace{\text{menmen}}^{\text{thing}} \quad \overbrace{\text{i-m}}^{\text{these}} \quad \text{(Subject, Object)}$   
*he he-gave-me thing these*  
*he gave me these things*

Some further examples of bound subject and object pronouns in cross-reference with free subject pronouns are:

- (274)  $\overbrace{\text{k-ere-k-ir}}^{\text{he-cut-it-cut}} \quad \text{he cut it}$   
*he-cut-it-cut*

(275)  $\overbrace{\text{hirak}}^{\text{he}} \quad \overbrace{\text{k-uwaai}}^{\text{he-slept}} \quad \overbrace{\text{k-eit}}^{\text{he-at}} \quad \text{Yemnu} \quad \text{he slept at Yemnu}$   
*he he-slept he-at Yemmu*

(276)  $\overbrace{\text{hire}}^{\text{she}} \quad \overbrace{\text{w-ewis-ik}}^{\text{she-put-it}} \quad \overbrace{\text{k-inik}}^{\text{it-under}} \quad \text{winak} \quad \text{she put it under the house}$   
*she she-put-it it-under house*

These examples illustrate how the bound subject pronouns agree with the free subject pronouns, and the Location noun phrase agrees in (276) with the bound pronominal object, using a subject pronouns form to do so. Examples of the possessive pronoun forms are:

(277)  $\overbrace{\text{hine}}^{\text{knife}} \quad \overbrace{\text{k-irak}}^{\text{it-his}} \quad \text{his knife}$   
*knife it-his*

(278)  $\overbrace{\text{nepere}}^{\text{dog}} \quad \overbrace{\text{p-ire}}^{\text{she-hers}} \quad \text{her female dog}$   
*dog she-hers*

Note from these examples how the possessed item occurs in primary position and the possessor follows.

### 5.3. Final comments

The features which have been described in this section are considered the most unique features in the Au grammar. Because these do not follow the patterns usually found in Papuan languages, they must be considered in any theory about the origin of Au and the whole Torricelli Phylum. As a result of these aberrant features, the languages along the foothills of the Torricelli mountains have been classified as a separate phylum, for they do not fit in well with typological features manifested by the Trans-New Guinea Phylum or the Sepik-Ramu Phylum.

## 6. TORRICELLI PHYLUM AFFINITIES

### 6.1. General remarks

In this concluding section, we shall compare selected typological features of Au grammar with languages from two other major linguistic areas. In doing so, we hope to justify the claims of Laycock who described the Torricelli Phylum as 'a genetic group in itself' (1975:768).

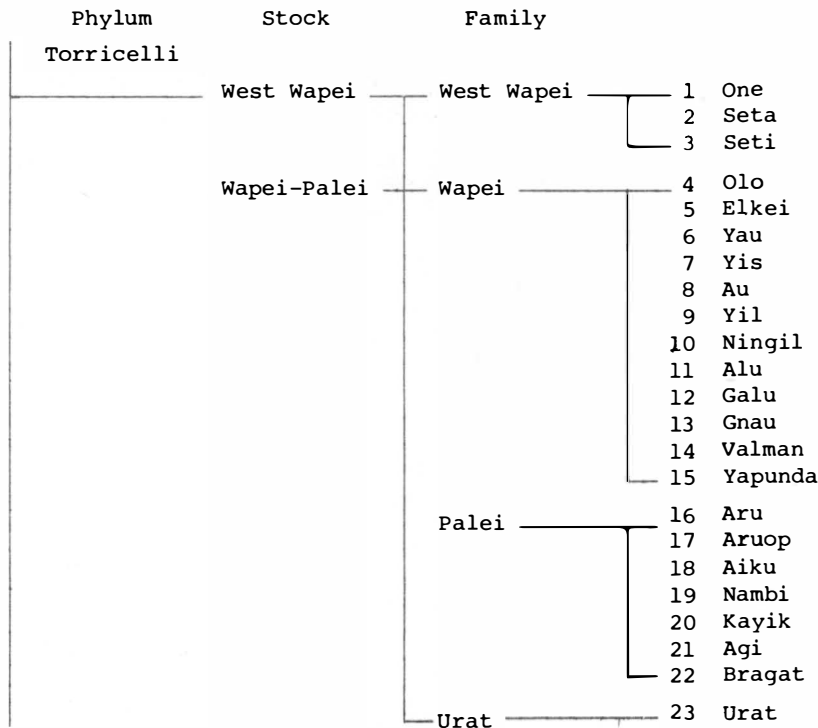
A family tree of Au and its position within the Torricelli Phylum is now given, following Laycock's classification of Sepik languages (1973:72ff). Laycock and Wurm (1964:77ff) have basically followed the Swadesh lexico-statistical technique (Swadesh 1952 and 1955c) in grouping New Guinea languages.<sup>2</sup> However, they have modified the lexical relationships significant for differentiating languages, families and stocks according to the following percentages:

- 15% - 25% same stock
- 40% - 55% different sub-families within the same family
- 60% - 81% languages of the same sub-family.

## 6.2. General Papuan characteristics

According to Wurm, Laycock and Voorhoeve (1975:171ff), the phonology of Papuan languages generally does not show a phonemic contrast between *r* and *l*. Stops and fricatives have a tendency to be in allophonic variation.<sup>3</sup> Generally, there is a low number of vowel phonemes, often as few as three but occasionally as many as seven.

In morphology, the person markers generally reflect only singular and plural number, although in certain cases along the border of the Trans-New Guinea Phylum and Sepik-Ramu Phylum, the languages show distinction for dual number as well. The classification of nouns is often determined by their occurrence with a small number of classificatory verbs. Papuan languages also display a very complex verb morphology, with considerable suffixing, which is due in part to the syntactic structure of the clause, which places the verb in final position. There are also special medial verb forms which are inflectionally abbreviated, with the final verb form (usually at sentence level) marking the inflectional categories. As has already been mentioned in section 1, word order is consistently subject-object-verb, except in cases where there are discourse considerations which may alter the order of the first two constituents. This means that everything, including adverbs, must precede the verb; this supports the observation of Greenberg (1963:58-76) who notes that when the verb appears in clause final position, it is associated with various phenomena such as postpositions instead of prepositions, permutation of nouns in phrases (modifiers are moved to precede nouns) and almost all affixation is following the verb term. Finally, these languages show sets of pronouns which either make no gender distinction or are simply 2-gender systems (usually masculine and feminine).



A family tree of Au

### 6.3. General Torricelli Phylum (TP) characteristics

Phonologically, TP languages utilise three positions of articulation, with voiced and voiceless consonants showing allophonic variation. There are usually five vowel phonemes appearing (minimally), but there may be as many as eight, depending on the interpretation of the central vocoids and sequences that occur. There appears to be a high proportion of fricative consonants, at least in some families of the phylum (Olo, as cited by Laycock is an example of this). Morphologically, TP languages are characterised by a two (singular/plural) or three (singular, dual and plural) number system in pronouns, and have a high degree of concordance especially between the nouns and the noun-adjuncts. The pronouns occur in singular, dual and plural, showing gender distinctions in the third person (Au is an example of a three gender distinction system). Subject concordance is marked by a set of prefixes in verbs, with the same set of prefixes functioning as relators in relator-axis phrase constructions. Laycock (1975:768) has noted that these prefixes occur with non-verbs and has given example from Au using the interrogative 'why'. Although he tentatively suggests that the form may be treated as a verb we see it as merely showing the typical subject concordance occurring in other constructions. There are prepositions in TP languages, and the nouns always precede their modifiers in phrase level constructions. Finally, the typical order of words is subject-verb-object and this is radically different from the order manifested by the general Papuan languages in New Guinea.

### 6.4. Comparison of features

Now that we have considered briefly the typological features of each phylum, we will examine the way that the Torricelli languages differ from features typically expected of the Papuan languages. These appear below and are based upon the features outlined by Wurm, Laycock and Voorhoeve (1975:179-186). Following a general comparison, we then look more closely at the pronouns for any patterns which may be of significance.

	Trans-New Guinea Phylum	Sepik-Ramu Phylum	Torricelli Phylum
PHONOLOGY			
Place of Articulation:	three to five	three to five	three to five
Series of stops:	two	usually one	one
Fricatives:	generally one	one or more	several per language
Widely varying consonant allophones:	present	absent	present
Stops with fricative allophones:	common	rarely	common
Basic vowel phonemes:			
Basic system:	five vowels	three to five	five to eight

	Trans-New Guinea Phylum	Sepik-Ramu Phylum	Torricelli Phylum
<b>PHONOLOGY</b>			
Vowel phonemes with wide range of allophones:	no	yes	yes
Vowel sequences:	present	absent	present
Phonologically relevant tones:	often present	rare	absent
Morphonemic changes:	common	few	few
<b>MORPHOLOGY</b>			
Complex morphological system:	very complex	complex	less complex
Nature of morphology:	elaborate affixation and inflection	uncomplicated affixes	uncomplicated affixation
Person markers:			
Dual forms: (singular-plural)	common	common	common
Trial forms: (singular, dual, plural)	rare	present	common
Inclusive-exclusive in first person non-singular:	only medially; rare	rare	absent
Subject marking on verbs:	common	common	common
Object marking on verbs:	common	common	common
Position of the bound subject and object in relation to each other in verb:	separated or together	together	separated
Appearance of bound subject or object with non-verb words:	absent	absent	common
<b>VERBS</b>			
Existential verbs:	yes	no	no
Verb stem-changes according to the person of object or beneficiary:	in some cases	rare	common

	Trans-New Guinea Phylum	Sepik-Ramu Phylum	Torricelli Phylum
<b>VERBS</b>			
Indication of interrogatives:	affix on the verb	rare particle	common particle
Distinction of realis-irrealis forms:	common in some areas	rare	absent
Sentence medial forms:	very common	common	absent
<b>SYNTAX</b>			
Basic word order:	subject-object-verb	subject-object- verb	subject-verb- object
Subordinate clause:	generally precedes main clause	precedes main clause	predecessor follows

As has been indicated by the above comparison, the three phyla which appear across the horizontal parameter show a number of similar features. Of the thirty (30) features compared, the Torricelli Phylum has the least in common with the other two: seventeen (17) of its features are directly opposed to the Trans-New Guinea Phylum, and thirteen (13) are opposed to features of the Sepik-Ramu. The major factor to note is the difference in word order, which shows the Torricelli Phylum to be closer to the Austronesian languages in this regard; non-Austronesian languages maintain a subject-object-verb word order in all language groups. This one factor may suggest that the placement of the Torricelli Phylum in the non-Austronesian language group is tenuous. Another factor is the lack of medial verb forms which are so characteristic of the highland languages in particular, as well as others which make up the Papuan languages in New Guinea.

### 6.5. Pronoun features compared

In Papuan languages, the free pronouns and bound pronouns that occur can be classified in terms of person and number. In some languages, such as those placed in the Torricelli or the Sepik-Ramu gender must also be considered. In Chart R, several Papuan languages have been compared from a list of features compiled.<sup>4</sup> These are in turn compared with the Torricelli Phylum languages of Au and Olo (a neighbouring language to the west).

Generally speaking, many of the Papuan languages display two number systems (singular and plural) and show little to no gender distinction; when gender is distinguished, it is usually limited to masculine and feminine. Some languages make a distinction for inclusion or exclusion of the speaker in first person.

In contrast to the general Papuan languages, the Torricelli Phylum includes languages with systems of singular, dual and plural, which make distinctions for masculine and feminine, and often, neuter as well. There is no distinction made in first person singular or plural for inclusion or exclusion of the speaker or audience.

	Eastern Central Trans-New Guinea Phylum			South-Eastern Trans-New Guinea Phylum			North-Eastern	Sepik Ramu	Torricelli Phylum	
Language	Gahuku	Fore	Awa	Suena	Barai	Daga	Selepet	Iatmul	Au	Olo
Gender distinction	no	no	no	no	no	no	no	yes	yes	yes
Exclusive-inclusive	no	no	no	yes	no	no	no	no	no	no
Person:										
Singular	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Dual	no	no	no	yes	no	no	yes	yes	yes	yes
Plural	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Chart R: Comparative chart of personal pronouns





ekrit h̄ir n-an-im n-an-tike teipe  
 morning they they-will eat-them they-will-with sago jelly  
 o n-an-wat n̄ikerek em h̄ir n-an-im  
 or they-will-give children them they they-will-eat-them

B. Free translation of 'The killing of a lizard'

1. *A few days ago, the men were sitting at the men's sleeping house talking together.*
2. *They were talking together chewing betelnut and one of the men saw something hiding beneath a bed.*
3. *He said, "I see something hiding under a bed there".*
4. *He got a stick, and another man lifted up the bed, and he (the first man) saw a warp lizard and he hit it.*
5. *He hit it and it was dying and he lifted it and took it and wrapped it inside some leaves.*
6. *Later on that same night, the men dream things and (if there are no significant dreams against eating the lizard), in the morning they will eat (parts of) the lizard along with their sago jelly, or they will give (their parts of) the lizard to their children and they will eat it.*

LIST OF SYMBOLS AND ABBREVIATIONS

Symbols

- + = obligatory constituents or constructions  
 + = optional constituents or construction  
 — = underlining for vernacular examples  
 ( ) = explanatory remarks concerning the subject in focus

Abbreviations

- A = accompaniment  
 adj = adjective  
 adv = adverb  
 an = animate  
 B = benefactive  
 C = contingent  
 Cm = comment  
 cont = continuous aspect marker  
 coord nphr = co-ordinate noun phrase  
 D = duration  
 Dc = declarative  
 DD = dependent ditransitive  
 DE = dependent equative  
 DI = dependent intransitive  
 di.tr.verb = ditransitive verb  
 dl = dual

DS	=	dependent stative
DT	=	dependent transitive
E	=	equative
ED	=	equative duration
ER	=	equative reason
fem	=	feminine
fut	=	future
gen nphr./gnp	=	general noun phrase
I	=	instrument
ID	=	independent ditransitive
IE	=	independent equative
Ig	=	interrogative
II	=	independent intransitive
imper/Ip	=	imperative
inst nphr	=	instrument noun phrase
intr	=	intransitive
IO	=	indirect object (benefactive)
IS	=	independent stative
IT	=	independent transitive
ITrC	=	intransitive contingent
ITrD	=	intransitive duration
ITrP	=	intransitive purpose
ITrR	=	intransitive reason
ITrSm	=	intransitive simultaneous
ITR.v	=	intransitive verb
L	=	location
loc phr.	=	location phrase
masc	=	masculine
n	=	noun
neut	=	neuter
O	=	object
Ps	=	purpose
P	=	predicate
phr	=	phrase
pl	=	plural
pred/P	=	predicate
prn	=	pronoun
R	=	reason
R-A	=	relator-axis
recip/re	=	reciprocal action suffix
S	=	subject
SD	=	stative duration
sing/sg	=	singular
Sm	=	simultaneous
SR	=	stative reason
SSm	=	stative simultaneous
stat	=	stative
st.v	=	stative verb
TP	=	Torricelli Phylum
Tp	=	topic (comment)
tr	=	transitive
trans.v	=	transitive verb
TrC	=	transitive contingent
TrP	=	transitive purpose

TrR	=	transitive reason
TrSm	=	transitive simultaneous
v	=	verb
v.phr	=	verb phrase

## NOTES

1. This project was originally submitted to the Graduate School of the University of Texas at Arlington in partial fulfillment of the requirements for the degree of Master of Arts in Linguistics in August 1978.
2. The criteria which are used by Swadesh make the following distinctions:
  - (a) Languages sharing 28% to 81% of their lexical items (vocabulary) belong to the same family.
  - (b) Languages sharing 12% to 28% of their lexical items are the same stock.
  - (c) Languages sharing 4% to 12% of their lexical items are the same micro-phylum.

Wurm states that languages were similar in their structure as they were in their lexical items (for many languages) (1964:78) and as a result, topological features were also considered in classifying the New Guinea languages.

3. Barai, which is a member of the South-Eastern Trans-New Guinea Phylum is an exception to the generalisation that stops and fricatives tend to be in allophonic variation. Both stops and fricatives occur as phonemes.
4. These features were made available by Karl Franklin from papers submitted by students for course requirements in non-Indo-European language studies, 1977, UTA.
5. Robert Young of SIL in Papua New Guinea first used monofocal and polyfocal to describe the phenomenon of two oppositions of focus on the number of the subject in bound pronoun forms. Young says,

Monofocal refers along the vertical axis to singular number for first, second and third persons; and along the horizontal axis of first person in the singular, dual and plural number. This horizontal axis is termed the ego axis because it directly refers to ego participation in the action. This means that first person dual and plural involve ego and one or more other participants. Thus the monofocal form of the stem is used...The term polyfocal describes the phenomenon exemplified by the he- form of the stem, in which the focus is on number rather than person...

This points to the fact that where second or third person intersect dual or plural in the matrix (which is outlined below), the focus is always plural.

	Singular	Dual	Plural
First	A	B	C
Second	D	F	F
Third	E	G	G

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# A LINGUISTIC SURVEY OF THE UPPER YUAT

John Davies and Bernard Comrie

## 1. INTRODUCTION

The survey of the Upper Yuat described here was made from 25th to 30th June 1979, under the auspices of the Summer Institute of Linguistics by the authors and Leo de Pauls, who flew the Summer Institute of Linguistics helicopter and also recorded geographical and ethnographic information. The helicopter was refuelled at the Nazarene Mission airstrip at Dusin thanks to the co-operation of Rev. and Mrs Daryl A. Schendel. The help of the Officer-in-Charge at Simbai and the many people who helped us with linguistic and ethnographic information was very much appreciated. We wish to thank Richard G. Lloyd of the Summer Institute of Linguistics for his helpful comments on an earlier draft of this paper.

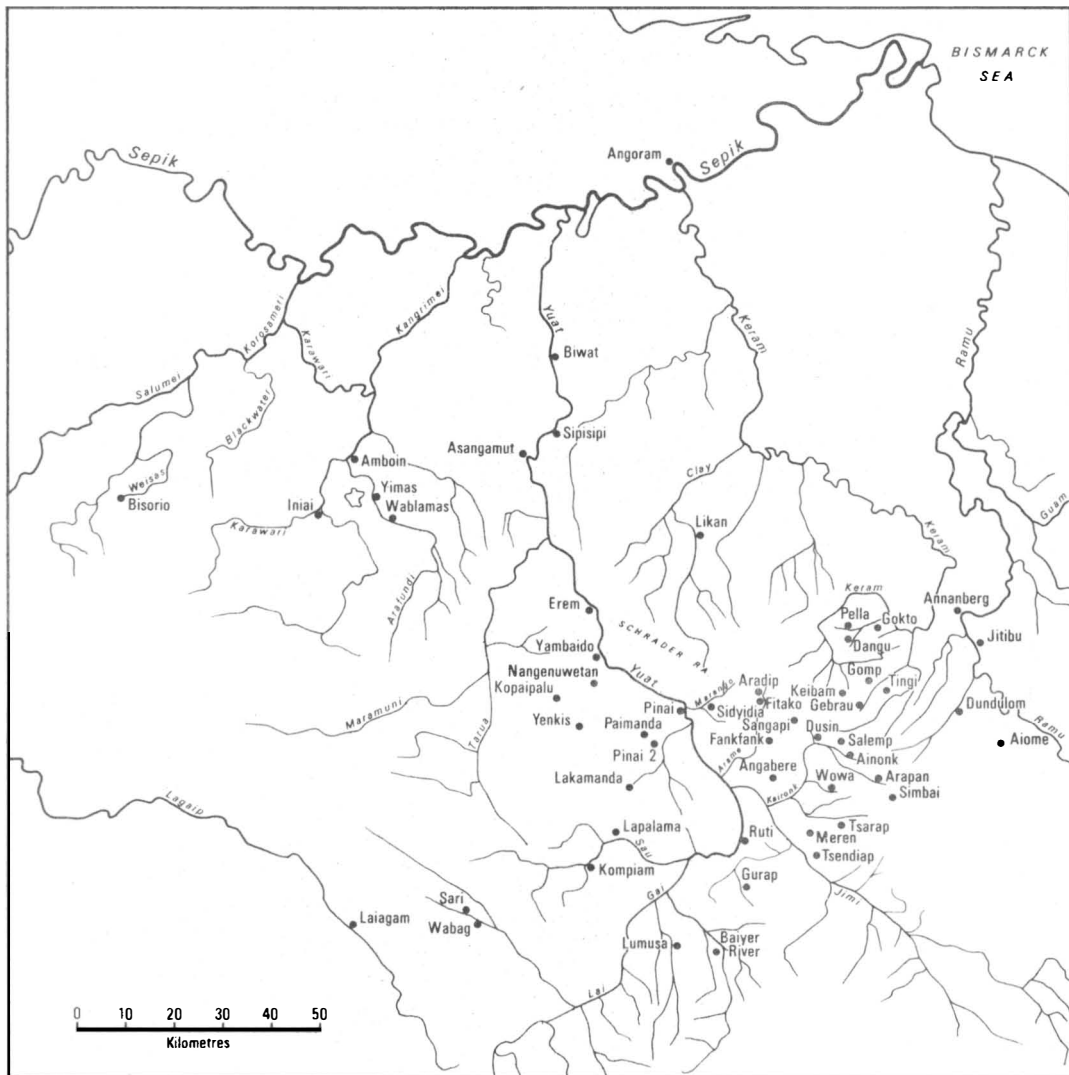
## 2. PURPOSE OF THE SURVEY

The main purposes of the survey were (1) to obtain such information on the Aramo and Pinai languages as would provide the basis for a rather more certain classification of their genetic relationships than has hitherto been possible, and (2) to establish as far as possible the geographical area occupied by speakers of those languages.

Most of the information available on the Aramo, Pinai and Wiyaw languages is contained in Laycock and Z'graggen 1975:758 and Laycock 1975:882 and 884-5. On the basis of the evidence Laycock and Z'graggen suggest that the three languages form a single stock-level Piawi Family with affiliations to the other two Yuat Stocks (Mongol-Langam and Yuat) in a Yuat Super Stock within the Sepik-Ramu Phylum. Laycock points out that 'the data is still so slight that any such reclassification can only be very tentative'.

The status of Wapi was also uncertain, in particular whether or not it was the same language as Pinai. Laycock 1975:882 lists Wapi as an alternative name for Pinai. However, Wurm 1975:469 lists Wapi as an Enga dialect and points out that a number of the people living in the Wapi Census Division are bilingual speakers of Enga and Pinai of the Piawi stock-level Family.

The geographical areas in which Pinai and Wapi (if different from Pinai) are spoken also needed to be clarified. In the map by Laycock of languages of the Sepik Region accompanying Laycock and Z'graggen 1975, Pinai is shown to be spoken on both sides of the Yuat between the Sepik-Enga border and the



Map 1: Yuat River and Lower Sepik tributaries



confluence of the Maramuni with the Yuat. Laycock 1975:884 states that included with Pinai on the map of the Sepik Region languages is the language spoken at Erem, a village on the Upper Yuat. He writes that

whatever language is spoken there is not the same as any of the known languages of the Yuat River, and the distance between the location of this village and the villages of other known languages make it unlikely that the language spoken at Erem is any really "known" language of the area, although it is possible that Erem is a northern village of the Pinai language.

The map of languages of Enga Province in Wurm 1978 indicates that Pinai and Wapi are spoken on opposite sides of the Lai (or Gai) River. In the accompanying tree of the languages of the Trans-New Guinea Phylum, Pinai and Wapi are tentatively included with Waibuk (Wiyaw) and Aramo in the Waibuk Family within the East New Guinea Highlands Stock. Both the map and the tree indicate that the statements are very tentative.

In addition to the material which Laycock, Z'graggen and Wurm refer to, Wiyaw wordlists had been elicited from several native speakers by Davies, Scholz and Tonson of SIL subsequent to Laycock 1975. A list of 70 Aramo words had been obtained by Scholz in 1975, but their reliability was questionable since they were obtained from a Wiyaw. Scholz's list is 40% cognate with our Aramo list (21 out of 53) and 51% cognate with our Wiyaw list (27 out of 53); our Aramo and Wiyaw lists are 37% cognate, whereas the Scholz/Tonson Aramo and Wiyaw lists in Tonson 1976 are 62% cognate.

A secondary purpose of the survey was to investigate the area south of Bisorio and Iniai. Dye, Townsend and Townsend 1968:145ff say that at the village of Iniai on the upper Karawari River and at the village of Bisorio on the upper Korosameri River, two dialects of one language are spoken. They suggest that the Iniai language is a member of the West Central Family of the East New Guinea Highlands Stock. Wurm 1975:469 lists Lembena (Bisorio, Iniai) (sic) as a language of the Enga Sub-Family and in a footnote to this listing on page 518 *ibid.* refers to Lemben (sic) spoken on the Karawari River and towards the Middle Yuat area, and gives Iniai as an alternative name. The list upon which he bases his remarks shows 43% cognation between Lemben and Enga and he suggests that Lemben may be basically a northern Enga dialect or a language closely related to Enga. Wurm also mentions Laycock's (1973) report that Bisorio is spoken in four villages, one of them Iniai, that it shows close relationship with Nete to the south-west, and that it may be the same language as Lemben. Wurm also mentions that Brennan in personal communication to him identified Lembena (sic) as a separate language from Bisorio. J.M. Bowers in an unpublished map shows the Lembena language area as including Kopaipalu and the area west of Kopaipalu in the Enga Province (the Yalipa Endaka clan) and the area north-west of Kopaipalu on the border of the Enga and Sepik Provinces (the Yalipa Kamanda clan). The map of languages of Enga Province in Wurm 1978 shows Lembena to be spoken in an area which approximates with that indicated on Bowers' map except that the latter is further to the west. The words from a list taken by Bowers at Kopaipalu which have been used in the lexicostatistical comparison are included in the Appendix and this language is referred to as Lembena throughout the rest of this paper.

### 3. PROGRESS OF THE SURVEY

The afternoon of Monday, 25th June and the following morning were spent trying to make contact with the population on the north side of the Yuat between the Arame River and the Marango River and in the Marango and Marenk valleys. Attempts were hindered both by the terrain and the reticence of the people. The area is mountainous and covered with dense forest except for those areas that have been cleared for garden and house sites and kunai patches here and there. Thus a landing was potentially profitable only in those very few places where a level kunai-covered piece of ground was close to a garden or house site. Three such landings were made but no people were contacted.

Following the Yuat northwestwards beyond the Marango River, we observed a vine footbridge crossing the Yuat at  $5^{\circ} 0' S$ ,  $143^{\circ} 58' 30'' E$  and landed at a village  $4^{\circ} 59' 30'' S$ ,  $143^{\circ} 57' E$ . The village was 500 feet above sea level and the people called it Yambaïdo. The ground in the immediate vicinity of the village was very flat and the people had recently planted coconuts. They called their language Maibi and said it is also spoken at Yenki and as far as Kompam and Wabaq. A complete SIL Standard Wordlist was taken and a tape-recording of the list was made. We spent the night at Fankfank.

On Wednesday, 27th June we landed south of the Jimi River and west of the Lai River at  $5^{\circ} 6' S$ ,  $144^{\circ} 7' 30'' E$  and were greeted by two men and later joined by three more men and some women and children. The people called their language Pinai and the place where we were Wakadap. They said Pinai speakers are on both sides of the Jimi as far as the Sepik Province border, that the eastern border of their territory is the Lai River and that Pinai is spoken at Aperak, both Pinai and Enga at Paimanda and Lakamanda, and Enga only at Rurisau. They said they exchange wives with the Pinai to the north of the Jimi but not with the people east of the Lai (Medlpa). A full wordlist and tape-recording of the list were obtained.

We flew to  $5^{\circ} 9' S$ ,  $144^{\circ} 4' E$  and in the limited time available recorded words from three men and a boy. They called the language Pinai and it is clearly the same language as that recorded at the previous landing. In this paper the two wordlists are referred to as Pinai 1 and Pinai 2 respectively. We spent the night at Fitako.

On Thursday, 28th June our party was augmented by Hepen, who was bilingual in Wiyaw and Aramo, and another young man, who was bilingual in Wiyaw and Kobon and also spoke Papua New Guinean Pidgin. With Hepen's navigational assistance the pilot shuttled us into a grassy area between the Marango and Marenk Rivers (Aramo [ $'\zeta u j \text{ə}$ ] and [ $m \text{ə}' \zeta a g i \text{a}$ ]) at  $5^{\circ} 6' 50'' S$ ,  $144^{\circ} 9' 50'' E$ . Thanks to Hepen's communicative ability contact was made with the Aramo and during the course of that day and the following morning a complete wordlist and recording of it were obtained, and also a recording of conversation and music played on a bamboo harp and on pipes made by binding thin bamboo tubes in a triangular form. The forty Aramo men, women and children slept together in a large shelter on the south bank of the Marenk. The shelter was rectangular, built on posts, with earth floor and no walls. The roof had a ridge pole and was thatched with leaves held in place with bamboo strips. We were told that all the Aramo people were present except for one family who were living at the head of the Marango River (and who arrived the following morning). The total number of Aramo we saw was about 50.

On Friday, 29th June a landing was made at 5° 2' 30" S, 143° 56' 30" E and a complete wordlist and recording of it were obtained from two men and a boy who called the language Nangenuwetan and the place where we were [awɔ̃iθi]. They said the area was Enga but was now administered from Angoram ([ambaɪŋkwə]).

On Saturday, 30th June a landing was made at Erem, 4° 41' S, 143° 56' E, and the village was found to be inhabited by two distinct ethnic groups, a Sepik group and a Highland group who had moved into Erem and the surrounding area 10-15 years ago with the consent of the administration and the Sepik group who were already there. The Sepik group called their language Kyaimbarang and said it was spoken on both sides of the Yuat for two days walk northwards. They mentioned Asangamut as one of the places where their language was spoken. In Laycock 1973:37 the language spoken at Asangamut is called Miyak. The Highlands group said they came from the Enga area and called their language Yariba. Yalipa is the name of the Lembena clans on Bowers' map. Complete wordlists of the two languages were obtained and a recording of part of the Yariba wordlist.

#### 4. BASIS OF LEXICOSTATISTICAL ANALYSIS

During the survey complete wordlists were elicited from native speakers of Aramo, Pinai, Nangenuwetan, Maibi, Kyaimbarang and Yariba. For the purposes of comparison and genetic classification, languages spoken in adjacent areas were included in the lexicostatistical comparison. Languages and dialects to the west and south of Pinai and Nangenuwetan and to the south of Maibi were included. The wordlists used were those elicited by Bowers at Kopaipalu in Kompam sub-district (referred to as Lembena in this paper) and at Yenki, also in Kompam sub-district (referred to as Wapi in the Table of Cognate Percentages and Appendix), by S. Malakali at Lapalama in Kompam sub-district, by K. Maini also at Lapalama (referred to as Lapalama 1 and 2 respectively in the Table and Appendix), by K. Lopa at Laiagam in Lagaip sub-district, by J. Kapi at Sari in Wabag sub-district and by Rev. L.A. Cupit at Lumusa in Lumusa sub-district (referred to as Kyaka in the Table and Appendix). Languages to the east and north of the Aramo were included in the comparison, viz. wordlists taken by John Davies of Wiyaw and Kobon. Languages to the west, north and east of Erem were included, viz. a wordlist of Rao taken by Lyle Scholz at Gokto and five wordlists taken by Wayne Dye of SIL, of Bisorio at Bisorio, of Iniai at Iniai, of Miyak (referred to in Dye's list as Biwat) at Asangamut, of Alfendio (referred to in Dye's list as Arafuni) at Wablamas and of Yimas at Yimas (all in Angoram sub-district), a list of Alamlak taken by Les Bruce of SIL at Amongabi and finally a list of Bonaro taken at Likan by William Butler of the Pioneer Bible Translators.

The wordlists used in the comparison are contained in the Appendix. The number which follows a word indicates that this word is considered to be cognate with such words in the same column as are followed by the same number. Results are set out in the Table of Cognate Percentages.

The principles adopted by Wurm and McElhanon 1975:152 for determining degrees of interrelationships of languages have been followed here in a generalised form:

above 80% cognate	-	dialects of the same language
below 80%		separate languages
50-80%		same subfamily
25-50%		same family
12-25%		same stock
5-12%		same phylum

Our citation of lexicostatistical material should not be taken to imply acceptance of this as a secure method of establishing genetic relatedness; rather, it represents a preliminary attempt at establishing an assessment of the degrees of similarity among languages of the area.

Except for Pinai 2, a complete SIL Standard Wordlist was obtained of the languages listed at the beginning of this section, but for the purposes of the comparison a basic list of 116 words selected from this list was used.

## 5. SUGGESTED RELATIONSHIPS

### 5.1. Aramo, Pinai, Nangenuwetan and Wiyaw

Aramo is 68% cognate with Pinai 1 and 70% with Pinai 2, indicating that Aramo and Pinai are distinct languages within the same subfamily. Aramo is 63% cognate with Nangenuwetan and thus a separate language within the same subfamily. Since Nangenuwetan and Pinai 1 are in turn 75% cognate (Pinai 2 82% cognate) these three languages, Aramo, Pinai and Nangenuwetan are members of the same subfamily – the Piana Subfamily. The relationship between Pinai 1 and 2 is 88%, indicating that they are the same language. Further evidence may well show Nangenuwetan and Pinai to be dialects of the same language, which together with Aramo would constitute the Pia Subfamily. The cognate percentage figures involving Wiyaw throw some doubt upon the correctness of the assignment of that language to the same family as Aramo and Pinai – the Piawi Family. That Wiyaw is 37% cognate with Aramo, 33% cognate with Pinai and 29% cognate with Nangenuwetan would support its inclusion in one family with them. However, Wiyaw shares 35% with Kobon and 22% with Kalam, both of the Kalam Family within the East New Guinea Highlands Stock. On balance this evidence supports the assignment of Wiyaw together with Aramo, Pinai and Nangenuwetan to a single family. The fact that one member of each family, Wiyaw and Kobon, share a percentage of cognates which of itself would place them squarely in the same family may well be due to extensive borrowing. The territories of these two language groups are, of course, contiguous.

### 5.2. Enga languages and dialects and Bisorio and Iniai

Yariba, spoken at Erem, is 79% cognate with both Maibi, spoken at Yambaído, and Lembena, as recorded by Bowers at Kopaipalu. Maibi and Lembena in turn share 77% and thus these three languages are at least in the same subfamily within the West Central Family of the East New Guinea Highlands Stock. It is very likely that they are the same language. The recent migration from an Enga area, the correspondence of the name of the language given by the people at Erem – Yariba – with the Lembena clan names, and their statement that their language was also spoken at Yambaído all add support to this hypothesis. Accordingly, the language recorded by Bowers at Kopaipalu, the Highlands language spoken at Erem and the language spoken at Yambaído are all considered to be dialects of the same language – Lembena.

	Iniai	Yariba	Maibi	Lembena	Wapi	Lapalama 1	Lapalama 2	Laiagam	Sari	Kyaka	Nangenuwetan	Pinai 1	Pinai 2	Aramo	Wiyaw	Kobon	Rao	Kyaimbarang	Miyak	Alfendio	Yimas	Alamblak	Banaro
Bisorio	70	45	46	46	48	47	48	44	42	44	11	11	7	9	5	6	3	2	2	3	0	5	5
Iniai		48	49	47	49	51	50	48	44	44	14	12	10	9	7	5	4	1	1	2	1	5	3
Yariba			79	79	59	59	57	55	52	58	13	13	6	11	10	6	4	2	1	3	0	5	5
Maibi				77	59	60	57	53	51	58	11	10	3	11	8	6	4	3	1	3	0	4	5
Lembena					64	61	59	62	58	62	13	14	9	11	7	6	4	0	0	3	0	5	5
Wapi						90	88	78	78	83	9	8	6	7	6	5	4	1	1	3	1	4	4
Lapalama 1							91	83	84	82	9	8	3	9	7	5	4	1	1	3	1	4	4
Lapalama 2								82	82	81	8	8	3	8	6	6	4	1	1	3	1	4	4
Laiagam									86	75	9	10	9	10	7	4	0	0	0	3	1	4	4
Sari										74	9	9	6	10	7	3	0	0	0	3	0	4	3
Kyaka											9	7	3	9	6	5	2	1	1	3	0	4	3
Nangenuwetan												75	82	63	29	16	2	2	2	7	2	6	7
Pinai 1													88	68	33	17	2	1	1	7	2	6	9
Pinai 2														70	36	18	0	0	0	9	3	3	3
Aramo															37	19	2	1	1	7	1	5	10
Wiyaw																35	7	3	3	5	3	4	9
Kobon																	9	1	1	5	3	5	6
Rao																		4	4	0	2	7	11
Kyaimbarang																			81	8	0	4	10
Miyak																				9	3	4	9
Alfendio																					3	3	13
Yimas																						8	2
Alamblak																							5

Table of cognate percentages

With Bisorio and Iniai, the Lembena dialects (Lembena, Yariba and Maibi) share between 45-49%, clearly indicating that they are distinct languages within the same family. The relationship between Wapi (spoken at Yenkis), Lapalama and Kyaka is 83-90%, indicating that they are dialects of the same language – Wapi, Lapalama Enga and Kyaka Enga. When Laiagam Enga and Sari Enga (themselves 86% cognate) are included in the comparison with these dialects, the figures remain at 74% or above. The Lembena dialects share between 51-64% with Wapi, Lapalama Enga, Kyaka Enga, Laiagam Enga and Sari Enga, indicating that the Lembena dialects (Lembena, Yariba and Maibi) belong to the same subfamily as those Enga dialects/languages. Bisorio and Iniai are 70% cognate with one another and both share between 42-51% with Wapi, Lapalama Enga, Kyaka Enga, Laiagam Enga and Sari Enga, showing that Bisorio and Iniai are in the same family as those Enga dialects/languages and the Lembena dialects, viz. the West Central Family of the East New Guinea Highlands Stock. Bisorio is probably the most northern language of the West Central Family and is probably contiguous with Enga to the south and the languages of the Sepik Hill Family to the north. Bisorio may be the same language as Nete.

### 5.3. The Piawi Family and the East New Guinea Highlands Stock

The languages of the Piawi Family, Pinai (and Nanguwetan), Aramo and Wiyaw, are bounded to the west, south and east by languages of the East New Guinea Highlands Stock. Cognate percentages with those of the languages to the west and south compared in this paper vary between 3-14%. The percentages with the language to the east compared here, Kobon, are 16-35%. This evidence taken together suggests that the Piawi Family should be included within the East New Guinea Highlands Stock. The Wapi lists show only 8% and 6% respectively with Pinai 1 and 2, which clarifies that Pinai and Wapi (at least the Wapi spoken at Yenkis) are not the same language.

### 5.4. Kyaimbarang

Kyaimbarang, spoken at Erem, is 81% cognate with the language recorded by Dye at Asangamut and no doubt the same language – Miyak. This conclusion is supported by the statement of the people at Erem that their language is spoken on both sides of the Yuat for two day's walk northwards and their specific inclusion of Asangamut, where Dye elicited the Biwat list. Kyaimbarang is 8% or less cognate with all other languages included in the comparison.

### 5.5. Banaro

Banaro is 13% cognate with Alfendio, 11% with Rao, 10% with Kyaimbarang, 9% with Miyak, 7-10% with Pinai, Nanguwetan, Aramo and Wiyaw and 6% or less with all other languages compared.

APPENDIX

All lists, other than our own (3, 4, 12-17, and 19) are reproduced in their original form.

Language	hair	head	mouth
1. Bisorio	yəmndldi 1	yəmɒdi 1	habu 1
2. Iniai	i'dihi 1	ayumbit 2	ambu'yu'tI 1
3. Yariba	k <sup>x</sup> a'want <sup>h</sup> 2	ɔn'dɛŋk <sup>h</sup> 3	am'buɕ 1
4. Maibi	ka'wande 2		ŋga'βoŋk' 2
5. Lembena	ingi 1	ondenge 3	ambulu 1
6. Wapi Enga	iti 1	aiumba 2	kambu 1
7. Lapalama Enga 1	iti 1	ayomba 2	kaita 3
8. Lapalama Enga 2	iti 1	aiyomba 2	kambu 1
9. Laiagam Enga	i'ri 1	matena 4	kɒbu 1
10. Sari Enga	iri 1	aiyomba 2	kaita 3
11. Kyaka Enga	kyawasi 2	kyawa 5	kata 3
12. Nanguwetan	id <sup>j</sup> imu'da 3	id <sup>j</sup> ibə'd <sup>j</sup> ə 6	adu'sa 4
13. Pinai 1	ɪdzɔmu'da 3	ɪdzɪbo'dzɛ 6	mabu'ɾə 1
14. Pinai 2	ɪdzɔmo'da 3	ɪdzɪ'bodzɛ 6	mabu'ɾə 1
15. Aramo	i,ɪdzimə'da 3	idzuə'xə 6	ada'fənə 4
16. Wiyaw	jedz <sup>ə</sup> 'fan 3	jedz <sup>ə</sup> 'matɕ 6	andz <sup>ə</sup> 'mɒl 5
17. Kobon	u'maŋɒ 4	'nambətɕ 6	'mandzəməŋ'gan 5
18. Rao	ŋint <sup>y</sup> honda 5	nd <sup>y</sup> ət 7	dotumo 6
19. Kyaimbarang	fə'ziru 6	fɔp <sup>o</sup> 8	'm <sup>b</sup> baraŋ 7
20. Miyak	fusibɪ'yu 6	pɔp 8	mamɒ'liŋ 7
21. Alfendio	gabəkɒduma 7	gabɒk 9	mambɒk 8
22. Yimas	wogwi 8	yembɛl' 10	anduk 9
23. Alamblak	t <sup>h</sup> +'maɾʂ / t <sup>h</sup> +'maɾʂ <sup>v</sup> 9	'mɛb+gat <sup>h</sup> 11	t <sup>h</sup> +'ŋg+t <sup>h</sup> 10
24. Banaro	mɒ's <sup>y</sup> inɒ, bɛs 10	mɒ's <sup>y</sup> i 1	mɒ'maŋ 7

<i>nose</i>		<i>neck</i>	<i>belly</i>
1. ʔowi 1		masa 1	ʔi 1
2. ŋyede 2		ma'syedi 1	iteʔ 1
3. hiŋ'gaxa 3	<i>eye</i>	ma'ɽewa 2	ɽiŋk 2
4. iŋ'gaxə 3	le 1	maɽə'waŋk' 2	liŋk' 2
5. ingala 3	ʔedi 1	malewa 2	tomba 3
6. lyaa 4	ɽe 1	mange 3	ingi 2
7. lya 4	lee 1	mange 3	ingi 2
8. lyaa 4	lenge 1	mange 3	ingi 2
9. lya 4	lenge 1	pedoko 4	tomba 3
10. lya 4	lenge 1	mange 3	toomba 3
11. gyee 5	lenge 1	pendoko 4	tomba 3
12. nama'ga 6	meme'dʒi 2	hemεje'du 5	wə't <sup>h</sup> ɔ 3
13. nau'ŋasi 7	məme'dʒi 2	he'mε:du 5	wə't <sup>h</sup> ə / wə'ɽə 3
14. nama'gə 6	meme'dʒi 2	he'medə 5	wə't <sup>h</sup> ə 3
15. nama'gə 6	memedzə'magə 2	he'mε-dɽydə 5	wə't <sup>h</sup> ə 3
16. haŋi'et <sup>h</sup> 8	'momak <sup>h</sup> 2	kaliant 6	ham'b <sup>w</sup> aɸ 4
17. 'molu 9	'amga 2	uŋ'am 7	,himbə'namp <sup>h</sup> 4
18. lat <sup>h</sup> 10	pəli 3	ɽot <sup>y</sup> 8	t <sup>y</sup> alo 5
19. 'ŋəŋəɽ 11	'ɸikw 4	'mbə <sup>m</sup> bad <sup>o</sup> 9	'ndau 6
20. nŋeɽiŋ 11	sɽp <sup>h</sup> ala 5	mbɛmbat <sup>h</sup> 9	ndaw 6
21. bogok 12	nomguamguk 6	gumbugudʒimba 10	gubudik 7
22. t <sup>h</sup> agay 13	dʒaŋ'goɽam 7	manduk <sup>h</sup> 11	dɽɽbaɽ <sup>h</sup> 8
23. 'k <sup>h</sup> uʒimɛt <sup>h</sup> /	'niŋgaŋ 8	'mεgɛtɽpit <sup>h</sup> 12	'ya't <sup>h</sup> ɽ <sup>h</sup> 9
'k <sup>h</sup> uʒimɛt <sup>h</sup> 14			
24. ma'ɔŋ 15	ma'ɽu 9	ma't <sup>h</sup> am 13	ma'mu 10



<i>skin</i>	<i>man</i>	<i>woman</i>	<i>bird</i>
1. hapay 1	gay 1	wɪnta 1	hedə 1
2. imbət <sup>h</sup> 2	alagi? 2	winyɿ 1	igɿ 2
3. ja'nɔŋk <sup>h</sup> 3	'k <sup>x</sup> aɽi 3	wɪn'da 1	'ɛka 2
4. ja'nɔŋk' 3	'qɑɽi 3	'wində 1	'eka 2
5. yanungi 3	kali 3	winda 1	eka 2
6. yanungi 3	akali 3	enda 1	yaka 2
7. yanonge 3	akali 3	enda 1	yaka 2
8. yanungi 3	akali 3	enda 1	yaka 2
9. yanugi 3	akali 3	eda 1	yaka 2
10. yɔŋge 3	akali 3	eŋda 1	yaka 2
11. yanenge 3	akali 3	enda 1	yaka 2
12. ɽi'k'a 4	na'ba 4	jə'ma 2	jau't'u 3
13. ɽə'xa 4	na'ba 4	ja'ma 2	jau'ɕo / jau't <sup>h</sup> o 3
14. i'da 5	wɔ'du 5	jam'wa 2	jau'ɕu / jau't <sup>h</sup> u 3
15. wɪ'ri 6	na'ba 4	mə'gə 2	jau't <sup>h</sup> ə 3
16. jɪmay wɛɾ 6	'nabɿ 4	mɿ 2	'ja <sup>w</sup> ər 3
17. hap 6	bɪ 4	nɪm'bi 3	jaur 3
18. mino? 7	duwali 6	pɛndu 4	kəlo 4
19. 'vɪza 8	aβɪd 7	m <sup>j</sup> e 5	hɔp <sup>j</sup> ɛ 5
20. nɔɪsak <sup>h</sup> 8	abɔt 7	miandu 5	wanma 6
21. gumbukdea 9	nungumindʒa 8	nam 3	gɪnyɛ 7
22. nɿɾɛm 10	panmɛɾi 9	naɾmɛl 6	bebɿɾɛdowi 8
23. t <sup>h</sup> ɪ'gat <sup>h</sup> 11	'yi'maɕ 10	'metɪt <sup>h</sup> 7	'nungwaɕ 9
24. mɿ'mbuk <sup>h</sup> o 9	'wɪk <sup>h</sup> a 3	mɿ'nɛk <sup>h</sup> ɪn 8	'ŋgoɾa 9

<i>dog</i>	<i>he bites</i>	<i>he sits</i>	<i>he stands</i>
1. wlnya 1			
2. wλnyλ 1	dzeli 1	p <sup>h</sup> ldimali 1	?alamaie 1
3. 'wuna 1	'ajemen 2	'hatar 'firi 1	'hisa'yarem 2
4. 'wup <sup>ə</sup> 1	wip a'jom 2	'pilim 1	'isa'yairəm 2
5. winya 1	wona peleme 3	pilimi 1	isakaeleme 2
6. yana 1	nelyame 4	pilyame 1	kalyame 2
7. yana 1	nenge 4	petenge 1	katenge 2
8. tuwa 2	nalanya pingi 4	petenge 1	katenge 2
9. yana 1		petege 1	katenge 2
10. yana 1	nenge 4	petenge 1	katerge 2
11. suwa 2	nelyamo 4	petamo 1	karamo 2
12. wə'na 1	'xaxəyədə 5	hemə'dədə 2	ja·yɔβa 3
13. wə'na / wɛ'na 1	ja'dzi 6	hemede'da / hemedə'da 2	muçə'da 4
14. wɛ'na 1		hemə'denə 2	muçə'denə 4
15. wɛ'na 1	je'βiədə 6	hem'dəβə 2	t <sup>h</sup> aha'doβədeni 5
16. wapa 1	ambəya 7	'hamd+g <sup>ə</sup> məndə 2	'ambəldua 6
17. k <sup>h</sup> ain 3	hau'amp <sup>h</sup> 8	'asiγλl mən'dλϕ 3	u'raγλl mən'dλϕ 7
18. əga 3	əganda / 'kui 9/10	sam'bək 4	əm'bək 8
19. k <sup>j</sup> en 3	'irinen 11	içi'wari 5	biŋga'pari 9
20. gən 3	bl'anšii'umba 12	isiwa 5	mbingapa 9
21. da <sup>w</sup> m 4	bokondže 13	kořobedžik 6	mawniyabžik 10
22. yuīa 5	nenamın 14	tandon / tandok 7	yambalak 11
23. yau <sup>g</sup> y 6	'k+witwo <sup>g</sup> 15	'k <sup>h</sup> orgwo <sup>g</sup> 8	t <sup>h</sup> ēgwo <sup>g</sup> 12
24. 'k <sup>h</sup> as 3	'ndama 'nd+gλk <sup>h</sup> as <sup>y</sup> et 16	'ma 'i'set 9	'ma t <sup>h</sup> λ'k <sup>h</sup> a'λ'met 12

<i>road</i>	<i>stone</i>
1. yoɔo 1	hana 1
2. asiɛ? 2	ana 1
3. xa'se / xa'tɕe 2	'ana 1
4. ka'se 2	'anna 1
5. kase 2	ana 1
6. kaita 2	kana 1
7. kaita 2	kana 1
8. kaita 2	kana 1
9. ketini 2	kæn 1
10. kait 2	kan 1
11. kata 2	kana 1
12. 'dʒimot <sup>h</sup> 3	ɭi'gə 2
13. 'saba dzɪmuɕəmam 3	ɕi'gə 2
14.	ɕi'gə 2
15. 'diədə 4	ɕi'gə 2
16. 'gan+mɕ 5	ɕigɔ 2
17. 'andan 6	'k <sup>h</sup> ambɔ 3
18. ələdo 7	kamb <sup>ə</sup> 3
19. məj 8	mɪndəm 4
20. məyt 8	mɪndum 4
21. ʔindun 9	nəŋgum 5
22. yaw 10	iɭubun 6
23. yɪ'got <sup>h</sup> ogət <sup>h</sup> 11	t <sup>h</sup> ag <sup>ɕ</sup> ɕ/ɕ 7
24. 'm <sup>ə</sup> ban 12	'mɛ 4

<i>big</i>	<i>small</i>
gauwa 1	haugiya 1
andage 2	hoyen'dobɔgi 2
'anan'daine 2	'eβa,ɣana 3
an'daingi 2	eβ'ana 3
andai 2	epana 3
andake 2	kuki 4
andake 2	yakane 5
yale 3	kuki 4
ədake 2	yækane 5
yale 3	yakane 5
andake 2	kuki 4
mə'də'gə 4	sa·li'gə 6
'mədə ɕi'gə 4	'saba ɕi'gə 6
ɕi'gə ma'deβe 4	ɕi'gə wɛtɕi'βe 7
diɕ 4	uɭə 8
k <sup>h</sup> ump <sup>h</sup> 5	ɕro 9
'lowe 6	t <sup>h</sup> ya'koli 10
ŋgasa 7	'samɪndəm 11
gɔsa 7	sa 11
ayɪmbo 8	daboa 12
kɔβen 9	waydʒagɛn 13
bɕot <sup>h</sup> 10	habgi'enɪɕ 14
'ɛɾe'm <sup>ə</sup> bú 8	'k <sup>h</sup> a'mbo <sup>p</sup> 15

<i>fire</i>	<i>smoke</i>	<i>ashes</i>	<i>ear</i>
1. siya 1	syεmλʒu 1	ʔεmu 1	hali 1
2. sieʔ 1	siemuʃut 1	ʔεmo 1	aʔet 1
3. i'sat(ε) 1	sogo'nəβo 2	p <sup>h</sup> ε'damp <sup>h</sup> 2	a'ʔeŋk' 1
4. sa:ʔε 1	'mɔɾu 1	'lanɣa 3	kem'bau 2
5. isate 1	mutu 1	'yanga / petambu 3/2	alengenai 1
6. itate 1	kena 3	sumulunga 3	kali 1
7. ita 1	kina 3	simulanga 3	kale 1
8. itate 1	kena 3	simulanga 3	kale 1
9. itæ 1	kinæ 3	itæ kuku 4	kai 1
10. ira 1	kena 3	'yanga 3	kale 1
11. isare 1	sukwa 2	pee 2	kale 1
12. na'bu 2	'muəyəd(ə) 1	me'so 5	jənə'wad <sup>j</sup> ə 3
13. nabu / nabw 2	nabo'mo 1	ɪnabo'ŋa 6	jənəə'dzə 3
14.			jenu'adzɔ 3
15. na'bx 2	nabx'mu 1	ɪnabx't'e 6	jən'wəʔe 3
16. ʒɛn 3	ʒɛn 'haump 4	ʒɛn 'hau 7	ʒɛmintɕ 4
17. nɔʔ 4	'handu 5	ʒənə'me 8	'ʒɛmint <sup>h</sup> 4
18. piut <sup>Y</sup> <sub>u</sub> ʔoʔai 5	əmpɔʔi 6	bit <sup>h</sup> u 9	'lomɔ 5
19. mɪn 6	'mɔŋgu 7	'kopi 10	'twan 6
20. mɪn 6	mungu 7	k <sup>h</sup> upi 10	tandu 6
21. yam 7	yɪmweya 8	yəŋgayəm 11	gunduk 7
22. awt <sup>h</sup> 8	yɪɣɪn 9	asɪŋ 12	kwanɔmɔŋ 8
23. k <sup>h</sup> əgɪt <sup>h</sup> 9	xi'peβit <sup>h</sup> 10	yɪ'gɔnpam 11	yɪmbɪgɪn'dəŋgɪt <sup>h</sup> 9
24. 'əŋ 10	'əŋmɔ 'k <sup>h</sup> us 7	'bit <sup>h</sup> am 9	mɔ'k <sup>h</sup> owə 10

<i>tongue</i>	<i>tooth</i>	<i>breast</i>	<i>hand</i>
1. gɪdɑ 1	ni 1	ʔandu 1	gihabɑ 1
2. 'gɪdatɪ 1	nyɛdɪʔ 1	ʔanduʔ 1	'kiabɛ 1
3. ket' 1	ne / nɛ 1	an'du 1	ki'gɔ 1
4. 'kɛɾɑ 1	'neqɪŋge 1	'andu 1	kiɾɛŋge 1
5. ketanae 1	neenae 1	andu 1	kikonae 1
6. keke 2	nenge 1	andu 1	kingi 1
7. keke 2	nenge 1	andu 1	kingi 1
8. keke 2	nenge 1	andu 1	kingi 1
9. kek 2	neg 1	ɫdu 1	kig 1
10.	nerŋge 1	andu 1	kingi 1
11. kekenge 2	nenge 1	anju 1	kingi 1
12. su'wɔ 3	adʒu'abɿ 2	a'u 1	ɾɔ'bu 2
13. tsu'ə / tsu'ɛ 3	adzua'ɸə 2	a'u 1	ɾau'bo 2
14. sju'ə 3	adzua'ɸə 2		'wobo 2
15. syê / su'ə 3	ɪjɛdʒɪ 'magə 2/3	a'hu 1	nə'sa 3
16. aɪ <sup>ə</sup> 'bɫɾ 4	andz <sup>ə</sup> 'mak <sup>x</sup> 2/3	kau 1	ju'mak <sup>x</sup> 4
17. a'ɫamp <sup>h</sup> 5	meŋk <sup>h</sup> 3	tɕi 2	ɾɪ'maŋgɫ 4
18. 'ndʒɪto 6	'təʔok 4	tʒu 2	mi'gət <sup>h</sup> 5
19. 'mbʒe 7	'ŋandu 5	mi 3	kɪɾi 6
20. mpe 7	ŋandu 5	miʒu 3	gɫɾi saŋɸaŋ 6
21. danɫmayɫk 8	ganʒik 6	ɣɪɫɫk 4	goʔok 6
22. mɪŋyɪŋ 8	tɫɾiŋgi / mbɫŋ 7/8	nɫŋay 5	awgulim 7
23. 't <sup>h</sup> oŋt <sup>h</sup> 9	bɪ'čɛt <sup>h</sup> / bɪ'šɛt <sup>h</sup> 9	'miŋgat <sup>h</sup> 6	tɪŋt <sup>h</sup> 8
24. mɫ'ɣoŋan 8	mɫ'ð 10	mɫ'ɲjɔ 2	mɫ'əŋɫɪʔɔ 6

<i>sun</i>	<i>moon</i>	<i>star</i>	<i>cloud</i>
1. yage 1	hana 1	haʔaʔa 1	mo <sup>v</sup> li 1
2. naiʔ 2	ana 1	adʌdʌʔ 1	mo <sup>v</sup> li 1
3. 'nai 2	sa <sup>h</sup> kun(e) 1	'kui 2	'hai 2
4. 'na.i 2	o <sup>h</sup> goʔi 2	'bu.i 2	mogə <sup>h</sup> βaʔə 1/3
5. yapena 3	okolo 2	kui 2	mokopale 1/3
6. nita 2	kana 1	bui 2	mole 1
7. tina 2	kana 1	bui 2	kopa 3
8. nita 2	kana 1	bui 2	mole 1
9. nik 2	kæn 1	bwi 2	mole 1
10. nira / niki 2	kana 1	bui 2	mole 1
11. neta 2	kana 1	mbui 2	kopa 3
12. nu <sup>h</sup> ma 4	sɔk <sup>x</sup> o <sup>h</sup> nə 1	gu 2	du <sup>h</sup> ə 4
13. ʔə <sup>h</sup> ma 4	tsoxə <sup>h</sup> no 1	gu <sup>h</sup> u 2	boi <sup>h</sup> a 5
14.			
15. ʔə <sup>h</sup> ma 4	sɔ <sup>h</sup> kənə 1	gu <sup>h</sup> hu 2	jɣ <sup>h</sup> mɣ 6
16. naijʌ 2	ʕʌn 3	'guβʌ 2	womi 7
17. 'sɪndʌ 5	'ʕaɣʌn 3	'gaβi 2	'k <sup>h</sup> umi 7
18. kəlo / gə <sup>h</sup> lo 6	kə <sup>h</sup> u 4	su <sup>h</sup> na 3	wə <sup>h</sup> gu 8
19. βanma 7	'gəŋat <sup>o</sup> 5	'zünza 3	ʕiŋga 9
20. θanma 7	ŋg <sup>h</sup> iŋat 5	ʕunʕa 3	yaŋgəm 10
21. dum 8	dɪpar 6	bunɟutʕum 2	ɣumwiya 11
22. tumɛ <sup>h</sup> i 9	mɪ <sup>h</sup> iya 7	awak <sup>h</sup> 4	tumbun 12
23. 'ma <sup>h</sup> ʔi <sup>x</sup> 10	'yamit <sup>h</sup> 8	'gu <sup>h</sup> ri <sup>x</sup> 2	'g <sup>h</sup> i <sup>h</sup> ib <sup>h</sup> i <sup>h</sup> pam 13
24. 'yā 1	mʌ <sup>h</sup> ʔi 7	ʌ <sup>h</sup> k <sup>h</sup> un 2	p <sup>h</sup> i <sup>h</sup> niŋ 9

<i>rain</i>	<i>water</i>	<i>tree</i>	<i>root</i>
1. k <sup>h</sup> iŋk <sup>h</sup> i 1	?iba 1	siya 1	pəlihi 1
2. giŋgi? 1	iβa? 1	siε 1	yongobidi? 2
3. ɿhaβe'ɕε / ɿhaβe'ɕε 2	i'βa / ib'βa 1	'isa / 'itga 1	isəra'teŋke 3
4. a'βeɕe 2	'iβa 1	'isa 1	'ende 4
5. apele 2	ipa 1	isa 1	isa pilingi 5
6. apu 2	ipa 1	ita 1	kende 4
7. apu 2	ipa 1	ita 1	ita pyanga 6
8. apu 2	ipa 1	ita 1	ita pyanga 6
9. æyu 2	edæki 2	itæ 1	pig 5
10. ayu 2	indaki 2	ita 1	pinge 5
11. apu 2	ipwa 1	isa 1	isa pingi 5
12. me'ga 3	gw 3	mu'na 2	uɿək <sup>x</sup> obo'duə 7
13. me'ga 3	gw 3	mə'na 2	mə'na ma'du 8
14.			
15. ma'ga 3	gw 3	mɿ'na 2	ɿməna'gɿ 9
16. ɕua 4	ɕa'ba 4	bɿ 3	bɿ 'gɿdɿI 9
17. maŋ 3	ɾuŋk <sup>h</sup> 5	mamp <sup>h</sup> 4	'k <sup>h</sup> ɿndɿI 9
18. ələ 5	ba 1	baɿ(ə) 3	nəŋ'gələp 10
19. 'maŋim'ɕəjə 6	'maŋam 6	mu 5	u'ra:kən 11
20. ma'ɿumɕoɕba 6	maŋam 6	mii 5	'mɿŋiʒɿmbɿ 12
21. yuŋ 7	yum 7	?et 6	wunda 13
22. wa'li 8	a'ɕem 8	yan 7	binŋ 14
23. bu <sup>x</sup> ɕ 9	'buɕ <sup>h</sup> am 9	mɿɕ/ʒ 5	nem'bebɿ 15
24. t <sup>h</sup> ɿ'wɿn 10	'mɔ 10	p <sup>h</sup> ɿ'k <sup>h</sup> a 8	p <sup>h</sup> ɿ'k <sup>h</sup> amɿ'ŋgɿn 9

<i>leaf</i>	<i>meat</i>	<i>fat (grease)</i>	<i>egg</i>
1. si'ye γλɔ 1	howa / huλmɛndi 1/2	howa k <sup>h</sup> adaya 1	hedaba 1
2. yoho 1	howλ? 1	gadiyλ 1	λba 1
3. so'mɛ / tɕo'mɛ 2	mun'diŋk' 2	ha'βəŋk 2	a'ɕəŋk 1
4. 'isæ 'joγo 1	mun'diŋk' 2	a'βɛŋɕɛ 2	ɿkora'βaŋɕɛ 1
5. yokonge 1	mindingi 2	apenge 2	apange 1
6. ita yoko 1	minju 2	kapa 2	kapa 1
7. ita yoko 1	minjo 2	kapa 2	kappa 1
8. yoko 1	miju 2	kapa 2	kapa 1
9. yokɔ̃ 1	miʃu 2	kæp 2	tuk 2
10. yoko 1	miŋjo 2	karaia 2	yaka tuku 2
11. isa yoko 1	mena 2	kapa 2	kapa 1
12. mu'nana 3	ma·'mu 3	a'xɛəβəðɛn 3	'jaut <sup>h</sup> umu'si 3
13. mə'nana / mən <sup>ə</sup> hana 3	ma'mū 3	'jɛna a'xə 3	jaurəmo'si 3
14.	nɛ'ma 3		
15. mənɛ ha'na 3	'jɛnɛ ju'ɛ 4	'jɛnɛ ha'dzɣ 4	jaut <sup>t</sup> umu'si 3
16. bɪ ɕan 3	han 'juλ 4	han ɕatɕ 4	jaur mintɕ 3
17. k <sup>h</sup> λɕ 4	'juλ 4	moλ 5	jaur 'maŋɕλ 4
18. bɪt <sup>ə</sup> kəli 5	tu'ʔu 5	tu'pəlosa 6	kəlonə 5
19. 'munda 6	'ɕaka 6	kəŋgarəŋ 7	'majmuma 6
20. mu andəŋa 6	nɕak <sup>h</sup> a 6	k <sup>h</sup> əŋgaɪəŋ 7	wanmuma 6
21. edʒuwarŋga 7	gamɪya 7	nλmweya 8	mɪnda 7
22. nɪmbi 8	nλŋɕλbɪt 8	nanλŋ 9	əŋɕui 8
23. t <sup>h</sup> o'at <sup>h</sup> 9	'nɛmp <sup>h</sup> am 9	'ʒɪləpam 10	pə'gat 9
24. p <sup>h</sup> λ'p <sup>h</sup> a 10	λ'mə̃ 3	mλ'rɔ̃ 11	'mɔ̃ 3



<i>he eats</i>	<i>he gives it to me</i>	<i>he sees</i>	<i>he comes</i>
1.			
2. nama <sup>h</sup> ɛ 1	nɒɓɒndi 1	'da <sup>h</sup> ɛwɔk <sup>h</sup> 1	heyɛ 1
3. nɔ <sup>h</sup> 'manə 1	dza / ɔza / ɔ'dza 2	ɔ <sup>h</sup> 'da 1	ja 1
4. ɲene <sup>h</sup> 'ɾɛm 1	nɒm, bɔɾɛn <sup>h</sup> 'dza 2	nɒm, bɔɾɛn <sup>h</sup> 'da 1	nɒm, bɔɾɛ <sup>h</sup> 'ja 1
5. nengenæ 1	dilimi 3	deleme 1	elimɪ 2
6. nelyame 1	dilyame 3	kandelyame 1	epelyame 2/3
7. nenge 1	dingi 3	kandenge 1	epenge 3
8. nenge 1	dingi 3	kandenge 1	epenge 3
9. nɛg 1	næb dig 3	kædeg 1	ɛpɛg 3
10. nɛŋgɛ 1	naba digi 3	kadege 1	ɛpɛŋgɛ 3
11. nelyamo 1	jilyamo 3	kandelyamo 1	epelyamo 2/3
12. ja <sup>h</sup> ·'d <sup>h</sup> ɪmɪnə 2	jɛnə <sup>h</sup> 'baniɣa 4	mɔdu <sup>h</sup> 'abədɛg <sup>h</sup> 2	ja 1
13. ja <sup>h</sup> 'dʒi 2	ni <sup>h</sup> 'gan ə <sup>h</sup> 'ɾa 4	gwa 2	jɛm <sup>h</sup> 'dɛ 4
14.			
15. ɲomə <sup>h</sup> 'dɛɾɛ 3	nɪ <sup>h</sup> 'βɛnɛɾɛ 4	ɪgomə <sup>h</sup> 'dɛɾɛ 2	ɲjɛm <sup>h</sup> 'dɛɾɛ 4
16. ni <sup>h</sup> 'm <sup>h</sup> 'da 4	nine 4	'nɔŋg <sup>h</sup> ʷə 2/3	ham <sup>h</sup> 'da 4
17. ɲɪŋ <sup>h</sup> 'amp <sup>h</sup> 5	ɲamp <sup>h</sup> 5	nəŋ <sup>h</sup> 'amp <sup>h</sup> 3	au <sup>h</sup> 'amp <sup>h</sup> 5
18. nimi 4	'nəŋkwəkwaŋgəni 6	kənənəŋgə nhai 4	'kwaŋgəpə 6
19. ɸɛnɸɛn 6	'munutu maɸiβɛ 7	uɾa 5	ŋɪma 7
20. tʃɛntʃɛntʃuba 6	maʃuba 7	wud <sup>h</sup> 'ɪa 5	ŋɪma 7
21. nɒmbidʒik 7	ma 8	dandiyɪβɛ 6	wanbɒɪɪa 8
22. nɛnamun 8	anɒŋ 9	nɒga day 4	nanayɛn 9
23. 'k <sup>h</sup> awɛ <sup>h</sup> 9	'nan: ka <sup>h</sup> 'gokwɛ <sup>h</sup> 6	xɪ <sup>h</sup> 't <sup>h</sup> it <sup>h</sup> wɛ <sup>h</sup> 7	'n <sup>h</sup> ɪewɛ <sup>h</sup> 10
24. 'ma <sup>h</sup> ɪ <sup>h</sup> 'm <sup>h</sup> ɓos <sup>h</sup> y <sup>h</sup> ɛ <sup>h</sup> 10	'ma ɲɒ <sup>h</sup> 'ɲi <sup>h</sup> 10	'ma ɪ <sup>h</sup> 'm <sup>h</sup> bi <sup>h</sup> 8	'ma p <sup>h</sup> ɒ <sup>h</sup> 'ɪyɛ <sup>h</sup> 11

<i>louse</i>	<i>one</i>	<i>two</i>	<i>his back</i>
1.	mʌndi 1	labu 1	moʃali 1
2. ʔema 1	mʌndi 1	labo 1	mosaʔe 1
3. ʔe'ma 1	wa'men 1	'ɾaman 1	mu'sete / mu'tgete 1
4. 'ɾema 1	wa'men 1	ɾa'man 1	mo'soɾ <sup>l</sup> 1
5. lema 1	wamena 1	lamana 1	musalingi 1
6. lema 1	mendai 1	lapo 1	maita 1
7. lema 1	medai 1	lapo 1	maita 1
8. lema 1	mendai 1	lapo 1	maita 1
9. ʌʒnatɔ 2	mede 1	læpɔ 1	met 1
10. tilya 3	mendai 1	lapoma 1	maira 1
11. oro 4	mendaki 1	lama 1	mata 1
12. ʔe'ma 1	'jɔ·ɣɔdɔ 2	'jadayɪn 2	sɪ'ɣi / sɪ'ɿɿ 2
13. nə'ma 1	joɾo'dɔ 2	jan'deɾimi 2	siɾi'bɔ 2
14.			ɿsiɾi'odu 2
15. i'mɪdʒi 1	a'gɔ 3	ɪhɛgɔ'nabɔma'ɾɿ 3	siɾi'βɔ 2
16. jɪm 1	wariŋ'geɸ 4	ji'mag 'jiŋg <sup>w</sup> ʌ 4	maip <sup>h</sup> 3
17. man 1	'wanɪŋkənəmbʌ 4	mə'hʌɸ 5	dʒʌl 4
18. mənam 1	gegeten <sup>ə</sup> 5	kapək 6	
19. uta 5	ŋajkɔ 6	aɾawi 7	'aɕi 5
20. wutut <sup>h</sup> oma 5	ŋayk <sup>h</sup> ʌk <sup>h</sup> 6	aʔawin 7	basoma 6
21. ɣɪmwɪn 6	k <sup>h</sup> undʌpam 7	k <sup>h</sup> undamwin 8	ndʒambuk 7
22. wʌŋdit 7	mɛn 8	ɣɪmbumbaʔi 9	maʔdogwa 8
23. 'nɛmɪt <sup>h</sup> 1	ɾɪp <sup>h</sup> at <sup>h</sup> 9	'xoʒɪp / xoʒɪp 10	'mɔŋɪt <sup>h</sup> 9
24. 'ma <sup>t</sup> 1	'wɔnɛ 4	'ŋɪnʌ'k <sup>h</sup> ɪn 11	mʌ'p <sup>h</sup> ɪnɪ 10

*his shoulder*

1. ganowa 1
2. oʃate 2
3. 'k' enawa 1
4. ɿkena'waŋk' 1
5. kenawange 1
6. lapangu 3
7. lapangu 3
8. latuya 4
9. eyʒkʒde 5
10. laraia 4
11. lange 3
12. a'sɔ'dʒə 6
13. asie'dze 6
14. ɿasi'edze 6
15. a'si 6
16. ʒa'got<sup>h</sup> 7
17. sɔn'doŋ 8
- 18.
19. 'pkanəŋ 9
20. ganaŋ 9
21. 'gigigamba 10
22. nambunum 11
23. tɿnim'blaŋat<sup>h</sup> 11
24. ma'əbəɿʃam 12

*his forehead*

- wonu 1
- onote 1
- wɛ'naβa 1
- ɿwɛna'βɔnt' 1
- wenopande 1
- enomba 1
- enomba 1
- yonomba 1
- matɛn 2
- laŋgalu 3
- enamba 1
- mɛna'xa 4
- mɛnaxa'ɾa 4
- mɛn'axa 4
- mi'gwo 4
- 'maig<sup>w</sup>at<sup>h</sup> 4
- ɿnambə'le 1
- 'makɿ 5
- mbak<sup>h</sup> 5
- nuŋ'gwigɿbaɿk 6
- tɿmbɿŋam 7
- ɿum'biɿkɿt<sup>h</sup> 8
- ma'p<sup>h</sup>anɿ 9

*his thumb*

- yo 1
- k<sup>h</sup>inʃubat 2
- ɾe'man 3
- kin'doβa 2
- lemange 3
- kingimange 3
- mange 3
- mange 3
- omag 3
- maŋge 3
- mange 3
- ɿɿɿɿɿ'dʒə 4
- nɛsɛ'xo 4
- 'nɛsəxo 4
- ɿmɛjəhə'bə 5
- mamɿnd 6
- 'mamɿnt<sup>h</sup> 6
- mianma 7
- k<sup>h</sup>ɿliβa 8
- gapagoda 9
- naŋgɿim 10
- mɿma p<sup>h</sup>ɿɿɿabɿt<sup>h</sup> 11
- ma'sɿiman 12

*his leg*

- ʔaɿuma 1
- k<sup>h</sup>ingot<sup>h</sup>ɛ 2
- ɔ'ɾiŋk<sup>h</sup> 3
- o'ɾiŋge 3
- olemange 3
- paingi 4
- moka 5
- moko 5
- mɔk 5
- moko 5
- kimbu 6
- ɿaɿɔjɔ'du 7
- hə'da / ə'da 7
- a'ɾɛdʒə 7
- həɿdamə'si 7
- ʔə'let<sup>h</sup> 8
- k<sup>h</sup>uɿ 9
- ŋka<sup>m</sup>ba<sup>m</sup>gat<sup>o</sup> 10
- ŋgambaŋ 10
- banambɿk 11
- bumuŋ 12
- 'wo'ɾat<sup>h</sup> 13
- ma'ŋgan 14

<i>his heart</i>	<i>his bone</i>	<i>his blood</i>	<i>wing</i>
1. sɪyɛ̃i 1	sobwi 1	guguba 1/2	paɾaɣliɑ 1
2. ɛnbɔ̃ɪt <sup>h</sup> 1	õɪt <sup>h</sup> ɛʔ 2	dɔdɔmɑ 1	pəbɔɪtʂidɔʔ 1
3. sɑŋ'gɑɾi / tɔŋ'gɑɾi 1	hɔŋ'gɔ 3	wɛ 3	ɪpɛβɔ'βɑŋk' 1
4. fɛɾɑ'ɾiŋgɛ 1	o'ɾiŋgɛ 2	tɑ'jɔɔ 4	fɛfɑ'ɣɑŋgɛ 1
5. lipe 1	oliŋgi 2	wɛŋgɛ 3	iŋgi 2
6. monɑ 2	kuli 4	tɑyoko 4	yɑkɑ kiŋgi 2
7. monɑ 2	kuli 4	tayoko 4	pɛpɑ 1
8. monɑ 2	kuli 4	tayoko 4	pɛpɑ 1
9. mɔ̃n 2	kuli 4	tɛɣʂk 4	pɑpɑ 1
10. monɑ 2	kuli 4	tɑiyoko 4	pɑp 1
11. monɑ 2	kuli 4	tɑnjɑmɑ 4	pɑpɑkɛ 1
12. ɪɪbi'ɪmɑgɛ 1/3	jo'du 5	ɑ't'ɑɣi 4	su'muxədɔ 3
13. mɔdɔ'mɑgɛ 3	jo'du 5	gɛ'jɑ 5	fɛi 1
14. ɪmɔdɔ'mɑgɛ 3			
15. mɛdɔ'mɑgɛ 3	je'dɔ 5	gɑ'jɑ 5	jɑu,tɔhɔ'fɛi 1
16. mɛndɔmɑk <sup>x</sup> 3	jɑnt <sup>h</sup> 5	hɑp 6	wɔβitɔ 4
17. ɪmɛndɔ'mɑŋɣɔ 3	lɛ 6	hɑŋ'gɑβɛ 2/5/6	ɑw'ɑn 5
18.			
19. fɔɾɔŋ 4	ɑmɔu 7	ɑmɔɑɾɑ 7	k'ɑ'k'ɑmbɑ 6
20. ɣɪndɑmpu 5	ɑmpuɑ 7	ɑmbɑlɑ 7	wɑnɪk <sup>h</sup> ɪk <sup>h</sup> ɑ 6
21. guɔudʒik mɑŋgɑ 3/6	ʔɛʒɪmbɔk / dʒɪmpɑ 8	ʔɑndi 8	dɔŋɔŋɑ 7
22. wubundɑmbiŋ 5/6	dɑɣnɪm 9	yɑt <sup>h</sup> 9	nɑmbɔnum 8
23. 'mɑʔbɪɕ 7	tɪ'pɪɕ 10	kɪ'k <sup>h</sup> up <sup>h</sup> ɑm 10	'bɪʔnɑt <sup>h</sup> 9
24. mɔ'wɔ <sup>ŋ</sup> gɔɪ'ʔɔ 8	mɔ'ɪ 11	mɔ'θɪn 11	ɪŋgɔ'ʔɑ mɔ's <sup>ɣ</sup> ɛ 10

<i>tail</i>	<i>his father</i>	<i>his mother</i>	<i>brother (older, of man)</i>
1. kombo 1	sal tɛ 1	ʔama 1	gauwa 1
2. ɛʔɛʔ 2	abo 2	ama 1	yawngɛ 1
3. ɛ't'əŋk' 2	t'aiŋk 3	ɛn'dɛŋk 2	jaŋ'gɔŋk' 1
4. 'ɾiŋge 2	tai.'aŋge 3	ɛn'dɛŋge 2	jaŋ'gɔŋge 1
5. etenge 2	taengenae 3	endengenae 2	
6. yaka kenge 3	takange 3	endangi 2	yangonge 1
7. etenge 2	takange 3	endangi 2	yangoge 1
8. etenge 2	takange 3	endangi 2	wamba yangoge 1
9. eteng 2	takage 3	endeng 2	keminig 2
10. erenge 2	takange 3	endaŋge 2	kaiminigi aingi 2
11. konali 4	takane 3	endangi 2	yangone 1
12. jau't' u gɔ'ɕɔ 5	a'ba 2	ma'ma 1	həgi'agɔ 1/3
13. b <sup>w</sup> u'ɕɔ 5	a'ba 2	ma'ma 1	ma'mɔ 4
14.	a'ba 2		
15. jau't' obu'ɕɔ 5	ɾat' i'la 3	mə'gə 1	mədə'həgə 3
16. hɪmbə'dzɔɪ 6	adza 3	mam 1	na'bat <sup>h</sup> 5
17. dzɔɪ 6	bəɕ 2	'amɪ 1	mam 4
18.			
19. aɕi / tangu 7/8	wawa 4	anaga / anaya 3	uŋg <sup>j</sup> a 1
20. asɪk <sup>h</sup> / laŋgum 7/8	wawa 4	anak <sup>h</sup> a 3	wuŋgyak 1
21. gunumwa 9	wɪdʒɪk 5	ama 1	ɔbwa ayɪmbowa 6
22. bip 10	abin 2	ŋay 4	kɪrɛn 7
23. 'guʔbɛnt <sup>h</sup> 11	yi' bɛmɪt <sup>ɕ</sup> 2	mɪ'mɛmɪt <sup>h</sup> 1	na'jɛmɪt <sup>ɕ</sup> 8
24. mɪ'ŋgun 9	ŋɪ'at <sup>h</sup> ɛ 6	ŋɪ'əmɪt <sup>ɕ</sup> 1	ŋɪ'á <sup>i</sup> 9

<i>sister</i>	<i>name</i>	<i>pig</i>	<i>cassowary</i>
1.		mena 1	layma 1
2. ima'ĩŋge? 1		mena? 1	?ayma 1
3. ɿp'ima'ɽeŋk 1	ɿ'geŋk 1	ja'waɽe 2	k <sup>x</sup> a'wan 2
4. pima'ɽeŋge 1	'p <sup>h</sup> ijə 2	ja'waɽe 2	ka'wəne 2
5.	genge 1	yaowale 2	kawaune 2
6. kikingi 2	kenge 1	mena 1	laima 1
7. pimalenge 1	kenge 1	mena 1	laima 1
8. pimalenge 1	kenge 1	mena 1	laima 1
9. pimaiege 1	keŋg 1	mena 1	lem 1
10. pimalenge aingi 1	keŋge 1	mena 1	laima 1
11. kakinyi 2	kingi 1	mena 1	lamya 1
12. nɪm'jai 3	a'tɕaβəde 3	je'nɻ 3	'jawaga 3
13. nɪma'i 3	mɛ'i 4	je'nə 3	do'dza 4
14.		je'nə 3	
15. nɪ'mɛ 3	nabamɪ'he 4	je'nɻ 3	'dowjə 4
16. mə'hənt <sup>h</sup> 4	hɪmp <sup>h</sup> 5	han 4	dau'aia <sup>h</sup> 4/5
17. 'aɾt <sup>h</sup> 5	himp <sup>h</sup> 5	k <sup>h</sup> antɕ 4	'waiɪŋ 5
18.			
19. ɕami 6	wuŋ 6	βɛɾɪ 5	kaɾim 6
20. ba'ɪusɪkɪsami 6		βɛɪɛ 5	k <sup>h</sup> a'ɪim 6
21. nambɪlayk 7		yay 3	gayɪma 6
22. abak <sup>h</sup> 8		nɪmuɪan 6	awa 5
23. 'mɪnda'ɾemɪt <sup>h</sup> 9	'yubət <sup>h</sup> 7	'pɛgɪɕ 7	'bɛndɪgɔgɔt <sup>h</sup> 7
24. ŋɪ'nagɪ <sup>n</sup> dom 10	mɪ'yɛ 4	'k <sup>h</sup> ɪp 8	'm <sup>h</sup> bon 8

<i>wallaby</i>	<i>flying fox</i>	<i>rat</i>	<i>frog</i>
1. wasɿla 1	sɿnabiya 1		godɿ 1
2. amayndzoɿok 2	sɿnawɿɛ 1	andabi 1	mɔŋk 2
3. ku'ɿi 3	ɿarəŋ'gauŋk 2	maŋ'giɿ 2	'mɔŋge 2
4. 'ajə 4	'kamjə 3	maŋ'giɿi 2	mɔŋge 2
5. kuliya 3	kamya 3	mangili 2	mɔŋge 2
6. mapuna 5	saima 4	koka 3	mɔŋge 2
7. mapuna 5	saima 4	koka / konai 3	mɔŋge 2
8. mapuna 5	simbunaiya 4	koka 3	mɔŋge 2
9. sibi 6	kepya 3	kɔŋe 3	mɔŋge 2
10. saa 6	tindi 5	yuwi 4	mɔŋgi 2
11. mapona 5	kamye 3	wui 4	mungi 2
12. ku'gia 3	dɿ'gɿ 6	jɛdʒɿna'ba 5	'sau 3
13. k <sup>h</sup> uɿi'a / xuɿi'a 3	də'gə 6	do'χo 6	sa'u 3
14.			
15. sɿ'βia 6	də'gə 6	dɔ'k <sup>h</sup> wə 6	'sau 3
16. w <sup>u</sup> ɿɿa 7	'gaunɿ 2	'daiu 6	hamb <sup>w</sup> u'mɿl 4
17. wai 7	'waimant <sup>h</sup> 7	ɿk <sup>h</sup> əβi'a 7	baŋ 5
18.			
19. m <sup>bi</sup> də 8	'jaŋgu 8	dɿ'dɿgasa 8	'qamu 6
20. bit 8	yaŋguŋa 8	dɿdɿgasa 8	samok <sup>h</sup> 6
21. gwiandɿk 9	ayɿŋgwaŋ 8	gundugway 9	magay 2
22. waɿkabwi 10	gɿmbwi 9	giga 3	k <sup>h</sup> uk <sup>h</sup> ɿlak / k <sup>h</sup> ɿlayɿ 7
23. wiɿ+'gɛβiɿ 10	'gɛβɿɿ 9	'mɛŋgɿɿ 2	k <sup>h</sup> o'k <sup>w</sup> at <sup>h</sup> 7
24. p <sup>h</sup> ɿ't <sup>h</sup> a 8	t <sup>h</sup> ɿ'ɿgɿn 10	k <sup>h</sup> ɿ'woɿa 10	p <sup>h</sup> ɿ'k <sup>h</sup> ɿt <sup>t</sup> 8

<i>snake</i>	<i>taro</i>	<i>sugarcane</i>	<i>yam</i>
1. boya 1	sawi 1		
2. ma <sup>h</sup> lubaysi 2	asda <sup>h</sup> i 2	idʌʔ 1	kawi 1
3. jan <sup>h</sup> daɾ 3	mã 3	'hiɾa 1	je <sup>h</sup> βeɾa 2
4. jan <sup>h</sup> daiɾe 3	mã 3	'jiɾa 1	i <sup>h</sup> naβo 3
5. yandale 3	maa 3	ilya 1	inapo 3
6. kanopate 4	maa 3	lyaa 1	amu 4
7. konopate 4	maa 3	lyaa 1	amu 4
8. kanopate 4	maa 3	lyaa 1	amu 4
9. kənəpatrɔ̃ 4	mæ 3	lyæ 1	
10. kanoparo 4	lipano 4	lyɑ 1	amu 4
11. kau 4	maa 3	lyεε 1	amu 4
12. nak <sup>h</sup> u <sup>h</sup> ma 5	nu <sup>h</sup> bu 5	sw <sup>h</sup> ɣa 2	ε <sup>h</sup> si 5
13. naxo <sup>h</sup> ma 5	nə <sup>h</sup> bo 5	si <sup>h</sup> ɾa 2	dʒu <sup>h</sup> a 6
14.			
15. nak <sup>h</sup> ə <sup>h</sup> ma 5	nɣ <sup>h</sup> bw 5	su <sup>h</sup> ɾa 2	he <sup>h</sup> si 5
16. kas 6	kɪm 6	ham <sup>h</sup> ɾaŋ 3	ha <sup>h</sup> wɪt 7
17. ɕe 7	mɪ 3	bɪɿ 4	font <sup>h</sup> 8
18.			
19. majgasak 6		ɾamu 5	βɪɾ 9
20. maygasak <sup>h</sup> 6		nyamu 5	wa <sup>h</sup> ak 10
21. ambun 8	gwinyan 7	wɪ 6	
22. wəɣɿn 9		mayŋi 7	
23. nan <sup>h</sup> dēmɪt <sup>h</sup> 10	'muk <sup>h</sup> op <sup>h</sup> at <sup>h</sup> 8	mɪʃʔŋgɪt <sup>h</sup> 8	'maʃpat <sup>h</sup> 11
24. ʌ <sup>h</sup> k <sup>h</sup> un 5	'mak <sup>h</sup> a 3/8	'yim 9	'k <sup>h</sup> em 12



<i>banana</i>	<i>sweet potato</i>	<i>axe</i>	<i>net bag</i>
1. k <sup>h</sup> aya 1	o <sup>l</sup> iya 1		nu 1
2. haya? 1	anya? 2	u <sup>l</sup> ? 1	n <sup>a</sup> u 1
3. 'xaja 1	ma <sup>l</sup> bu / ma <sup>l</sup> βu 3	we 1	nū / nu 1
4. kaja 1	'maβu 3	we 1	nū 1
5. kaeya 1	mapu 3	wau 1	winda nuu 1
6. saya 1	mapu 3	wau 1	nuu 1
7. saeya 1	mapu 3	waa 1	nuu yanga 1
8. saya 1	kasepalya 4	waa 1	enda nuu 1
9. se 1	ena 2	ua 1	nu 1
10. sai 1	mapu 3	wya 1	mandi 2
11. kyaya 1	kwai 5	wau tombyuwa 1	nyuu 1
12. i <sup>l</sup> d† 2	'χoli 5	t <sup>l</sup> ub <sup>l</sup> jawa 1	jo <sup>l</sup> gu 3
13. h† <sup>l</sup> d† / † <sup>l</sup> d† 2	ja <sup>l</sup> si 6	ju <sup>l</sup> əswobo <sup>l</sup> xa 1	jo <sup>l</sup> gu 3
14.			
15. h <sup>l</sup> dw 2	k <sup>l</sup> wo <sup>l</sup> i 5	ju <sup>l</sup> e 1	jo <sup>l</sup> g <sup>w</sup> u 3
16. ham <sup>l</sup> ɿ <sup>l</sup> 2	kuwai 5	ju 1	jaunkwə 3
17. 'k <sup>h</sup> an†m 1	mantɕ 7	ɕu 1	'wan†mp <sup>h</sup> 4
18.			
19. 'iɕaŋ 4	ɕuɕuara 8	ɕikajma 2	majmben 5
20. nʂaŋ 4	sɿsɿp <sup>l</sup> ɿ <sup>l</sup> ak <sup>h</sup> 8	mɿndimaŋ 3	maymban 5
21. gay 1		mundum 3	wayl 6
22. moyen 5		kunambwi 4	yawgut <sup>h</sup> 3
23. 'gēnigat <sup>h</sup> 6	'maʂpat <sup>h</sup> 9	xo <sup>l</sup> da <sup>ɕ</sup> ɕ/ʂ 5	'yogit <sup>h</sup> 3
24. 'k <sup>h</sup> a <sup>l</sup> 1	's <sup>h</sup> on <sup>l</sup> ɿp <sup>h</sup> a <sup>l</sup> ɿe 8	p <sup>h</sup> ɿ <sup>l</sup> am 6	k <sup>h</sup> ɿ <sup>l</sup> tuŋ 7

<i>house</i>	<i>earth</i>	<i>mountain</i>	<i>wind</i>
1. anda 1	yugΛηgi 1	hadi 1	
2. anda? 1	yu 1	adi 1	
3. 'anda 1	ipu'ɽi / iϕu'ɽi 2	man'dax 2	p'om'buə 1
4. 'anda 1	iβu'ɽi 2	'sa.u 3	ϕombu'ai 1
5. anda 1	ipuli 2	mandaka 2	pumbuwai 1
6. anda 1	yuu 1	yuu sau 3	poo lel'yame 1
7. anda 1	yuu 1	sau 3	pyapo 1
8. anda 1	yuu 1	sau 3	po 1
9. ænd 1	yu 1	mænda 2	pɔ̃ 1
10. anda 1	yu 1	manda 2	popo 1
11. anda 1	yuu 1	yuu kyau 3	porambaiya 1
12. ja'be 2	me'ga 3	me'thi 2	so'mõ 2
13. ja'be 2	məga'ri 3	ma'χo 2	si'mõ 2
14. ja'be 2	me'garu 3		si'mũ 2
15. ja'be 2	mx'mx 3	ja'dau.ə 4	ɿsɿdu'anə 3
16. ɟam 3	'maŋgΛ 3	'maŋgΛ ϕit <sup>h</sup> 2	'handal 4
17. ɟam 3	'mənΛj 3	nΛ 'ilΛ 5	'handal 4
18.			
19. mβot° 4	'manɸika 4	ɽām 6	wəβeg° 5
20. mɸot <sup>h</sup> 4	maʃik <sup>h</sup> a 4	lam 6	wuβilim 5
21. yaw 2	ʔumwia 5	bunduŋ 7	waɽi 6
22. nam 3	andi 5	nΛmbuk 8	
23. 'k <sup>h</sup> uŋɕ/ʒ 5	b+biŋ'ɕɕb+it <sup>h</sup> 6	k+miŋ'ɕɕb+it <sup>h</sup> 9	'wiβɕɕt <sup>h</sup> 5
24. 't <sup>h</sup> +ŋ 6	i <sup>n</sup> do <sup>p</sup> / i <sup>m</sup> b+ŋ 7	'ɽam / 'ɽam 6	k <sup>h</sup> Λ'wõ 7

<i>night</i>	<i>white</i>	<i>black</i>	<i>red</i>
1.			
2. iwete? 1	hak <sup>h</sup> ε? 1	dumu 1	dadɫma 1
3. wau'gat 2	k'ε'wanɣk' 1	wam'banɣk' 2	momo'ɣonɣk' / momonɣ'ɣonɣk' 2
4. wau'gwaɣ 2	ke'wanɣe 1	wam'banɣk' 2	'ɕonɣe 2
5. wokate 2	kewange 1	wambungi 2	momokonge 2
6. kuka 3	kewa lenge 1	pumbuti 3	kone 2
7. kukuma 3	kewa lenge 1	pubuti 3	popo 3
8. kukuma 3	kewalapae 1	pumbuti 3	kalupae 3
9. kuku 3	kæke 1	pɕbet 3	kæte pyæpe 3
10. kukuma 3	kyolapae 1	pubuti 3	kate pyapae 3
11. kukwa 3	kakepame 1	pupuri 3	kone 2
12. uy'majəthaya 4	oɽo'gu 2	ta'baχədə 4	hw'jə 4
13. seno'bi.a 5	t <sup>h</sup> a'ra / ɕa'ra 3	hi'ə / i'ə 5	gei.a'xa 5
14.			geia'xa 5
15. ma'gamə'di.εβə 6	ɽgwaɽi.a'xe 4	bi'diβw 6	ge'axaɽdəne 5
16. 'ɕuɫ 'wadia 7	aβle 5	'dɕɽɽɕɽβara 7	'naɽə 6
17. sump <sup>h</sup> 8	ɕunt <sup>h</sup> 6	'ɕɽɽɽ 8	'aɽɽ 6
18.			
19. uχwan 9	kəɽja 7	wonɣom 9	ɕimea 7
20. wuk <sup>h</sup> an 9	k <sup>h</sup> ɽɽiak 7	wonɣom 9	
21. mimbudɫn 9/11	k <sup>h</sup> andɽgaya 8	ɽumbiya? 10	
22. wut <sup>h</sup> 9	yaʔaʒigɽn 9	wonɣobidagɽn 11	
23. yi'əunɣkɽt <sup>h</sup> 10	'ga'neɽmɽt <sup>h</sup> 10	kεɕt <sup>h</sup> at <sup>h</sup> 12	
24. 'im 8/11	ɽ'ye 11	ɽp <sup>h</sup> ε <sup>p</sup> 13	mɽ'nu <sup>p</sup> 8

<i>green</i>	<i>good</i>	<i>long</i>	<i>short</i>
1.			
2. sɛdɛbɪŋɛ 1			
3. ɪk <sup>x</sup> ayaɾu. 'aŋk <sup>c</sup> 2	kam'wən 1	ɾɔn'dɔŋk 1	'mũnə 1
4. ɪkakaɾu 'aŋk <sup>c</sup> 2	ke 'aŋk <sup>c</sup> 2	ɾɔn'dɔŋk <sup>c</sup> 1	mũ 1
5. kakange 2	imoya 3	londonge 1	
6. sakapae 2	epe 4	londe 1	
7. sakapae 2	epe 4	londe 1	muu 1
8. sakapae 2	keyange 2	londe 1	muu 1
9. sækape 2	ɛp 4	lɔnde 1	mũ 1
10. sakapae 2	epe 4	ogonya 1	muu 1
11. kyakapae 2	keyange 2	londe 1	muu 1
12. ɪxɔmɔ'xɔmɔ 3	g <sup>w</sup> ɔfi'gə 5	mɪ'gi 2	t <sup>c</sup> ɛ'fɛ 2
13. xomo'xomo 3	g <sup>w</sup> ɔnə'xə 5	mɛ'ɾɪ 2	t <sup>h</sup> ɛ'fɛ / ɾɛ'fɛ 2
14.			
15. ɪk <sup>x</sup> amə'k <sup>x</sup> amə, xa 3	'aɾije, dənə 6	mə'ɾu 2	mo'xo 1/5
16. gam'gɔm 3	'wajɔɾə 7	mɪ 2	maɪɛf 1/2
17. ɪk <sup>h</sup> amɪŋ'k <sup>h</sup> amɪŋ 3	aɪntɛ 8	mɪ'ɪɪ 2	u'ɪɛf 2
18.			
19. tɪɾɪŋ 4	anaɸuaɾi 9	paɾjgaɸa 3	paɾəkə 3
20. wɔŋot <sup>h</sup> 4		paɾɔgasa 3	
21.		k <sup>h</sup> undapam 4	
22.		gɔŋgɪɪk <sup>h</sup> i 5	
23. 'nambɛmɪn'dɛɸp <sup>h</sup> am 5	'xiɸa 10	'yukaɸy 6	koko'pen 4
24.	'ɪɸəŋ 11	p <sup>h</sup> ɪ'sy <sup>k</sup> i 3	mɪ'k <sup>h</sup> ur 5

<i>heavy</i>	<i>cold</i>	<i>warm, hot</i>	<i>old</i>
1.			
2.			
3. 'k'enda,βiɾum 1	hɪŋ'g <sup>j</sup> aɾem 1	'hanɪβiɾum 1	wam'baŋk' 1
4. kenda'βɪŋk' 1	'aβəβi,ɾim 2	'anə,βiɾim 1	wam'baŋk' 1
5. kenda pilimi 1	apu pilimi 2	ani pilimi 1	wambange 1
6. kenda pilyame 1	kupa pilyame 2	itata 2	wambetae 1
7. kenda 1	kupu 2	itaita 2	wambaketae 1
8. kenda 1	kupa 2	itaita 2	wambeketae 1
9. kɛndate 1	yəp 2	itæta pipe 2	wabatæke 1
10. keda 1	kupa 2	itaita 2	wabake 1
11. kenda 1	kupwa pilyamo 2	isesa pilyamo 2	wambarae 1
12. mu't'a·ɣədə 2	səmo'xəɣədə 3	hə'bɔxədə 3	ma'duaβə 2
13. mə'ɾaɾədə 2	,haxə'daxədə 3	ha'bəxədə 3	ma'duabəxəm 2
14.			
15. mə'bə 2	i'sihəβə 4	'həbə'həbə 3	ma'doəβe 2
16. may'wali 2	'g+dzəɾa 5	'ɸəlbəɾa 4	ɪt <sup>h</sup> 3
17. 'maɾɪ glɸ 2	'jɪŋɪnɪ 6	'ɸəmbɪŋ 4	'nɪnɪdɪbɪ 2
18.			
19. 'gəɾiwa 3	a'ɾaɾəwa 7	kugurə 5	janɸik <sup>o</sup> 4
20. ŋgɪk <sup>h</sup> iɪba 3	aɪuwak 7	maŋɪgɪt 5	
21. mi <sup>h</sup> k'yamba 4	ləa / yɪmba 7/8	yambaŋa 6	
22. tɪŋɪdɪk <sup>h</sup> i 5	taɾɪk <sup>h</sup> andɪɪn 9	wuβik <sup>h</sup> andɪɪn 7	madnyi 5
23. koɾ'ɪɪwɛt <sup>h</sup> 6	gɛnɪŋɪt <sup>h</sup> ewt <sup>h</sup> 10	kɪk <sup>h</sup> a'ɪɪt <sup>h</sup> 5	'yatɪkɪt <sup>h</sup> 4
24. 't <sup>h</sup> oβɪs <sup>y</sup> ? 7	'ɾam 11	't <sup>h</sup> om 8	'wə nɪmɪn 6

<i>new</i>	<i>many</i>	<i>what?</i>	<i>who?</i>
1.			
2.			
3. wɛ'neŋk' 1	k' uβəɽ 1	bi'aɽɛ 1	'nuŋ'haina / nikaɟnə 1
4. wɛ'neŋk' 1	'kembʷə 1	'men 'piɽim 2	nu 'kainə 1
5. wenenge 1	kupale 1	bangenaɪpe 3	kaina 1
6. enenge 1	balo silyamo 1	akisi 4	apipi 2
7. enenge 1	longo 2	aki? 4	api? 2
8. enenge 1	malu 3	aki 4	api 2
9. ɛnɛŋ 1	lɔŋɔ 2	anung 5	æpi 2
10. enege 1	longo 2	aki 4	api 2
11. enenge 1	malu 3	aki 4	api 2
12. 'ja·n 2	ma'bxɔeneɟ 4	aj'bayəm 3	'nanoxəm 1
13. xo'mo 3	mɔdəma'by 4	ɪaibama'dzɪmɔ 3	'ainoxəm 1
14.			
15. mət'əβə 4	maβ'kwɔdənə 4	ixaj'βɛm 3	na,βajnə'βam 1
16. ɟam'ɟamɔ 3	mɪŋk' mɪŋgə mən'da 5	'aga ma.u 6	'ɟolobax 3
17. ɟɪ'sɔn 5	'iɽu 6	nan nə'hɔn 7	ban 4
18.			
19. apige 6	ŋgaɟakamənəŋ 7	gateweɟ 8	'nanɪ 5
20.			
21.			
22. k <sup>h</sup> andumak <sup>h</sup> i 7	mundak 8		
23. nɪβ'ɽit <sup>h</sup> 8	'bɛkɪm 9	t <sup>h</sup> a'mɛgɪt <sup>h</sup> / pɪŋji 9	'pɽ'ɛgɛɽ 6
24. 'ŋgom 3	't <sup>h</sup> o <sup>p</sup> 10	's <sup>y</sup> iman 10	'āman 7

<i>wet</i>	<i>full</i>	<i>not</i>	<i>three</i>
1.			sebo 1
2.			tebo? 1
3. ɔɾeβaɾem 1	t'um'baɾam 1	na'βiɾum 1	t'εβo'man 1
4. ,iβə'βiɾum 1	thum'baɾam 1	'na'βiɾim 1	't <sup>h</sup> epho'manə 1
5. tombeleme 2	tumbaileme 1	na (nenge) nae 1	temanae 1
6. tombe lelyamo 2	tumbilyamo 1	nae 1	tepo 1
7. tombe 2	tubatae 1	daa 1	tepo 1
8. tombe 2	tumbilyamo 1	daa 1	tema 1
9. tʒmbe læpe 2	tumbæte 1	dæ 1	teɾʒ 1
10. tobelapae 2	tubou / tubas 1	daana 1	tepo 1
11. tombe letamo 2	simbualyamo 2	verb + na + ending 1	tema 1
12. 'gʷ'dɣnɿ 3	'wɔβə, bæ 2	k <sup>x</sup> a'wɔβədə 2	,iɾ'iga'nabaβum 2
13. t <sup>h</sup> a,ɾaxə'də / ɾaxaxə'də 4	wə'ɾə 2	'xawəɾə 2	'jandεɾim φi'la 3
14.			
15. ,asə'mɔɣw 5	asə'ɣo 'ɾəβə,dənə 2	'xa:ɾəβə,dənə 2	hix+'ɾaɾ+β+ 4
16. 'gogogɾa 6		aun wu'hɿɾ+la 3	mɿs <sup>ə</sup> 'mɿndon 5
17. is 7	'andzəman ɿɾəuump <sup>h</sup> 3	-aɿ- infix 4	mə'hau nə'gan 5
18. .			
19. <sup>m</sup> barawa 8	'məməɾə'sewa 4	əβa məməɾə'sewa 5	aɾidam 6
20.			aliləŋwam 6
21.			gumayŋ 7
22.			ɣɿmb'endubət 8
23. bu'p <sup>h</sup> et+ <sup>h</sup> 9	βɾu'ki <sup>h</sup> g+ <sup>h</sup> 5	βɿɿji 6	xoʒ'βiɿp <sup>h</sup> at <sup>h</sup> 9
24. 'mɔɿɿ,ɿon 6	'p <sup>h</sup> oɿɿ,s <sup>h</sup> et <sup>h</sup> 6	a... (se)ɿan 7	'ŋ+ɿɿ,w <sup>o</sup> 10

<i>four</i>	<i>no</i>	<i>he says</i>	<i>he hears</i>
1. tumeda 1			
2. tũgumada 1	naβt 1		
3. ɿkiyimu'nen 1/2	'waiɾɛn 2	'piɾɛn 1	'taɾəβiɾum 1
4. 'k <sup>h</sup> iɾu'mena 1/2	wai 2	'piɾim 1	j <sup>w</sup> a 2
5. kipakita 2	wai 2	ləme 2	wilimi 3
6. kitumende 1/2	daa 3	lelyamo 2	silyamo 4
7. kitumende 1/2	daa 3	lelyamo 2	singi 4
8. kitama 1/2	daa 3	lenge 2	singi 4
9. kitʒmend 1/2	dæ 3	ʒpa lelyamʒ 2	singi 4
10. ketumende 1/2	daaluma 3	lege 2	singi 4
11. kisima 1/2	daa 3	letamo 2	silyamo 4
12. ɿnaba'mabəm 3	'wamo 2	q'a'ɸam 3	ɿnat'ə'βeja 5
13. agəi'nə 4	wamɿ 2	ɸa 3	je'ɾam 6
14.			
15. nəʒ'k <sup>w</sup> ə 5	wə'hoɔ 2	ɸa 3	g <sup>w</sup> ɔm'dəɾə 7
16. 'm <sup>w</sup> oihaq mɔs	'wuhɔ ɾɿ'la 2	'manə 'jadəmdax 4	'noŋu mən'da 8
'm <sup>w</sup> oihaq mɔs 6			
17. mə'hau mə'hau 6	'wasɔ 2	haŋ'amp <sup>h</sup> 5	'aβdi nəŋ'amp <sup>h</sup> 8
18.			
19. 'aŋgadaɸaj 7	'mijak 4	'n <sup>h</sup> gətewej 6	bə'jaɬə 9
20. aŋɔdasum 7	k <sup>h</sup> ay 5		
21. gumayŋ 2	?awunda 6		
22. maɿmaɿɔm 8	gayak <sup>h</sup> 5		biyanandɿt <sup>h</sup> 10
23. 'xosβi'goʒiɸ 9	nɿ'ga <sup>i</sup> / nɿ'ge 5	kɿ'biwɛɸ 7	wa'nuk <sup>wɛɸ</sup> 11
24. 'bɛ <sup>n</sup> do <sup>k</sup> 10	'waɾan 2	'ma 'wos <sup>yɛ<sup>t</sup></sup> 8	'ma 'pras <sup>yɛ<sup>t</sup></sup> 12



<i>he dies</i>	<i>it burns</i>	<i>he hits</i>	<i>he laughs</i>
1.			
2.			
3.	'wɛdʒə 'maɾoɣə 'maɾam 1	'izət' ,ɛɾɛm 1	'ŋgiɛɾɛm 1
4.	ma:ɾam 1	i'na:ɾam 1	'ŋgia 1
5.	meleme 1	isate teleme 1	gii yelene 1
6.	kumilyamo 1/2	telyamo 1	gii kaelyamo 1
7.	kuoningi 2	doko tenge 1	gii kaenge 1
8.	kumingi 2	tenge 1	giingi 1
9.	kumi(n)g 2	ʒŋgʒ tɛ(n)g 1	gi ke(n)g 1
10.	kumigi 2	ita tege 1	gii kaego 1
11.	kumulyamo 1/2	isare telyamo 1	gilyamo 1
12.	'mɔwə 3	'nabɾ ha'wəxəbə 2	i'xamɔl 1
13.	mo'wə 3	'nɛdɛ 3	ixa'moa'də 1
14.			
15.	mɔ' bə / 'mɔbəɪdɛnə 3	'nɛbə 'dɛnə 3	i'xemoəɪɛɪɛɪɛɪ 1
16.	'wara mən'da 4	'jinɪŋk <sup>ə</sup> mən'da 4	ji'mom <sup>ə</sup> nda 2
17.	'umamp <sup>h</sup> 5	'mɪɔŋgamp <sup>h</sup> 5	mə'hɔl gamp <sup>h</sup> 3
18.			
19.	sɪ'ŋginma 6	mɪnə wuma 6	'ɔewa 4
20.			
21.			
22.			
23.	'nogwɛ <sup>ɛ</sup> 7	pu'newɛt <sup>h</sup> 7	niŋ'git <sup>wɛɛ</sup> 1
24.	'ma 'krɛ <sup>t</sup> 8	'aŋ mɪ'ɲjo <sup>t</sup> 8	'ma 'krɛ <sup>ɛ</sup> ɪsɪ <sup>t</sup> 5

<i>I</i>	<i>thou</i>	<i>he</i>	<i>we two (excl.)</i>	<i>you two</i>
1. lamba 1				
2. namba 1	nimba 1	ogo 1	na'imba 1	labo 1
3. nam'baɽona 1	nam'baɽə 1	maɽayaɽ 2	'naɽum,baɽə 1	'naɽum,baɽə 2
4. nim'baɽa 1	nam'baɽa 1	'm'baɽa 2	p <sup>h</sup> i'ɽaga 2	'naɽum'baɽa 2
5. namba 1	nimbala 1	bala 2	nalimbala 1	nilimbala 2
6. namba 1	emba 1	baa 2	nalimba 1	nyakamba 3
7. namba 1	imba 1	baa 2	nalimba 1	nyakamba 3
8. namba 1	emba 1	baa 2	naimba 1	nyakamba 3
9. næb 1	ibɔ 1	bæ 2	neb 1	nyakæb 3
10. naba 1	eba 1	baa 2	naliba 1	nyakaba 3
11. namba 1	emba 1	baa 2	nambwa 1	nakamba 3
12. 'nigə 2	'naga 2	ɨjɛmə'naba 3	nant'gagim 3	'ɣəna,baɣim 4
13. nə'ga 2	na'ga 2	jɛ'də 4	,nanəgaɽi'mi 3	ni,gaɽi'mi 2
14.				
15. nəgai'dɨx 2	naga'dɨx 2	i'na: 5	i'naβa,dəm 4	
16. nɨn <sup>l</sup> 2	naŋ 2/3	au'nəŋ 6	ji'dəm 5	'handogaβ 'mɨs 5
17. jant <sup>h</sup> 3	ne 4	'nɨβe 7	hol 6	'k <sup>h</sup> ale 6
18.				
19. <sup>n</sup> du 4	ŋunu 5	'qatɨk 8	am'ba ara'wɨn 7	'na'rawɨn 7
20. ŋɨn 2	ndɨn 3	wunu 9	amba <sup>v</sup> awim 7	biyedawim 8
21. niŋ 2	nan 3	dugugwɨ 10	k <sup>h</sup> undamwin 8	
22.		nak <sup>h</sup> 11		
23. na 1	ni 4	ʃɛɛɛ 12	nɛ 9	'nibɨn 9
24. 'ŋgú 2	'ú 5	'ma 13	'á'ŋgú'án 10	'ú'ŋgú'án 10

<i>they two</i>	<i>we (pl. excl.)</i>	<i>you (plural)</i>	<i>they (plural)</i>
1.			
2. niɛmbɔ 1	nanima? 1	yaɽamba 1	pidowa 1
3. 'ɽaman 2	'nanimbəɽə 1	na·m'baɽə 2	ma'ɽaβən, dayəðə, tat 2
4. 'na:m'baɽa 1	'oɽadə 'ɸiɽəmin 2	'na:mbaɽa 'ɸiɽəmin 2	'na:mbaɽa ɸi'om 3
5. nyonolapu 3	nanimbala 1	nyonombu 2	ombu 4
6. nyakamba 4	naima 1	nyakama 3	nyakama 5
7.	naima 1	nyakama 3	dokaita 6
8. dolapo 3	naimba 1	nyakama 3	dutupa 7
9. ʒlæp 3	nem 1	nyakæm 3	utup 7
10. nyalaba 3	naima 1	eba 4	nyalama 8
11. nakamba 4	namwa 1	nakama 3	nakama 8
12. ja'nabayim 5	nanɿ'ga ja'mayin 'duən <sup>ə</sup> 1	ni'dja 5	jə'nababi 9
13. ɿjiandɛɽi'mi 5	nanə'ga 1	ni'ga / nig'ya 5	jemona'ba 9
14.			
15.	'aβi 3		
16.	'anɿŋ 4		nig 10
17. 'k <sup>h</sup> ale 6	hon 5	'k <sup>h</sup> ale 6	'k <sup>h</sup> ale 11
18.			
19. 'baɽa 'aɽawɿn 7	am'ba oɸop <sup>o</sup> 6	'baɽa 'ŋajk+k 7	am'ba oɸop <sup>o</sup> 12
20. aŋgɿ'ɿɿm bɿlanʂu aɿawɿn 7	nye 7	aŋguɿ'ɿɿn bɿlanʂu wopok 8	bɿlanʂu aɿidam 13
21.	k <sup>h</sup> umayŋ 8		
22.	yibæ 9		
23. 'ɽɛp 8	'nɛm 1	'nikɛm 9	ɽɛm 14
24. 'n <sup>da</sup> 'nin 9	'a 10	'n <sup>u</sup> 10	'n <sup>da</sup> 15

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# NOR-PONDO LEXICOSTATISTICAL SURVEY

Stan Abbott

## 1. INTRODUCTION

### 1.1. Reasons for conducting survey

The reasons for conducting this survey were to confirm tentative conclusions for the classifications of dialects, languages, language families, and stocks by determining the relationships according to lexicostatistical procedures and to find a suitable allocation in which to do linguistic, literacy, and translation work.

### 1.2. Groups surveyed

The target of the survey was a group of Nor-Pondo languages (names after the words for 'man' in the two groups) in the East Sepik Region of Papua New Guinea. The Nor-Pondo Families are considered to be a part of the Sepik-Ramu Phylum posited as follows by Laycock (1973):

Sepik-Ramu Phylum: 192,362

Sepik Sub-Phylum: 133,412

Lower Sepik Sub-Phylum (Nor-Pondo): 11,658

Nor Family: 2,594

Murik Language: 1,476

Villages: Aramut	Karau
Darapap	Mendam
Jangimut	Wagamut

Kopar Language: 229

Villages: Kopar  
Singarin  
Wongun

Pondo Family: 9,064

Angoram Language: 6,514

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*Papers in New Guinea Linguistics* No.22, 313-338.  
*Pacific Linguistics*, A-63, 1985.

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Villages:	Angoram	Moim	Maramba
	Kambrindo	Tambali	Sapalu
	Kambrok	Yueriman	Chuimondo
	Kanduanam	Angrumara	Bien
	Krinjambi	Andua	Imbuando
	Magendo	Arangunam	Marbuk
	Mundomundo	Kausimbi	
	Pinang	Kundima	

Karawari Language: 1,300

Villages:	Ambonwari	Kungriabun
	Imanmeri	Manjamai
	Kaiwaria	Marinyam
	Konmei	Masandenai
	Kundiman	Meiderobi

Chambri Language: 1,050

Villages:	Aibom	Kilimbit	Milae
	Arinjone	Luk-Luk	Timbunmeri
	Changriman	Mari	Wombun
	Indingai	Mensuat	Yambi Yambi

Yimas Language: 200

Villages: Yimas

The primary focus within the Nor-Pondo Families was the Murik and Kopar Languages of the Nor Family and the Angoram Language of the Pondo Family.

### 1.3. Previous linguistic work

Previous linguistic work in the area includes a grammar statement for Murik by Joseph Schmidt 1924-26, 1933, and 1953; preliminary establishment or perception of relationships of the Nor-Pondo Stock by Karl Lauman 1951, 1952, and 1954; confirmation and extension of the establishment of Nor-Pondo relationships by Eike Haberland in 1966; and three survey fieldtrips for the proposition of the entire Sepik-Ramu Phylum by D.C. Laycock 1965a, 1965b, and 1973.

### 1.4. Geographic description

The Murik language group is located on the Murik Lakes, from the mouth of the Sepik River west along the coast approximately 23 miles to the village of Kaup, and inland approximately ten miles to the flood plain region, an area of approximately 232 square miles. The area is almost totally mangrove swamps and the Murik Lakes are primarily salt water, controlled by the Bismarck Sea. The Bismarck Sea is very slowly removing the beach area along the coast of the Murik Lakes area and forcing the villagers inland. Jangimut, Wagamut, and Aramut (collectively called Murik by the people of the area) and Mendam, in which only a few old people reside, are the villages left on the actual beach area. Most of the people of Mendam have relocated at the village site of Bramick inside the lagoons. The remaining few people of Bramick merely incorporated into the village of Mendam and therefore Bramick is no longer considered a separate village. Karau was forced to relocate inland approximately  $\frac{1}{4}$  or  $\frac{1}{2}$  mile from

the beach in the mangrove swamp. Darapap is the only village without the problem of a loss of beach area. Approximately 20 years ago a steamship sunk directly off the coast adjacent to the village of Darapap. Since that time the sand has actually been building up on the sunken hull of the ship. Therefore Darapap has about  $\frac{1}{4}$  mile of high ground between the village and the sea. The lagoons are shallow in many places and there are many water trails cut through the mangrove trees. A guide is a necessity.

The Kopar language group is located on the Sepik River from the mouth of the Sepik, upriver approximately 25 miles. The area is primarily flood plain forest, mangrove swamps, and nipa. This language group is part of the Lower Sepik 11 Census Division along with the villages of Bien, Marbuk, and Imbuando of the Angoram language in the Pondo family. The total land for all six villages is approximately 176 square miles.

The Angoram language group begins on the Sepik River where the Kopar group ends (for map orientation see Marienberg Mission and Angoram vicinity). The last village on the Sepik of the Kopar group is Singarin and the first village of the Angoram group is Marbuk. This Angoram language group extends up the Sepik River approximately 50 miles. The majority of the villages in this language group are built on the river banks usually only one house deep and parallel to the river. The approximate land mass size of this area is 716 square miles.

For a division of all villages into sub-districts and census divisions along with population figures see Appendix A. For a general orientation to the geographic location of the East Sepik Region see Map 1.

## 2. PROCEDURES

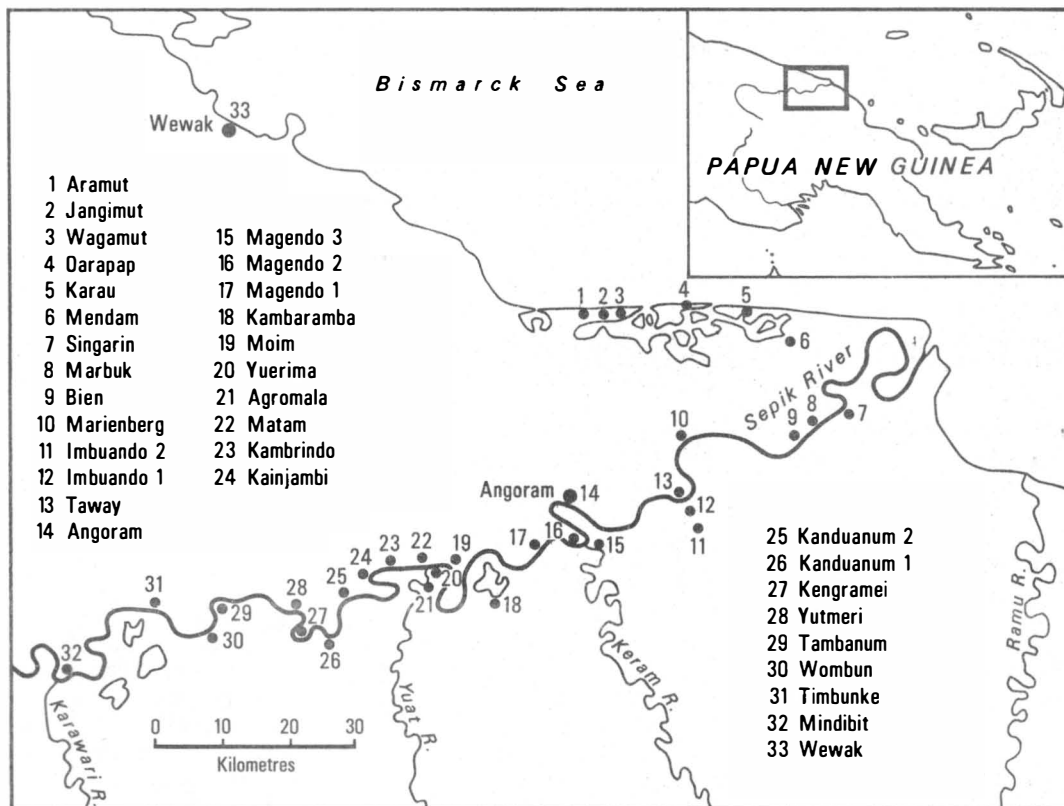
### 2.1. Survey methodology

Lexicostatistical methodology was chosen because of the ease and expedience for survey work being done in short periods of time with limited funds. The first concern prior to departing on the survey was selection of the proper wordlist. The lexicostatistical method postulates that a 'diagnostic list of 'N' items can be or has been established; when this list is applied to any particular language, a single word can be found for each item...' (Chretien 1962:11). With this thought in mind, a revised version of the Papua New Guinea Summer Institute of Linguistics' 190 word survey wordlist with a 36 word lowlands supplement was used. Beginning with 226 words each word was reviewed on the basis of two criteria:

- (1) Ability to be clearly conceptualised and terminology distinct in the area to be surveyed
- (2) Vocabulary observed to be stable throughout areas which are otherwise linguistically homogenous at some level, but contrastive between such areas at some level (Bromley 1967:287-288).

This list was reduced to 173 words. Items were removed from the wordlist or carefully scrutinised after elicitation on the basis of the following:

- (1) Unavailable items, i.e. 'hour' non-indigenous



Map 1: Nor-Pondo languages, East Sepik Province



- (2) Multiple items with the same root, i.e.
  - bark/skin
  - egg/eye
  - feather/hair
  - person/people
  - man/woman
- (3) Items difficult to match, i.e. colours
  - full
  - many
  - this/that
- (4) Items requiring narrower definitions, i.e.
  - ashes - fine white or coarse black
  - belly - inside or outside
  - rain - a.m. or p.m.
  - neck - throat or back
- (5) Items requiring broader definitions, i.e.
  - foot - unit of foot and leg
  - arm - unit of hand and arm
 (Bromley 1967:289)

After elicitation from Tok Pisin to vernacular, 75%-80% of the vernacular data was read back to the informant to elicit the corresponding Tok Pisin response. All of the wordlists were checked in this manner. The use of Tok Pisin in the area was extensive because of contact with missions, government officials, and tourists; therefore the method of elicitation was lingua franca (Tok Pisin).

The second concern for procedures was how to determine the probable cognates. 'True cognates are developed from the same word in a common parent language and only true cognates are conclusive evidence of relationships. The most accurate estimate of whether or not the pairs of words in a given comparison are cognate is arrived at by the careful use of the comparative method in reconstructing the proto-language' (Gudschinsky 1956:175-210). Since this type of proto-language study was not available because of limited time and funds, the 'probable cognates' were determined impressionistically, cf.

Tok Pisin	gras bilong het	sikau
Kambrindo	'wabiŕ <sub>1</sub>	-
Marbuk	'wobiŕ <sub>1</sub>	'monago <sub>5</sub>
Mabendo 2	'wabiŕ <sub>1</sub>	'manak <sup>h</sup> <sub>5</sub>

In the case of questionable cognation between two forms, a conservative approach was taken and the two forms were listed as non-cognates. Illustration of this approach is as follows:

Tok Pisin	mama	yes
Kilimbit	—	'ai <sub>1</sub>
Kambrindo	'nɪŋe <sub>1</sub>	—
Kambaramba	'niam <sub>2</sub>	—
Singarín	—	'ao <sub>4</sub>
Karau	'ŋain <sub>4</sub>	'ao <sub>4</sub>
Wagamut	'ŋiən <sub>4</sub>	'ao <sub>4</sub>
Marbuk	'nana <sub>5</sub>	—

## 2.2. Sociolinguistic testing

At different locations in each language group a series of sociolinguistic questions were asked. The locations considered were those on the extreme outside boundaries of the language groups and those thought to be in the geographic center of the areas. The questions asked were as follows:

- Linguistic: 1. What is the name of your language?  
 2. Who speaks this language?  
 3. Who speaks a little differently but almost the same?  
 4. Who in your area speaks differently from you (no understanding)?
- Contact: 1. Where are the markets in this area?  
 2. When you have a singsing, who comes?  
 3. Do you go to singsings in other places?  
 4. Do all of the men in your village understand Tok Pisin?  
 5. Do all of the women in your village understand Tok Pisin?  
 6. Do all of the children in your village understand Tok Pisin?
- School: 1. Do your children go to school?  
 2. If so, where?  
 3. How many from this village go?  
 4. How many years do they go to school?
- Marriage: 1. Where do the men here get their wives?  
 2. If they get their wives from other villages, what determines the priority?

The villages of the Murik and Kopar language groups questioned were Murik (Jangimut, Wagamut, and Aramut combined), Darapap, Karau, Mendam, and Singarin.

### 3. RESULTS

#### 3.1. Explanation and display of diagnostic lists

Upon completion of the survey there were a total of ten diagnostic lists. These lists were elicited in the following order:

Date elicited	Language	Elicited at
1. 24 January 1977	Chambri	Council center at Maprik
2. 26 January 1977	Angoram	Kambrindo
3. 26 January 1977	Kambot	Kambaramba
4. 27 January 1977	Kopar	Singarín
5. 27 January 1977	Murik	Karau
6. 27 January 1977	Murik	Wagamut
7. 28 January 1977	Angoram	Marbuk
8. 28 January 1977	Angoram	Magendo 2
9. 29 January 1977	Angoram	Kanduanam
10. 30 January 1977	Angoram	Moim

The last diagnostic list taken on the 30th of January at Moim was not the standard Tok Pisin to vernacular elicitation. In this village the vernacular diagnostic list that had been elicited from Kambrindo was given to the informant and a Tok Pisin response was elicited. This was to serve as a check on the transcription accuracy and to see if the vernacular would be easily understood between the two villages. 97 Kambrindo vernacular words were read to the Moim informant eliciting a Tok Pisin response. The Tok Pisin word with which the Moim informant responded was the same as had been used to elicit the vernacular responses from the Kambrindo informant except two, the words for 'stone' and 'fish'. The Moim informant showed no evidence of understanding the Kambrindo vernacular words for 'stone' and 'fish'.

A compilation was made of the remaining nine wordlists so that all of the words elicited from each village could be compared at the same time. This compilation can be seen in Appendix B. The test words formed the columns and the different villages where the lists had been elicited formed the rows. Out of the original possible 173 words on the lists, there were 128 used (but not 128 common to all nine diagnostic lists). The remaining possible 45 words were either too hard to elicit or unable to be elicited for various reasons.

At this point another screening process took place to make sure of the quality of the diagnostic list. Out of 128 words, 44 were eliminated. The criteria for elimination were as follows:

- (1) No vernacular response for six or more villages out of the nine possible.
- (2) Possible non-indigenous items to the specific area.
- (3) Possible phrases.
- (4) Suspicious looking words because unusually long.
- (5) Totally different vernacular forms given by majority of the the villages for any one word elicited.

Examples of these words eliminated can be seen in Appendix B. The words not used are marked out and no numbers were assigned showing their probable cognate sets. The total number of words compared between the nine villages can be seen in the following matrix:

Kilimbit

63	Kambrindo							
61	71	Kambaramba						
64	76	72	Singarin					
64	76	72	79	Karau				
72	69	67	73	75	Wagamut			
53	59	59	61	63	66	Marbuk		
51	54	53	55	57	60	62	Magendo 2	
52	59	59	60	62	65	68	62	Kanduanam

Using the inspection method described in the section on procedures, all of the words were grouped into probable cognate sets (synchronically similar sets: hereafter referred to as either cognates or probable cognates for expedience). Where a word was not given for comparison, the block of the matrix was assigned a zero. The first word in each row was assigned number 1 and the next word in that same row, if 50% the same, was assigned the same number 1. If the next word in that same row was not 50% the same to the previous words in the row, then that word was assigned number 2. This same procedure was repeated until all of the words in each row had been assigned numbers and all of the words in the matrix had been assigned numbers. Upon completion of grouping probable cognate sets for all 84 words and all nine villages, this data was fed into a computer to find the cognate percentages between the villages. The computer presented the data in matrix form as follows:

Kilimbit

15	Kambrindo							
0	9	Kambaramba						
11	19	1	Singarin					
6	13	1	39	Karau				
6	15	1	41	90	Wagamut			
15	64	12	30	22	22	Marbuk		
18	90	10	25	20	22	67	Magendo 2	
13	66	8	26	21	19	61	65	Kanduanam

3.2. Matrix analysis

Out of the nine villages listed, two, Kilimbit and Kambaramba, were removed from the matrix on the basis of the following criteria:

- (1) Extremely low cognate percentage relationship with the other village and/or
- (2) Mutual agreement by surveys of the area to be separate language groups.

The remaining seven villages of Karau, Wagamut, Singarin, Marbuk, Kanduanam, Magendo 2, and Kambrindo were then grouped according to similarity of cognate percentages by permutation of the matrix as follows:

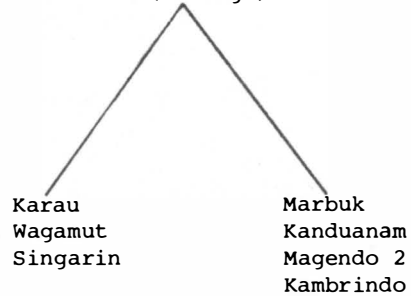
Karau

90	Wagamut					
39	41	Singarin				
22	22	30	Marbuk			
21	19	26	61	Kanduanam		
20	22	25	67	65	Magendo 2	
13	15	19	64	66	90	Kambrindo

The cognate percentages presented within this matrix form a pattern indicating language divergence, recognised by the block of adjacent low and relatively equal figures as follows (Simons 1976):

Karau	Wagamut	Singarin	
22	22	30	Marbuk
21	19	26	Kanduanam
20	22	25	Magendo 2
13	15	19	Kambrindo

Indicates: 21% (Average)



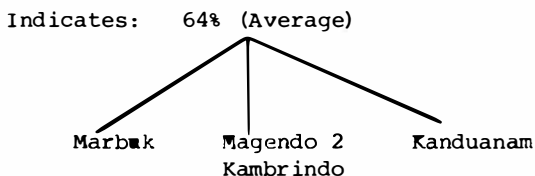
$$76 + 78 + 100 = \frac{254}{12} = 21\% \text{ average}$$

Using this block of adjacent low and relatively equal figures as the indicator that there is a language divergence, the present cognation between the two groups would be represented by an average of all of these percentage figures at approximately 21% as diagrammed above.

Marbuk			
61	Kanduanam		
67	65	Magendo 2	
64	66	90	Kambrindo

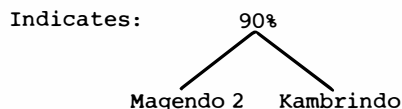
Marbuk			
61	Kanduanam		
67	65	Magendo 2	
64	66	Kambrindo	

Marbuk			
61	Kanduanam		
66	66	Magendo 2 Kambrindo	



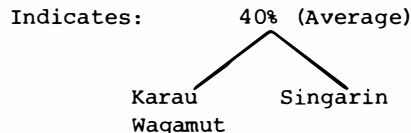
The first matrix immediately above shows Marbuk, Kanduanam, Magendo 2, and Kambrindo grouped by like percentage figures. Because of the similarity between Magendo 2 and Kambrindo reflected by the 90% cognation figure (an average of almost 26% higher cognation than the 61%-67% range within the matrix) Magendo 2 and Kambrindo can be collapsed into one column as diagrammed in the second matrix immediately above. The range of difference between the 64, 65, 66, and 67 percentage figures the surveyor interpreted as not significantly different and therefore collapsed into one row represented by an average of the figures. This averaging is illustrated by the third matrix immediately above. The three percentage figures (61, 66, and 66) represented in this third matrix, because of their similarity, indicate a three-way split between Marbuk, Magendo 2 and Kambrindo, and Kanduanam who presently share an average cognation of 64% as seen in the tree diagram immediately above.

Magendo 2	
90%	Kambrindo



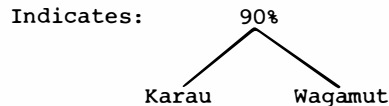
Magendo 2 and Kambrindo are presently 90% cognate. (Illustrated in the diagrams above.)

Karau	Wagamut
39%	41%
Singarin	



Karau and Wagamut are presently 39% and 41% cognate respectively to Singarin.

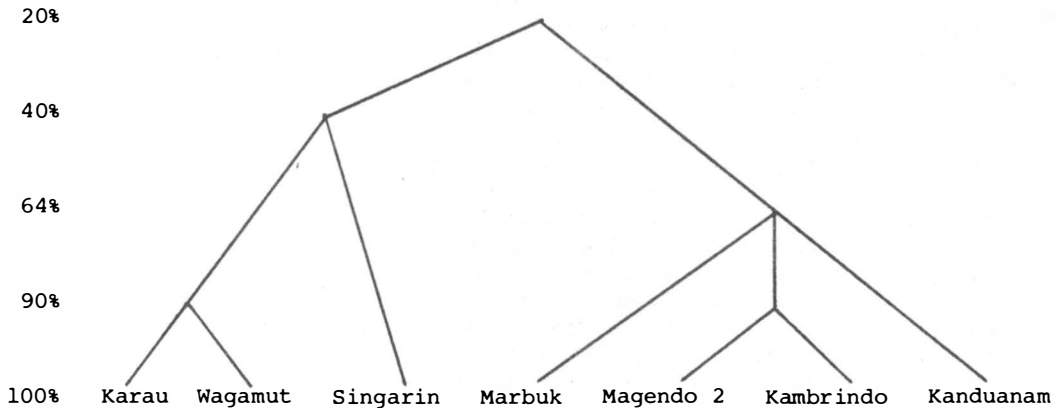
Karau
90%
Wagamut



Karau and Wagamut are presently 90% cognate.

With all of the cognation percentages analysed within each section of the matrix and all of the divergent indications represented in simple tree diagrams, the next step is to make a compilation of all of the individual tree diagrams

in order to represent the overall relationship between Karau, Wagamut, Singarin, Marbuk, Kanduanam, Magendo 2, and Kambrindo. Such a compilation would be as follows:



This tree diagram shows that Karau, Wagamut, and Singarin were probably one language group that split from Marbuk, Magendo 2, and Kambrindo, and Kanduanam. Singarin has an average of 25% cognation with Marbuk, Kanduanam, Magendo 2, and Kambrindo and an average of 40% cognation with Karau and Wagamut. Singarin was grouped with Karau and Wagamut on the basis of the 40% average cognation rather than the 25% average cognation with Marbuk, Kanduanam, Magendo 2, and Kambrindo. However, the closeness between these two percentage figures indicates some type of convergence between the two groups. There is surely some specific reason for this closeness of cognation percentages but because of the brevity of this survey, the surveyor was unable to determine the exact reasons for this feature of the matrix.

### 3.3. Sociolinguistic data

Karau and Wagamut rate each other as the same and rate Singarin as similar but Magendo 2, Kambrindo, and Marbuk as different. Likewise Magendo 2, Kambrindo, and Marbuk rate each other as the same and Karau, Wagamut, and Singarin as different. Convergence between the two groups can be seen through Singarin, just as the matrix and three diagram analyses indicated. Singarin rate themselves as the same only with two other villages, the two villages of Kopar and Wongun. These three villages comprise the language group of the Kopar language. Singarin rate themselves as similar to Marbuk and to Karau, two villages which rated themselves as different. This identification by Singarin to these two different groups has far greater implications than the scope of this survey paper. However, it does point to the possibility of language convergence between the two groups.

Contact (1) *Trade* - During the dry season from June to October, Wewak is the major source of trade for the people. They travel to Wewak by canoe on the Bismarck Sea. However, during the rainy season from November to May the storms on the Bismarck Sea make canoe travel very hazardous so the people travel up the Sepik River to Angoram. (2) *Singsings* - All of the Murik language group (Jangimut, Wagamut, Aramut, Darapap, Karau, and Mendam) share equally in the preparation and staging of singsings. A co-operative rotation system is used

for these singsing productions. When a singsing is to be staged at one particular village, it is that village's responsibility to build any necessary facilities for the production, and help with some of the food supply. The remainder of the villages co-operate by bringing the majority of food stuffs to be consumed at the time of the singsing. This procedure is repeated among all of the villages until they have all had their turn staging a singsing and then the process begins again. (3) *Pidgin usage* - The majority of the men and women of Murik and Kopar language groups understand and speak Pidgin. The sources of trade at both Wewak and Angoram dictates the need for use of Pidgin. The largest and most extensive use of Pidgin is among the young people. Their education through contact with teachers and students from other language groups accentuates their need to know and speak Pidgin. (4) *School* - A government school is located at the village of Wongun in the Kopar language group. All of the villages of Murik and Kopar language groups send their children to this school. The children stay at the school during the week and return to their respective villages on the weekends. The school is primary grades only. The school was not actually visited by the surveyor but rather all of the data were gathered from the villages of the two groups. The general consensus of all of these villages was that school was good for their children and they were eager to co-operate. Several of the villages (Darapap, Mendam, and Singarin) had students who had attended at least some high school and Darapap had one university student. (5) *Marriage* - Murik language group only - The men get their wives from all of the villages within this Murik language group. They try to get a wife from their own village first but if there are none available or none desirable, they go to any of the other villages in their language group and select one. There is no special order of villages but merely random selection.

#### 3.4. Relative phylum groupings

Thus far the relationships within and between language groups has been on a village name basis only. In an article on Papuan Language Classifications, S.A. Wurm and K. McElhanon represented the degrees of interrelationships between speech groups using the classification terminology of dialect, language, family, stock, and phylum. This type of terminology is useful in relating language groups to the overall Papua New Guinea linguistic scene. This table of interrelationships is as follows (Wurm and McElhanon 1975:152-5):

Cognation Percentages	Group	Constituent Members	Internal Relationship of members within group	External Relationship of group to other groups
Above 81%	Dialect	Sub-Dialects	Dialect-Level	Language-Level
70 - 81%	Language	Dialects	Language-Level	Family-Level
45 - 70%	Sub-Family			
20 - 28%	Family	Languages	Family-Level	Stock-Level
12 - 20%	Stock	Families	Stock-Level	Phylum-Level
5 - 10%	Phylum	Stocks	Phylum-Level	Unrelated



Using these figures to show degrees of interrelationship for the data within this survey paper, the classifications would be as follows:

Phylum 5-10%					
Kilimbit	- 6%	- Karau	Kambaramba	- 8%	- Kanduanam
	- 6%	- Wagamut		- 10%	- Magendo 2
	- 11%	- Singarin		- 9%	- Kambrindo

Stock 12-20%					
Kilimbit	- 13%	- Kanduanam	Wagamut	- 19%	- Kanduanam
	- 18%	- Magendo 2		- 15%	- Kambrindo
	- 15%	- Kambrindo	Karau	- 20%	- Magendo 2
	- 15%	- Marbuk		- 13%	- Kambrindo
Singarin	- 19%	- Kambrindo	Kambaramba	- 12%	- Marbuk

Family 20-28%					
Marbuk	- 22%	- Karau	Singarin	- 26%	- Kanduanam
	- 23%	- Wagamut		- 25%	- Magendo 2
	- 30%	- Singarin	Karau	- 21%	- Kanduanam

Sub-Family 45-70%					
Marbuk	- 67%	- Magendo 2	Kambrindo	- 66%	- Kanduanam
	- 61%	- Kanduanam	Kanduanam	- 65%	- Magendo 2
	- 64%	- Kambrindo	Singarin	- 41%	- Wagamut
Karau	- 39%	- Singarin			

Language 71-78%	
No percentages derived from this analysis for this category.	

Dialect Above 81%	
Magendo 2	- 90% - Kambrindo
Karau	- 90% - Wagamut

The degrees of interrelationship seen in the Sub-Family and Family groups help support the convergence possibility of the two groups, Karau, Wagamut, and Singarin to Marbuk, Magendo 2, Kambrindo, and Kanduanam through Singarin and Marbuk.

### 3.5. Tentative conclusions for classifications confirmed and expanded

The classifications posited by Laycock in his 1973 survey of the Sepik-Ramu Phylum for the Nor Family are supported by the data of this survey. There has been a new census since 1970 and the figures have changed. (See Appendix A).

Using Wurm and McElhanon's chart showing degrees of interrelationships, Magendo 2 and Kambrindo are related on the Dialect level as 90% cognate. Marbuk and Kanduanam are rated in the 45-70% Sub-Family. Because of the high cognate percentage figure of 64% average between Marbuk and Kanduanam, and because there were no villages rated on the Language level according to Wurm and McElhanon's chart, the surveyor would classify Marbuk and Kanduanam as related on the Language level. Therefore the Angoram language could be classified into dialects as follows:

- |                        |           |            |
|------------------------|-----------|------------|
| (1) Downriver Dialect: | Marbuk    |            |
|                        | Bien      |            |
|                        | Imbuando  |            |
| (2) Central Dialect:   | Angoram   | Mundomundo |
|                        | Magendo   | Tambali    |
|                        | Chuimondo | Moim       |
|                        | Pinang    | Yueriman   |
|                        | Kambrok   | Kambrindo  |
| (3) Upriver Dialect:   | Angrumara | Sapalu     |
|                        | Arangunam | Krinjambi  |
|                        | Kundima   | Kanduanam  |
|                        | Andua     | Maramba    |
|                        | Kausimbi  |            |

## 4. ACKNOWLEDGEMENTS

I wish to express my thanks to Gary Simons of the Summer Institute of Linguistics for his suggestions and consultation on the analysis of the data of this survey project. Appreciation is also extended for the use of the ETP 8L micro-computer on loan to Simons from the Cornell University as part of his equipment for a projected dialect survey in the Solomon Islands. Many hours of doing statistical calculations by hand were eliminated by use of this computer.

I also wish to thank Wayne Dye, Irwin Firchow, and Robert Conrad, all of the Summer Institute of Linguistics, for their help in the survey — Wayne Dye for accompanying me on the survey, and Irwin Firchow and Robert Conrad for their reviews and critiques of the survey paper.

## APPENDIX A: 1976 Census

## Lower Sepik (Nor-Pondo) sub-phylum sub-district divisions:

## I. Nor Family

## A. Sub-district: Angoram

Census division: Murik Lakes 13  
 L.G. council: Angoram  
 Open electorate: Angoram  
 App. area (sq. miles): 232  
 Population: 1,396

Aramut	Karau
Darapap	Mendam
Jangimut	Wagamut

## B. Sub-district: Angoram

Census division: Lower Sepik 11  
 L.G. council: Angoram  
 Open electorate: Angoram  
 App. area (sq. miles): 176  
 Population: 1,024

Bien	Marbuk
Imbuando	Singarin
Kopar	Wongun

## II. Pondo Family

## A. Sub-district: Angoram

Census division: Middle Sepik 6  
 L.G. council: Angoram  
 Open electorate: Angoram  
 App. area (sq. miles): 716  
 Population: 6,869

Angoram	Mindimbit (non-council)
Angrimara (non-council)	Moim
Kambringo	Mundomundo
Kambrok	Pinang
Kaminimbit (non-council)	Tambali
Kanduanam	Tambanum
Kararau (non-council)	Timbunke (non-council)
Krinjambi	Wombun
Magendo	Yueriman

## B. Sub-district: Angoram

Census division: Karawari 1  
 L.G. council: non-council  
 Open electorate: Angoram  
 App. area (sq. miles): 320  
 Population: 1,909

Ambonwari	Kungriabun
Imanmeri	Manjamai
Kaiwaria	Marinyam
Konmei	Masandenai
Kundiman	Meikerobi

- C. Sub-district: Angoram  
 Census division: Arafundi 4  
 L.G. council: non-council  
 Open electorate: Angoram  
 App. area (sq. miles): 320  
 Population: 616
- |         |           |
|---------|-----------|
| Arambro | Meakambut |
| Auwin   | Pundugum  |
| Aviemi  | Warlamas  |
| Amboin  | Yamandim  |
| Isangan | Yimas     |
- D. Sub-district: Ambunti  
 Census division: Chambrri Lakes  
 L.G. council: Gaui  
 Open electorate: Wosera-Gaui  
 App. area (sq. miles): 568  
 Population: 2,743
- |            |             |
|------------|-------------|
| Aibom      | Mari        |
| Arinjone   | Mensuat     |
| Changriman | Milae       |
| Indingai   | Timbunmeri  |
| Kilimbit   | Wombun      |
| Luk-luk    | Yambi Yambi |

APPENDIX B

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marbuk	Magendo 2	Kanduanum
1. gras bilong het	wə'bɪ̃i <sub>1</sub>	'wabiɾ <sub>1</sub>	'wai <sub>2</sub>	'dwar <sub>3</sub>	'dwar <sub>3</sub>	'moʃuɾ <sub>4</sub>	'wobiɾ <sub>1</sub>	'wabiɾ <sub>1</sub>	'bugəmaɾe <sub>5</sub>
2. het	kʰa'ɸi <sub>1</sub>	'kʰaɸauŋ <sub>1</sub>	tʰongam <sub>2</sub>	'kʰəʃan <sub>1</sub>	'kʰəmbəθath <sub>3</sub>	'kʰəmbəθath <sub>3</sub>	'kʰaɸauŋ <sub>1</sub>	'kʰaɸauŋ <sub>1</sub>	'kʰaɸauŋ <sub>1</sub>
3. lip	an'tan'o <sub>1</sub>	'susum <sub>2</sub>	'pʰunəmpʰ <sub>3</sub>	'asupʰ <sub>4</sub>	'tsəkʰin <sub>5</sub>	'tsəkʰin <sub>5</sub>	'susum <sub>2</sub>	'susum <sub>2</sub>	'ʒuʒumbarə <sub>2</sub>
4. nus	'wambuʃu <sub>1</sub>	'maisith <sub>2</sub>	'pʰam <sub>3</sub>	'lɪpəθ <sub>4</sub>	'daul(ʃ) <sub>5</sub>	'daul(ʃ) <sub>5</sub>	'mʊsukʰ <sub>6</sub>	'maisith <sub>2</sub>	'naŋim <sub>7</sub>
5. ai	'biəŋkʰ 'tsʊtsiŋkʰ <sub>1</sub>	'tʰambli <sub>2</sub>	'iambən <sub>3</sub>	'nambrin <sub>2</sub>	'nabin <sub>2</sub>	'nablin <sub>2</sub>	'tʰəmbɾi <sub>2</sub>	tʰambɾi <sub>2</sub>	tʰambli <sub>2</sub>
6. skin	maŋ'gekʰ <sub>1</sub>	'nanguni <sub>2</sub>	'unθ <sub>3</sub>	'nangun <sub>2</sub>	'nagun <sub>2</sub>	'nagun <sub>2</sub>	'ŋaŋi <sub>2</sub>	'nanguni <sub>2</sub>	naŋgə'bəɾ <sub>2</sub>
7. skru bilong lek	'pɾəmpʰ	'urukʰe	'ambwanpwan-dama	'pəntəkɪpʰ	'nambig	'patʰuɾ	'ɾokʰai	'uɾukʰe	'lugue
8. man	nanma'slan <sub>1</sub>	'pʰondo <sub>2</sub>	'yol <sub>3</sub>	'noɾ <sub>4</sub>	'noɾ <sub>4</sub>	'noɾ <sub>4</sub>	'pʰondo <sub>2</sub>	'pʰondo <sub>2</sub>	'pʰondo <sub>2</sub>
9. meri	nu'mənən <sub>1</sub>	'anmandəkʰən <sub>2</sub>	'naiŋ <sub>3</sub>	'nəmantəkʰ <sub>1</sub>	'numaɾo <sub>4</sub>	'numaɾo <sub>4</sub>	'ŋan <sub>3</sub>	'anmandəkʰən <sub>2</sub>	'aŋuno <sub>5</sub>
10. pisin	iam'bwi <sub>1</sub>	andum'bwali <sub>2</sub>	'auən <sub>3</sub>				'tʃənəŋ <sub>4</sub>	'anambaɾe <sub>5</sub>	
11. dok	yu'ri	'ndanda	'wɔr nθ m tʰ	'ɔr n	'dw n	'dw n	'kʰaukʰ	'ndanda	'm ndanda
12. dok i kaikaiman		'ndanda 'pʰondo 'nandikʰa	'vɾəndəma 'wa 'vaiənyat	'ɔrən 'nɔr 'mbukʰaim 'matʰa 'kʰoia					
13. em i sindaun		'nandəkʰa <sub>1</sub>		'mantʰasa <sub>1</sub>	'tʰosasa <sub>2</sub>				
14. em i sanap		'nanɪmkʰa <sub>1</sub>		'maɾɪkʰətʰe <sub>2</sub>	'tʰoyaɾase <sub>3</sub>				
15. em i slip		nan'kʰont- ʒikʰa		'makʰantʰe- kʰambaiyə	'tʰoaɾe				
16. rot	'hau <sub>1</sub>	'yoge <sub>2</sub>	'da <sub>3</sub>	'pʰɔɾəkʰain <sub>4</sub>	'lagabol <sub>5</sub>	'lagaboɾ <sub>5</sub>	'kʰaukʰin- aməŋ <sub>6</sub>	'io <sub>7</sub>	'io <sub>7</sub>
17. ston	'oɾo <sub>1</sub>	'kʰəmbwakʰ <sub>2</sub>		'pʰatʰ <sub>4</sub>	'dug <sub>5</sub>	'dug <sub>5</sub>	'iai <sub>6</sub>	'ie <sub>7</sub>	'kʰəmbwakʰ <sub>2</sub>
18. bikipela	'ubo	'kʰəpan		'kʰapʰəm	'apʰo	'apʰo	'kʰəpan	'kʰəpan	'kʰəpan
19. liklik	ba'pokʰo	'tʰamatʰkʰa- ndigre	'kʰəɾənes	'məndəkʰ	'ŋŋangan	'ŋŋangan	'tʰamaratʰe- kʰən	'səmatʰəkʰan- tʰəkʰən	'kʰɪndʒambagəm

## APPENDIX B

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marbuk	Magendo 2	Kanduanum
20. paia	hai'li 1	'uof 2	'phændama 3	'auř 2	'auř 2	'aul 2	'gař 4	'uof 2	'ařunkh 5
21. smok bilong paia	ela'pan	'gulingři	'pus	'ath;ikh	'sakh'en	'sakh'erekha-tikh	'sokhai	'nkh'inhən	'kh'inhing
22. sit bilong paia	esa'lo 1		'wauk'hayan-t'hama 2				'ařuŋ 3	'uth'ekhaře 4	'ařəwo 5
23. yau	kh'e'li 1	'bem 2	'kh'ombe 3	'khotakheř 4	'khar'ekheřh 4	'khal'akheřh 4	'khundum 5	'khundum 5	'khundum 6
24. tang	tubala'nungh 1	'mənəŋ 2	'm'ənyo 3	'mbənəŋ 2	'mb'ənəŋ 2	'mb'lnəŋ 2	'mənəŋ 2	'mənəŋ 2	'mənəŋ 2
25. tit	'səlankh 1	's'lsingli 2	'vaiwa 3	'ias'ɬaph 4	'iasəřaph 4	'iasəřaph 4	'susun 2	's'lsingři 2	's'lsingři 2
26. han	'nunkhalo 1	'iagři 2	'yabau 3	'napaŋ 4	'dəř'ln 5	'dəř'in 5	'nangři 2	'p'honom 6	'yangři 2
27. lek (foot)	'naməŋkh 1	'namuŋ 1	'spəŋ 2	'namoŋ 1	'daŋkh 3	'daŋkh 3	'namuŋ 1	'namuŋ 1	'namuŋkh 1
28. san	st'na'li 1	'mbwino 2	'aim 3	'akh'un 4	'akh'un 4	'akh'un 4	'numbi-o 2	'mbwino 2	'mbwino 2
29. mun	'mwil 1	'ambuř 2	'mambo 3	'khar'eph 4	'khar'ewan 4	'khal'ewan 4	'khar'eph 4	'amuguř 2	'male 5
30. sta	'tuŋ'gwi 1	'inantřo 2	'yagğendama 3	'moain 4	'moain 4	'moain 4	'ařum 5	'inantřo 2	'řəndřo 6
31. klaut	kam'plentře 1	'busuřu 2	'banəban 3	'pant'am 4	'p'hasakh 5	'bun 6	'nambisəne 7	'manggenən 8	'manggenən 8
32. ren	'mainu	'butřine	'yandama	't'ukh'akhən	'ařum	'alum/ařum	'munum	'butřine	'řuenəŋ
33. wara	'alum/arum 1	'ařum 1	ya'məndama 2	'ařum 1	'ařum 1	'alum/ařum 1	'ařum 1	'ařum 1	'ařum 1
34. diwai	'iuan 1	'iořoř 2	'wintyeth 3	'eřař 2	'iařař 2	'ialal 2	'iořoř 2	'iořoř 2	'iořoř 2
35. lip (leaf)	n'imba'lamp'h 1	'bəřum 1	'baiəben 2	'břingdan 3	'nabiřakh 4	'nabiřukh 4	nambəřum 1	'bəřum 1	'mbři 5
36. abus	am'dal 1	'aməgře 2	'makh'əre 2	'mumuřan 3	'nagun 4	't'han'kh 5	'aməgře 2	'aməgře 2	'aməgře 2
37. gris	'iandlal 1	'nanbəř 2	'ambaiyo 3	'nonon 4	'tabwan 5		'nambəř 2	'nambəř 2	'nambəř 2
38. kiau	'awan'kh 1	'uon 1	'mbwi 2	'aol 3	'ngaug 4	'ngaug 4	'naŋ 1	'uon 1	'aunkh 1
39. em i kai-kai saksak		'mbwəwamga	'us'ndema 'vəndama	bon'mumbu-koia	'məndəř'imarə				

APPENDIX B

Pidgin	Kilimbit	Kambrindo	Kambarang	Singarin	Karau	Wagamut	Marbuk	Magendo 2	Kanduanum
40. em i lukim		'wasaʔik <sup>h</sup> a <sub>1</sub>	'yamant <sup>h</sup> a <sub>2</sub>	'manasatakoia <sub>3</sub>	'mənt <sup>h</sup> əsobʔə <sub>4</sub>				
41. em i kam		'naniak <sup>h</sup> a <sub>1</sub>	'mise <sub>2</sub>	'mai <sup>h</sup> ək <sup>h</sup> a <sub>1</sub>	'mənwoiaʔə <sub>3</sub>				
42. laus		'wak <sup>h</sup> arak <sup>h</sup> a <sub>1</sub>	'mabawaya <sub>2</sub>	'mak <sup>h</sup> ənthə <sub>3</sub>	'numbuʔ <sub>4</sub>				
43. wan	'biank <sup>h</sup> <sub>1</sub>	'beŋ <sub>2</sub>	'bwa <sub>3</sub>	'bat <sup>h</sup> ɛp <sup>h</sup> <sub>4</sub>	'aəbəba <sub>5</sub>	'aəbəba <sub>5</sub>			
44. tu	'usim <sub>1</sub>	'k <sup>h</sup> ʔup <sup>h</sup> aʔ <sub>2</sub>	'nunguə <sub>3</sub>	'k <sup>h</sup> ompəʔi <sub>4</sub>	'k <sup>h</sup> obo <sub>5</sub>	'k <sup>h</sup> obo <sub>5</sub>			
45. sol		'k <sup>h</sup> ab k <sup>h</sup> ənəm <sub>1</sub>	'nəmborŋ <sub>2</sub>	'ʔahon <sub>3</sub>	'p <sup>h</sup> inagemb <sub>4</sub>	'p <sup>h</sup> inagemb <sub>4</sub>	'k <sup>h</sup> abuk <sup>h</sup> inim <sub>1</sub>	'k <sup>h</sup> abuk <sup>h</sup> ənəm <sub>1</sub>	k <sup>h</sup> abu k <sup>h</sup> ənəm <sub>1</sub>
46. wasket	k <sup>h</sup> asa pi.əmp <sup>h</sup> <sub>1</sub>	'k <sup>h</sup> as imuanim <sub>2</sub>	'makarŋ <sub>3</sub>	'husinəŋ <sub>4</sub>	'k <sup>h</sup> uʔunak <sup>h</sup> <sub>5</sub>	'k <sup>h</sup> uʔunak <sup>h</sup> <sub>5</sub>	'k <sup>h</sup> asəmuənən <sub>2</sub>	'k <sup>h</sup> as imuanəŋ <sub>2</sub>	'uangəndəm <sub>6</sub>
47. skru bilong pinga	'tuʔuk/ 'tuʔuk <sub>1</sub>	'tiŋ	'iandən	'nəmpəp <sup>h</sup> ətəŋ	'p <sup>h</sup> ədək <sup>h</sup>	'p <sup>h</sup> ədək <sup>h</sup>	'surgədun	't <sup>h</sup> əŋ	'kwonbinəm
48. nambawan pinga	'bwiəmp <sup>h</sup> <sub>1</sub>	'nuŋonəŋk <sup>h</sup> əm	'iok <sup>h</sup> otonəm	'k <sup>h</sup> apəm	'dəʔip <sup>h</sup> inən		'piŋim	'mbeŋ	'nuŋonunəŋ
49. lek (leg)							'numbunəŋ	'əm	'namun
50. bun	'anəmp <sup>h</sup> <sub>1</sub>	'saʔin <sub>2</sub>	'wəmo <sub>3</sub>	'tʔaʔiŋk <sup>h</sup> i <sup>h</sup> p <sup>h</sup> <sub>2</sub>	'saʔigib <sub>2</sub>	'soʔigib <sub>2</sub>	'saʔin <sub>2</sub>	'tʔaʔiŋ <sub>2</sub>	'tʔaʔiŋ <sub>2</sub>
51. blut	'iaʔi <sub>1</sub>	'iaʔuʔaʔe <sub>1</sub>	'sinduma <sub>2</sub>	'ʔaʔən <sub>3</sub>	'wəʔan <sub>3</sub>	'wəʔan <sub>3</sub>	'iaʔuʔe <sub>1</sub>	'iaʔuʔaʔe <sub>1</sub>	'ialuale <sub>1</sub>
52. gras bilong pisin	iambə'lunk <sup>h</sup> <sub>1</sub>	'wəmbwunŋi <sub>2</sub>	'angop <sup>h</sup> <sub>3</sub>	'tsetseŋ <sub>4</sub>	'uason <sub>5</sub>	'uəsən <sub>5</sub>	'pak <sup>h</sup> ənəm <sub>6</sub>	'wəmbwunŋi <sub>2</sub>	'wanblun <sub>2</sub>
53. wing bilong pisin	'niŋpu <sub>1</sub>	't <sup>h</sup> umbʔa- k <sup>h</sup> əno <sub>2</sub>	'p <sup>h</sup> a <sub>3</sub>	'lak <sup>h</sup> on <sub>4</sub>	'k <sup>h</sup> ok <sup>h</sup> ot <sup>h</sup> ap <sup>h</sup> <sub>5</sub>	'k <sup>h</sup> ok <sup>h</sup> ot <sup>h</sup> ap <sup>h</sup> <sub>5</sub>	'wan <sup>h</sup> əmboi <sub>6</sub>	't <sup>h</sup> ənəmbʔəŋwe <sub>2</sub>	ʔusa'k nue <sub>7</sub>
54. pikinini man	'noʔanənk <sup>h</sup> o- ʔək <sup>h</sup> ən <sub>1</sub>	'pise	'bembogo	'tsəmənt <sup>h</sup> iŋk <sup>h</sup>	'gwaŋgangan		'p <sup>h</sup> oʔimənt <sup>h</sup> ək <sup>h</sup>	'mənt <sup>h</sup> ək <sup>h</sup> ən	'p <sup>h</sup> ise
55. yangpela meri	'nəm'paʔə- kwenən <sub>1</sub>	't <sup>h</sup> omanse	'leŋk <sup>h</sup> ən	'p <sup>h</sup> isietəman- t <sup>h</sup> ək <sup>h</sup>	nəsegangan		'ŋəmənt <sup>h</sup> ək <sup>h</sup>	't <sup>h</sup> oməndʒe	'mame
56. liklik pikinini	'lumenənk <sup>h</sup> o- ʔək <sup>h</sup> onən <sub>1</sub>	't <sup>h</sup> omənt <sup>h</sup> ək <sup>h</sup> ən	'bebuəm	'tsəmənt <sup>h</sup> iŋk <sup>h</sup>	'gwan	'gwan	'məntək <sup>h</sup> ən 't <sup>h</sup> omənt <sup>h</sup> ək <sup>h</sup> ən	'mənt <sup>h</sup> ək <sup>h</sup> ən	'mame 'p <sup>h</sup> ise

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marzuk	Magendo 2	Kanbuannum
57. lapun man	'nofoenen	'apap'	'uau	'khepanofo	'norapofo	'aphanofo	'phondokho-phan	'phondokho-phan	'abap'
58. lapun meri	'apap'/ate	'm	'khepaman-tak'	'lapumatofo	'lapumatofo	'lapumatofo	'nakhopanphan	'phondokho-phan	'afambwo
59. papa	'ano	'ape	'ate	'ian	'ian	'ian	'am	'mam	'ano
60. mama	'nige	'niam	'aia	'gain	'gian	'gian	'nana	'nane	'mali
61. bipele bira bi long man	'athukh	'athukh	'khekan	'thathan	'thathan	'thathan	'athukh	'athukh	'athukh
62. bipele susa bi long man	'wefme	'thathan	'makhepan	'thathan	'thathan	'thathan	'nahan'kho-phan	'ufeme	'man
63. nem	'uili/ufi'	'induma		'yauth					
64. rat	'man'toi	'yakh'rawwi	'yakh'a	'nanakhar'	'khibar'	'khibau'	'nunangaf'	'aktani'	'khasakhamaf'
65. krokrok	'uan	'pwat'enuy	'khandindama	'ikhun	'waukhtun	'waukhun	'k'ongonde-khai	'pwat'enuy	'phatum
66. snek	'k'ontsai	'amengfe	'megafe	'thamunt'ho	'thant'ho	'thant'	'amut'hare	'amengfe	'amengfe
67. pis	'k'hangaraam	'k'hangaraam	'mandufan	'wafaphun	't'otaph			'k'hangaraam	
68. taro	'panm'kh'	'afambey	'nange	'p'hef'iman	'p'hef'iman	'p'hef'iman	'afambey	'alambey	'alambey
70. kaukau				angumafepa-pakil	'ambandekh'in	'nambant'hak'hi!	'gawepapak'hi!		
71. tamiook	'y'amp'ha'fu	'sak'hatama	'nkhai	'phanthen	'bofin	'amborin-enge	'sak'hatama	'uak'amp'ize	'sak'hatama
72. naip	'!namph	'thangefa	'thangefa	'nank'hen	'bofin	'segit'h	'thangefa	'thangefa	'sangefa



## APPNEDIX B

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marbuk	Magendo 2	Kanbuanum
73. spia	'want <sup>h</sup> amp <sup>h</sup>	'andžimangən	'puʒi/'puli	'mbemp <sup>h</sup>	'aiamp <sup>h</sup> ep <sup>h</sup>	'nigek <sup>h</sup>	'inon	'nggaʒi	'nggaʒi
74. haus	'k <sup>h</sup> uʒiil/ 'k <sup>h</sup> uliil <sub>1</sub>	'nam <sub>2</sub>	'pandama <sub>3</sub>	'yin <sub>4</sub>	'iʒan <sub>5</sub>	'iʒan <sub>5</sub>	'nam <sub>2</sub>	'nam <sub>2</sub>	'nam <sub>2</sub>
75. graun	'nənk <sup>h</sup> əʒump <sup>h</sup> <sub>1</sub>	'andi <sub>2</sub>	'bun <sub>3</sub>	'din <sub>4</sub>	'agin <sub>5</sub>	'agin <sub>5</sub>	'andi <sub>2</sub>	'andi <sub>2</sub>	'andi <sub>2</sub>
76. waisan	oʒanti'k <sup>h</sup> as <sub>1</sub>	'suŋwaja <sub>2</sub>	'muŋ <sub>3</sub>	'k <sup>h</sup> ək <sup>h</sup> əʒən <sub>4</sub>	'gugudžəʒak <sup>h</sup> <sub>5</sub>	'džəŋjai <sub>2</sub>	's <sub>ŋ</sub> ai <sub>2</sub>	'tsingaiə <sub>2</sub>	'k <sup>h</sup> əʒəʒən <sub>4</sub>
77. maunten	'bawi <sub>1</sub>	'uiŋ <sub>2</sub>	'iəmbwan <sub>3</sub>	'p <sup>h</sup> ant <sup>h</sup> am <sub>4</sub>	'p <sup>h</sup> aʒam <sub>4</sub>	'p <sup>h</sup> əʒam <sub>4</sub>	'imbwaŋ <sub>3</sub>	'uiŋ <sub>2</sub>	'wiŋgʒi <sub>2</sub>
78. win	'pari						'p <sup>h</sup> up <sup>h</sup> uan		
79. skin diwai			'moəŋ <sub>1</sub>	'eʒoʒ'ʒok <sup>h</sup> - omp <sup>h</sup> <sub>2</sub>	'lmbəʒan <sub>3</sub>	'lmbəʒan <sub>3</sub>			
80. nait	t <sup>h</sup> a'p <sup>h</sup> amp <sup>h</sup> <sub>1</sub>	'i <sup>h</sup> k <sup>h</sup> əmun <sub>2</sub>	'bandan <sub>3</sub>	'ʒak <sup>h</sup> amənt <sup>h</sup> a <sub>4</sub>	'aganən <sub>5</sub>	'aganun <sub>5</sub>	'iuk <sup>h</sup> əmun <sub>2</sub>	'iuk <sup>h</sup> əmun <sub>2</sub>	'igomun <sub>2</sub>
81. asde	'namənʒin <sup>h</sup> <sub>1</sub>	'nak <sup>h</sup> əmun <sub>2</sub>	'naiəndən <sub>3</sub>	'naʒən <sub>4</sub>	'aʒən <sub>4</sub>	'naʒun <sub>4</sub>	'nak <sup>h</sup> am <sub>2</sub>	'nak <sup>h</sup> əmun <sub>2</sub>	'nagəmun <sub>2</sub>
82. tumora	'k <sup>h</sup> as <sup>h</sup> p <sup>h</sup> <sub>1</sub>	't <sup>h</sup> umbun <sub>2</sub>	'bun <sub>2</sub>	'naʒən <sub>3</sub>	'aʒən <sub>3</sub>	'naʒun <sub>3</sub>	't <sup>h</sup> umbun <sub>2</sub>	t <sup>h</sup> umbun <sub>2</sub>	t <sup>h</sup> umbun <sub>2</sub>
83. gutpela	yab'k <sup>h</sup> aʒən <sub>1</sub>	'mandžikun <sub>2</sub>	'yolaimən <sub>3</sub>	'aʒat <sup>h</sup> ət <sup>h</sup> <sub>4</sub>	'aʒat <sup>h</sup> ogo <sub>4</sub>	'aʒət <sup>h</sup> o <sub>4</sub>	'nandək <sup>h</sup> n <sub>5</sub>		'aʒandək <sup>h</sup> ən <sub>5</sub>
84. nogut	'mədʒəŋ <sub>1</sub>	'magʒe <sub>2</sub>	'džue <sub>3</sub>	'mak <sup>h</sup> <sub>2</sub>	'mwao <sub>4</sub>	'mwao <sub>4</sub>	'mwak <sup>h</sup> ən <sub>5</sub>		'mwak <sup>h</sup> ən <sub>5</sub>
85. longpela	k <sup>h</sup> ulnd'ʒəŋ <sub>1</sub>	'k <sup>h</sup> aisek <sup>h</sup> ak <sup>h</sup> ən <sub>2</sub>	'ioik <sup>h</sup> onət <sup>h</sup> <sub>3</sub>	'ŋk <sup>h</sup> oŋk <sup>h</sup> op <sup>h</sup> aʒi <sub>4</sub>	'gogongo <sub>4</sub>	'gogon <sub>4</sub>	'k <sup>h</sup> oŋk <sup>h</sup> oʒono- k <sup>h</sup> ən <sub>4</sub>		k <sup>h</sup> oŋgʒant <sup>h</sup> ə- k <sup>h</sup> ən <sub>4</sub>
86. sotpela	'apʒəamp <sup>h</sup> <sub>1</sub>	'k <sup>h</sup> aisek <sup>h</sup> ən <sub>2</sub>	't <sup>h</sup> e <sub>3</sub>	'k <sup>h</sup> atarük <sup>h</sup> ük <sup>h</sup> <sub>4</sub>	'p <sup>h</sup> ok <sup>h</sup> op <sup>h</sup> o <sub>5</sub>	'p <sup>h</sup> ok <sup>h</sup> op <sup>h</sup> o <sub>5</sub>	'k <sup>h</sup> asak <sup>h</sup> ən <sub>2</sub>		k <sup>h</sup> aʒagəm'p <sup>h</sup> ə- nagəm <sub>6</sub>
87. hevi	wopi'tarəŋ <sub>1</sub>	'iəbun <sup>h</sup> k <sup>h</sup> ən- d <sup>h</sup> hʒe <sub>2</sub>	'dənat <sup>h</sup> <sub>3</sub>	'patənt <sup>h</sup> ük <sup>h</sup> <sub>4</sub>	'dip <sup>h</sup> at <sup>h</sup> o <sub>5</sub>	'dip <sup>h</sup> at <sup>h</sup> o <sub>5</sub>	'ibinat <sup>h</sup> ak <sup>h</sup> ən <sub>6</sub>		'ivik <sup>h</sup> arak <sup>h</sup> ən <sub>6</sub>
88. i no hevi		'p <sup>h</sup> lndəmusk <sup>h</sup> re <sub>1</sub>	'pansəmbaʒi <sub>2</sub>	'tsanənp <sup>h</sup> əu <sub>3</sub>	'sanabao <sub>4</sub>	'sonəbao <sub>4</sub>	'sna <sup>h</sup> mk <sup>h</sup> ən- t <sup>h</sup> ak <sup>h</sup> ən <sub>5</sub>		sam'blakala- k <sup>h</sup> ən <sub>5</sub>
89. kol	sa'luk <sup>h</sup>	'wak <sup>h</sup> ark <sup>h</sup> a	'k <sup>h</sup> obo	'tseʒəp <sup>h</sup> at <sup>h</sup> in	'nagunmwago- wagas iarn				'p <sup>h</sup> ubont <sup>h</sup> uk <sup>h</sup>

## APPENDIX B

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marbuk	Magendo 2	Kanbuanum
90. hat	a'leya'k'hin	'aiak'hark'he	'uisana'fak'hop		'undun	'akungəpəhə- rəp'ho			'aiak'hərek'hən
91. olupela	ma'fi'lal			'pat'hent'h'ek	'pat'h'e'ʔo				'p'hombos ik'h'ye
92. nupela				'nənk'h'um'uk'h	'nəngəmoŋgo				't'hək'həs ipa'ʔəna
93. olgeta	mama'lifŋ 1	'mdak'həbo 2	'a'ʔup 3		'abəthəbət'hə 4				
94. dispela	mak'hə'le								
95. yes	'ai 1	't'hək'həp'hə 2	'na 3	'ao 4	'ao 4	'ao 4			
96. nogat	'tsi:k'həmpuŋ 3	'ant'hək'h'ia 2	'ap' 3	'ak'aiyə 4	'ŋgwende 5	'ŋgwende 5			
97. em i tok		'sua'ʔə							
98. em i harim				'manant'hə- k'h'oyə	'manenu'ʔawɿn				
99. em i save				'manant'hunda- t'hək'h'oyə	'mət'h'ə'ʔat'h				
100. em i dring wara		'a'ʔəmwənk'hə		'a'ʔəmumbū- k'h'oyə					
101. em i slip		'nənk'hond'ʒik'hə		'mak'həntək'h'ū- mboyə	'manwə'ʔəgə'ʔə				
102. em i kilim i dai		'nənk'hə'ʔə'ʔe- nənt'h'ik'hə		't'həmbūpəŋ- k'həmənt'hə	't'h'od'ifə				
103. em i dai pinis		'patip'ʔək'həna			't'h'opə'ʔɿn				
104. paia i lait		'wanaia'ʔiki- tak'hə							

APPENDIX B

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marbuk	Magendo 2	Kanbuanum
105. em i pundaun		nam'k'holath- f,k'ha							
106. em i paitim dok		'ndanda 'nant'hikha	'u'funtai 'maip						
107. em i kus		'nanikowkha	'uthathap						
108. em i lap		'nanpit'hakha	'aialtha						
109. mi	'ami 1	'mit'eph e 2	'ape 2	'ma 1	'ma 1	'ma 1			
110. yu	'nimi 1	'emethak'hape 2	'yolangga 3	'momi 1	'mi 1	'mi 1			
111. em	sak'ha'ne 1	'nambe 2		'mo 3	'mcn 4	'm'cn 4			
112. mipela	yi'p'hi	'panggeyam- bramnda		'pangü					
113. yupela	yi'bi	't'hak'h nte							
114. ol	yi'bi	'pupwe							
115. kokonas	yi'bam 1	'wanke'fum 2	'tsomb'fa 3	'f'uaŋ 4	'dap'haŋ 5	't'həpak'h 5	'uaŋ 4	'uaŋ 4	'uaŋ 4
116. buai		'pwa'fəŋ 1	'au 2	'po'foŋ 1	'p'hə'foŋ 1	'p'ho'foŋe 1	'pwa'fəŋ 1	'pwa'fəŋ 1	'pwa'fəŋ 1
117. kambang		'au'f 1	'ai 1	'ai'f 1	'ai'f 1	'ai'f 1	'au'f 1	'au'f 1	'au'f 1
118. saksak	t'hi'nam 1	'mbwe 2	'yapaŋ 3	'ma'finün 4	'du'f'ɪn 5	'du'f'ɪn 5	'f'ino 5	'u'fi 1	't'holi
119. kanu	'k'he 1	'k'he 1	'mənduma 2	'k'hain 3	'gain 3	'gain 3	'k'hai'f 3	'k'he 5	'k'he
120. pul	'nan'kh 1	'inap'h 1	'napuŋ 2	'naŋ 1	'inaŋ 1	'inaŋ 1	'inap'h 1	'inap'h 1	'inap'h 1
121. basket bilong pis		'k'haise	'want'hama	'aw'e'f					

## APPENDIX B

Pidgin	Kilimbit	Kambrindo	Kambaramba	Singarín	Karau	Wagamut	Marbuk	Magendo 2	Kanbuanum
122. basket	'tʃi 1	'isi 2	'tʃa 3				'isi 2	'isi 2	'isi 2
123. pukpuk	'ayi 1			'oramen 2	'dwamin 2	'dwamin 2	'uaʃami 2	'uaʃami 2	'ualami 2
124. natnat	nan'kw n 1			'nangi th 2	'nauk h 3	'nauk h 3	'oʃaʃa 4	'uaʃəʃaʃəm 4	'ualuale 4
125. solwara					'gugun 1	'gugun 1	'masak 2	'masak 2	'k h ŋgun 1
126. nambis					'dʒ ŋain	'dʒəŋain	'səŋai		
127. em i wokabaut									
128. em i givim i									

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# A TENTATIVE MULTILEVEL MULTIUNIT PHONOLOGICAL ANALYSIS OF THE MURIK LANGUAGE

Stan Abbott

## 0. INTRODUCTION

This paper presents a descriptive phonological analysis of the sound system of the Murik language.<sup>1</sup> The theoretical basis underlying the paper is multilevel multiunit as introduced by Marvin K. Mayers. The basic premise of the theoretical framework is that phonemic criteria should be applied to more than just segments (individual phones) or syllables of any given language. It should in fact produce a system of notation for the consistent, accurate pronunciation of the entire language, not just the segments.

Details of phonetic pronunciation such as voicing, stress, pitch, duration, etc., can be spread throughout the phonological hierarchy in such a way as to tie phonetic features into specific contrastive units on the various levels of the hierarchy and thus reduce the amount of complexity on the segment level. Such features are divided into three classes: (1) *contact* - involving point and manner of articulation, (2) *relational* - such as the relative positioning of the tongue in the pronunciation of certain sounds, (3) *dynamic* - involving such features as level of pitch, contour of pitch, terminal point of contour of pitch. (Mayers 1975).

Phonetic features are assigned to specific levels of the phonological hierarchy according to the following criteria: (a) recurring patterns of features, (b) frequency with which the features occur in the speech span, and (c) by analogy to the assignment of features to a level and the successive bundling of features assigned to a given level. Generally the more frequently a feature occurs, the lower will be its assignment as to level; the less frequently, the higher the level assignment. (Mayers 1975).

Thus Murik phonology is conceived of as a number of phonological levels ordered specifically within the hierarchy. Each level is seen in descriptive terms of contrastive and variant types of units and distribution of these units within the hierarchy. The unit and level-defining features comprising the individual levels are specific to that particular level but not necessarily unique to that level. The individual levels are specifically different from the other levels but should not be regarded as autonomous. 'The higher layer may condition the lower or the lower mark or identify the higher'. (Pike 1962:14).

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*Papers in New Guinea Linguistics* No.22, 339-373.  
*Pacific Linguistics*, A-63, 1985.

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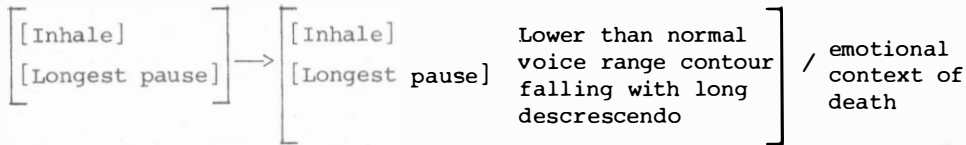
339

At this stage of analysis, Murik phonology appears to have six levels: discourse, sentence, phrase, word, syllable, and phoneme. A unit of a lower level may simultaneously function as a unit on a higher level. For example the phoneme /a/ may function as a syllable, word, or phrase, depending upon placement of stress, occurrence within the speech span, and/or pitch contour.

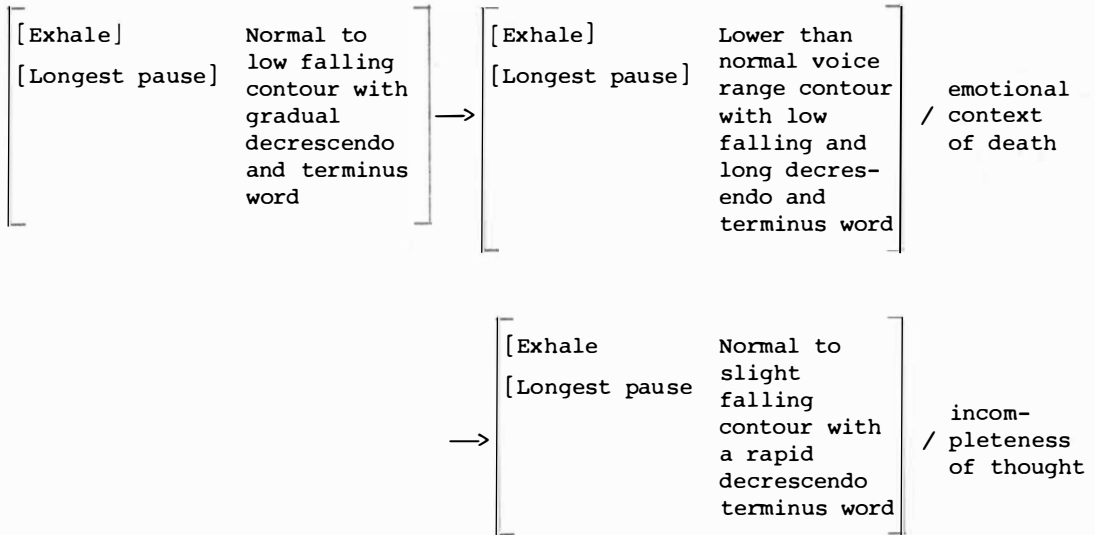
To be accurate in analysis of discourse type data one would need to have not only recorded text materials but also recordings of natural conversation in a variety of normal village settings. Therefore, the statement in Level 1: DISCOURSE and Level 2: SENTENCE represent only observations of variations in phonological features at Discourse and Sentence levels as derived from a limited corpus of text materials.

1. Level 1: DISCOURSE /indentation/

*Text initial:*



*Terminus:*



Additional features assigned to the discourse level:

- (1) /a/ → [ã?] / ø v ø within discourse...no apparent gloss  
→ [a] / elsewhere.

This feature manifests itself within the discourse in various positions at different levels: (a) sentence initially or finally  
(b) phrase medially  
(c) phrase initially.



Its occurrence appears to be completely optional at the discretion of the speaker. Its immediate appearance is that of a stutter word much like 'uh' in English. However, there are certain predictions that can be made about the discourse revolving around its occurrence: (1) shift of focus from one object to another; or (2) change in action; or (3) switch in time. For the present, merely an observation that /a/ manifests itself within the phonological hierarchy on the discourse level glottalised and nasalised, will have to suffice. Further investigation and grammatical analysis should afford further insight.

(2)  $\left[ \begin{array}{l} \text{[word ending in consonant]} \rightarrow \text{[*word ending in /ɨ/ ~ /ɨ·/]} \\ \text{[word ending in short vowel]} \rightarrow \text{[word ending in long vowel]} \end{array} \right] / \begin{array}{l} \text{sentence} \\ \text{and phrase} \\ \text{final} \end{array}$

/ka'ʔuk/ *bearer* ~ /ka'ʔuki·/ *bearer*  
 /dwamin/ *crocodile* ~ /dwamini/ *crocodile*  
 /a'in/ *talk* ~ /a'ini/ *talk*  
 /ongwe/ *no* ~ /ongwe·/ *no*  
 /songaʔo/ *place* ~ /songaʔo·/ *place*

This feature appears to be simply a stylistic variation from the norm. Its function would be that of a rhetorical device to add interest to a discourse.

2. Level 2: SENTENCE /full stop/, /exclamation/, /question/

Sentence initial:

$\left[ \begin{array}{l} \text{[Breath inhale]} \\ \text{[Pause of varying lengths]} \end{array} \right] \left[ \begin{array}{l} \text{[Straight normal voice]} \\ \text{range contour} \end{array} \right] \longrightarrow \text{./}$

contrastive in identical environments with:

$\left[ \begin{array}{l} \text{[Breath inhale]} \\ \text{[Pause of varying lengths]} \end{array} \right] \left[ \begin{array}{l} \text{[Straight normal voice]} \\ \text{range with speed up} \end{array} \right] \longrightarrow \text{!/}$

The exclamation type has variations according to the contexts mentioned below:

$\left[ \begin{array}{l} \text{[Breath inhale]} \\ \text{[Pause of varying lengths]} \end{array} \right] \left[ \begin{array}{l} \text{[Straight normal voice range contour with speed up]} \end{array} \right] \longrightarrow \left[ \begin{array}{l} \text{[Breath]} \\ \text{[Pause of varying lengths]} \end{array} \right] \left[ \begin{array}{l} \text{[Straight raise in register and speed up]} \end{array} \right] / \begin{array}{l} \text{emotional} \\ \text{context} \\ \text{of death} \end{array}$

$\left[ \begin{array}{l} \text{[Breath]} \\ \text{[Pause of varying lengths]} \end{array} \right] \left[ \begin{array}{l} \text{[Straight raise in register and speed up and tense voice quality]} \end{array} \right] / \begin{array}{l} \text{emotional} \\ \text{context of} \\ \text{extreme} \\ \text{fear or} \\ \text{danger or} \\ \text{anger} \end{array}$

\* No stress added or changed as a result.

*Sentence final:*

[+ Breath exhale]	[Straight to mid-falling contour
[Pause of varying lengths]	with optional rapid descrescendo]

Upon eliciting several types of statement and declarative versus quotation items it was found that the intonation contour patterns overlap totally. Both are manifested by straight normal voice range contours to low falling with rapid decrescendo. The only differences occur within the variation already described about sentence contours. Orthographic symbolisation will be discussed in a later section of the paper. Further analysis on a larger corpus of data, including both text and conversation type materials, should provide more concise analysis of phonological features on the Discourse and Sentence levels.

## 3. Level 3: PHRASE /comma/

*Terminus:*

[Breath]	[Straight to slight rising contour
[Pause of varying lengths]	with optional rapid decrescendo]

freely variant with:

[Breath]	[Straight contour with optional
[Pause of varying lengths]	rapid decrescendo]

## 4. Level 4: WORD /space/

+ Pre-tonic: S<sup>3</sup> + Tonic: 'S + Post-tonic: S<sup>6</sup>

The phonological word is defined by an optional pre-tonic slot filled by one to three syllables; an obligatory tonic slot, the simple nucleus, filled by one stressed syllable; and an optional post-tonic slot filled by one to six syllables. However, the maximum number of syllables is seven. For illustration see Chart A.

Number of pre-tonic (1-3) syllables	Tonic	Number of post-tonic (1-6) syllables
0	/ug/ rattan	0
0	/ŋa.sen/ girl	1
0	/da.ka.nɪmp/ post	2
0	/nɪ.nɪ.be.kon/ tree species	3
0	/sɪ.ʃi.sɪ.ʃi.ŋɪ/ flying phalanger	4
0	/ma.nɪ.bo.kin.bo.kin/ goose	5
0	/ko.sa.bwa.tɪ.kɪ.mɪŋ.ka/ leave it	6
1	/gɪ.'gop/ sago palm stem	0
1	/mo.'ko.map/ small mosquito	1
1	/ma.'ʃi.sa.rap/ underneath	2
1	/i.'dʒe.ʃi.ma.ʃo/ teenage female	3
1	/o.'a.ʃa.kɪ.mɪŋ.ka/ walk	4
1	/ko.'kay.ʃe.ʃa.ga.tɪ.ka/ remove	5
1		6
2	/i.ʃa.'saʃ/ inside house	0
2	/to.bwa.'kɪ.mɪ/ crooked	1
2	/ko.ki.'ge.tɪ.ka/ break	2
2	/ko.ta.'ba.ga.mɪŋ.ka/ push	3
2	/kay.sa.'bwa.tɪ.kɪ.mɪŋ.ka/ blow	4
2		5
2		6
3	/i.ʃa.ŋa.'nin/ ridgepole	0
3	/i.tɪ.kɪ.'ma.ʃa/ door	1
3		2
3	/ko.a.sa.'sa.ko.pi.ka/ change	3
3		4
3		5
3		6

Chart A: Syllable distribution

Distribution of word initial and word final phoneme segments and/or sequences are given in Charts B1 and B2: (see appendix for data).

Phoneme	Word Initial		Word Final
	Pre-tonic	Tonic	
i	x	x	x
e	x	x	x
ɨ			x
a	x	x	x
u		x	x
o	x	x	x
p	x	x	x
b	x	x	x
ɸ			
t	x	x	x
d	x	x	
k	x	x	x
g	x	x	x
ɟ			
dʒ	x	x	
s	x	x	x
n	x	x	x
ɲ	x	x	x
ɾ			x
m	x	x	x
y	x	x	
w	x	x	

Chart B1: Word-initial/final phonemes

Clusters	Word Initial		Word Final
	Pre-tonic	Tonic	
pw-	x	x	
bw-		x	
tw-	x	x	
dw-	x	x	
kw-	x	x	
gw-		x	
sw-	x	x	
dʒw-		x	
mw-		x	
pʲ-		x	
bʲ-		x	
kʲ-		x	
gʲ-		x	
sk-		x	
sp-		x	
-mp			x
-nt			x
-nk			x
-yn			x
-yt			x
-yk			x
-wʲ			x
-wg			x
-wt			x
-wk			x

Chart B2: Word-initial/final clusters

Phoneme consonant clusters have certain restrictions in word medial position. The possible syllable patterns are as follows in Chart C:

Pre-tonic	Tonic	Post-tonic
VC	VC	CV
CVC	CV	CVC
	CVCC	CVCC
	CCV	CCV
	CCVC	CCVC
	CCVCC	CCVCC

Chart C: Syllable patterns

The potential consonant clusters across syllable boundaries are as follows in Chart D:

Pre-tonic/Tonic border	Tonic/Post-tonic border
C/C C/CC	C/C C/CC CC/CC

Chart D: Syllable boundaries

Border consonant patterns actually occurring between syllables within the corpus of data used for this analysis are as follows:

1. Pre-tonic: -C/C-
2. Pre-tonic/Tonic: -C/C-, -C/CC-
3. Tonic/Post-tonic: -C/C-
4. Post-tonic: -C/C-, -C/CC-

Actual consonant distribution illustrated in Charts E1, E2, E3, E4: (see appendix for data).

	Syllable initial	
Syllable final		t
	n	x

Chart E1: Pre-tonic boundary consonants

	Tonic syllable initial							
	b-	bw-	t-	d-	g-	dž-	s-	k-
Pre-tonic syllable final	-b		x					
	-n			x		x	x	
	-ŋ				x			
	-r				x			
	-m	x	x					
	-y							

Chart E2: Pre-tonic/Tonic boundary consonants

## Post-sonic syllable initial

	p-	b-	t-	d-	k-	g-	dʒ-	s-	n-	ʃ-	w-
Tonic syllable final	-p								x		
	-n		x	x		x	x				
	-ŋ					x					
	-r̥				x				x		
	-m	x	x								
	-y		x	x	x	x		x	x		x
	-w									x	

Chart E3: Tonic/Post-sonic boundary consonants

## Syllable initial

	b-	t-	k-	g-	gw-	bʃ-
Syllable final	-k	x				
	-n	x		x		
	-ŋ		x	x		
	-m	x			x	x
	-y		x			

Chart E4: Post-sonic boundary consonants

Within this corpus of data all phonological words feature simple nuclei composed of a single syllable and a single unit of stress. Phoneme restrictions (see Charts B1 and B2) are too limited to be predictive features.

Concerning the unit of stress within the nucleus of the phonological word and the feature of length found within the corpus of data used for this analysis, stress is predictable as occurring on the first lengthened vowel or, if there are no long vowels, then word initially.

[anənp <sup>h</sup> a'ʃɛ.t <sup>h</sup> ]	<i>lightning</i>
[ga'i.n]	<i>canoe</i>
['damag]	<i>garden</i>
['nag]	<i>vine used for tying</i>

However, the most efficient analysis was to interpret length as environmentally predictable on all stressed syllables other than word initial (see Level 5). But six data occurred which seemed to nullify this allophonic statement about lengthened vowels; initial syllables were found both lengthened and stressed.

[ 'du.g ]	stone	[ 'k <sup>h</sup> o.bo ]	two
[ 'sa.k <sup>h</sup> ]	cheek	[ 'da.g ]	grass skirt
[ 'p <sup>h</sup> wa.p <sup>h</sup> ]	waist	[ 'sa.k <sup>h</sup> o ]	wait

A minimal pair was discovered with the only difference being the contrast of initial syllable lengthened and stressed versus stressed only.

[ 'saʔ ]	stomach	[ 'sa.ʔ ]	type of shark
----------	---------	-----------	---------------

Assuming that the phonetic transcription is accurate (it was tape recorded and checked with several informants) then the condition of these data is not coincidental and inexplicable but rather some characteristic of the language. There are at least two alternatives for analysing this phenomenon. (1) Presupposition: Stress is phonemic and length is derived. The first alternative would be to consider the unit of stress word initial on a syllable with a short vowel contrastive with stress word initial on a syllable with a long vowel. The two contrastive units of stress would be contrastive as to intensity with the former less intense than the latter. (2) The second alternative would be that there are two identical underlying vowels realised as a long vowel phonetically only in the presence of a unit of stress. The placement of stress in this case would be on the first long vowel within the word or on the first syllable in the absence of a long vowel, with only one unit of stress per phonological word.

Within the word level there are several features of neutralised contrast: /d/ → [t<sup>h</sup>] word finally, /ʔ/ → [d] word initially, and /b, g/ → [b, g] word initially and finally.

The predominant feature of voicing versus voicelessness, contrasting [d] and [t<sup>h</sup>], is lost in the word final position. That is, when a vocoid is preceded by [d] or [t<sup>h</sup>] contrast is maintained. However, in the absence of a word final vocoid the contrast is neutralised. /t/ is the symbol chosen to actualise the neutralised contrast.

/d/ → [t<sup>h</sup>] / word finally,  
[d] / elsewhere.

[thandina akɪn]	time of the fish	[thant]	fish
[ 'damag ]	garden	[ 'bebɛt <sup>h</sup> ]	Vitex confassus
[ 'da.g ]	grass skirt	[ dsi'u.t <sup>h</sup> ]	sea waves
[ a'da.n ]	shrub species	[ anɛpha'ʔɛ.t <sup>h</sup> ]	lightning
[ 'k <sup>h</sup> ɛndəb ]	fish species	[ nungunsaʔagath ]	green
[ 'p <sup>h</sup> waydək <sup>h</sup> ]	fish species	[ ya'go.t <sup>h</sup> ]	sick

/tant/ → /tandɪ-na akɪn/  
fish fish-poss sun

The predominant feature contrasting [d] and [ʔ] is the speed of the tongue or length of duration of tongue at the point of articulation, the flap being more rapid than the stop. At word initial position the rapidity of articulation is lost and thus the contrast is neutralised. /d/ is the symbol chosen to actualise the neutralised contrast.

/ʔ/ → [d] / word initially,  
 → [ʔ] / elsewhere.

[ˈdakʰanɪmp]	<i>post</i>	[pʰiˈsɛ.ʔ gwan]	<i>teenage male</i>
[ˈdamag]	<i>garden</i>	[ˈnoʔ]	<i>man</i>
[dɪˈkʰi.n]	<i>sweet potato</i>	[iˈdze.ʔ maʔo]	<i>teenage female</i>
[dəˈpha.g]	<i>coconut</i>	[numaˈʔo.go]	<i>woman</i>
[ˈdu.g]	<i>stone</i>	[gɪˈgɪ.ʔitʰɪkʰɪmpʰ]	<i>joists</i>

/dɪ-/ → /-ʔɪ-/

3rd person plural subject marker (word initial)	3rd person plural subject marker (word medial)
---	--

The contrast between the stops, /b, g/, and the fricatives, /b, ɟ/ is neutralised in word initial and word final positions. [b] and [ɟ] appear to occur only intervocalically in word medial positions, whereas, [b] and [g] occur word initially, word finally, and word medially contiguous to another consonant and/or intervocalically. /b/ and /g/ are the symbols chosen to actualise the neutralised contrasts.

/b, g/ → [b, ɟ] / word medially, intervocalically,  
 → [b, g] / elsewhere.

[baˈu.ʔ]	<i>bamboo</i>	[ˈkʰo.ɔ]	<i>two</i>
[ˈkeb]	<i>prow of canoe</i>	[eˈbi.pʰ]	<i>hurry</i>
[ˈbiŋam]	<i>Casuarina equisetifolia</i>	[ˈnago]	<i>suppose</i>
[ˈnag]	<i>tying vine</i>	[mwaga]	<i>some</i>
[ˈgawg]	<i>seed</i>		

Further analysis of morphophonemics will provide greater insights on related aspects of these neutralisation processes.

## 5. Level 5: SYLLABLE

+ O: C<sup>2</sup> + N: V + C: C<sup>2</sup>

The syllable is defined by: an optional onset slot filled by one to two consonants; an obligatory nucleus filled by a vowel; and an optional coda slot filled by one to two consonants. Phoneme distribution can be seen in Charts F1, F2, and F3: (see appendix for data).



	V	VC	CV	CVC	CVCC	CCV	CCVC	CCVCC
i	x	x	x	x		x	x	
e	x		x	x		x		
ɨ		x	x	x	x	x	x	
a	x	x	x	x	x	x	x	x
u	x	x	x	x		x	x	
o	x		x	x			x	
p			x	x	x	x	x	x
b			x	x	x	x	x	x
ɓ			x	x				
t		x	x	x	x	x	x	x
d			x	x	x	x	x	
k			x	x	x	x	x	x
g		x	x	x	x	x	x	x
ɠ			x					
dʒ			x	x	x			
s			x	x		x	x	
n		x	x	x	x	x		x
ŋ			x	x	x			x
ɲ		x	x	x	x	x	x	x
m			x	x	x	x	x	x
y		x		x	x		x	x
w			x	x	x	x		x

Chart F1: Tonic slot phonemes

	V	VC	CV	CVC	CVCC	CCV	CCVC	CCVCC
i	x		x					
e	x		x			x		
ɪ			x	x				
a	x		x	x		x		
u			x	x				
o	x	x	x	x				
p			x			x		
b			x	x	x			
β								
t			x	x		x		
d			x			x		
k			x	x		x		
g			x					
ɠ								
dʒ			x					
s			x	x		x		
n			x	x	x			
ŋ			x		x			
r			x	x	x			
m			x	x	x			
y		x	x		x			
w			x	x			x	

Chart F2: Pre-tonic slot phonemes

	V	VC	CV	CVC	CVCC	CCV	CCVC	CCVCC
i			x	x		x	x	
e			x	x	x	x	x	
ɨ			x	x	x	x		
a			x	x	x	x	x	x
u			x	x			x	
o	x		x	x		x		
p			x	x	x	x	x	x
b			x	x	x	x	x	
ɓ			x					
t			x	x	x	x	x	x
d			x			x		
k			x	x	x	x	x	x
g			x	x	x	x	x	
ɠ			x	x	x			
dʒ			x	x				
s			x	x	x	x		
n			x	x	x	x		x
ŋ			x	x	x	x		x
r			x	x	x	x	x	x
m			x	x	x	x	x	
y			x	x	x	x		x
w			x	x	x	x	x	

Chart F3: Post-tonic slot phonemes

Consonant cluster phoneme restriction is as follows in Chart G: (see appendix for data).

		Consonant cluster final							
		p	t	d	k	g	n	ŋ	w
Consonant cluster final	p							x	x
	b							x	x
	t								x
	d								x
	k							x	x
	g							x	x
	dʒ								x
	s	x			x				x
	n		x						
	ŋ				x				
	m	x							x
	y		x		x		x		
	w		x			x		x	

Chart G: Consonant cluster restrictions

The ambivalent heterorganic consonant clusters are occasionally and unpredictably interrupted by a type of automatic consonant separator. The separator is always the central phoneme /i/. When separated, the initial consonant of the ambivalent cluster plus the /i/ become a syllable with the same timing as any other open syllable.

/přot/	['p <sup>h</sup> urot]	/piřot/	<i>sago palm stem</i>
/skemo/	['sikhemo]	/sikemo/	<i>show</i>
/mikhřik/	['mikhřik <sup>h</sup> ]	/mikhřik/	<i>hum</i>
/spitikim/	['siphit <sup>h</sup> ikhim]	/sipitikim/	<i>slick</i>

Native speakers of the language accept either form, with or without this type of automatic separator, as correct.

The feature of length is a unit-defining feature of the syllable level. The short vowel manifests itself as a long vowel in the environment of a single unit of stress, with the exception of the data discussed on the Word level.

/v/	→ [v.] / stress syllable,
	→ [v] / elsewhere.

Because of the complexities involved in the analysis of syllable types, simple versus complex nucleus types will both be discussed in relation to the preferred interpretation.

		Coda		
		∅	C	CC
Onset	∅	V	VC	VCC
	C	CV	CVC	CVCC
	CC	CCV	CCVC	CCVCC

Chart H: Simple nucleus syllable types

With the exception of CVCC, CCVC, and CCVCC in the pre-tonic slot, all of the syllable patterns within the simple nucleus matrix in Chart H occur in pre-tonic, tonic, and post-tonic positions. In the analysis there were reasons initially to assume that there were complex nucleus syllable types. With the complex nucleus interpretation the CCVCC slot of this matrix was left unfilled in all slots. By phonotactic decisions the complex nucleus was reinterpreted as a simple nucleus and all slots of the simple nucleus matrix were filled with the CVCC, CCVC, and CCVCC pre-tonic slot as exceptions.

		Coda		
		∅	C	CC
Onset	∅	VV		
	C	CVV	CVVC	
	CC	CCVV		

Chart I: Complex nucleus syllable types

As can be seen from the matrix in Chart I the complex nucleus interpretation produces a very asymmetrical system. The vowel sequences occurring within the corpus of data were: [ao], [ai], [ia], [au], [ua], [oi], [ue], and [ui]. Also found were: [-aiə-], [-oia-], [-auo-], and [-iə-]. The decision to resegment [ai] → /ay/, [ia] → /ya/, [au] → /aw/, [ua] → /wa/, [oi] → /oy/, [ue] → /we/, [ui] → /wi/ as members of the same syllabic nucleus and [oia] → /oya/, [auo] → /awo/, and [iə] → /yə/ and interpret all vowel clusters as individual syllables was based on: (1) the asymmetry of the complex nucleus matrix; (2) the completion of symmetry of the simple nucleus matrix with the resegmentation decision of no VV pattern; (3) pattern pressures from such data as the three vocoids clustered together; and (4) univalent clusters [ao] and [ea] actually being nuclei of separate syllables.

All structural syllable types have been observed constituting one syllable words with the exception of CCV.

V	/a/	pause word
CV	/di/	<i>to kill</i>
	/mi/	2nd person singular
	/ma/	1st person singular
VC	/ug/	<i>rattan</i>
CVC	/keb/	<i>prow of canoe</i>
	/bař/	<i>mangrove (generic)</i>
	/kiř/	<i>cassowary</i>
CVCC	/tant/	<i>fish</i>
	/gawg/	<i>seed</i>
	/yawt/	<i>name</i>
CCV	∅	
CCVC	/břag/	<i>spirit</i>
	/přog/	<i>betelnut</i>
	/swař/	<i>Intsia bijuga</i>
CCVCC	/kwawn/	<i>hole</i>
	/mwayn/	<i>star (generic)</i>

Words of up to seven syllables in length have been observed:

1 syllable	/sař/	<i>stomach</i>
2 syllables	/da.mag/	<i>garden</i>
3 syllables	/ay.bo.gep/	<i>cucumber</i>
4 syllables	/ni.ni.be.kon/	<i>tree species</i>
5 syllables	/si.ři.si.ři.ŋi/	<i>flying phalanger</i>
6 syllables	/ma.ni.bo.kin.bo.kin/	<i>goose</i>
7 syllables	/ko.sa.bwa.ti.ki.miŋ.ka/	<i>leave it</i>

## 6. Level 6: PHONEME

The Murik language has twenty-two phonemes. There are sixteen consonant phonemes: /p, b, ɸ, t, d, k, g, ɣ, dʒ, s, n, ŋ, ř, m, w, y/ and six vowel phonemes: /i, e, i, a, u, o/. The consonants contrast in manner of articulation as to (1) voiceless aspirated and voiced stops; (2) stops and fricatives; and (3) stops and flaps. The nasals contrast as to bilabial alveolar, and velar points of articulation. The vowels contrast as to high, mid, and low tongue heights and front, central, and back tongue positions. Allophonic variation is conditioned by position within the phonological word and contiguous vowel pressure.

The phonological pattern of Murik consonants is symmetrical as illustrated in Chart J:

- (a) 

p	t	k
b	d	g

 (a) voiced and voiceless oral stops
- (b) 

b	dʒ	ɟ
	s	

 (b) voiced and voiceless fricatives
- (c) 

m	n	ŋ
---	---	---

 (c) voiced nasals
- (d) 

ɾ
---

 (d) voiced flaps
- (e) 

w	y
---	---

 (e) semi-vowels

Chart J: Consonant symmetry

The absence of the alveolar in the fricative series is filled by the voiced grooved alveopalatal affricate /dʒ/.

The six Murik vowels show symmetry as illustrated in Chart K.

	Front	Back
High close	i	u
Mid close	e	o

	Central
High close	ɨ
Low open	a

Chart K: Vowel symmetry

Consonants

Voiced and voiceless oral stops

1. /p/ [p<sup>h</sup>] voiceless bilabial aspirated stop.

- [ 'aʃip<sup>h</sup>an ] /aʃipan/ *common housefly*  
 [ 'nagep<sup>h</sup> ] /nagep/ *wall stud*  
 [ 'phʀog ] /pʀog/ *betelnut*

2. /b/ [b] voiced bilabial stop.
- |            |           |                       |
|------------|-----------|-----------------------|
| [ba'u.ɻ]   | /ba'uɻ/   | <i>bamboo</i>         |
| [swa'ɻa.b] | /swa'ɻab/ | <i>taro</i>           |
| ['bebet]   | /bebet/   | <i>Vitex cofassus</i> |
3. /t/ [t<sup>h</sup>] voiceless alveolar aspirated stop.
- |                 |               |                           |
|-----------------|---------------|---------------------------|
| [tʰi'bi.ɻ]      | /ti'biɻ/      | <i>sago palm flooring</i> |
| [itʰi'ki'ma.ɻa] | /itʰiki'maɻa/ | <i>door</i>               |
| [pʰu'ɻo.tʰ]     | /pʰi'rot/     | <i>sago palm branch</i>   |
4. /d/ [d] voiced alveolar stop.
- |               |           |                       |
|---------------|-----------|-----------------------|
| ['dakʰani'pʰ] | /dakanip/ | <i>post</i>           |
| ['wadag]      | /wadag/   | <i>oyster species</i> |
| [wan'da.m]    | /wan'dam/ | <i>hornbill bird</i>  |
5. /k/ [k<sup>h</sup>] voiceless velar aspirated stop.
- |                 |               |               |
|-----------------|---------------|---------------|
| ['wekʰ]         | /wek/         | <i>ladder</i> |
| [kʰa'ɻu.kʰ]     | /ka'ɻuk/      | <i>bearer</i> |
| [itʰi'ki'ma.ɻa] | /itʰiki'maɻa/ | <i>door</i>   |
- [k<sup>h</sup>] voiceless back velar aspirated stop freely varies with the voiceless velar aspirated stop [k<sup>h</sup>]
- |             |               |           |                 |
|-------------|---------------|-----------|-----------------|
| [bə'kʰa.ɻn] | ~ [bə'kʰa.ɻn] | /bi'kayn/ | <i>bowl</i>     |
| [ma'kʰa.m]  | ~ [ma'kʰa.m]  | /ma'kam/  | <i>nape</i>     |
| [kʰaykʰ]    | ~ [kʰaykʰ]    | /kayk/    | <i>buttocks</i> |
6. /g/ [g] voiced velar stop.
- |           |          |                  |
|-----------|----------|------------------|
| ['gangan] | /gangan/ | <i>little</i>    |
| ['nagepʰ] | /nagep/  | <i>wall stud</i> |
| ['ug]     | /ug/     | <i>rattan</i>    |
7. /β/ [β] voiced bilabial fricative.
- |           |         |              |
|-----------|---------|--------------|
| ['kʰo.βo] | /'kobo/ | <i>two</i>   |
| [a'βe.pʰ] | /a'βep/ | <i>one</i>   |
| [e'βi.pʰ] | /e'βip/ | <i>hurry</i> |
8. /dʒ/ [dʒ] voiced alveopalatal grooved affricate.
- |                |               |                       |
|----------------|---------------|-----------------------|
| [i'dʒɛ.ɻəmaro] | /i'dʒerimaro/ | <i>teenage female</i> |
| [adʒi'kʰo.pʰ]  | /adʒi'kop/    | <i>sugar</i>          |
| [dʒu'ɻo.g]     | /dʒi'ɻog/     | <i>tree species</i>   |
9. /g/ [g] voiced velar fricative.
- |            |          |                |
|------------|----------|----------------|
| ['pʰogayn] | /pogayn/ | <i>snore</i>   |
| ['nago]    | /nago/   | <i>suppose</i> |
| ['mwaga]   | /mwaga/  | <i>some</i>    |
10. /s/ [s] voiceless alveolar grooved fricative.
- |           |          |                      |
|-----------|----------|----------------------|
| ['ŋasɛn]  | /ŋasen/  | <i>young girl</i>    |
| [sa'bo.n] | /sa'bon/ | <i>river</i>         |
| ['seb]    | /seb/    | <i>sail of canoe</i> |



## Voiced nasals

11. /m/ [m] voiced bilabial nasal.  
 [numa'ʔo·go] /numa'ʔogo/ *woman*  
 [me'i·g] /me'ig/ *table*  
 ['damag] /damag/ *garden*
12. /n/ [n] voiced alveolar nasal.  
 ['gwan] /gwan/ *little boy*  
 ['noʔ] /noʔ/ *man*  
 [kʰi'nu·n] /ki'nun/ *truss post*
13. /ŋ/ [ŋ] voiced velar nasal.  
 ['ŋasɛn] /ŋasen/ *young girl*  
 [iraŋa'ni·n] /iraŋa'nin/ *ridgepole*  
 ['phaʔiŋaʔ] /paʔiŋaʔ/ *mast of canoe*

## Voiced flap

14. /ʔ/ [ʔ] voiced alveolar flap.  
 [kʰa'ʔa·kʰ] /ka'ʔak/ *sago thatch*  
 ['gaygeʔɛpʰ] /gaygeʔɛp/ *outside side of canoe*  
 [ŋaʔa'kʰo·n] /ŋaʔa'kon/ *fish pen*

## Semivowels

15. /w/ [w] voiced high close rounded back semivowel.  
 ['wekʰ] /wek/ *ladder*  
 ['gwan] /gwan/ *little boy*  
 [a'wa·ʔ] /a'waʔ/ *west wind*
16. /y/ [y] voiced high close unrounded front semivowel.  
 ['mwayn] /mwayn/ *star (generic)*  
 [ya'u·n] /ya'un/ *cave*  
 ['yaʔaʔ] /yaʔaʔ/ *wood*

## Vowels

## Front

1. /i/ [i] voiced high close front unrounded vocoid.  
 ['sikʰapʰ] /sikap/ *grass (generic)*  
 [idʒa'ʔi·pʰ] /idʒa'ʔip/ *pandanus*  
 [i'na·ŋkʰ] /i'naŋk/ *paddle*
2. /e/ [e] voiced mid close front unrounded vocoid.  
 ['monemonɛŋkʰ] /monemonɛŋk/ *warbler*  
 ['kʰɛnag] /kenag/ *Bibionidae of the order Diptera*  
 ['dewa] /dewa/ *demonstrative*

[ɛ] voiced mid open front unrounded vocoid freely varies with the voiced mid close front unrounded vocoid [e]

['pʰɛpʰɛtʰam]	~	['pʰepʰetʰam]	/pepetam/	<i>butterfly</i>
['abɛtʰabɛtʰa]	~	['abetʰabetʰa]	/abetabeta/	<i>plenty</i>
['kʰɛnag]	~	['kʰenag]	/kenag/	<i>Bibionidae of the order Diptera</i>

## Back

3. /u/ [u] voiced high close back rounded vocoid.

['mwaguʀo]	/mwaguʀo/	<i>rubbish</i>
['dʒabudʒabun]	/dʒabudʒabun/	<i>tender</i>
['duʀin]	/duʀin/	<i>sago</i>

4. /o/ [o] voiced mid close back rounded vocoid.

['noʃ]	/noʃ/	<i>man</i>
['sa.kʰo]	/'sako/	<i>wait</i>
['kʰotʰokʰa]	/kotoka/	<i>take it and go</i>

## Central

5. /i/ [i] voiced high close central unrounded vocoid.

['mɪkʰiʀɪkʰ]	/mɪkɪʀɪk/	<i>hum</i>
[dɪ'kʰi.ʃ]	/dɪ'kɪʃ/	<i>hiccup</i>
[sɪ'bɪ.ʃ]	/sɪ'bɪʃ/	<i>bush (jungle area)</i>

[ə] voiced mid close central unrounded vocoid freely varies with the voiced high close central vocoid [ɪ]

[iʀə'pʰwa.ŋkʰ]	~	[iʀɪ'pʰwa.ŋkʰ]	/iʀɪ'pwaŋk/	<i>joint</i>
['geʀəb]	~	['geʀɪb]	/geʀɪb/	<i>half</i>
[tʰə'bə.ʃ]	~	[tʰɪ'bɪ.ʃ]	/tɪ'bɪʃ/	<i>sago palm flooring</i>

6. /a/ [a] voiced low open central unrounded vocoid.

['bʀag]	/bʀag/	<i>spirit</i>
['tʰantʰ]	/tant/	<i>fish (generic)</i>
[a'be.pʰ]	/a'bep/	<i>one</i>

## Consonants contrastive in identical and analogous environments:

/p/ and /b/

/a'pap/	<i>shovel</i>	/a'pab/	<i>large mosquito</i>
/bebet/	<i>Vitex cofassus</i>	/pemoʃ/	<i>tree species</i>
/bambaŋk/	<i>music</i>	/paʃam/	<i>mountain</i>
/abopikpik/	<i>red pepper</i>	/bo'ʀoboʀon/	<i>shrub species</i>
/pepetem/	<i>butterfly (generic)</i>	/abetabeta/	<i>plenty</i>

/t/ and /d/

/a'dan/	shrub species	/ga'tan/	betel pepper vine
/dukwin/	laugh	/top're/	dead
/danġ/	leg	/tant/	fish (generic)
/di'kiř/	hiccup	/ti'biř/	sago palm flooring
/pwayd+k/	fish species	/katik/	grasshopper

/k/ and /g/

/wa'kin/	snake (generic)	/wa'gin/	kundu drum
/wek/	ladder	/weg/	oyster species
/ka'řak/	sago thatching	/gatan/	betel pepper vine
/kařiwan/	moon	/gařakop/	loincloth

/b/ and /v/

/'kobo/	two	/koba/	more
/a'bebabeba/	each	/abetabeta/	plenty
/a'bep/	one	/abekop/	suddenly
/e'biř/	hurry		

/dž/ and /s/

/a'džin/	ground	/a'sin/	sneeze
/swär/	<i>Intsia bijuga</i>	/džwařub/	fish species
/dža'řegi/	rat species	/sa'bon/	river
/džagřep/	iguana	/sakayn/	tobacco

/dž/ and /d/

/dži'řog/	tree species	/du'bin/	garamut drum
/mo'džik/	little mosquito	/ko'dika/	kill
/dža'řegi/	rat species	/da'řin/	hand
/džanayn/	beach	/danġ/	leg

/g/ and /g/

/mwago/	bad	/nago/	suppose
/utaga/	day-after-tomorrow	/mwaga/	some
/mwaguřo/	rubbish	/nagonak/	right hand
/yagaboř/	road	/bağadžak/	crab species

/s/ and /t/

/si'biř/	bush (jungle area)	/ti'biř/	sago palm flooring
/ga'son/	edible green	/ga'tan/	betel pepper vine
/tatan/	older brother	/masak/	salt water
/timit/	poison	/tigiwařis/	gathering

/n/ and /ŋ/

/nagep/	wall stud	/ŋasen/	young girl
/kenag/	Bibionidae of the order of Diptera	/kaŋař/	Tahitian chestnut
/apanoř/	old man	/yaŋasař/	canal
/napan/	plank on canoe side	/ŋařin/	tomorrow

/ʃ/ and /t/

/daʃa'boʃ/	<i>ten</i>	/pi'ʃot/	<i>sago stem</i>
/bo'tim/	<i>fish species</i>	/gi'ʃik/	<i>fish species</i>
/kaʃip/	<i>oyster species</i>	/katik/	<i>smoke</i>
/yagaboʃ/	<i>road</i>	/ya'got/	<i>sick</i>
/ko'dika/	<i>kill</i>	/ma'ʃisaʃap/	<i>underneath</i>

/ʃ/ and /d/

/min'din/	<i>cloud</i>	/pi'ʃot/	<i>sago stem</i>
/ko'dika/	<i>kill</i>	/ma'ʃisaʃap/	<i>underneath</i>
/aʃa'dawʃ/	<i>breastbone</i>	/ka'ʃuk/	<i>bearer</i>
/aydikaʃaka/	<i>feel</i>	/yoʃa'kin/	<i>fish basket</i>

/w/ and /b/

/ka'wiʃ/	<i>hook</i>	/e'bi:p/	<i>hurry</i>
/a'waʃ/	<i>west wind</i>	/a'bep/	<i>one</i>
/awo/	<i>yes</i>	/'kobo/	<i>two</i>

/y/ and /dʒ/

/yanamanɨŋk/	<i>mangrove species</i>	/dʒanayn/	<i>beach</i>
/ya'un/	<i>cave</i>	/dʒa'giʃ/	<i>edible green</i>
/ya'got/	<i>sick</i>	/dza'gʃon/	<i>owl</i>
/toyamata/	<i>swollen</i>	/todʒabudʒabu/	<i>slack</i>
/teke'yaʃa/	<i>fright</i>	/bibi'dʒagam/	<i>soot</i>

## Vowel allophonic variation

- /i/ → [ɪ] / contiguous to a front vowel,  
 → [u] / contiguous to a back vowel,  
 → [ɨ] / contiguous to a central vowel or as nucleus of a  
 monosyllabic word.

(The phonetic reality [front vowel C i C back vowel] has not occurred in the data encountered thus far to be able to establish a precedent as to directional preference for progressive versus regressive assimilation.)

[kʰɪ'be·ʃ]	/kɨ'beʃ/	<i>fish net</i>
[sɪnen]	/sɨnen/	<i>sorrow</i>
[sɪ'kʰi·n]	/sɨ'kin/	<i>mouth</i>
['dʒɪndʒɪpʰ]	/dʒɨndʒɪp/	<i>crab species</i>
['nɪnɪbekʰon]	/nɨnɪbekon/	<i>shrub species</i>
[num'bo·n]	/nim'bon/	<i>hot water sago</i>
[dʒu'ʃo·g]	/dʒɨ'ʃog/	<i>tree species</i>
[du'bu·n]	/du'bin/	<i>slit gong</i>
['munumpʰ]	/munɨmp/	<i>smell</i>
[gu'go·pʰ]	/gi'gop/	<i>sago palm stem</i>
[ 'kʰɨʃ]	/kɨʃ/	<i>cassowary</i>
[sɨ'bi·ʃ]	/sɨ'bir/	<i>bush (jungle area)</i>
[ 'kʰathɨkʰ]	/katik/	<i>grasshopper</i>
[dɨ'kʰa·b]	/dɨ'kab/	<i>throat</i>
[ 'miʃɨdʒan]	/miʃɨdʒan/	<i>fish species</i>

## Vowels contrastive in identical and analogous environments:

/i/ and /ī/

/katic/	smoke	/katic/	grasshopper
/kiř/	vein	/kiř/	cassowary
/twaytitiři/	forget	/tomaři/	want

/e/ and /i/

/de/	demonstrative	/di/	kill
/e'bīp/	hurry	/i'džerimaro/	teenage female
/bebet/	Vitex cofassus	/bīnam/	Casuarina equisetifolia
/sip/	Poinciana delnis	/seb/	sail of canoe
/tibwa'kimi/	crooked	/wa'řīname/	what

/u/ and /ī/

/iřīgimařa/	happy	/dařugeřīp/	fish species
/mikiřīk/	hum	/gařuk/	fish scales
/du'kimeneŋk/	whistle	/di'kiřī/	hiccup
/geřīb/	half	/džařub/	fish species
/sikaŋa/	thank you	/sugibařī/	mangrove species

/o/ and /u/

/přog/	betelnut	/přog/	thigh
/a'pamařo/	old woman	/se'sařu/	ancestor
/todžabudžabu/	slack	/ko'kotapombo/	wings

/a/ and /ī/

/gi'giřītikimp/	joists	/dampetakam/	toes
/ni'miřīkbařī/	mangrove species	/sa'peřakap/	navel
/ni'břīn/	spider	/na'bin/	eye
/dařugeřīp/	fish species	/mařīsařap/	underneath
/gi'siřī/	fish species	/ga'son/	edible green

/a/ and /o/

/asa'řap/	teeth	/asa'řop/	firewood
/přeman/	banana	/pemořī/	tree species
/da'kon/	crab (generic)	/do'kwan/	little bamboo
/a'pamařo/	old woman	/itiki'mařa/	door
/koba/	more	/tabo/	five

## 7. ORTHOGRAPHIC CORRELATES TO ANALYSIS

As the basic premise of the theoretical framework of this analysis is that phonemic criteria should be applied to more than just segments or syllables of any given language, it should in fact produce a system of notation for the consistent, accurate pronunciation of the entire language. It is with this thought in focus that the following orthographic suggestions are made.

Level 1: DISCOURSE The discourse would be marked by use of indentation, just as in the convention of indenting new paragraphs in written English style. The analysis did not produce a level for paragraph on the basis of phonological

criteria. It is hoped that further grammar investigation will help mark the paragraph. Thus in applying the analysis to phonetic data it would be possible to separate and symbolise a discourse from larger speech spans by indentation. Although the different contexts of death and incompleteness of thought would not be symbolised in writing, knowledge of the phonetic reality of these different contexts would help a hearer better understand the speaker's intent and attitude.

Level 2: SENTENCE. Within this level there are statement and declarative versus question versus exclamation. Although phonological features are the same for statement and question, the fact remains that the two are semantically distinct. Therefore, separate symbols are recommended: /?/ for question, ./ for statement and declarative, and !/ for exclamation.

Level 3: PHRASE. The phrase could be symbolised by the conventional use of comma. Further distinction such as colon or semicolon may become necessary with further analysis but that could be easily added into a literacy program at a later stage.

Level 4: WORD. Space between words would adequately separate one word from the next. Stress will be written on the lengthened syllables only, by a small diacritic above the line. The phonemes involved in the neutralisation of contrast /d/ → [t<sup>h</sup>] / word finally, /r/ → [d] / word initially, and /b, g/ → [b, g] / word initially and finally will be symbolised as follows: (a) There is a /t/ contrastive in analogous environments with /d/ word initially and medially. Therefore the analyst would choose /t/ to actualise the neutralised contrast word finally. (b) There is a /d/ contrastive in analogous environments with /r/ word medially. Therefore the analyst would choose /d/ to actualise the neutralised contrast word initially. (c) There is a /b, g/ contrastive in analogous environments with /b, g/ word medially. Therefore the analyst would choose /b/ and /g/ to actualise the neutralised contrasts. These rules may not apply if morphophonemic changes suggest otherwise at a later stage in analysis.

Level 5: SYLLABLE. As previously discussed in the syllable level, all vowel clusters are interpreted as being simple nuclei. Therefore all high/low or low/high clusters will be written as semivowel/low vowel or low vowel/semivowel. Any mid/mid cluster is considered nuclei of two syllables and will be discussed under the phoneme level.

Level 6: PHONEME. The greatest complexity and the most controversial orthographic symbolisation must surely be found with the phoneme.

1. Consonants. (a) The two series of oral stops contrast as to aspirated versus voiced. No unaspirated voiceless stops occurred within the corpus of data used for analysis. Therefore, the voiceless aspirated stops could be written without the symbol for aspiration, i.e. /p<sup>h</sup>, t<sup>h</sup>, k<sup>h</sup>/ → p, t, k. (b) The fricative series has several alternatives; however, the analyst would symbolise them as follows: voiced bilabial fricative /b/ → v, voiced velar fricative /g/ → h, voiced alveopalatal grooved affricate (filling the slot of the voiced alveolar fricative) /dʒ/ → j, voiceless alveolar grooved fricative /s/ → s. (c) The nasal series would be written as follows: voiced bilabial nasal /m/ → m, voiced alveolar nasal /n/ → n, voiced velar nasal /ŋ/ → ŋ. There are occurrences of /-ng-/, /-ŋg-/, and /-ŋk-/. If the /ŋ/ was written as ng then there would be sequences such as ngg for /-ŋg/ and ngk for /-ŋk/. The

simpler choice for the velar nasal seems obviously the use of the symbol ŋ. (d) The voiced alveolar flap /ɾ/ will be written ɾ, and (e) semivowels /w/ and /y/ as w and y.

2. Vowels. The high close front vowel /i/ will be written with i and the high back vowel /u/ will be written with u. The mid close front vowel /e/ will be written with e and the mid close back vowel /o/ written with o. The low open central vowel /a/ will be written a. It seems to be the general trend to symbolise the /ɨ/ in the Sepik Province with ɨ. For that reason, to help try and establish some uniformity in symbolisation, the analyst also suggests /ɨ/ be written ɨ.

If Murik speakers desire vowels rather than semivowels before consonants, cf. [k<sup>h</sup>waun] versus [k<sup>h</sup>wawn], an alternative interpretation of the homorganically prenasalised final stops and of vowel clusters is possible. If one reinterpreted the homorganically prenasalised stops word finally as units and not sequences and all occurrences of nasal and stop at the same point of articulation as prenasalised stops rather than two separate phonemes divided by syllable boundaries, then it would be analytically feasible to reinterpret the vocoid clusters also. Any vocoid cluster with a mid or low plus high combination would become a complex nucleus of one syllable rather than mid or low vowel plus semivowel, cf. [sa'ɾa.ɣn] would become /sa'ɾai.n/. However, all syllables with vowel clusters of high plus low or mid vowels will remain the same, cf.

['t <sup>h</sup> oimathə]	remains	/toyamata/	<i>swollen</i>
['guan]	remains	/gwan/	<i>boy</i>
['bothamiaɾ]	remains	/botamyaɾ/	<i>big mouth</i>
['auo]	remains	/awo/	<i>yes</i>
['duaɾ]	remains	/dwaɾ/	<i>hair</i>
['k <sup>h</sup> uaiɨmbaɾ]	remains	/kwayɨmbaɾ/	<i>mangrove species</i>

If the Murik speakers opt to write vowels versus semivowels before consonants this reinterpretation would concur with their choice.

Phoneme	Orthography	Example
p <sup>h</sup>	p	napan <i>plank on canoe</i> , pariŋaŋ <i>mast of canoe</i>
t <sup>h</sup>	t	ti'biŋ <i>palm flooring</i> , bi'tun <i>taro</i>
k <sup>h</sup>	k	ka'ŋak <i>sago thatching</i> , sikap <i>grass</i>
b	b	bebet <i>Vitex cofassus</i> , ba'uŋ <i>bamboo</i>
d	d	damag <i>garden</i> , bon'den <i>moth</i>
g	g	nag <i>tying vine</i> , gibwan <i>lemon</i>
β	v	e'vip <i>hurry</i> , 'kovo <i>two</i>
dʒ	j	ju'ŋog <i>tree species</i> , ajɪ'kop <i>sugar</i>
ŋ	h	naho <i>suppose</i> , mwaha <i>some</i>
s	s	seb <i>sail of canoe</i> , si'sim <i>ant (generic)</i>
m	m	me'ig <i>table</i> , damag <i>garden</i>
n	n	noŋ <i>man</i> , nagep <i>wall stud</i>
ŋ	ŋ	biŋam <i>Casuarina equisetifolia</i> , ŋaŋa'kon <i>fish pen</i>
ŋ	ŋ	saŋ <i>stomach</i> , ka'ŋuk <i>bearer</i>
w	w	was <i>wind (generic)</i> , wek <i>ladder</i>
y	y	ya'un <i>cave</i> , yoŋa'kin <i>fish basket</i>
i	i	i'naŋk <i>paddle</i> , ga'in <i>canoe</i>
e	e	keb <i>prow of canoe</i> , pŋeman <i>banana</i>
ɪ	ɪ	kiŋ <i>cassowary</i> , si'biŋ <i>bush (jungle area)</i>
a	a	a'dan <i>shrub species</i> , ŋa'sen <i>girl</i>
u	u	ki'nun <i>truss post</i> , ug <i>rattan</i>
o	o	bon'den <i>moth</i> , ga'son <i>edible green</i>

## Symbolisation Chart

## APPENDIX




## A. Notes

1. The Murik people live in a chain of salt water estuaries known as Murik Lakes. The area is located approximately ten miles west of the mouth of the Sepik River on the coast in the East Sepik Province of Papua New Guinea. There are approximately 1,500 speakers dispersed within six villages: Jangimut, Wagamut, Aramut, Darapap, Karau, and Mendam. The language belongs to the Nor Family of the Lower Sepik Sub-Phylum of the Sepik Ramu Phylum. (Laycock 1973, Laycock and Z'graggen 1975:739).



The data upon which this description was based were collected primarily in the village of Darapap during August 1977 through March 1978. The writer worked under the auspices of the Summer Institute of Linguistics, Papua New Guinea Branch.

Because the methodology used may be foreign to some, a list of phonetic features with corresponding symbolisation is included:

Pause: ////	////	discourse from 20 second to 2 minutes 50 seconds.
///	///	2.5. seconds to 3 seconds within text.
//	//	1 to 2 seconds within text.
/	/	.50 seconds to 1 second within text.
speed up in voice		slight crescendo <
raise in register	+	long gradual crescendo 
loudness	L	breath inhale/exhale < >
tense voice quality	T	length v.
rapid decrescendo	>	nasalisation Y
gradual decrescendo		stress 'S
glottalisation	ʔ	

B. List of charts

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## Data for Chart B1

/i'naŋk/	<i>paddle</i>	/ka'ŋak/	<i>sago thatching</i>
/idžiřip/	<i>shrub species</i>	/kařiwan/	<i>moon</i>
/mwaři/	<i>emphatic negative</i>	/wek/	<i>ladder</i>
/e'řib/	<i>bark cloak</i>	/ga'in/	<i>canoe</i>
/keb/	<i>prow of canoe</i>	/gatan/	<i>betel pepper vine</i>
/wa'řiŋame/	<i>what</i>	/přog/	<i>betelnut</i>
/ařebi/	<i>all the same</i>	/dža'gřon/	<i>owl</i>
/a'wař/	<i>west wind</i>	/san'sam/	<i>shadow</i>
/apo/	<i>large</i>	/sikap/	<i>grass</i>
/itiki'mařa/	<i>door</i>	/tiğiwařis/	<i>gathering</i>
/ug/	<i>rattan</i>	/ni'břin/	<i>spider</i>
/se'sařu/	<i>ancestor</i>	/noř/	<i>man</i>
/oy'kin/	<i>parrot</i>	/ŋarın/	<i>tomorrow/yesterday</i>
/kobo/	<i>two</i>	/ŋařa'kon/	<i>fish pen</i>
/pa'řib/	<i>mark of time</i>	/ŋasen/	<i>girl</i>
/pařiŋař/	<i>mast of canoe</i>	/kandimbwan/	<i>carving</i>
/a'pap/	<i>shovel</i>	/bař/	<i>mangrove (generic)</i>
/ba'uř/	<i>bamboo</i>	/kiř/	<i>cassowary</i>
/bebet/	<i>Vitex cofassus</i>	/min'din/	<i>cloud</i>
/a'pab/	<i>large mosquito</i>	/mikiřik/	<i>hum</i>
/ti'biř/	<i>sago palm flooring</i>	/biŋam/	<i>Casuarina equisetifolia</i>
/tant/	<i>fish (generic)</i>	/ya'un/	<i>cave</i>
/timit/	<i>poison</i>	/yařař/	<i>wood</i>
/da'řin/	<i>hand</i>	/was/	<i>wind (generic)</i>
/a'dan/	<i>shrub species</i>	/wa'řiŋame/	<i>what</i>

## Data for Chart B2

/pwa'kip/	<i>short</i>	/křunag/	<i>jaw</i>
/pwařa/	<i>sore</i>	/gřawn/	<i>fish species</i>
/bwam/	<i>fish species</i>	/skemo/	<i>to show</i>
/twi/	<i>try</i>	/spitikiŋ/	<i>slick</i>
/dwa'tambinan/	<i>shrub species</i>	/dakanimp/	<i>post</i>
/dwen/	<i>dog</i>	/tant/	<i>fish (generic)</i>
/kwawn/	<i>hole</i>	/i'naŋk/	<i>paddle</i>
/kwe'gin/	<i>oyster species</i>	/džanayn/	<i>beach</i>
/gwan/	<i>boy</i>	/sabřayt/	<i>arrogant</i>
/swa'řab/	<i>taro</i>	/kayk/	<i>buttocks</i>
/swař/	<i>Intsia bijuga</i>	/ařa'dawř/	<i>breast bone</i>
/džwařub/	<i>fish species</i>	/gawg/	<i>seed</i>
/mwayn/	<i>star</i>	/yawt/	<i>name</i>
/přeman/	<i>banana</i>	/nawk/	<i>mosquito (generic)</i>
/břag/	<i>evil spirit</i>		

## Data for Chart E1

/mantam'bawř/ *rainbow*

Data for Chart E2

/mɪn'dɪn/	<i>cloud</i>	/nim'bon/	<i>hot water sago</i>
/bon'dʒayn/	<i>fish species</i>	/kum'bwank/	<i>top of canoe paddle</i>
/san'sam/	<i>shadow</i>	/oy'kin/	<i>parrot</i>
/nɪŋ'gin/	<i>breast</i>		

Data for Chart E3

/tantikim/	<i>clean</i>	/twaytitiři/	<i>forget</i>
/wandik/	<i>brother/sister-in-law</i>	/aydikařaka/	<i>feel</i>
/indži/	<i>great distance</i>	/kayko/	<i>later</i>
/nuŋgun/	<i>black</i>	/kaygan/	<i>hips</i>
/pa'sařnawk/	<i>mosquito species</i>	/kaysin/	<i>black ashes</i>
/kambatak/	<i>head</i>	/paynak/	<i>oyster species</i>
/kaybaba/	<i>stupid</i>		

Data for Chart E4

/kininbakamař/	<i>tongs</i>	/danɪmbig/	<i>knee</i>
/koban̄ka/	<i>to nail</i>	/awambřo/	<i>straight</i>
/nɪŋɪmɔŋgo/	<i>new</i>	/o'dwapaytam/	<i>jump</i>

Data for Chart F1

v

/abopikpik/	<i>capsicum</i>	/epak/	<i>sparks of fire</i>
/a'ogɪdʒig/	<i>centipede</i>	/apo/	<i>large</i>
/iřɪgɪmařa/	<i>happy</i>	/usinag/	<i>dirty</i>
/ařito/	<i>good</i>		

vc

/ug/	<i>rattan</i>	/ya'un/	<i>cave</i>
/ba'uř/	<i>bamboo</i>	/me'ig/	<i>table</i>
/indži/	<i>great distance</i>	/a'iř/	<i>lime</i>

cv

/ŋasen/	<i>girl</i>	/mi/	<i>2nd person singular</i>
/dewa/	<i>demonstrative</i>	/ti'řa/	<i>dance</i>
/a'řeřo/	<i>same</i>		

cvc

/sun/	<i>basket</i>	/noř/	<i>man</i>
/nuŋgun/	<i>black</i>	/si'sim/	<i>ant (generic)</i>
/ma'mak/	<i>sandfly</i>		

## CVCC

/kimp/	<i>bind</i>	/bi'kayn/	<i>bowl</i>
/i'nanɣk/	<i>paddle</i>	/yawt/	<i>name</i>
/sa'řayn/	<i>seagull</i>		

## CCV

/přeman/	<i>banana</i>	/spitikim/	<i>slick</i>
/džanayn/	<i>beach</i>	/břanin/	<i>tree species</i>
/bibi'džagam/	<i>soot</i>	/skemo/	<i>show</i>
/křigao/	<i>ripe</i>		

## CCVC

/přog/	<i>betelnut</i>	/na'bwen/	<i>cooking fire</i>
/ka'křep/	<i>cockatoo</i>	/břag/	<i>evil spirit</i>
/dža'gřon/	<i>owl</i>	/swař/	<i>Intsia bijuga</i>
/gwan/	<i>boy</i>		

## CCVCC

/kwawn/	<i>hole</i>
/mwayn/	<i>star (generic)</i>
/gřawn/	<i>fish species</i>

## Data for Chart F2

## v

/i'nanɣk/	<i>paddle</i>	/e'biɣp/	<i>hurry</i>
/a'kin/	<i>sun</i>	/asa'řap/	<i>teeth</i>

## vc

/oy'kin/	<i>parrot</i>
----------	---------------

## cv

/ga'in/	<i>canoe</i>	/go'gonggo/	<i>long</i>
/di'pag/	<i>coconut</i>	/du'bin/	<i>garamut drum</i>
/kima'kin/	<i>bee</i>	/se'sařu/	<i>ancestor</i>
/ki'bař/	<i>rat (generic)</i>		

## CVC

/min'din/	<i>cloud</i>	/kum'bwank/	<i>top of canoe paddle</i>
/nim'biř/	<i>flea</i>	/wan'dam/	<i>hornbill bird</i>
/niŋ'gin/	<i>breast</i>	/bon'den/	<i>moth</i>

## CVCC

N/A

## CCV

/swa'řab/ *taro*  
/dža'gřon/ *owl*

/idža'řip/ *pandanus*  
/pwa'kin/ *Malay apple*

## CCVC

N/A

## CCVCC

N/A

## Data for Chart F3

## V

/babao/ *crazy*  
/gao/ *2nd person dual*  
/ka'křao/ *dry*

## VC

N/A

## CV

/kinabakan/ *scorpion*  
/yaŋařan/ *angry*  
/apo/ *large*

/ařito/ *good*  
/pasamaři/ *close*  
/wa'řinaŋe/ *what*

## CVC

/přeman/ *banana*  
/katic/ *smoke*  
/yařan/ *blood*

/pinagep/ *shoulder*  
/masak/ *salt water*

## CVCC

/džanaŋn/ *beach*  
/niŋbunaŋk/ *fan*  
/miŋniŋp/ *smell*

/bambaŋk/ *music*  
/menaŋk/ *tongue*

## CCV

/indži/ *great distance*  
/awambřo/ *straight*

/oŋwe/ *negative*  
/džabudžabun/ *tender*

## CCVC

/gibwan/ *lemon*  
/a'ogidžig/ *centipede*  
/kakřep/ *white*

/džagřep/ *monitor lizard*  
/niŋbwan/ *grandparent*

## CCVCC

/batačřaŋk/ *shoe*

## Data for Chart G

/přug/	<i>thigh</i>	/skemo/	<i>to show</i>
/pwap/	<i>place</i>	/swař/	<i>Intsia bijuga</i>
/břag/	<i>evil spirit</i>	/tant/	<i>fish (generic)</i>
/na'bwen/	<i>cooking fire</i>	/danĕ/	<i>foot</i>
/twi/	<i>try</i>	/dakanĭmp/	<i>post</i>
/dwař/	<i>hair</i>	/mwayn/	<i>star (generic)</i>
/křin/	<i>hit</i>	/sabřayt/	<i>arrogant</i>
/kwawn/	<i>hole</i>	/kayk/	<i>buttocks</i>
/gřawn/	<i>fish species</i>	/džanayn/	<i>beach</i>
/gwan/	<i>boy</i>	/yawt/	<i>name</i>
/džwařub/	<i>fish species</i>	/gawg/	<i>seed</i>
/spitĭkĭm/	<i>slick</i>	/ařa'dawř/	<i>breast bone</i>

## C. 100 lexical items

1. ['gwan]	<i>boy</i>	36. [ga'tha.n]	<i>betel pepper vine</i>
2. ['noř]	<i>man</i>	37. [a'da.n]	<i>shrub species</i>
3. ['ŋasɛn]	<i>girl</i>	38. [dža'gĭ.ř]	<i>green, edible</i>
4. [numa'řo.go]	<i>woman</i>	39. [ga'ři.n]	<i>tree species</i>
5. ['wekħ]	<i>ladder</i>	40. ['kħanař]	<i>Tahitian chestnut</i>
6. ['dakħanĭmpħ]	<i>post</i>	41. [bo'řo.bořon]	<i>shrub species</i>
7. [kħa'řu.kħ]	<i>bearer</i>	42. ['nĭnĭbekħon]	<i>shrub species</i>
8. [thĭ'bĭ.ř]	<i>palm flooring</i>	43. ['mwayn]	<i>flower (generic)</i>
9. [kħa'řa.kħ]	<i>sago thatch</i>	44. ['sĭkħaph]	<i>grass (generic)</i>
10. ['nagepħ]	<i>wall stud</i>	45. [idža'ři.pħ]	<i>pandanus</i>
11. [kħi'nu.n]	<i>truss post</i>	46. ['gibwan]	<i>lemon</i>
12. [sa'bo.n]	<i>river</i>	47. [ga'i.n]	<i>canoe</i>
13. [iřana'ni.n]	<i>ridgepole</i>	48. ['kħeb]	<i>pro of canoe</i>
14. [ithĭkħĭ'ma.řa]	<i>door</i>	49. [i'na.ŋkħ]	<i>paddle</i>
15. ['ug]	<i>cane</i>	50. [sĭsĭ'kħa.n]	<i>grass species</i>
16. [ba'u.ř]	<i>bamboo</i>	51. [bi'thu.n]	<i>taro</i>
17. [gu'go.pħ]	<i>sago palm stem</i>	52. [ga'so.n]	<i>edible green</i>
18. [me'i.g]	<i>table</i>	53. ['aysaph]	<i>steer of canoe</i>
19. [na'bwɛ.n]	<i>cooking fire</i>	54. [kħĭ'be.r]	<i>fish net</i>
20. [gu'gwa.ř]	<i>sago thatch crown</i>	55. [yořa'kħi.n]	<i>fish basket</i>
21. ['kħwawn]	<i>hole</i>	56. [gĭ'gəpħ]	<i>fish spear</i>
22. [pħu'ro.th]	<i>sago branch</i>	57. [kħa'wi.ř]	<i>fish hook</i>
23. ['damag]	<i>garden</i>	58. [ŋařa'kħo.n]	<i>fish pen</i>
24. [dĭ'kħi.n]	<i>sweet potato</i>	59. [bĭ'bi.n]	<i>old cloth</i>
25. [swa'řa.b]	<i>taro</i>	60. [ma'gĭ.ř]	<i>wood holding</i>
26. [a'ĭ.ř]	<i>lime</i>		<i>outrigger</i>
27. ['phřeman]	<i>banana</i>	61. ['nag]	<i>vine for tying</i>
28. [adžĭ'kħo.pħ]	<i>sugar</i>	62. ['napħan]	<i>plank on canoe</i>
29. [anĭ'nĭ.ŋkħ]	<i>mango</i>	63. [pħařinař]	<i>mast on canoe</i>
30. [dzu'ro.g]	<i>species of tree</i>	64. ['seb]	<i>sail of canoe</i>
31. [kħabo'sa.n]	<i>yam</i>	65. ['sinař]	<i>steer</i>
32. ['kħwab]	<i>bean</i>	66. ['biŋam]	<i>Casuarina</i>
33. [də'pħa.g]	<i>coconut</i>		<i>equisatifolia</i>
34. [kħan'dĭm]	<i>shrub species</i>	67. ['bař]	<i>mangrove (generic)</i>
35. ['phřog]	<i>betelnut</i>	68. ['swař]	<i>Intsia bijuga</i>

69. [ 'bebet <sup>h</sup> ]	<i>Vitex cofassus</i>	86. [ oy'khi·n ]	<i>parrot</i>
70. [ do'k <sup>h</sup> wa·n ]	<i>small bamboo</i>	87. [ dža'g <sup>o</sup> ·n ]	<i>owl</i>
71. [ 'idž <sup>i</sup> řəph ]	<i>shrub species</i>	88. [ 'nawk <sup>h</sup> ]	<i>mosquito (generic)</i>
72. [ a'k <sup>h</sup> i·n ]	<i>sun</i>	89. [ ařip <sup>h</sup> an ]	<i>common housefly</i>
73. [ 'k <sup>h</sup> ařiwān ]	<i>moon</i>	90. [ ma'ma·k <sup>h</sup> ]	<i>sandfly</i>
74. [ a'ři·m ]	<i>water</i>	91. [ si'si·m ]	<i>ant (generic)</i>
75. [ min'di·n ]	<i>cloud</i>	92. [ bon'de·n ]	<i>moth</i>
76. [ bi'ři·n ]	<i>star</i>	93. [ 'k <sup>h</sup> enag ]	<i>Bibionidai of the order Diptera</i>
77. [ na'ge·n ]	<i>thunder</i>	94. [ nə'b <sup>ř</sup> ə·n ]	<i>spider</i>
78. [ 'was ]	<i>wind (generic)</i>	95. [ 'k <sup>h</sup> at <sup>h</sup> i·k <sup>h</sup> ]	<i>grasshopper</i>
79. [ ga'mi·n ]	<i>east wind</i>	96. [ k <sup>h</sup> i'ba·ř ]	<i>rat (generic)</i>
80. [ a'wa·ř ]	<i>west wind</i>	97. [ 'phařam ]	<i>mountain</i>
81. [ bi'ni·m ]	<i>north wind</i>	98. [ 'džagayn ]	<i>beach</i>
82. [ wa'u·n ]	<i>south wind</i>	99. [ ya'u·n ]	<i>cave</i>
83. [ 'sibiwās ]	<i>cold wind</i>	100. [ san'sa·m ]	<i>shadow</i>
84. [ 'bug ]	<i>big east wind</i>		
85. [ 'k <sup>h</sup> iř ]	<i>cassowary</i>		

D. Text material

Text phonetically written

<<< \_\_\_\_\_  
 /// 'dwen 'oambayařo 'oambasasařo ma 'sik<sup>h</sup>aph 'at<sup>h</sup>abagyaři  
 dog comes sits I grass cut

\_\_\_\_\_ > < + \_\_\_\_\_  
 o'ya·k<sup>h</sup>ima 'gobař 'tagomanmařo 'aře 'wasobořo / 'nago 'dwen  
 comes chicken steals the same as look intensifier dog

\_\_\_\_\_ > < \_\_\_\_\_  
 'dewa 'nago 'dwen 'de 'nago k<sup>h</sup>wat<sup>h</sup>a'di·ga / 'oambadikiřib<sup>i</sup>gayt<sup>h</sup>iřo  
 this intensifier dog this ints. will shoot he.get up.runs away

\_\_\_\_\_ > < + \_\_\_\_\_  
 'aře 'wasuŋk<sup>h</sup>a / 'yařař 'phwak<sup>h</sup>i<sup>h</sup>ph wabasa'ŋa·yt<sup>h</sup>iřo 'wadi 'wadiř  
 the same as goes wood short I.get shoot shoot

\_\_\_\_\_ >> << + \_\_\_\_\_  
 'ařeb<sup>i</sup> 'ok<sup>h</sup>i<sup>m</sup>i 'oph<sup>ř</sup>ek<sup>h</sup>i<sup>m</sup> // 'oph<sup>ř</sup>ek<sup>h</sup>i<sup>m</sup> 'wat<sup>h</sup>ak<sup>h</sup>aydi ma sař  
 now he.goes he.dies he.dies I.shot I stomach

\_\_\_\_\_ > < \_\_\_\_\_ > < \_\_\_\_\_  
 't<sup>h</sup>waŋabak<sup>h</sup>i<sup>h</sup>b<sup>i</sup>nawa 'nago 'dwenba 'dewan / t<sup>h</sup>wa'si·di / 'dewan ///  
 pleased intensifier dog this I.shot end

## Phonetic symbolisation:

/// discourse - 25 seconds ///	+ rise in voice register
// 3 second pause //	< crescendo
/ 1 second pause /	> rapid decrescendo
~~~~~ speed up in speech	L loudness increase

## Text phonemically written

dwen	oambayařo	oambasasařo	ma	sikap	atabagyaři	o'yakima
dog	comes	sits	I	grass	cut	comes
gobař	tagomanmařo	aře	wasobořo.	nago	dwen	dewa
chicken	steals	the same as	look	intensifier	dog	this
nago	dwen	de	nago	kwata'diga!	oambadikiřibigaytiřo	
intensifier	dog	this	intensifier	will shoot	he gets up.runs away	
aře	wasuŋka!	yařař	pwakip	wabasa'ŋaytiřo	wadi	wadiyi ařebi
the same as	he.goes	wood	short	I.get	shoot	shoot now
okimi	opřekim!	Opřekim	watakaydi	ma	sař	twanabakibinawa
he.goes	he.dies	he.dies	I.shoot	I	stomach	pleased
nago	dwenba	dewan!	twa'sidi.	dewan.		
intensifier	dog	this	I.shot	end		

## Text orthographically written

Dwen	oambayařo	oambasasařo	ma	sikap	atabagyaři	o'yakima
dog	comes	sits	I	grass	cut	comes
gobař	tagomanmařo	aře	wasobořo.	Nago	dwen	dewa
chicken	steals	the same as	look	intensifier	dog	this
nago	dwen	de	nago	kwata'diga!	Oambadikiřibigaytiřo	
intensifier	dog	this	intensifier	will.shoot	he gets up.runs away	
aře	wasuŋka!	Yařař	pwakip	wabasa'ŋaytiřo	wadi	wadiyi ařebi
the same as	he.goes	wood	short	I.get	shoot	shoot now
okimi	opřekim!	Opřekim	watakaydi	ma	sař	twanabakibinawa
he.goes	he.dies	he.dies	I.shoot	I	stomach	pleased
nago	dwenba	dewan!	Twa'sidi.	Dewan.		
intensifier	dog	this	I.shot	end		

## Free translation of text

*I was cutting grass and a dog came and sat down. Then I saw him steal a chicken. I decided to shoot the dog. The dog tried to run away. I got a piece of wood and shot it at the dog. I shot the dog and he ran away and died. I shot him well and I was pleased that he died.*



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