8-1-2003

Awara phonology

Edward C. Quigley

Recommended Citation

AWARA PHONOLOGY

by

Edward C. Quigley
Bachelor of Science, Worcester Polytechnic Institute, 1985

A Thesis

Submitted to the Graduate Faculty

of the University of North Dakota

in partial fulfillment of the requirements

for the degree of

Master of Arts

Grand Forks, North Dakota
August
2003

This thesis, submitted by Edward C. Quigley in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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ACKNOWLEDGMENTS

"For the LORD gives wisdom; From His mouth come knowledge and understanding."

Proverbs 2:6 (Lockman 1977)

I would like to acknowledge and express my appreciation to my wife, Susan R. Quigley for her assistance in collecting data for this paper and for her many comments and suggestions in the presentation of the data. Most of the background research presented in the Introduction is the result of us co-laboring together in the Awara area since 1994. Since she has co-authored several of the papers referenced in that section, the pronouns 'we', 'us' or 'our' in those sections refers to the two of us.

I also wish to express my appreciation to all our Awara friends at Tawaya village who gave of their time and energy in assisting us in many practical ways. Also to the Evangelical Lutheran Church, Kurang Parish (formerly Awara Parish), for formally inviting us to work with them. I also wish to express appreciation to all our friends, families and churches who have supported us financially. It was through their generosity that we have been able to pursue this project.

I also wish to express my appreciation to SIL International, Papua New Guinea Branch, for their assistance and encouragement in completing this thesis.

Finally, I would like to express my appreciation to my committee members, John M. Clifton, J. Albert Bickford, and Mark E. Karan for their valuable comments and suggestions in making this a better thesis.

ABSTRACT

Awara is a Papuan language of Papua New Guinea spoken in the Finisterre
Mountain Range. Though it has been mentioned in papers written about the Finisterre-
Huon languages and about the Wantoat language (another language in the Wantoat
family), the Awara sound system has not been described in depth.

This paper describes the Awara phonemic inventory, autosegmental features,
morphophonemic processes, and implications for the Awara orthography. The analysis
is presented within the framework of rules-based Generative Phonology.

Interesting aspects of the language shown here are 1) prenasalized voiced stops,
2) complex phonemes /kʷ/, /ŋʷ/ and /gʷ/, 3) non-universal morphophonemic processes
such as devoicing of consonants intervocalically and voicing of consonants after
voiceless stop consonants, and 4) counterfeeding and counterbleeding relationships
between various morphophonemic processes.

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CHAPTER 1

INTRODUCTION

1.1 Demography, Geography, and Culture

This work is a description of the sound system of the Awara language, which is

spoken in the Awara Census Division of Kaiapit District in the northwest corner of

Morobe Province, Papua New Guinea (PNG) (see Figure 1).
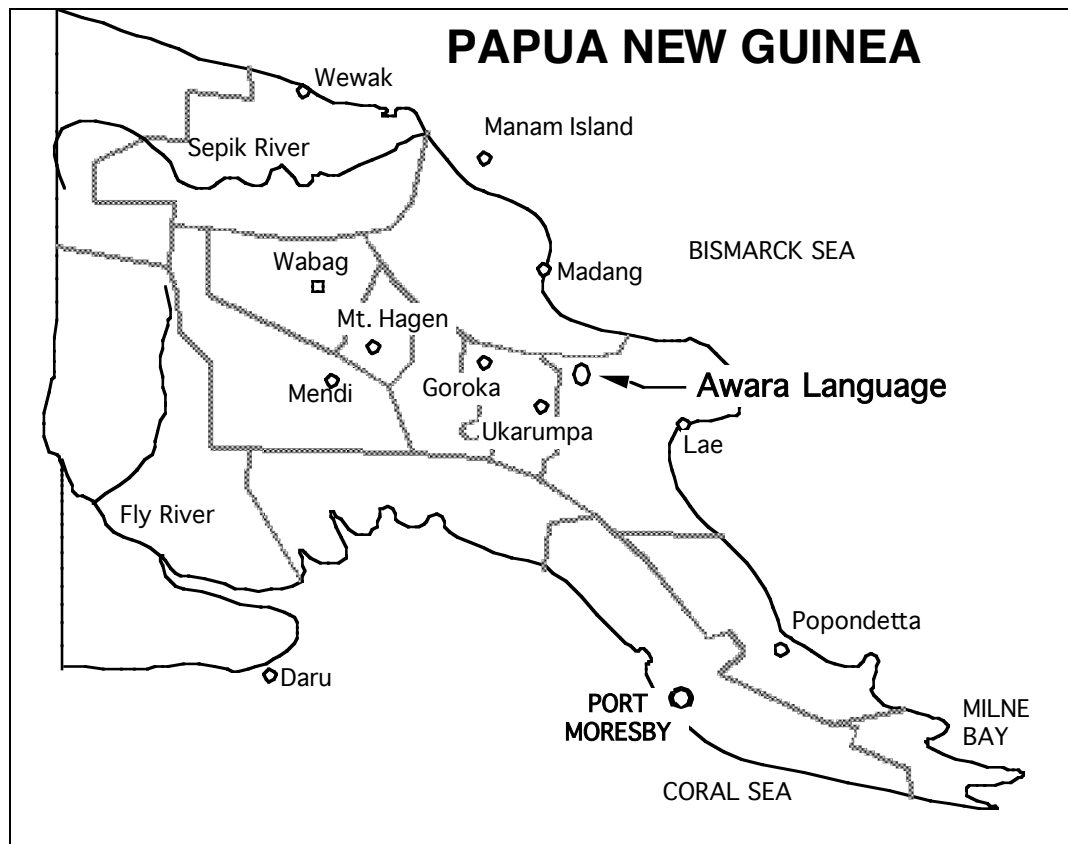
Figure 1.   Papua New Guinea Language Location Map

The 1800 speakers of the Awara language live on the southern slopes of the

Finisterre Mountain Range along the east and west side of the Leron River Basin.

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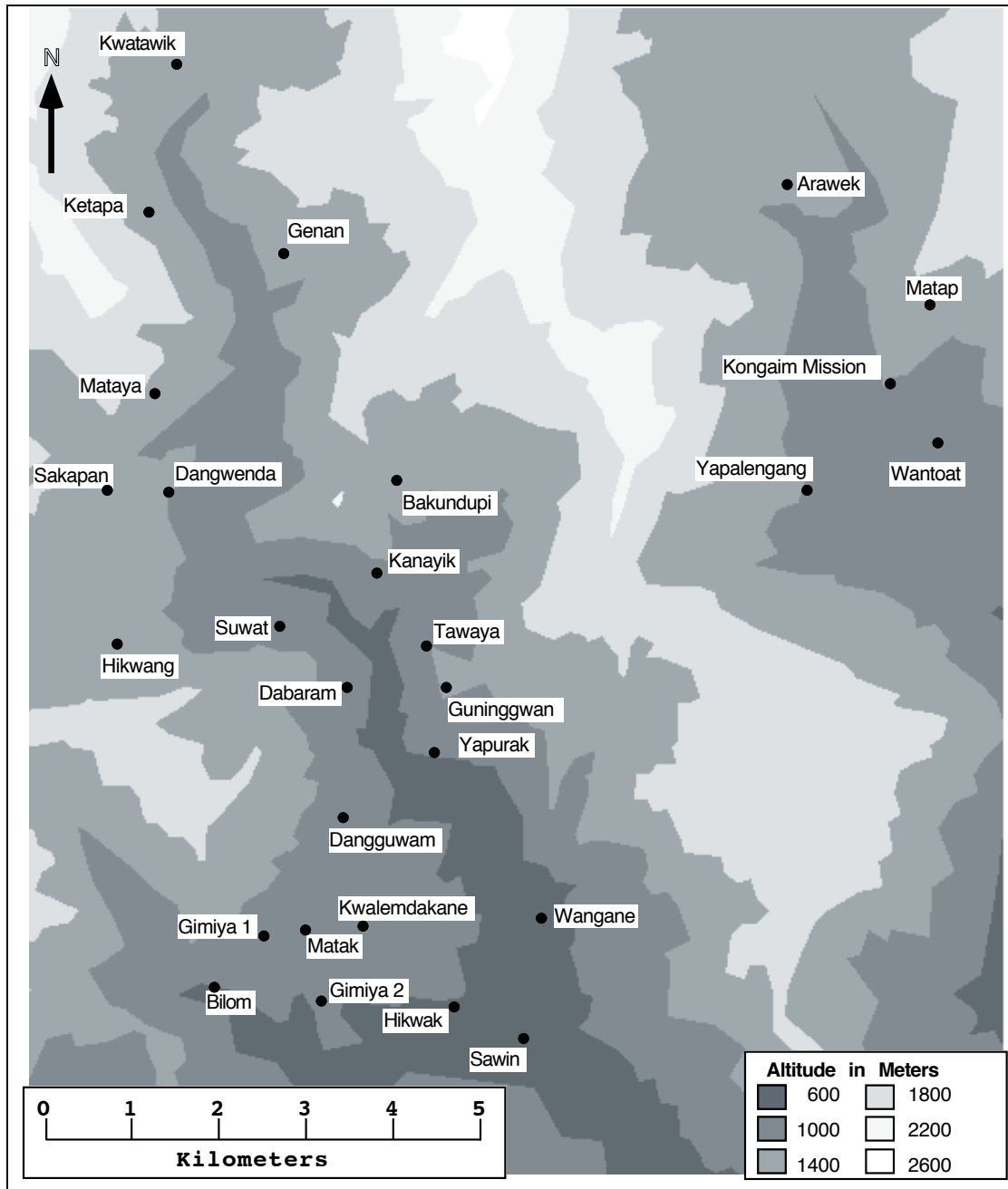
Figure 2.   Village and Terrain Map[1]

As shown in Figure 2, the 14 main villages and 12 plus hamlets[2] range in

altitudes between 3000 feet and 5500 feet above sea level, west of the mountain

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[1] This map is based on the Australian Army Corp of Engineers Kaiapit District Map (1978) with modifications based on language surveys completed in the area (Quigley and Quigley 1999a).

separating them from the Wantoat region.[3] The steep mountainous terrain is mostly tropical rain forest with large sections of elephant grass on the western slopes. Weather conditions are moderate with morning sunshine and afternoon and evening showers. Daytime temperatures are from 78 to 82°F and nighttime temperatures are from 55 to 65°F.

The cultural mindset of the Awara people focuses on group harmony and group consensus. Conflicts are resolved at the village level by meeting together to discuss the problem and agreeing on a mutually acceptable solution. Often, such discussions take place after evening devotions or after the Sunday morning church service.

Though there are separate church and local government positions, there is little separation of church and government at the local level. All local government functions (meetings, community work projects, etc) are organized at the community church gatherings. Regional government issues are usually discussed at the regional church meetings as well. The local government community leaders often hold leadership positions in the local church (Quigley and Quigley 1999a).

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[2] Awara people's perception of a village generally contains 10 or more houses and usually has a church building present. A hamlet contains less than 10 houses (usually 2-5) and is inhabited by 1 to 3 families. People living in hamlets usually identify themselves with the closest main village and/or the local church present in the main village.

[3] Kongaim Mission and Wantoat plus the villages of Yapalengang, Arawek, and Matap, as labeled in Figure 2, are all part of the Wantoat region.

1.2 Language and Dialect

Awara is a Papuan language of the Trans-New Guinea phylum, Finisterre-Huon Stock, Wantoat Family (Wurm and Hattori 1981:8). It is one of six languages in the Wantoat Family, the locations of which are shown in Figure 3.
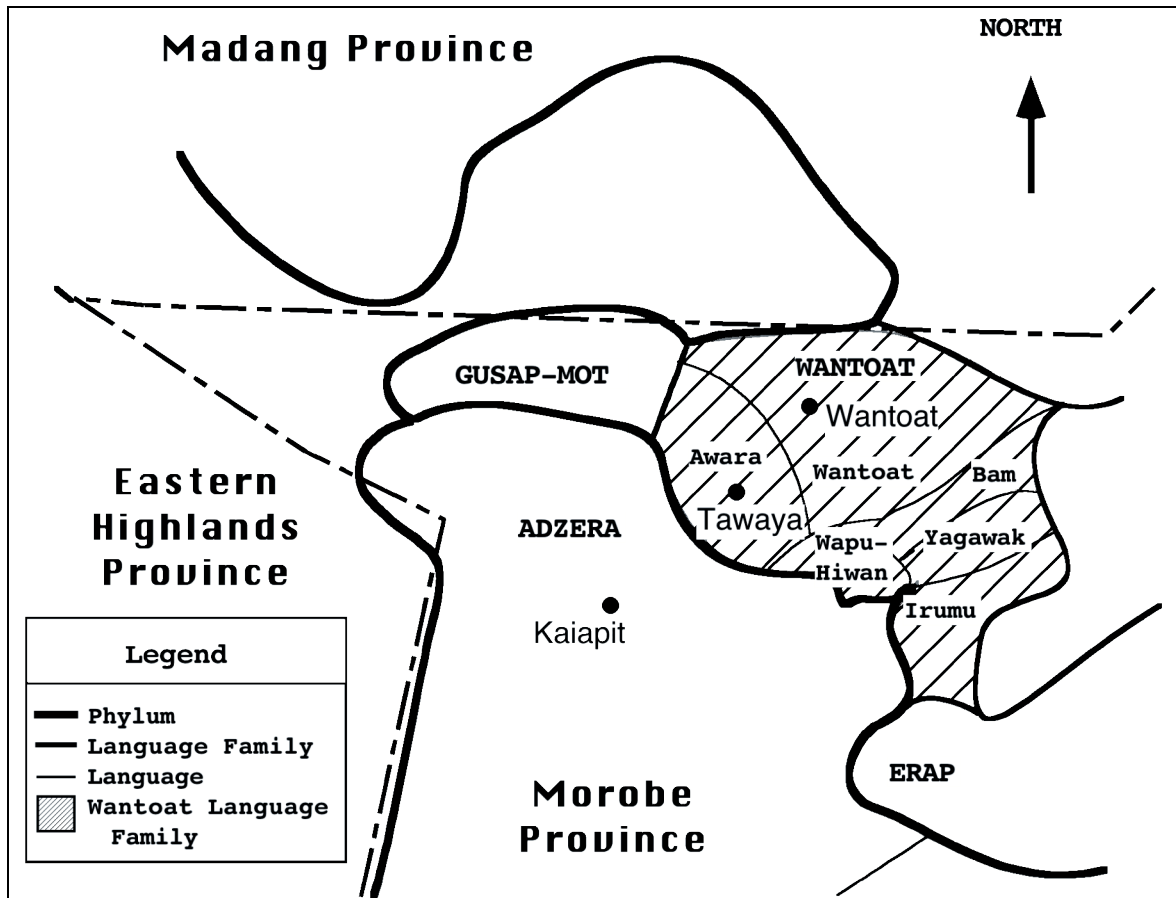
Figure 3.   Language Map[4]

There have been differences of opinion concerning whether Awara is a related language or dialect[5] of Wantoat as well as what constitutes the Awara language. McElhanon and Claasen (1970) classified the northern and central Awara villages as one

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[4] This map was based on the Wurm, Hattori map 8 (1981) with modifications based on language surveys in the surrounding language groups (Quigley and Quigley 1999b)
[5] See Loving (1977) for more information and standards followed in SIL-PNG.

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language related to Wantoat with an apparent cognate count of 61%, as shown in Figure

4. (Only the western villages of the Wantoat region are shown.)
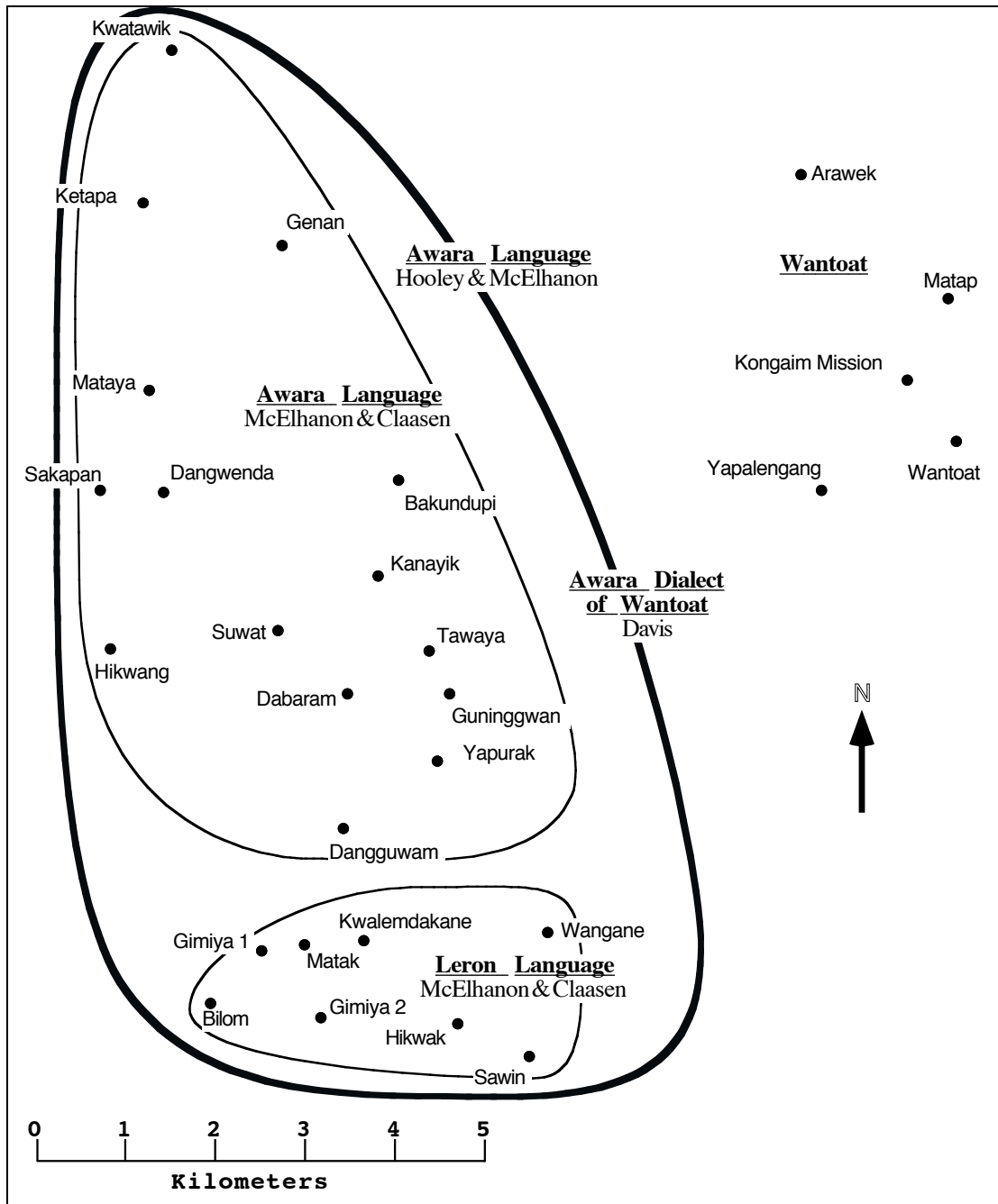
Figure 4.   Awara Classification Map

The southern Awara villages were classified as a separate language called Leron which

was related to Wantoat with an apparent cognate count of 70%. Hooley and McElhanon

(1970) classified all of Awara as a single language related to Wantoat with an apparent cognate count of 65%. However, Davis (1969) classified Awara as a single dialect of Wantoat.

The differences between the analyses most likely lie in the sampling of data (that is, which villages in the language group were surveyed). The entire Wantoat language family, including Awara, is part of a major language chain spanning most of the Huon Peninsula to the east and extending west into the Finisterre Range in Madang Province. The Wantoat villages closer to the Awara border are more similar to Awara than those on the far side of the Wantoat language border. This is also true of the Awara villages. Tawaya and Yapuläk have a shared apparent cognate count closer to 70% with the Wantoat village Yapalengang while the villages on the west side of the Leron River are closer to 60%. Overall, Wantoat and Awara are related with a shared apparent cognate count of 63% (Quigley and Quigley 1999a).

Awara first appeared in the Ethnologue as a dialect of Wantoat with the 3 letter designator [WNT] (Grimes 1992). However, starting with the 13th edition of Ethnologue, Awara is now classified as a separate language from Wantoat with the 3 letter designator [AWX] (Grimes 1996). Related languages in the Wantoat family that border Awara are Wantoat to the east and Wapu-Hiwan to the southeast. Gusap-Mot to the west and Adzera to the southwest are outside of the Wantoat language family (see Figure 3).

Other languages in the Wantoat family are Wantoat, Irumu, Yagawak, Bam, and Leron[6] (Wurm 1977). However, application of the Cluster Analysis Average Link Method (E. Quigley 1995) to McElhanon and Claasen's (1970) cognate chart data, indicates that Irumu and Yagawak should not be in the Wantoat language family but in the Erap language family located to the east. This reflects our own independent research regarding the Wantoat family (Quigley and Quigley 1999). It is unclear why they were included in the Wantoat language family.

As noted in Figure 5, we have grouped Awara into three dialects which are artificially named Southern, Central, and Northern Awara with the Central and Northern dialects forming a tighter group (Quigley and Quigley 1999a). The main differences between the Central and Northern dialects are lexical in nature. However, there are lexical, phonological, and morphological differences between the Southern dialect and the rest of the language group.

People view Awara and Wantoat as one language in relationship to other PNG languages. However, in discussing the related languages in the Wantoat family, they view Awara as a separate language from Wantoat. When discussing strictly Awara, they view the northern villages as speaking one variant of Awara, the central villages as speaking a second, and the southern villages as speaking a third. Finally, as we discussed variations within these regions, people viewed their language as based on which village they are from. They can tell which village individuals are from by the way they speak.

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[6] Leron mentioned here by Wurm (1977) is the southern dialect of Awara. Our own research (Quigley and Quigley 1999) has shown that those languages that make up the Wantoat language family are Wantoat, Bam to the east, Awara to the west, and Wapu-Hiwan to the south.

This report focuses on the Awara dialect spoken in the Central region and more specifically, the Tawaya village variant.
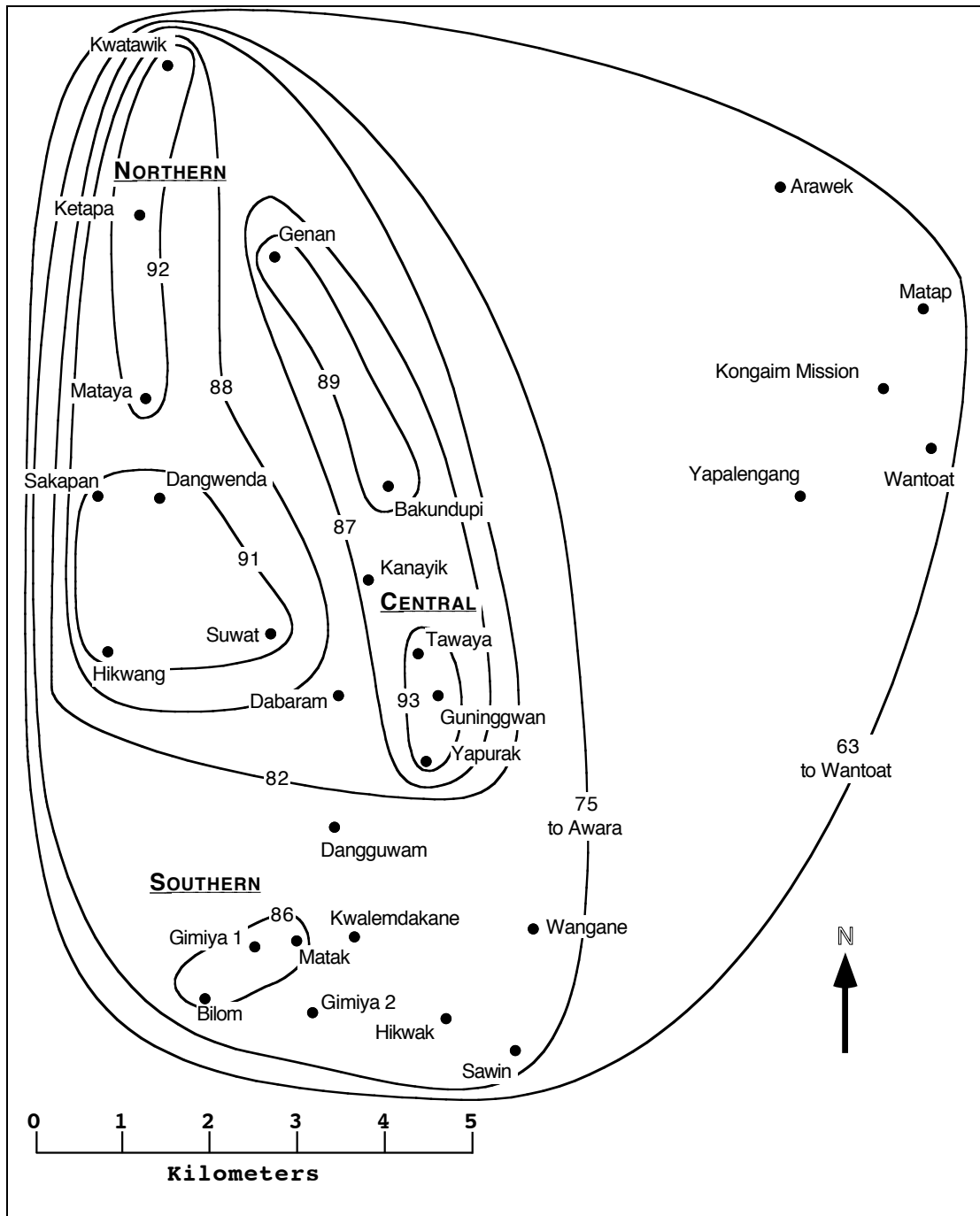
Figure 5.   Dialect Map of Awara and Wantoat[7]

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[7] See Quigley and Quigley (1999a) on how this chart was created.

1.3 Methodology

All fieldwork for this report was performed by myself and my wife Susan Quigley, under the auspices of SIL International, Papua New Guinea Branch (SIL-PNG). Data was gathered by means of informal and formal interviews (e.g. eliciting wordlists and attitudes about the language). Fieldwork began in May 1994 after the Evangelical Lutheran Church, Awara Parish, sent a formal invitation requesting SIL-PNG to begin language development work for them. After completing a sociolinguistic survey of the language group (Quigley and Quigley 1994) we moved to the hamlet of Guninggwan (see Figure 2) in July 1994. The data for this report was based on the data we collected at Guninggwan up to April 2003.

Guninggwan is a small hamlet with an aid post[8] and three households centrally located in the language group. People from Tawaya, Yapuläk, Bakundupi, and Kanayik come regularly to the aid post for medicine. Most of our daily contact was with Tawaya people (a 10 minute walk away) and some with Yapuläk people (a 45 minute walk down the mountain). We had periodic (weekly to monthly) contact with people from most other Awara villages traveling to the Wantoat Government Station[9] (labeled as Wantoat on Figure 2).

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[8] Aid post is the common term used in PNG for a small village clinic. It is staffed by an Aid Post Orderly (APO) who has received basic medical training somewhat equivalent to a paramedic. The main duty of the APO is first aid care (treating cuts and sores, broken bones, etc) and treatment of illnesses with medications. They also have training in delivering babies.

[9] The Wantoat Government Station is the service center in the greater Wantoat sub-district. Awara people go there to sell coffee (cash crop) and buy store goods (food, clothes, machetes, spades, and other household goods). Wantoat also has road access to the main urban centers—Lae and Madang. No road access exists in the Awara area.

The corpus of data for this thesis comes from texts recorded by eight men varying in age from 25-50 from Tawaya and Yapuläk from 1994-1998. The texts included narrative, expository, procedural, and hortatory types. Specific wordlists, paradigms, and recordings of these paradigms were collected mostly from Yakating Bana (age 30, male) and Silas Wango (age 45). Dialectal data from each Awara village was collected over the span of time from 1994 to 1999 (Quigley and Quigley 1999a).

All Awara data has been archived at SIL-PNG in paper and electronic form per contractual agreements with the government of Papua New Guinea.

1.4 Related Language Work.

There has been extensive work done by SIL-PNG in the related languages of the Finisterre-Huon Stock including published and unpublished manuscripts on file at the SIL-PNG Linguistic Library at Ukarumpa, EHP, Papua New Guinea. The following tables list the more relevant works relating to Awara phonology and morphophonemics.

Table 1 lists relevant articles from the Finisterre Huon Stock.

Table 1.   Finisterre-Huon Stock Articles

Language	Author	Title
Burum	Gasaway (1997)	Burum Morphophonemics
Nabak	McElhanon (1979)	A Fresh Look at Nabak Morphophonemics
Nahu	Minter(1998)	Phonology Essentials of the Nahu Language
Nankina	Spaulding(1988)	Nankina Phonology Essentials
Selepet	McElhanon (1970)	Selepet Phonology
	McElhanon (1973)	Stops and Fricatives: Non-Unique Solution in Selepet
	McElhanon (1973)	Towards a Typology of the Finisterre-Huon Languages, New Guinea
	McElhanon (1970)	Selepet Verb Morphology
Survey	Hooley (1964)	The Morobe District, New Guinea
	Hooley and McElhanon (1970)	Languages of the Morobe District - New Guinea

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Table 1.   (Continued)

Language	Author	Title
	McElhanon (1978)	A Classification of the Languages of the Morobe Province Papua New Guinea with the Linguistic Situation of Individual Villages
	McElhanon (1984)	A Linguistic Field Guide to the Morobe Province, Papua New Guinea
	McElhanon and Claasen (1970)	Languages of the Finisterre Range, New Guinea
	Wurm (1977)	New Guinea Area Languages and Language Study
	Wurm and Hattori (1981)	Language Atlas: Pacific Area, Part 1. New Guinea Area, Oceania, Australia
Yopno	Reed (1993)	Yopno Phonology Essentials

Table 2 lists relevant articles on the Wantoat language family.

Table 2.   Wantoat Language Family Articles

Language	Author	Title
Wantoat	Davis (1961)	Wantoat Phonemes and Orthography
	Davis (1964)	Wantoat Verb Stem Classes and Affixation. Verb Studies in Five New Guinea Languages.
	Davis (1969)	The Distinctive Features of Wantoat Phonemes.
Survey	Quigley and Quigley (1999b)	Sociolinguistic Survey of the Wapu-Hiwan Language Group.
Tuma-Irumu	Webb (1992a)	Tuma-Irumu Orthography Paper.
	Webb (1992b)	Tuma-Irumu Phonology Essentials

Table 3 lists relevant papers written about the Awara language.

Table 3.   Awara Language Articles

Language	Author	Title
Awara	Quigley and Quigley (1994)	Sociolinguistic Survey of the Awara Language Group
	Quigley and Quigley (1997)	Social Organization Paper of the Awara People
	Quigley and Quigley (1999a)	Sociolinguistic and Literacy Report of the Awara People
	S. Quigley (1997)	Organized Phonology Data of the Awara Language
	S. Quigley (2002b)	The Awara Verbal System
	S. Quigley (2002a)	Awara Grammar Essentials

S. Quigley (2002b) contains some preliminary morphophonemic descriptions. These were included to assist the reader in understanding the alternate surface forms as presented in the data and to assign a preliminary underlying form (UF) for the sake of discussing morphology and syntax. Also, S. Quigley (1997) contained a preliminary phonemic inventory of the Awara language for the purpose of developing a preliminary orthography. This paper takes a fresh and detailed look at the Awara sound system for the purpose of justifying both the phonemic inventory and the morphophonemic processes. Morpheme glosses, abbreviations, and definitions used in this thesis follow those used in S. Quigley (2002a) and S. Quigley (2002b).

CHAPTER 2

PHONEMIC INVENTORY

The phonetic transcriptions in the following examples follow a broad phonetic transcription following the American tradition. In particular, the Chomsky/Halle vowel system as defined in Pullum and Ladusaw (1986) was used in the transcription of the central unrounded mid and low vowels and the mid rounded back vowel.

Table 4 lists those symbols that are used in this thesis that differ from the IPA system.

Table 4.   American Tradition to IPA Equivalence Chart

AT	Name	IPA	Name	Description
ǥ	barred g	ɣ	gamma	voiced velar fricative
ř	r wedge	ɾ	fish hook r	voiced alveolar flap
ƀ	barred b	β	beta	voiced bilabial fricative
r	lower case r	ɹ	turned r	frictionless continuant
š	s wedge	ʃ	esh	voiceless palato-alveolar central laminal fricative
y	lower case y	j	lower case j	voiced palatal central approximant
ɩ	iota	ɪ	small cap i	semi-high front unrounded vowel
ʌ	inverted v	ɜ	reversed epsilon	mid central unrounded vowel
U	small cap u	ʊ	upsilon	semi-high back rounded vowel

AT = American Tradition, IPA = International Phonetic Alphabet

Though this thesis does not focus on an acoustic analysis of Awara, there were instances where acoustic analysis proved helpful. All acoustic analysis referred to in this paper was done using PRAAT Version 4.0.X (Boersma 2002) on Macintosh PowerBook G3 and PowerBook G4 computers (Apple Computer, Inc.).

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See Appendix A, Abbreviation Chart for the list of abbreviations used in this report. Please note that in Chapter 6 through Chapter 11, as well as the appendices, the Awara examples are in semi-phonetic form. Specifically, aspiration, devoicing of voiced stops, and vowel allophones are not shown. However, prenasalization is explicitly indicated when it fills the coda of a preceding syllable.

2.1 Consonants

Table 5 lists all the consonants in the Awara phonemic inventory with their phonetic alternates indicated within brackets.

Table 5.   Consonant Phoneme Chart with Allophonic Alternates

	Labial	Alveolar	Palatal	LV	Velar	Glottal
Voiced Stops	b [^{m}b] [^{m}p] [b] [p]	d [^{n}d] [^{n}t] [d] [t]		g^w	g [^{ŋ}g] [^{ŋ}k] [g] [k]	
Voiceless Stops	p [p^h] [p] [p$^˺$]	t [t^h] [t] [t$^˺$]		k^w	k [k^h] [k] [k$^˺$]	[ʔ]
Voiced Fricatives	ƀ [w] [ƀ] [v]				ǥ	
Voiceless Fricatives		s [s] [š]				h
Nasals	m	n		ŋ^w	ŋ	
Voiced Laterals		l [l] [ř] [r]				
Glides			y			

LV = Labialized Velar

Awara consonants have natural groupings of phonemes consisting of labial, coronal and dorsal. These groups consist of voiced stops[10] (/b/, /d/, and /g/), voiceless stops (/p/, /t/, and /k/), nasals (/m/, /n/, and /ŋ/), and voiced spirants (/ƀ/, /l/, and /ǥ/).

_____

[10] Where the IPA uses the term 'plosive', the American tradition uses the term 'stop'. They are not completely interchangeable. The term 'stop' used in the generic sense (without the modifiers voiced or voiceless) generally includes nasals whereas 'plosive' by definition excludes them.

Awara consonants also make a distinction between labial (/b/, /p/, /m/, and /ƀ/) and linguals (all others), in which labials behave differently than linguals in certain environments (as noted in the following sections). Awara also has labialized velar stops (/g^w/, /k^w/, and /ŋ^w/).[11]

The tables in the immediately following sections list examples of each consonant phoneme in word-initial, word-final, and intervocalic positions. Consonant clusters will be discussed in section 2.1.8, Consonant Co-occurrence. Each table lists the phonemic form and the alternate phonetic forms for that phoneme. For clarity purposes, alternate forms are listed only for the phoneme in focus. The UFs in these tables are to a certain extent arbitrary. Certain aspects of the UFs will be justified later in Chapter 6, Noun Morphophonemics. The '-' symbol is used to indicate affix boundaries in the UF and the '+' symbol is used to indicate other boundaries in the UF, such as classifier, compound, and reduplication boundaries.

2.1.1 Voiced Stops

Awara has the three voiced stops /b/, /d/, and /g/, as shown in Tables 6, 7, and 8.

---

[11] It is common among many of the Huon and Finisterre languages (McElhanon and Claasen 1970) to have either labio-velar or labialized velar stops, but not both. McElhanon and Claasen (1970) used the term labio-velar for both labio-velars (e.g. /gb/ and/kp/) and labialized velars (e.g. /k^w/).

Table 6.　Phomene /b/

/b/	[b] [ᵐb] [mb] [mp] [p]	
Word Initial		
/bam/	[bam] [ᵐbam] [m.bam] [pam]	'log'
/bʌbʌm/	[bʌm.bʌm] [ᵐbʌm.bʌm] [m.bʌm.bʌm] [pʌm.bʌm]	'bamboo leaf'
Intervocalic		
/tebana/	[tɛm.ba.na] [tɛm.pa.na]	'morning'
/amibam/	[a.mim.bam] [a.mim.pam]	'everyone'
Word Final		
-		

Table 7.　Phoneme /d/

/d/	[d] [ⁿd] [nd] [nt] [t]	
Word Initial		
/dʌki/	[dʌ.kʰi] [ⁿdʌ.kʰi] [n.dʌ.kʰi] [tʌ.kʰi]	'wood'
/dayip/	[da.yip] [ⁿda.yip] [n.da.yip] [ta.yip]	'Look at them!'
Intervocalic		
/dʌdʌn/	[dʌn.dʌn] [dʌn.tʌn]	'teeth'
/gadoŋ/	[gan.doŋ] [gan.toŋ]	'grass shoot'
Word Final		
-		

Table 8.　Phoneme /g/

/g/	[g] [ᵑg] [ŋg] [ŋk] [k]	
Word Initial		
/gʌnaŋ/	[gʌ.naŋ] [ᵑgʌ.naŋ] [ŋ.gʌ.naŋ] [kʌ.naŋ]	'grove'
/gʌlʌŋ/	[gʌ.lʌŋ] [ŋgʌ.lʌŋ] [ŋ.gʌ.lʌŋ] [kʌ.lʌŋ]	'hook'
Intervocalic		
/yagʌ/	[yaŋ.gʌ] [yaŋ.kʌ]	'water'
/dagʌm/	[daŋ.gʌm] [daŋ.kʌm]	'hair'
Word Final		
-		

Voiced stops /b/, /d/, and /g/ occur word-initially and syllable-initially between vowels, but not syllable-finally or word-finally. As in Nankina (Spaulding 1988) and Tuma-Irumu (Webb 1992b), voiced stops are generally prenasalized by the homorganic

nasal.[12] The prenasalization generally syllabifies word-initially, especially in slow speech or when the word is spoken in isolation. When the voiced stop follows an open syllable, the prenasalization always phonetically closes the preceding syllable.[13] Voiced stops exhibit rare occurrences of voiceless unaspirated stop word-initially when prenasalization is deleted instead of being syllabified.[14] Voiced stops also exhibit rare occurrences of voiceless unaspirated stop intervocalically after the prenasalization spreads to the preceding open syllable.[15]

Thus, the main contrast between voiced and voiceless stops word-initially is that voiceless stops are aspirated while voiced stops are not. The main contrast between voiced and voiceless stops intervocalically is that voiced stops always follow a homorganic nasal while voiceless stops do not.

2.1.2 Voiceless Stops

The phonemes /p/, /t/, and /k/ are mildly aspirated word-initially and syllable-initially between vowels, as shown in Tables 9, 10, and 11. They are unreleased syllable-finally. When they occur word-finally they are unreleased utterance-medially but are released utterance-finally or when the word is spoken in isolation.

---

[12] Prenasalization is common in many languages of the Finisterre Range (McElhanon & Claasen 1970). However, voiced stops are generally not prenasalized intervocalically in borrowed words where the source language does not have prenasalization. See Section 10.2, Loan Words that Violate Awara Phonology.

[13] See Section 3.2, Prenasalization and the Sonority Sequencing Principle (SSP) for justification of this analysis.

[14] Similar to Selepet voiced stops (McElhanon 1970c).

[15] Voiceless unaspirated stops intervocalically is much more common in the southern dialect where /sadun/ is normally pronounced [santun] 'axe'.

Table 9.   Phoneme /p/

/p/ [p] [pʰ] [pˀ]		
Word Initial		
/payip/	[pʰa.yip]	'machete'
/pek/	[pʰek]	'He slept.'
Intervocalic		
/kupan/	[kʰu.pʰan]	'smoke'
/apʌk/	[a.pʰʌk]	'tongs'
Word Final		
/yakʌp/	[ya.kʰʌp] [ya.kʰʌpˀ]	'moon'
/akop/	[a.kʰop] [a.kʰopˀ]	'Come up!'

Table 10.   Phoneme /t/

/t/ [t] [tʰ] [tˀ]		
Word Initial		
/tokŋʌ/	[tʰok.ŋʌ]	'pain'
/tulik/	[tʰu.lik]	'He pulled it.'
Intervocalic		
/matekŋʌ/	[ma.tʰek.ŋʌ]	'small'
/mʌtep/	[mʌ.tʰεp]	'story'
Word Final		
/yot/	[yot] [yotˀ]	'house'
/buniɓat/	[bu.ni.ɓat] [bu.ni.ɓatˀ]	'cassowary'

Table 11.   Phoneme /k/

/k/ [k] [kʰ] [kˀ]		
Word Initial		
/kupit/	[kʰu.pʰit]	'silent'
/katak/	[kʰatʰak]	'exactly'
Intervocalic		
/yekʌp/	[ye.kʰʌp]	'moon'
/akop/	[a.kʰop]	'Come up!'
/belakŋʌ	[be.lak.ŋʌ]	'long'
Word Final		
/yʌk/	[yʌk] [yʌkˀ]	'bag'
/yepmʌk/	[yep.mʌk] [yep.mʌkˀ]	'son-in-law'

The glottal stop is non-contrastive word-initially and does not occur word-finally. It exists word-medially in a small closed set of interjections, as shown in Table 12.

Table 12.   Phone [ʔ]

/ʔ/ [ʔ]		
Word Initial		
/u/	[ʔu], [u]	'no!'
/i/	[ʔi], [i]	'here'
/alʌk/	[a.lʌk] [ʔa.lʌk]	'bamboo sliver'
/iŋʷʌm/	[i.ŋʷʌm] [ʔi.ŋʷʌm]	'whistle'
Intervocalic		
/hiʔi/	[hi.ʔi]	'yes'
/eʔu/	[[ʔe.ʔu] [e.ʔu]	'Thank you.'
Word Final		
-		

Since [ʔ] occurs noncontrastively in lexical items and occurs word-medially only in two nonlexical interjections, it is not considered a phoneme of the language.

2.1.3 Nasals

Awara has the three nasals /m/, /n/, and /ŋ/. As in Irumu (Webb 1992b), intervocalic nasals tend to be ambisyllabic (bleed to the preceding open syllable). This is more common in slow speech and with words spoken in isolation.[16] There are no restrictions on the distribution of /m/ and /n/, as shown in tables 13 and 14.

Table 13.   Phoneme /m/

/m/ [m]		
Word Initial		
/miŋʌ/	[mi.ŋʌ]	'thumb'
/meya/	[me.ya]	'heavy'
Intervocalic		
/daman/	[da.man] [dam.man]	'fence'
/mimiŋ/	[mi.miŋ] [mim.miŋ]	'aunt'
Word Final		
/palʌm/	[pa.lʌm]	'boil'
/gom/	[gom]	'knee'

---

[16] Ambisyllabicity accounts for words such as /miŋʌ/ being pronounced as [miŋ.ŋʌ] or [miŋː.ʌ] in slow speech, since there is a general prohibition against geminates.

19

Table 14.   Phoneme /n/

/n/ [n]		
Word Initial		
/nak/	[nak]	'food'
/nʌɓʌn/	[nʌ.ɓʌn]	'grass skirt'
Intervocalic		
/ina/	[i.na] [in.na]	'what'
/kʷʌnʌm/	[kʷʌ.nʌm] [kʷʌn.nʌm]	'tears'
Word Final		
/kutan/	[kʰu.tan]	'nut sp.'
/yeɓʌn/	[ye.ɓʌn]	'±2 day'

There are just two cases of /ŋ/ occurring word-initially in native words; both are

shown in Table 15.

Table 15.   Phoneme /ŋ/

/ŋ/ [ŋ]		
Word Initial		
/ŋʌ/	[ŋʌ]	'and'
/ŋʌkge/	[ŋʌk.ge]	'much'
Intervocalic		
/batʌŋʌ/	[ba.tʌ.ŋʌ] [batʌŋ.ŋʌ]	'pepper tree'
/tʌŋʌ/	[tʌ.ŋʌ] [tʌŋ.ŋʌ]	'body'
Word Final		
/miŋ/	[miŋ]	'mother'
/akop -yiŋ/	[a.kʰo.yiŋ]	'They came up.'

All other occurrences of /ŋ/ word-initially are in borrowed Yabim names.[17] (See Chapter

10, Loan Words).

2.1.4 Voiced Spirants /ɓ/, /l/, /g/[18]

Awara has the voiced spirants /ɓ/, /l/, and /g/. None of these voiced spirants

occur word-finally, and the phoneme /ɓ/ is the only one that occurs word-initially in

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[17] Yabim is a language spoken near Finschhafen which was used by the early church
workers who first brought Christianity to the Awara community. When Awara people
are baptized they are given a "Christian name", often one from the Yabim language.
[18] The term 'spirant' was used by McElhanon (1979), Gasaway (1997), and others to
describe the natural class of /ɓ/, /l/, and /g/ that contrasts with the stop series in many
Papuan languages. Technically, of course, /l/ is not a fricative.

underlying forms. That is, the phones [l] and [ɡ] occur word-initially when word-initial

phonemes /t/ and k/ lenite, but otherwise do not occur as phonemes word-initially. All

three occur between vowels.[19]

The phoneme /ƀ/ is pronounced as [ƀ] with mild friction and as [w] with mild

rounding.[20] /ƀ/ is also optionally pronounced as [v] after [i], as shown in Table 16.[21]

Table 16.   Phoneme /ƀ/

/ƀ/	[ƀ] [w] [v]		
Word Initial			
/ƀʌbi/	[ƀʌm.bi] [wʌm.bi]		'spider'
/ƀesak/	[ƀe.sak] [we.sak]		'tree species'
Intervocalic			
/babak/	[ba.ƀak] [wa.wak]		'son'
/yiƀit -kum/	[yi.ƀi.kʰum] [yi.vi.kʰum]		'I stayed.'
Word Final			
-			

The symbol /ƀ/ was chosen to represent the phoneme (though [w] is also

common) for symmetry with /ɡ/ in the phonemic chart.

The alternation of [v] with [ƀ] and [w] in Awara provides further evidence

supporting Kenstowicz's (1994) argument for grouping phonemes into labial, coronal,

and dorsal with [f] and [v] being categorized as labial, not coronal or a hybrid like

labiodental. He argues that [f] and [v] are labials, citing the fact that [f] typically

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[19] One interesting comparative note is that many Wantoat words that have sequences of
two vowels (CVVC) have cognate forms in Awara where the vowels are separated by
fricatives (CVCVC). It appears that the intervocalic consonant is more often /ƀ/ or /y/
and less commonly /l/ and /ɡ/.
[20] This alternation appears to be idiolectal (e.g. speaker preference).
[21] Spaulding(1988) reported a similar situation with alternation of the phones [p], [ƀ],
and[w] among Nankina speakers.

alternates with [p].[22] Similarly, in Awara, [v] alternating with [ɓ] and [w] would be considered normal and acceptable.

It is also common for /pu/-initial words to be pronounced as [ɓu] or [wu] by many speakers (idiolectal). This alternation is limited to just the /p/ phoneme.

Table 17 lists some of the more common examples.

Table 17.   Alternation [pu] ~ [ɓu]

| /puya/ | [pʰu.ya] [ɓu.ya] [wu.ya] | 'garden' |
| /puku -t/ | [pʰu.kʰut] [ɓu.kʰut] [wu.kʰut] | 'I went down.' |

Some words alternate between /ɓ/ and null between vowels (e.g. /suɓat/ 'Suwat (place name)' is pronounced as [su.ɓat] or [su.at]). The null form generally occurs after rounded vowels /u/ and /o/. However, not all words that have /ɓ/ after rounded vowels intervocalically have the alternate null form.

The phoneme /l/ only occurs between vowels, as shown in Table 18.

Table 18.   Phoneme /l/

/l/ [l] [r] [ř]		
Word Initial		
-		
Intervocalic		
/malʌk/	[ma.lʌk] [ma.řʌk] [marʌk]	'ear'
/alak/	[a.lak] [a.řak] [a.rak]	'It sprouted.'
/alʌlup/	[a.lʌ.lup] [a.řʌ.řup] [a.rʌ.rup]	'dust'
Word Final		
-		

The alternation of [r] and [ř] with /l/ is individual; some speakers prefer [l] where others prefer [ř]. The use of [r] is less common. See Chapter 11, Orthography, regarding

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[22] One interesting side note is that Melanesian Pidgin English (commonly called Pidgin or Tok Pisin) also has a dialectic variation between [p] and [f] (e.g. [paⁱ.a] ~ [faⁱ.a] 'fire').

22 One interesting side note

speaker preferences of [l] and [řֿ]. The phoneme /l/ does occur word-initially and word-finally in borrowed words (see Chapter 10, Loan Words).

Like /l/, the phoneme /ǥ/ occurs intervocalically with varying degrees of mild friction and does not occur in the word-initial or word-final position, as shown in Table 19.

Table 19.   Phoneme /ǥ/

/ǥ/ [ǥ]		
Word Initial		
-		
Intervocalic		
/naǥalʌ/	[na.ǥa.lʌ]	'much'
/bʌǥum/	[bʌ.ǥum]	'soft dirt'
Word Final		
-		

Unlike /ƀ/ and /l/, the frication of /ǥ/ (and /k/ lenited) can be so mild that it is phonetically unrealized. This tends to be more common with /k/ undergoing lenition in verbs (e.g. /a-ku -ga -lʌk/ 'PFocus- to go -s.DIpf -3s.Pres' becomes [auŋgalʌk] 'Are you going?').

2.1.5 Unvoiced Fricatives

The phoneme /s/ can occur word-initially and word-medially, as shown in Table 20.

Table 20.   Phoneme /s/

/s/	[s]		
Word Initial			
/sahip/	[sa.hip]	'when'	
/sagum/	[saŋ.gum]	'corn'	
Intervocalic			
/asʌ/	[a.sa]	'like this'	
/gusit/	[gu.sit]	'sun'	
Word Final			
/es/	[ɛs]	'sorry'	
/musmus/	[mus.mus]	'flea'	

There are just 2 cases of word-final /s/, one of which is a nonlexical interjection and the other is in a reduplicated form.[23] All other occurrences of word-final /s/ are in borrowed words. As such, /s/ will be analyzed as not occurring word-finally.

There is one occurrence of the phone [š] which is in the classifier suffix [-sim] ~ [-šim] 'Specific', as shown in Table 21. This suffix is contrasted to the suffix [-him] ~ [-sim] 'Diminutive'.

Table 21.   Phone [š]

Classifier	Gloss	Diminutive	Specific
/tʌpʌ/	'Cl.stick'	[tʰʌ.pʰʌ.him]	[tʰʌ.pʰʌ.sim]
/kʷʌmbʌt/	'Cl.extended'	[kʷʌm.bʌ.sim]	[kʷʌm.bʌt.šim]
/gʷʌk/	'Cl.opening'	[gʷʌk.sim]	[gʷʌk.šim]
/gutoŋ/	'Cl.thin'	[gu.tʰoŋ.sim]	[gu.tʰoŋ.šim]

The Specific suffix is [-sim] after vowel-final classifiers and is [-šim] after consonant-final classifiers. The phone [š] is analyzed as a phonetic realization of the phoneme /s/. See Section 7.3, Irregular Classifier Morphophonemics, for a discussion of [š].

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[23] Personal intuition suggests that /musmus/ is a borrowed word though the source language is currently unknown.

24

The phoneme /h/ occurs word-initially and between vowels, but not word-finally, as shown in Table 22.

Table 22.   Phoneme /h/

/h/ [h]		
Word Initial		
/halu/	[ha.lu]	'sand'
/hamʌk/	[ha.mʌk]	'elephant grass'
Intervocalic		
/mʌhe/	[mʌ.he]	'dislike'
/amuha/	[a.mu.ha]	'down below'
Word Final		
-		

2.1.6 Glides (Semi-vowels)

Awara has the glide /y/. The phoneme /y/ occurs syllable-initially, word-initially, and between vowels, but not word-finally, as shown in Table 23.

Table 23.   Phoneme /y/

/y/ [y]		
Word Initial		
/yot/	[yot]	'house'
/yekʌp/	[ye.kʰʌp]	'moon'
Intervocalic		
/ayi/	[a.yi]	'up'
/yayiŋ/	[yayiŋ]	'Stand on it!'
Word Final		
-		

Some words alternate between /y/ and null between vowels (e.g. /dayip/ 'knife' is pronounced as [pa.yip] or [pa.ip]). The null form generally occurs before /i/. However, not all words that have /y/ before /i/ intervocalically have the null form.

2.1.7 Complex Consonants (Labialization)

Labialization occurs with the velar stops /k/, /g/, and, in a few instances, /ŋ/. The phoneme /kʷ/ occurs word-initially and syllable-initially but not word-finally, as shown in Table 24.

Table 24.   Phoneme /kʷ/

/kʷ/ [kʷ]		
Word Initial		
/kʷʌman/	[kʷʌ.man]	'cold'
/kʷanam/	[kʷa.nam]	'beg'
Intervocalic		
/takʷʌn/	[ta.kʷʌn]	'holy'
/dʌkʷʌ/	[dʌ.kʷʌ]	'locust'
/kʷakʷakŋʌ/	[kʷa.kʷak.ŋʌ]	'uninteresting'
Word Final		
-		

There is phonological evidence that /kʷ/ is a single, complex phoneme. Like other unvoiced stop stops, /kʷ/ lenites to [ɡʷ] intervocalically at morpheme boundaries, as in the example /do- kwalamuk/ 'not clean' is [do.ɡʷa.la.muk].

Though lenition is applied to /kʷ/, there are no other occurrences of lenition taking place across other consonant clusters. This suggests that /kʷ/ is a single phoneme. Also, there are no other occurrences of [ɡʷ] apart from /kʷ/ leniting.

The phoneme /gʷ/ occurs syllable-initially and word-initially, but not word-finally, as shown in Table 25. Prenasalization of /gʷ/ is identical to that of the simple voiced stop /g/.

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Table 25.　　Phoneme /gʷ/

/gʷ/　[gʷ] [ᵑgʷ]		
Word Initial		
/gʷak/	[gʷak] [ᵑgʷak] [ŋ.gʷak]	'sprout'
/gʷʌlam/	[gʷʌ.lam] [ᵑgʷʌ.lam] [ŋ.gʷʌ.lam]	'shoulder'
Intervocalic		
/sugʷʌk/	[suŋ.gʷʌk]	'brain'
/pʌgʷat/	[paŋ.gʷat]	'tuber species'
Word Final		
-		

The phoneme /ŋʷ/ occurs word-initially in one onomatopoetic word,[24] and it

occurs word-medially in a few other words. /ŋʷ/ does not occur word-finally, as shown

in Table 26.

Table 26.　　Phoneme /ŋʷ/

/ŋʷ/　[ŋʷ]		
Word Initial		
/RED + ŋʷʌk/	[ŋʷʌk.ŋʷʌk]	'boiling'
Intervocalic		
/iŋʷʌm/	[iŋʷʌm]	'whistle'
/saŋʷam/	[sa.ŋʷam]	'pandanus species'
Non-intervocalic		
/hikŋʷʌm/	[hik.ŋʷʌm]	'vein'
Word Final		
-		

Since [ŋʷ] is ambisyllabic intervocalically, there is no phonetic distinction

between monomorphemic [ŋʷ] phones and those that occur from /ŋɓ/ at morpheme

boundaries, as shown in Table 27.

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[24] All cases of onomatopoetic words in Awara are reduplicated in which the base form is either one or two syllables. See Table 112, Reduplication with no Base Form in Section 8.1, Reduplication for other examples of onomatopoetic words.

Table 27.   Intervocalic /ŋɓ/ Cluster Examples

/pʌ -ŋ + ɓaŋalu -k/	[pʌ.ŋʷa.ŋa.luk]	'It dried.'
/pe -ŋ + ɓʌha -k/	[pe.ŋʷʌ.hak]	'It crawled.'

There are many words that are pronounced with [k], [g], or [ŋ], and others that are pronounced with [kʷ], [gʷ], or [ŋʷ]. However, as with Yopno (Reed 1993), there are some words which can be pronounced with either, as shown in Table 28.

Table 28.   Labialized Velar Alternation

UF	PR	Gloss
/tukade/	[tu.kʰan.de] [tu.kʷan.de]	'good afternoon'
/a- kuŋ -ga -k/	[aɠuŋgak] [aɠuŋgʷak]	'He is going.'
/a- kuŋʌ -k	[kuŋʌk] [kuŋʷʌk]	'He died.'

The velar is optionally labialized after the vowel /u/. The labialized alternate is more common among villages other than Tawaya (the village dialect under investigation).

Awara is not the only language in the Finisterre Stock that has labialized velars. McElhanon & Claasen (1970) and McElhanon (1970a) reported that the Wantoat and Uri language families as well as many other Huon Peninsula languages have these phonemes. Davis (1969) and Webb (1992b) analyzed labialized velars as single phonemes in the related languages Wantoat and Irumu.

2.1.8 Consonant Co-occurrence

Consonant co-occurrence is limited in scope in Awara. Since the maximal syllable template for Awara is [CVC] (see Chapter 3, Syllable Structure), the only sequences of consonants are across syllable boundaries. Many consonants have phonotactic constraints preventing them from occurring in the coda position of the syllable. The only consonants that can occur syllable-finally are nasals and voiceless

stops, as shown in Table 29. Phonemes that are not part of any consonant cluster have

been omitted from the table.[25]

Table 29.   Awara Consonant Sequences

	p	t	k	b	d	g	m	n	ŋ	y	s	h	gʷ	ŋʷ
p_	–	–	x	x	x	x	x	x	–	x	x	–	x	–
t_	x	–	x	x	x	–	–	x	–	–	x	–	–	–
k_	–	–	–	x	x	x	x	–	x	x	x	–	x	x
m_	–	–	–	x	x	x	–	x	–	x	x	x	x	–
n_	–	–	–	x	x	–	–	–	–	x	x	–	–	–
ŋ_	–	–	–	–	x	x	–	x	–	x	x	x	–	–

-     No reported cases.
x   Exists, see examples below.

The question then is: What consonants can follow nasals and voiceless stops?
The main co-occurrence constraints are on geminates, spirants following any
consonant,[26] nasals following nasals, and voiceless stops following nasals.

It is also interesting to note that there are a number of sequences that only occur
in loan words, as shown in Table 30. Some of these clusters, such as /bl/ and /sk/, occur
syllable-initially because, unlike Awara, both Melanesian Pidgin and English have onset
consonant clusters ([CCVC] syllables). Phonemes that are not part of any consonant
cluster have been omitted from the table.

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[25] There were only two cases of phoneme /s/ occurring syllable-finally. These were
questionable and have been excluded from this chart. See section 2.1.5, Unvoiced
Fricatives regarding these examples.
[26] Except as noted before with [ŋɓ] clusters at morpheme boundaries in which it is re-
syllabified as [ŋʷ] (/peŋ + ɓʌha -k/ -> [pe.ŋʷʌ.hak] 'It crawled.')

Table 30.   Consonant Sequences in Loan Words

	p	t	k	b	d	m	n	ƀ	l	s	h
p_	-	*	-	-	-	-	-	-	*	-	-
t_	-	-	-	-	-	*	-	*	*	-	-
k_	*	*	-	-	-	-	-	-	*	-	*
b_	-	-	-	-	-	-	-	-	*	-	-
d_	-	*	-	-	-	-	-	-	*	-	-
g_	-	-	-	-	-	-	-	-	*	-	-
m_	*	-	-	-	-	-	-	-	-	-	-
n_	-	*	*	-	-	-	-	-	-	-	-
ŋ_	-	-	*	-	-	-	-	-	-	-	-
l_	-	*	-	*	*	-	*	-	-	*	-
s_	*	*	*	*	-	-	-	-	*	-	-

-     No reported cases.
*   Loan words.

In all Awara clusters of voiceless-voiced stops (including /gʷ/), the prenasalization of the voiced stop is either syllabified or deleted (e.g. /ŋʌkgɛ/ 'much' is [ŋʌk.ŋ.gɛ] or [ŋʌk.gɛ]). Syllabification is more common in slow speech or when words are spoken in isolation. Deletion is more common in continuous or fast speech and utterance medially.

The following tables show the consonant clusters that occur in Awara. If there is only one example given of a particular cluster, it is because only one example was found in the data.

Table 31 lists the consonants that follow phoneme /p/ with example words. Voiced spirants cannot follow /p/.

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Table 31.   /p/-Initial Clusters

p_	UF	PR	Gloss
pk	/kʌlap + kupit/	[kʰʌ.lap.kʰu.pit]	'smoked meat'
pb	/gepbi/	[gep.bi]	'chin'
	/hapbʌ/	[hap.bʌ]	'calf' (body part)
pd	/bulip + dakut/	[bu.lip.da.kʰut]	'It became a forest.'
	/hipdu/	[hip.du]	'once'
pg	/hup + gʌpbat/	[hup.gʌp.bat]	'stone ledge'
	/nep + gʌmʌn/	[nep.gʌ.mʌn]	'sweat'
pm	/apmagalʌ/	[ap.ma.ga.lʌ]	'later'
	/yepmʌk/	[yep.mʌk]	'son in-law'
pn	/yʌpnʌ/	[yʌp.nʌ]	'moist'
	/hipnʌ/	[hip.nʌ]	'dull'
py	/kep + yamun/	[kʰep.ya.mun]	'earthquake'
ps	/gupsʌŋ/	[gup.sʌŋ]	'settled'
	/yupsʌŋ/	[yup.sʌŋ]	'quickly'
pgʷ	/banip + gʷalaŋ/	[ba.nip.gʷa.laŋ]	'kindness'

Table 32 lists the consonants that follow phoneme /t/ with example words.

Table 32.   /t/-Initial Clusters

t_	UF	PR	Gloss
tp	/yot + pupuk/	[yot.pʰu.pʰuk]	'old place'
tk	/gusit + kayi/	[gu.sit.kʰa.yi]	'sun'
tb	/kahat -bam/	[kʰa.hat.bam]	'large betelnut'
	/yot -bam/	[yot.bam]	'lots of houses'
td	/bitdom/	[bit.dom]	'finger'
	/mʌŋʌt + dʌkʌ/	[mʌ.ŋʌt.dʌ.kʰʌ]	'pitpit species'
tn	/hatnʌyʌ/	[hat.nʌ.yʌ]	'capable'
	/nagatnagat/	[na.gat.na.gat]	'fearful'
ts	/sibut -hʌ/	[sim.but.sʌ]	'your (plural) cake'
	/kwʌbʌt -him/	[kʷʌm.bʌt.sim]	'small extended thing'

No voiced spirants follow /t/. The only occurrences of voiceless stops following /t/

where the /t/ does not delete are with compounding in slow speech (see Reduplication

and Compounds). There is also a restriction on nasals such that only /n/ can follow /t/.

The only occurrences of [ts] are at morpheme boundaries.

Table 33 lists the consonants that follow phoneme /k/ with example words.

Table 33.   /k/-Initial Clusters

k_	UF	PR	Gloss
kb	/gomok -bam/	[go.mok.bam]	'a large snake'
	/nak -bʌ/	[nak.bʌ]	'maybe food'
kd	/kokdek/	[kʰok.dek]	'toilet'
	/ɓaɓak -dʌkʌ/	[ɓa.ɓak.dʌ.kʰʌ]	'youth'
kg	/hakguɓan/	[hak.gu.ɓan]	'± 4 days'
	/ŋʌkge/	[ŋʌk.ge]	'much'
km	/matek + matek -ŋʌ/	[ma.tʰek.ma.tʰek.ŋʌ]	'small things'
	/katʌtek + mʌmʌn/	[kʰat.ʰtʌ.tʰek.mʌ.mʌn]	'small frog species'
kŋ	/bakŋʌ/	[bak.ŋʌ]	'tired'
	/belakŋʌ/	[be.lak.ŋʌ]	'long'
ky	/RED + yak/	[yak.yak]	'bird species'
	/halut -yʌmi -ke/	[ha.luk.yʌ.mi.ke]	'poured it for them and'
ks	/gulʌk + salin/	[gu.lʌk.sa.lin]	'adams apple'
	/taɓik + sipmʌk/	[ta.ɓik.sip.mʌk]	'tree species'
kgʷ	/RED + gʷak/	[gʷak.gʷak]	'small animal'
	/RED + gʷit/	[gʷik.gʷit]	'shell'
kŋʷ	/hikŋʷʌm/	[hik.ŋʷʌm]	'vein'

No voiced spirants follow /k/. There is also a restriction on nasals such that /n/ cannot follow /k/. The only occurrences of /m/ following /k/ are in reduplication and compounds.

Table 34 lists the consonants that follow phoneme /m/ with example words. Voiceless stops and voiced spirants do not follow nasals.

Table 34.　　/m/-Initial Clusters

m_	UF	PR	Gloss
mb	/tʌm -bam/	[tʰʌm.bam]	'grass species'
	/mom -bʌ/	[mom.bʌ]	'maybe the aunt'
md	/tʌm + dʌkʌ/	[tʰʌm.dʌ.kʰʌ]	'banana species'
	/yʌmdʌ/	[yʌm.dʌ]	'tree kangaroo'
mg	/nom + gʌnaŋ/	[nom.gʌ.naŋ]	'highlander'
	/ɓam + gʌmʌn/	[ɓam.gʌ.mʌn]	'scolding'
mn	/bulʌmnʌ/	[bu.lʌm.nʌ]	'ignorant'
	/kaham -na/	[kʰa.ham.na]	'my ginger'
my	/ɓam + yayak/	[ɓam.ya.yak]	'speaker'
ms	/ɓʌmsʌk/	[ɓʌm.sʌk]	'gecko'
	/ɓom -him/	[ɓom.sim]	'small place'
mh	/ɓʌnʌm + hakʌt/	[ɓʌ.nʌm.ha.kʰʌt]	'cassowary species'
mgʷ	/tʌmbam + gʷak/	[tʰʌm.bam.gʷak]	'insect species'

Table 35 lists the consonants that follow phoneme /n/ with example words. Like /m/, voiceless stops and voiced spirants do not follow /n/. Unlike /m/, nasals do not follow /n/.

Table 35.　　/n/-Initial Clusters

n_	UF	PR	Gloss
nb	/ʌmin -bʌ/	[ʌ.min.bʌ]	'maybe a person'
	/sandun -bʌ/	[san.dun.bʌ]	'maybe an axe'
nd	/ʌmin -de/	[a.min.de]	'for the person'
	/sadun -de/	[san.dun.de]	'for the axe'
ny	/ya -pʌn + ya -k/	[ya.ɓʌn.yak]	'question'
ns	/gʷen -sim/	[gʷen.sim]	'that lump'

Table 36 lists the consonants that follow phoneme /ŋ/ with example words.

Table 36. /ŋ/-Initial Clusters

ŋ_	UF	PR	Gloss
ŋd	/ya -ŋ + dʌkŋa -k/	[yaŋ.dʌk.ŋak]	'It split.'
	/dayi -ŋ + dʌkŋa -ŋ/	[da.yiŋ.dʌk.ŋaŋ]	'Clean your eyes!'
ŋg	/RED + giniŋ/	[gi.niŋ.gi.niŋ]	'naughty'
ŋn	/pʌ -ŋ -nimi -pʌ/	[pʌŋ.ni.mʌ]	'They take for us.'
	/ta -ŋ -nimi -pʌn/	[taŋ.ni.mʌn]	'It rained on us.'
ŋɓ	/pe -ŋ + ɓʌha -k/	[pe.ŋʷʌ.hak]	'It crawled.'
ŋy	/ya -ŋ + yʌɓʌ -yo/	[yaŋ.yʌ.ɓʌ.yo]	'Call to them.'
	/tʌha -ŋ + ya -k/	[tʰʌ.haŋ.yak]	'He played.'
ŋs	/gutoŋ -him/	[gu.tʰoŋ.sim]	'small long'
	/guloŋ -him/	[gu.loŋ.sim]	'small tube'
ŋh	/daduŋ + ha -kut/	[dan.duŋ.ha.kut]	'He wanted you.'

The phoneme /ŋ/ is similar to /n/ in that the voiceless stops and voiced spirants do not follow /ŋ/. There are no examples of monomorphemic words that have consonant sequences that begin with /ŋ/.

The [ŋn] sequence is questionable. It is unclear if the benefactive /-nimi/ is a clitic or if it should have status as a full word. Awara speakers view the benefactive to be bound to the preceding word. This is the only occurrence of a sequence of lingual nasals. In all other instances of sequences of lingual nasals at the morpheme boundary, the first nasal deletes.

The one occurrence of [sm] is in an apparent reduplication with the example /musmus/ 'louse' pronounces as [mus.mus]. It is unclear if [musmus] is a native Awara word since there are no other occurrences of /s/ occurring syllable-finally and [mus] does not exist independently.

2.2 Vowel Inventory

Table 37 lists all the vowels in the Awara phonemic inventory with the alternate forms indicated within phonetic brackets.

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Table 37.   Vowel Inventory Chart

	Front	Mid	Back
High	i [i] [ɪ]		u [u] [ʊ]
mid	e [e] [ɛ]	ʌ	o
low		a	

Generally, the lax vowels [ɪ], [ɛ], and [ʊ] occur before the sonorants [m] and [l] and, to a lesser degree after [m] and [l]. They are more clearly pronounced as lax before prenasalized voiced stops like /ᵐb/ (e.g. /sibut/ 'cake' is pronounced as [sɪmbut] and /sugum/ 'sweet potato' is pronounced as [sʊŋgum]).

In the following discussion, the optional initial glottal stop is ignored in examples with word-initial vowels.

2.2.1 Front Vowels

Awara has the two front vowel phonemes /i/ and /e/. Both phonemes have allophonic tense and lax alternates.

The phoneme /i/ has allophones [i] and [ɪ], as shown in Table 38. There are no restrictions on its distribution.

Table 38.   Phoneme /i/

/i/ [i] [ɪ]			
Word Initial			
/ihabam/	[i.ham.bam]	'large cricket'	
/imin/	[ɪ.min]	'who'	
Interconsonantal			
/sibut/	[sɪm.but]	'cake'	
/bʌ.nip/	[bʌ.nip]	'inside of something'	
Word Final			
/yʌpuli/	[yʌ.pʰu.li]	'trunk'	
/yayi/	[ya.yi]	'yam'	

The [ɪ] allophone generally occurs before [l] and [m]. One argument that the tense/lax distinction is not phonemic is from a syllable game which children play in which two syllable words are reversed, as shown in Table 39.

Table 39.   Syllable Game

UF	Gloss	PR	Reversed
/sibut/	'cake'	[sɪm.but]	[but.si]

The /i/ phoneme is pronounced as [ɪ] in normal order but is pronounced as [i] when the syllables are reversed.

The phoneme /e/ has allophones [e] and [ɛ], as shown in Table 40. There are no restrictions in its distribution.

Table 40.   Phoneme /e/

/e/ [e] [ɛ]			
Word Initial			
/epuhit/	[e.pʰu.hit]	'ground trap'	
/enat/	[e.nat]	'Get up!'	
/eŋaŋ/	[e.ŋaŋ]	'child'	
Interconsonantal			
/yeɓʌn/	[ye.ɓʌn]	'±2 day'	
/kem/	[kɛm]	'a lie'	
Word Final			
/take/	[ta.kʰe]	'goodness'	
/amʌle/	[a.mʌ.le]	'betelnut species'	

The [ɛ] allophone generally occurs before [l] and [m].

Awara's central vowels /ʌ/ and /a/ are like Irumu central vowels (Webb 1992b) in that the mid, unrounded vowel /ʌ/ is characteristically shorter in duration than the other five vowels. Also, like Irumu, central vowels are fronted following /y/ and to a lesser degree following alveolars. They are backed following /ɡ/ and to a lesser degree following other velars.

The phoneme /ʌ/ has no limitations in its distribution, as shown in Table 41.

Table 41.   Phoneme /ʌ/

/ʌ/ [ʌ]		
Word Initial		
/ʌ/	[ʌ]	'ah'
/ʌmin/	[ʌmin]	'person'
Interconsonantal		
/mʌte/	[mʌ.te]	'all of you'
/kʌtak/	[kʰʌ.tʰak]	'exactly'
Word Final		
/asʌ/	[a.sʌ]	'like this'
/yubilʌ/	[yum.bi.lʌ]	'shrunk'

The phoneme /a/ has no limitations in its distribution, as shown in Table 42.

Table 42.   Phoneme /a/

/a/ [a]		
Word Initial		
/adan/	[an.dan]	'here'
/alʌk/	a.lʌk]	'blade'
Interconsonantal		
/dasiŋ/	[da.siŋ]	'how'
/halak/	[ha.lak]	'bridge'
Word Final		
/kuka/	[kʰu.kʰa]	'theft'
/siɓa/	[si.ɓa]	'haze'

2.2.3 Back Vowels

The back round vowel phoneme /u/ has no restrictions in its distribution, as shown in Table 43.

Table 43.   Phoneme /u/

/u/ [u] [ʊ]		
Word Initial		
/udan/	[un.dan]	'there'
/uli/	[ʊ.li]	'sharp'
Word Medial		
/tut/	[tʰut]	'fingernail'
/tuƀʌŋ/	[tʰu.ƀʌŋ]	'sign'
/bulʌkʌn/	[bʊlʌkʰʌn]	
Word Final		
/homu/	[ho.mu]	'dog'
/saƀu/	[sa.ƀu]	'chewing'

The [ʊ] allophone generally occurs before [l] and [m].

The phoneme /o/ has no restrictions in its distribution, as shown in Table 44.

Table 44.   Phoneme /o/

/o/ [o]		
Word Initial		
/ok/	[ok]	'uncle'
/okupi/	[o.kʰu.pʰi]	'inside'
Word Medial		
/nom/	[nom]	'face'
/hopʌ/	[ho.pʰʌ]	'rain'
Word Final		
/moyo/	[mo.yo]	'lacking'
/sako/	[sa.kʰo]	'choko leaf'

2.2.4 Vowel Co-occurrence

Awara syllable structure allows vowel sequences at syllable boundaries (CV.V, V.V, and CV.VC), but only in words with more than one morpheme. Awara vowel sequences exist only in reduplication, when /y/ or /ƀ/ alternates with null intervocalically, and in verbs with the prefixes /a-/ 'predicate focus', /do-/ 'negative, or

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/ma-/ 'prohibitive'. Thus, Awara has a general constraint prohibiting vowel sequences within morphemes.

Table 45 lists the distribution of vowel sequences occurring in reduplication.

Table 45.   Vowel Sequences Resulting from Reduplication

	i	o	u
i	x		x
ʌ	x	x	
a	x		

Table 46 lists examples of vowel sequences that occur in reduplication.

Table 46.   Examples of Reduplication-Formed Vowel Sequences

	UF	PR	Gloss
ii	/RED + imin/	[i.mi.i.mim.]	'who'
iu	/RED + uli/	[u.li.u.li]	'burr'
ʌi	/RED + inʌ/	[i.nʌ.i.nʌ]	'individually'
	/RED + ipmʌk/	[ip.mʌ.ip.mʌk]	'drizzle'
ʌo	/RED + opʌk/	[o.pʰʌ.o.pʰʌk]	'wrong'
ai	/RED + ina/	[i.na.i.na]	'what'

Table 47 lists vowel sequences that occur when the intermediary consonant phoneme /y/ or /ƀ/ alternates with null.

Table 47.   Vowel Sequences Resulting from Deletion of [y] or [ƀ] Intervocalically

	i	a	o
i		x	x
a	x		x
u		x	

Table 48 lists examples of vowel sequences that alternate with forms with [y] and [ƀ].

Table 48.   Examples of Vowel Sequences Resulting from [y] or [ɓ] Deletion

a_	UF	PR	Gloss
ia	/dubiyam/	[dum.bi.yam] [dum.bi.am]	'mole'
io	/piyot/	[pi.yot] [pi.ot]	'bladder'
ai	/payip/	[pa.yip] [pa.ip][pa^{i}p]	'machete'
	/kanayik/	[ka.na.yik] [ka.na.ik]	'Kanayik village'
ao	/yʌtaɓoŋ/	[yʌ.ta.ɓoŋ] [yʌ.ta.oŋ]	'cricket species'
ua	/suɓat/	[su.ɓat][su.at]	'Suwat village'

The Predicate Focus marker /a-/ can occur with all vowel-initial verbs, as shown

in Table 49.

Table 49.   /a/-Initial Vowel Clusters

a_	UF	PR	Gloss
aa	/a- akop -kut/	[a.a.k^{h}op.but] [a.k^{h}op.but]	'He came up.'
	/a- ap -kut/	[a.ap.but] [ap.but]	'He came.'
ae	/a- epu -kut/	[a.ep.but] [a^{e}p.but]	'He came down.'
	/a- ena -kut/	[a.e.na.k^{h}ut] [a$^{e.}$na.k^{h}ut]	'He got up.'
ai	/a- ihap -kut/	[a.i.hap.but] [a^i.hap.but]	'He ran.'
	/a- ip -kut/	[a.ip.but] [a^{i}p.but]	'He cut it.'
ao	/a- omi -kut/	[a.o.mi.k^{h}ut] [a^o.mi.k^{h}ut]	'He covered himself.'
au	/a- upu -kut/	[a.u.pu.k^{h}ut] [a^u.pu.k^{h}ut]	'He broke it.'
	/a- usi -kut/	[a.u.si.k^{h}ut] [a^u.si.k^{h}ut]	'He uprooted it.'

It is not clear if [aa] sequences are two syllables, a long vowel, or if they

coalesce.[27] This vowel sequence in words like /a- akop-but/ 'P.Focus- come up -1s.Past'

can sound like a long single syllable [a:.kop.but] with the vowel length being about

twice as long as without the Predicate Focus marker or even as [a.kop.but] in fast

speech. In looking at one recorded instance of [a:.kop.but] in Figure 6, the long [a] has

two intensity peaks (see arrows).

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[27] Irumu (Webb 1992) and Selepet (McElhanon 1970b) have vowel coalesce with mid-central and mid-low vowels.

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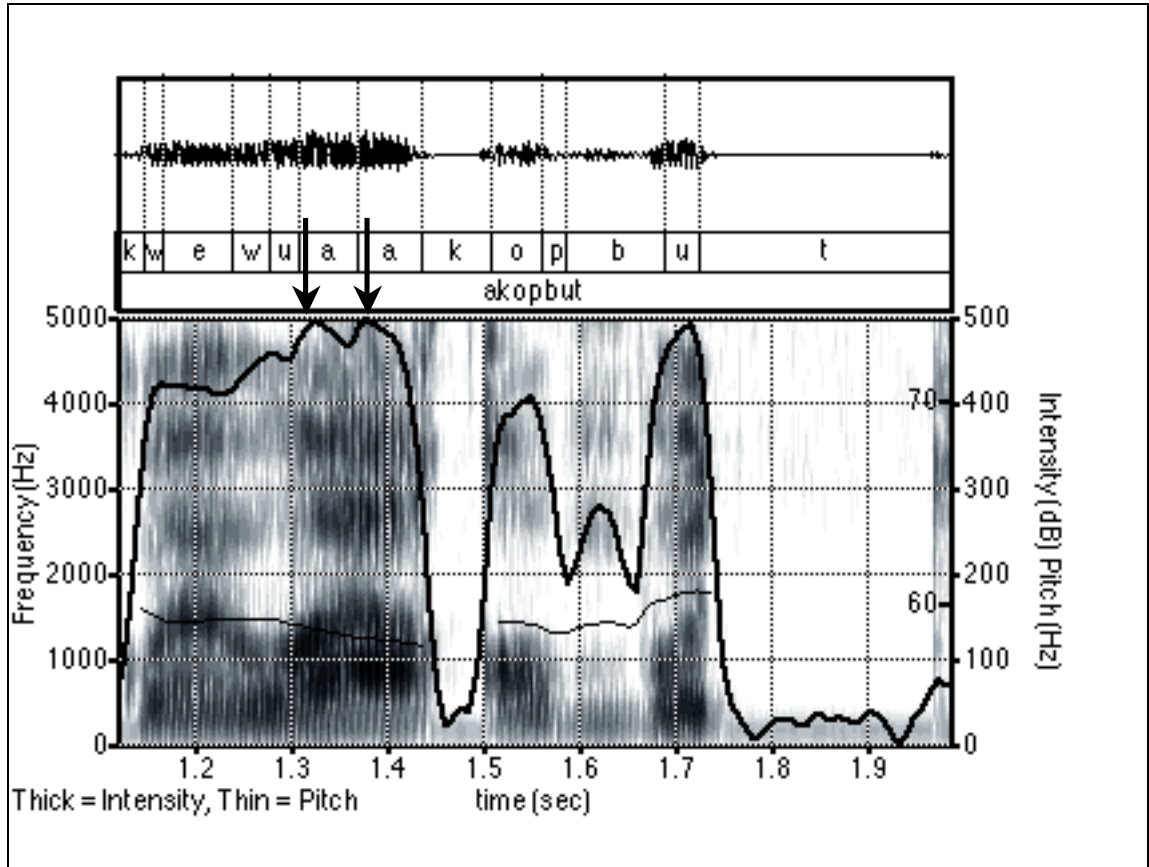
Figure 6. Spectrogram and Intensity Plot of *Kwewu a-akopbut* 'I came yesterday.'
With careful listening one can hear the distinction suggesting that these long vowels are
actually geminates (two vowels), not one long vowel, at least for this speaker in careful
speech.

2.2.5 Diphthongs

There are no phonemic diphthongs. All phonetic diphthong candidates either
have vowel sequences at a morpheme boundary in the UF such as verbs with the
prefixes /a-/ 'Predicate Focus', /do-/ 'Negative, or /ma-/ 'Prohibitive' (see Table 49), or
as vowel sequences that have an intervocalic /y/ or /b/ in the UF (see Table 47).

2.3 Summary of Phonemic Constraints

2.3.1 Consonants

1. Only voiceless stops (/p/, /t/, and /k/) and nasals (/m/, /n/, and /ŋ/) are permitted syllable-finally and word-finally. All other phonemes are prohibited syllable-finally and word-finally.

2. Nasal /ŋ/ does not normally occur word-initially in native words. (Borrowed words have no such constraint.)

3. Lingual voiced spirant phonemes /l/ and /ɟ/ are prohibited word-initially in native words. (Borrowed words have no such constraint.)

4. The spirants /ɓ/, /l/, and /ɟ/ are never part of consonant sequences in either position.

2.3.2 Vowels

1. Vowel sequences are prohibited in monomorphemic words but are permitted across morpheme boundaries.

2. Generally lax allophones [ɪ], [ɛ], and [ʊ] occur before sonorants [m] and [l]. They are more clearly pronounced as lax before a prenasalized voiced stop like /ᵐb/ (e.g. /sibut/ 'cake' is pronounced as [sɪmbut] and /sugum/ 'sweet potato' is pronounced as [sʊŋgum]).

CHAPTER 3

SYLLABLE STRUCTURE

Kager (1999) states 'The syllable is a major ingredient of phonological generalizations'. The syllable plays an important part in Awara phonology. As discussed in Chapter 2, Phonemic Inventory, many phonemic constraints are phonotactic, based on syllable structure not on co-occurrence constraints. This chapter looks at the syllable in Awara phonology.

3.1 Syllable

The Awara syllable template is [CVC], with the four syllable patterns: V, CVC, CV, and VC. As shown in Table 50, V syllables occur word-initially and word-medially across boundaries.[28] There are no examples of word-final V syllables in polysyllabic words.

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[28] Awara distinguishes between various kinds of boundaries, such as morpheme, classifier, reduplicant, and compound.

Table 50.   V Syllables

Word Initial			
/ihabam/	[i.ham.bam]	'large cricket'	
/iniyo/	[i.ni.yo]	'Tell him.'	
Word Medial			
/RED + uli/	[u.li.u.li]	'burr'	
/do- akop -k/	[do.a.kok]	'He did not come up.'	
Word Final			
/u/	[u]	'that'	
/a/	[a]	'this'	

CVC syllables are not limited in their distribution. As shown in Table 51, they can occur word-initially, medially, and finally.

Table 51.   CVC Syllables

Word Initial			
/gakŋat/	[gak.ŋat]	'heaven'	
/hipnʌ/	[hip.nʌ]	'dull'	
Word Medial			
/asipba/	[a.sip.ba]	'sneeze'	
/banipgʷalaŋ/	[ba.nip.gʷa.laŋ]	'kindness'	
Word Final			
/hiput/	[hi.pʰut]	'stick'	
/apek/	[a.pʰek]	'grandmother'	

Like CVC syllables, CV syllables are not limited in their distribution, as shown in Table 52.

Table 52.   CV Syllables

Word Initial			
/sasak/	[sa.sak]	'fat'	
/kaluk/	[kʰa.luk]	'new'	
Word Medial			
/pulʌkʌt/	[pʰu.lʌ.kʰʌt]	'root'	
/mʌŋʌlʌ/	[mʌ.ŋʌ.lʌ]	'female'	
Word Final			
/butayʌ/	[bu.tʰa.yʌ]	'pity'	
/ata/	[a.tʰa]	'level there'	

VC syllables occur word-initially. Word-medial VC syllables occur only at morpheme or reduplicant boundaries. There are no clear examples of word final VC

syllables in polysyllabic words; the only examples are with the phonemes /ɓ/ and /y/ in free variation with null (see Table 53).

Table 53.   VC Syllables

Word Initial		
/ipmʌŋ/	[ip.mʌŋ] [ʔip.mʌŋ]	'Cut it!'
/ep -ŋ/	[ep] [ʔep]	'Come down!'
Word Medial		
/do- ep -gut/	[do.ep.but]	'He did not come out'
/RED + ipmʌk/	[ip.mʌ.ip.mʌk] [ʔip.mʌ.ʔip.mʌk]	'drizzle'
Word Final		
/ap -ŋ/	[ap] [ʔap]	'Come!'
/yʌtaɓoŋ/	[yʌ.ta.ɓon] [yʌ.ta.oŋ]	'cricket species'
/dubiyam/	[dum.bi.yam] [dum.bi.am]	'mole'

Both VC and V syllables can have an epenthetic glottal stop word-initially. The [ʔ] is non-contrastive word-initially (/ep/ can be said as [ep] or [ʔep]). However, there is no indication of a glottal stop between the Predicate Focus marker and the verb root (see Table 49).

3.1.1 Syllable Formalisms

Awara syllables are constructed by three syllable building rules, as described by Kenstowicz (1994).

1.   V Rule

V→V
  |
  N
  |
  N'
  |
  N"

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2. CV Rule

C   V
 \ |
  \ N
   \ |
    \N'
     |
    N''

3. VC Rule

V   C
| /
N /
|/
N'
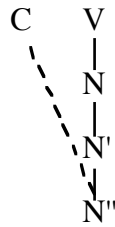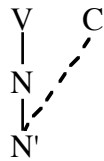
These rules are crucially ordered as V (1) is before CV (2) which is before VC

(3) (Kenstowicz 1994) so that intervocalic consonants syllabify with the following

vowel. Table 54 shows an example derivation in Awara of CV (2) being crucially

ordered before VC (3).

Table 54.   Sample Derivation of V.CVC

UF	/iɓak/	UF	/iɓak/
V	VɓVk	V	VɓVk
CV	V.CVk	VC	VC.VC
VC	V.CVC	CV	---
PR	[i.ɓak]	PR	*[iɓ.ak]
Gloss	'leach'		

3.2 Prenasalization and the Sonority Sequencing Principle (SSP)

The Sonority Sequencing Principle (SSP) '…requires onsets to rise in sonority

towards the nucleus and codas to fall in sonority from the nucleus.' (Kenstowicz 1994).

Though the SSP is violable (not all languages of the world follow it), it is helpful in

explaining why the prenasalization of voiced stops is syllabified with an adjacent open

syllable, tends to be de-emphasized or deleted word-initially, and is either deleted or

syllabified interconsonantally.

Consider the examples in Table 55. Nasals do not occur before the word-medial

voiced stops in the UF.

Table 55.   Prenasalization Examples

UF	PR	Gloss
/sibut/	[sim.but]	'cake'
/sadun/	[san.dun]	'axe'
/sagum/	[saŋ.gum]	'corn'
/bʌgʷat/	[bʌŋ.gʷat]	'bald head'
/gʌpbat/	[gʌp.bat] [gʌp.m.bat]	'ledge'

According to the SSP, nasalization of an oral stop in the onset is nonpreferred.

There are several ways to create a sequence that is preferred by the SSP. Example (1)

shows that when the voiced stop in the onset position follows an open syllable, the nasal

links to the previous syllable.

1.

[sim.but]
'cake'
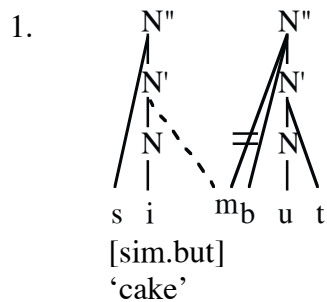
When the coda of the preceding syllable is occupied as in example (2) the nasal

is deleted, as shown in (2.a) or is syllabified, as shown in (2.b).

2.a

[gʌp.bat]
'ledge'

[gʌp.m.bat]
'ledge'
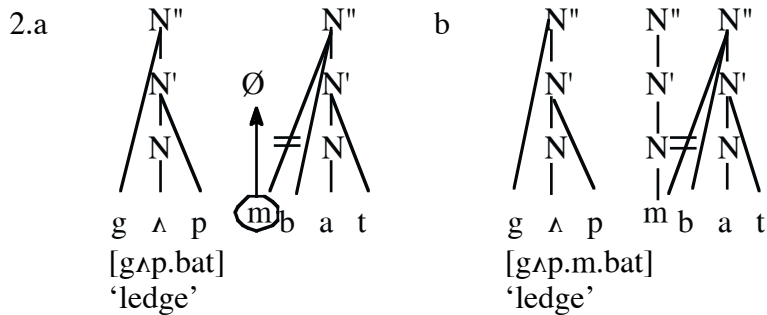
Deletion is more common in continuous speech and after nasal-final syllables. Syllabification is more common in slow speech and single word utterances, for word-initial voiced stops, and at word boundaries with the postpositional clitics.

Further support that these nasals are not separate phonemes in UFs but are realizations of prenasalization is evidenced by a syllable game children play. The first syllable of the word is moved to the end of the word and then the word is pronounced, as shown in Table 56 under the column labeled 'Reversed'.

Table 56.   Syllable Game

UF	PR	Reversed	Gloss
/sibut/	[sɪm.but]	[but.si]	'cake'
/sadun/	[san.dun]	[dun.sa]	'axe'
/sagum/	[saŋ.gum]	[gum.sʌ]	'corn'

The result is that the [m], [n], and [ŋ] in Table 56 are not present when the first syllable is moved to the end. If they were separate phonemes in the UFs, then the second syllable in the reversed forms would end in a nasal. Since they do not and there is no prohibition on nasals occurring syllable-finally or word-finally (see Tables 13, 14, and 15), the preferred analysis is to treat them as realizations of prenasalization on voiced stops.

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3.3 Word

Most Awara words are one to three syllables.[29] Though words with four or more syllables are rare, there is no prohibition against them. Reduplication and compounds are mostly four to five syllables. See Appendix C, Word Structure, for example tables containing lists of all the patterns observed in unaffixed words.

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[29] Nankina and Irumu unaffixed words also have up to 3 syllables.

CHAPTER 4

STRESS

Awara stress, as in many Papuan languages (Foley 1986), is a pitch accent

system. Acoustic correlates to Awara stress generally are falling pitch and high intensity.

The following stress analysis uses metrical grid notation as presented by Kenstowicz

(1994).

4.1 Basic Stress

Awara has one main stress pattern with two alternate patterns. The main stress

pattern has stress on the first and third (alternating) syllables with primary stress falling

on the last stressed syllable, as shown in Table 57.

Table 57.   Basic Stress in Isolation

UF	PR	Gloss
/ayi/	[á.yi]	'grandmother'
/bela/	[bé.la]	'female'
/dʌkiɓom/	[dʌ.ki.ɓóm]	'smoldering stick'
/gʌpmayi/	[gʌp.ma.yí]	'hole'
/banipʌmin/	[bà.nip.ʌ́.min]	'believer'
/gusikayi/	[gù.si.ká.yi]	'sun'

Awara's stress pattern, as analyzed using metrical grid notation, is shown in

Table 58 with the words /banipʌmin/ 'believer' and /gʌpmayi/ 'hole'.

Table 58.   Stress Grid for /banipʌmin/ and /gʌpmayi/

```
              *              Line 2                      *
   (*         *)             Line 1     (*              *)
   (*    *) (*     *)        Line 0     (*         *) (*)
   b  a  n  i  p  ʌ  m  i  n  UF        g  ʌ  p  m  a  y  i
   [bà.nip.ʌ́.min]           PR         [gʌ̀p.ma.yí]
   'believer'               Gloss       'hole'
```

The stressable unit is the syllable. Each syllable receives a stress mark on Line 0.
All syllables are parsed into binary units called metrical feet starting from left to right
(Left to Right Parsing). Since parsing is exhaustive,[30] the leftover (orphan) right syllable
in words with an odd number of syllables also forms a foot, albeit a degenerate foot. The
metrical foot is left-headed (trochaic) and projects a stress mark corresponding to the left
syllable on Line 1. Line 1 is unbounded (forms one upper foot) and is right-headed
(iambic). The upper right-headed foot projects a stress mark on Line 2 that indicates
primary stress. Line 1 is not conflated (removed), so the stress on the left remains as
secondary stress. Since stress can occur on both the first and the last syllables of a three-
syllable word, extrametricality[31] is assumed to be off.

Stress is affected across word boundaries, as shown in Table 59. Primary stress
in these three-syllable words is not present before this one-syllable verb example.

---

[30] The Exhaustivity Condition states that every stress-bearing unit must be included in
some constituent except those which are licensed by extrametricality.
[31] Extrametricality in the metrical grid licenses either the first or last syllable (but not
both) to always be skipped in parsing line 0 stress into feet. Since stress in Awara can be
on the first or last syllable, all syllables are parsed (extrametricality is off).

Table 59.   Basic Stress with Verb /kʌ-t/ 'see.3sO -1s.Present'

UF	PR	Gloss
/ayi kʌ -t/	[à.yi ɡʌ́t]	'I see grandmother.'
/bela kʌ -t/	[bè.la ɡʌ́t]	'I see the female.'
/dʌkiƀom kʌ -t/	[dʌ̀.ki.ƀom kʌ́t]	'I see the smoldering stick.'
/gʌpmayi kʌ -t/	[gʌ̀p.ma.yi ɡʌ́t]	'I see the hole.'
/gusikayi kʌ -t/	[gù.si.kà.yi kʌ́t]	'I see the sun.'

Stress deletion on these three-syllable words is accounted for in terms of metrical grid parameter stress clash. Stress clash occurs when two adjacent stress marks on Line 0 are projected on Line 1. Awara resolves stress clash by deleting the left adjacent stress mark, as shown in Table 60 with the example /gʌpmayi kʌ -t/ 'hole see.3sO-1s.Pres'.

Table 60.   Stress Grid for /gʌpmayi kʌ-t/

Before:			After:	
	∅		Line 2	*
(* (⊛) (*)			Line 1	(* *)
(* *) (*) (*)			Line 0	(* *) (*) (*)
g ʌ p m a y i k ʌ t				g ʌ p m a y i k ʌ t
[gʌ̀p.ma.yi ɡʌ́t]			'I see the hole.'	

Each stress bearing unit (syllable) is assigned Line 0 stress, as before. Each word is individually parsed into binary feet, left to right, and each left-headed foot projects a stress mark to Line 1. However, stress clash now exists on Line 1. Stress clash removal is applied from right to left on Line 1 and the left adjacent stress mark is deleted. The right stress mark on Line 1 is then projected on Line 2.

Since stress is affected across word boundaries, this suggests that the phonological word is broader in scope than the syntactic word. Further research is required to determine the scope of which syntactic word boundary or phrase is affected by stress clash (Subject + Verb, Subject + Direct Object, Adjective + Noun, etc).

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A second stress pattern is observed with some two- and three-syllable words in which stress occurs on the second syllable, as shown in Table 61.

Table 61.   Second Stress Pattern in Isolation

UF	PR	Gloss
/dame/	[damé]	'cliff'
/butáyʌ/	[bu.tá.ya]	'sorry'
/gutóŋʌ/	[gu.tó.ŋa]	'crooked'

This pattern can be accounted for by at least two options. One option has these words lexically marked for extrametricality on the left syllable. Thus, the first syllable is ignored in the parsing of binary feet. This option claims that the first syllable of words that are lexically marked for extrametricality are never stressed (grid construction is not shown).

An alternative analysis has the second syllable being lexically marked for stress, as shown in Table 62.

Table 62.   Stress Grid for /gutoŋa/ 'crooked'

Before		After	
ø	Line 2		*
⊛ *	Line 1		(*)
(*) (* *)	Line 0	(*) (* *)	
g u t ó ŋ ʌ	UF	g u t ó ŋ ʌ	
[gu.tó.ŋʌ]	'crooked'		

Lexically marked syllables head left-headed metrical feet (e.g. Line 0 metrical feet are built around lexically marked syllables before Left to Right parsing is applied). Thus, lexically marked syllables always get Line 1 stress. Continuing the assumption previously made that extrametricality is off.[32] the first syllable forms a degenerate foot

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[32] See Section 4.1, Basic Stress.

which projects stress to Line 1. Stress clash removal is applied on Line 1 and the right

stress unit on Line 1 is projected on Line 2.

As shown in Table 63, when these words[33] have one-syllable verbs after them,

the stress changes to the first syllable. However, stress does not change with these three-

syllable words followed by one-syllable verbs.

Table 63.   Stress Shift with Verb /kʌ -t/ 'see.3sO -1s.Pres'

	PR	Gloss
/damé kʌ -t/	[dà.me ɡʌ́t]	'I see the cliff.'
/gutóŋʌ kʌ -t/	[gu.tò.ŋa ɡʌ́t]	'I see it's crooked.'

If these two-syllable words were lexically marked for extrametricality rather than

lexical stress, then stress would never be applied to the first syllable. However, since

stress is applied to the first syllable of these words when they are followed by one-

syllable verbs, they cannot be lexically marked for extrametricality. Therefore this

hypothesis is dismissed.

The change in stress, as shown in Table 63, can be accounted for by lexical

stress. Stress clash removal deletes the left stress mark on two-syllable words that have

one-syllable verbs after them, as shown in Table 64.

---

[33] Words that are either lexically marked for extrametricality or lexically marked for
stress.

Table 64.   Stress Grid for /damé kʌ-t/ 'cliff see.3sO-1s.Press

Before:			After:			
ø			Line 2		*	
(*	⊛)	(*)	Line 1	(*	*)	
(*)	(*)	(*)	Line 0	(*)	(*)	(*)
d a m é	k ʌ t			d a m é	k ʌ t	
[dàme ɡʌ́t]			'I see the cliff'			

In this example (Table 64) as stated before, all syllables get Line 0 stress marks, and lexically marked syllables head left-headed metrical feet. These metrical feet always get Line 1 stress. The remaining syllables are parsed and Line 0 feet project stress to Line 1. Here, all three-syllables project Line 1 stress and these Line 1 stress marks are in a state of stress clash. By applying stress clash removal from right to left and deleting the left adjacent stress mark, the correct surface form is derived.[34]

4.3 Stress Neutral Words

The third stress pattern is neutral stress, which only occurs with some two-syllable words in isolation. On these words there is no dominant stress. About 22% of the data analyzed for stress does not exhibit prominent stress in isolation.[35] Some examples of neutral stress are shown in Table 65.

---

[34] If stress clash removal was applied from left to right and deleting the right stress mark, an incorrect surface form would result in the examples shown in Tables 60 and 62.

[35] Stress neutral words also exist in Nankina (Spaulding 1988) and Irumu (Webb 1992).

Table 65.   Stress Neutral Words in Isolation

UF	PR	Gloss
/gokŋot/	[gok.ŋot]	'mushroom'
/bʌbʌm/	[bʌm.bʌm]	'bamboo leaf'
/apak/	[a.pʌk]	'tongs'

When stress neutral words are part of a simple clause, the stress pattern changes. Secondary stress is on the first syllable and primary stress is on the last syllable of the utterance, as shown in Table 66.

Table 66.   Stress Neutral Words with Verbs

UF	PR	Gloss
/bʌbʌm kʌ -t/	[bʌ̀m.bʌm kʌ́t]	'I see the bamboo leaf.'
/gokŋot kʌ -t/	[gòk.ŋot kʌ́t]	'I see the mushroom.'

It is unclear why these two-syllable words do not have dominant stress in isolation and yet have dominant stress in the derived environment of the phrase. Preliminary acoustic analysis of pitch on these stress neutral words show that two-syllable words with heavy syllables (CVC) have falling pitch on both heavy syllables. This pattern is the same as the falling pitch pattern found on the stressed syllable in non-controversial words. However, there are other stress neutral two-syllable words which show no distinctive falling pitch on either syllable.

One hypothesis considered states that heavy syllables head metrical feet (receive Line 1 stress) and stress clash removal is restricted from being applied to heavy syllables. This hypothesis does account for some of the data.[36] However, this hypothesis also incorrectly predicts the stress pattern for non-controversial words, as shown in Table 67.

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[36] About 50% of the words that do not have prominent stress.

Table 67.   Neutral Stress Problems

UF	Gloss	Incorrect	Actual
/gamut/	'wedge'	*[gamút]	[gámut]
/bʌnipgʷalaŋ/	'kindness	*[bʌnìpgʷaláŋ]	[bʌnipgʷálaŋ]

4.4 Parameters for Grid Construction

1. Stressable elements: Syllable

2. Foot constituency: Bounded (binary), upper foot is unbound.

3. Direction of parsing: Left to right

4. Headedness: Left-headed (trochaic), upper foot is right-headed (iambic).

5. Relevance of weight: Quantity sensitive (lexical and heavy stress scheme)

6. Extrametricality: Off

7. Clash removal: On, stress clash removal is applied right to left, delete left.

8. Line Conflation: Off (secondary stress)

CHAPTER 5

INTONATION

Four basic intonation patterns have been observed in various types of Awara

sentences. The example sentences are written in the Awara orthography.

Pattern 1. Flat pitch with falling pitch on last word, as shown in Example 3.

3.　

Iwikge pekgaläk.　　　　'You are always sleeping.'

This is the most common pattern used in positive statements.[37] This is also the most

common pattern for Irumu (Webb 1992b), Nahu (Minter 1998), and Nankina (Spaulding

1988).

Pattern 2. Flat pitch throughout and rising pitch on the last word or syllable, as

shown in Example 4.

4.　

Mataxu axopiläk?　　　'Will you go to Matak?'

This pattern is common with yes-no, content, and rhetorical questions. It is also common

in Irumu (Webb 1992b), Nankina (Spaulding 1988), and Nahu (Minter 1998)

Pattern 3. Pitch rising throughout and falling on the last word, as shown in

Example 5.

---

[37] For very long sentences, Awara intonation patterns like that of Nankina (Spaulding 1988), in that it tends to step downwards over the course of the clause. Spaulding classified this as a separate pattern but Webb did not. I have followed Webb in treating this as an example of pattern 1.

5.

Using tahayo.   'Do it like this.'

This is more common with commands, invitations, greetings, leave takings, and

negation.

    Pattern 4. This type of intonation pattern occurs in shouted messages, as shown

in Example 6.

6.

Mattias akopso!   'Matthias, come!'

The pitch throughout the utterance is constant until the final word or syllable. The final

word or syllable is drawn out and has falling pitch. The entire message up to the final

word or syllable is spoken very rapidly and is staccato. This pattern has also been

observed in Irumu (Webb 1992b) and Nankina (Spaulding 1988).

CHAPTER 6

NOUN MORPHOPHONEMICS

'…when you have eliminated the impossible, whatever remains, however improbable,

must be the truth.' (Doyle 1890)

Awara morphophonemic processes are fairly complex. Though there are some

morphemes that have only one form, there are many that exhibit multiple forms. These

chapters on morphophonemics are organized according to the alternation sets found

among the morphemes, and their underlying forms are presented in the discussion. It is

assumed that all morphophonemic rules are generally applied (e.g. applied to both nouns

and verbs) unless otherwise specified.

6.1 Noun Suffix Morphophonemics

There are no cases of infixing in Awara. All morphophonemic alternations take

place at morpheme breaks. Morphophonemic processes also take place at clitic

boundaries.[38] Awara clitics are one or two syllables. There are no three-syllable clitics.

For this thesis, those morphemes (clitics and other affixes) that a native speaker cannot

pronounce separately from the base morpheme will be treated as bound affixes and are

included in this chapter. Reduplication and compounds are discussed separately in

Chapter 8, Reduplication and Compounds.

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[38] Though clitics are quite well recognized, there is no clear consensus of how to define
or analyze them. See Everett (1996) and Spencer and Zwicky (1998).

The Awara examples are in semi-phonetic form but will still be represented in square brackets. Specifically, aspiration, devoicing of voiced stops morpheme-medially and vowel allophones are not shown. However, prenasalization when it fills the coda of a preceding open syllable, and all consonant variants as they result from the morphophonemic processes being discussed, are explicitly written.

The isolation form of noun may end in a vowel, voiceless stop, or nasal based on phonotactic constraints discussed in Chapter 2, Phonemic Inventory. Examples of vowel-final nouns in isolation are shown in Table 68.

Table 68.   Vowel-Final Nouns

RFS	SP	Gloss
i	[dʌki]	'wood'
e	[pʌye]	'same sex sibling'
ʌ	[kekŋʌ]	'bamboo'
a	[sita]	'potato'
u	[homu]	'dog'
o	[sako]	'choko - a green edible leaf'

RFS = Root Final Segment, SP= Semi-Phonetic Transcription

All vowel-final nouns behave identically morphophonemically. (See Table 244 in Appendix D, Noun Morphology Paradigms, for a list of these paradigms.) Apart from the forms taking the alternate 3.Genitive suffix (see section 6.3, Irregular Morphophonemics), nouns that end in vowels maintain a consistent form in all contexts.

Table 69 lists example nouns that end in a consonant.

Table 69.   Consonant-Final Nouns

RFS	SP	Gloss
p	[nap]	'rope'
t	[teŋat]	'nephew in-law'
k	[musuk]	'knife'
m	[mom]	'aunt'
n	[sandun]	'axe'
ŋ	[eŋaŋ]	'baby'

RFS = Root Final Segment, SP= Semi-Phonetic

All nouns that end with a given consonant in isolation pattern alike. For example,

all nouns that end in [p] in isolation pattern identically when suffixes are attached. The

six roots listed in Table 69, plus a root ending in a vowel in the isolation form, will be

used to show suffixal morphophonemics in the following paradigms.

6.1.1 The Dubitative (Non-Alternating Suffix)

As shown in Table 70, the Dubitative suffix is realized as [-bʌ].

Table 70.   Dubitative Suffix [-bʌ]

Noun	Gloss	Dubitative
[kekŋʌ]	'bamboo'	[kekŋʌmbʌ]
[nap]	'rope'	[napbʌ]
[teŋat]	'nephew in-law'	[teŋatbʌ]
[musuk]	'knife'	[musukbʌ]
[mom]	'aunt'	[mombʌ]
[sandun]	'axe'	[sandunbʌ]
[eŋaŋ]	'baby'	[eŋaŋbʌ]

Root-final voiceless stops and nasal segments do not delete before [-bʌ]. This is

the only non-alternating noun suffix in the language. Since there is no justification for

positing an abstract UF, the UF can be /-bʌ/ 'Dubative'.

6.1.2 [n~ŋ] Alternation

As shown in Table 71, the 1s.Genitive suffix is realized as [-ŋa] after dorsals and

[-na] in all other environments.

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Table 71.   1s.Genitive [-na] ~ [-ŋa]

Noun	Gloss	1s.Genitive
[kekŋʌ]	'bamboo'	[kekŋʌna]
[nap]	'rope'	[napna]
[teŋat]	'nephew in-law'	[teŋatna]
[musuk]	'knife'	[musukŋa]
[mom]	'aunt'	[momna]
[sandun]	'axe'	[sanduna]
[eŋaŋ]	'baby'	[eŋaŋa]

The expected geminate nasals in [sanduna] (*[sandunna]) and [eŋaŋa]

(*[eŋaŋŋa]) simplify. However, the labial-lingual nasal cluster [mn] does not.[39] Nor do

voiceless stops delete before nasals. From these examples it is unclear which nasal

deletes. Evidence will be presented later in connection with the 'also' suffix (Section

6.1.5, [g~p~t~k] Alternation) that it is the first nasal that deletes here.

Two rules are needed to account for the alternations shown in Table 71: an

assimilation rule to account for the alternation between [n] and [ŋ], and a degemination

rule to account for the simplification of the geminate nasals. If the UF was /-ŋa/, it

would be difficult to explain /ŋ/ becoming [y] after vowel-final nouns. Therefore the UF

for the 1s.Genitive can be /-na/ with /n/ becoming [ŋ] after dorsals. The assimilation rule

can be formalized as follows.[40]

(1)   Dorsal Assimilation

$$
\begin{bmatrix} C \\ -\text{labial} \\ -\text{cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{dorsal} \end{bmatrix} \ / \ \begin{bmatrix} C \\ +\text{dorsal} \end{bmatrix} \ \underline{\quad}
$$

---

[39] To confirm that the nasal consonant was deleted, I compared the duration of the nasal
utterance of each of these words using PRAAT (Boersma 2002). All nasals including
those arising from /n-n/ in UF, were about 70 ms (millisecond) but the [mn] sequence in
/mom-na/ was about 140 ms (duration doubled).
[40] See Appendix B, Morphophonemic Rules for a summary of all the morphophonemic
rules and their ordering.

Dorsal Assimilation (1) states that non-labial stops (to exclude the dubitative suffix) and nasals become dorsal after dorsal consonants. The rule as stated applies to more than just nasals; this will prove helpful in discussions of the Ablative suffix (Section 6.1.4, [X~d~g] Alternation).

The second rule needed is given in (2).

(2)   Degemination

$$\begin{bmatrix} C \\ \alpha \text{ Feature} \end{bmatrix} \rightarrow \emptyset \ / \ \underline{} \begin{bmatrix} C \\ \alpha \text{ Feature} \end{bmatrix}^{41}$$

Degemination states that a consonant is deleted when it is followed by an identical consonant. Dorsal Assimilation (1) feeds Degemination (2), as shown in Table 72 with the example /eŋaŋ -na/ 'baby -1s.Genitive'.

Table 72.   Dorsal Assimilation Feeds Degemination

UF	/eŋaŋ -na/	UF	/eŋaŋ -na/
Dorsal Assimilation	eŋaŋŋa	Degemination	---
Degemination	eŋaŋa	Dorsal Assimilation	eŋaŋŋa
PR	[eŋaŋa]	PR	*[eŋaŋŋa]
Gloss	'my baby'		

Other suffixes that pattern like the 1s.Genitive are listed in Table 73.

Table 73.   n~ŋ Suffix List

3.Genitive	/-nʌ/
1d.Genitive	/-nit/
1p.Genitive	/-nin/

6.1.3 [y~n~ŋ] Alternation

As shown in Table 74, the 'after' suffix is realized as [-nʌ] after labials and coronals, [-ŋʌ] after dorsals, and [-yʌ] after vowels.

---

[41] [α Feature] is short hand notation for the full specific feature set.

Table 74.   'after' Suffix [-yʌ] ~ [-nʌ] ~ [-ŋʌ]

Place name	Gloss	'after'
[matayʌ]	'Mataya'	[matayʌyʌ]
[bukʌp]	'Bukäp'	[bukʌpnʌ]
[hapit]	'Hapit'	[hapitnʌ]
[yapulʌk]	'Yapuläk'	[yapulʌkŋʌ]
[bilom]	'Bilom'	[bilomnʌ]
[sakopʌn]	'Sakopän'	[sakopʌnʌ]
[hikwʌŋ]	'Hikwäng	[hikwʌŋʌ]

This alternation pattern is similar to that of the 1s.Genitive in Table 71. Dorsal

Assimilation (1) accounts for the [n]~[ŋ] alternation if it is assumed that /ŋ/ is derived

from /n/. Degemination (2) accounts for Lingual nasals [nn] and [ŋŋ] simplifying and for

the labial-lingual nasal cluster [mn] not simplifying.

There is no strong functional motivation for the nasal~[y] alternation, especially

given that [n] occurs after vowels and [y] occurs after consonants in monomorphemic

forms. It is problematic if the UF is assumed to be a nasal since suffixes like the

1s.Genitive (Table 71) which demonstrate the n~ŋ alternations after consonants have [n],

not [y], after vowels. Thus, the UF is /-yʌ/ and /y/ becomes a nasal after consonants.

This alternation can be accounted for by the following rule.

(3)   Nasalization

y → n / C __

Since no other phonemes apart from /y/ have a nasal alternate form, Nasalization

(3) is restricted to just /y/. Nasalization (3) feeds Dorsal Assimilation (1), as shown in

Table 75 with the example /yapulʌk -yʌ/ 'Yapuläk -after'

Table 75.   Nasalization Feeds Dorsal Assimilation

UF	/yapulʌk -yʌ/	UF	/yapulʌk -yʌ/
Nasalization	yapulʌknʌ	Dorsal Assimilation	---
Dorsal Assimilation	yapulʌkŋʌ	Nasalization	yapulʌknʌ
PR	[yapulʌkŋʌ]	PR	*[yapulʌknʌ]
Gloss	'after Yapuläk'		

Nasalization (3) feeds Degemination (2), as shown in Table 76 with the example

/sakopʌn -yʌ/ 'Sakopän -after'.

Table 76.   Nasalization Feeds Degemination

UF	/sakopʌn -yʌ/	UF	/sakopʌn -yʌ/
Nasalization	sakopʌnnʌ	Degemination	---
Degemination	sakopʌnʌ	Nasalization	sakopʌnnʌ
PR	[sakopʌnʌ]	PR	*[sakopʌnnʌ]
Gloss	'after Sakopän'		

Other suffixes that pattern identically to the 'after' suffix include the classifier

suffixes listed in Table 77.

Table 77.   y~n~ŋ Suffix List

'two.Indefinite'	/-yalʌ/
'two.Definite'	/-yʌt/

These classifier suffixes will also be discussed in Chapter 7, Classifier

Morphophonemics.

6.1.4 [X~d~g] Alternation

As shown in Table 78, there are three suffixes which, like the nasal-initial

1s.Genitive, show an alternation between coronal and dorsal initial segments after

consonant-final nouns. The alternation these suffixes exhibit after vowel-final nouns will

be discussed after the alternation after consonants.

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Table 78.   d ~ g Alternation

Noun	Gloss	Dative [-de] ~ [-ge]	Ablative [-dʌ] ~ [-gʌ]	2s.Genitive [-da] ~ [-ga]
[kekŋʌ]	'bamboo'	[kekŋʌle]	[kekŋʌtʌ]	[kekŋʌka]
[nap]	'rope'	[napde]	[napdʌ]	[napda]
[teŋat]	'nephew in-law'	[teŋatde]	[teŋatdʌ]	[teŋatda]
[musuk]	'knife'	[musukge]	[musukgʌ]	[musukga]
[mom]	'aunt'	[momde]	[momdʌ]	[momda]
[sandun]	'axe'	[sandunde]	[sandundʌ]	[sandunda]
[eŋaŋ]	'baby'	[eŋaŋge]	[eŋaŋgʌ]	[eŋaŋga]

The initial segment in all three suffixes is coronal [d] after labials and coronals and dorsal [g] after dorsals. This alternation is identical to that seen between [n] and [ŋ] in the 1s.Genitive above. Dorsal Assimilation (1) was written so it applies to all coronal stops (not just nasals), so no modifications to the rule are required to account for the [d~g] alternation with the 2s.Genitive, Ablative, and Dative suffixes if [g] is derived from [d].

Suffixes with this pattern have a variety of initial consonants after vowels, as repeated in Table 79.

Table 79.   X ~ d ~ g Alternation after Vowel-Final Nouns

Noun	Gloss	Dative [-le] ~ [-de]	Ablative [-tʌ] ~ [-dʌ]	2s.Genitive [-ka] ~ [-da]
[kekŋʌ]	'bamboo'	[kekŋʌle]	[kekŋʌtʌ]	[kekŋʌka]
[nap]	'rope'	[napde]	[napdʌ]	[napda]
[musuk]	'knife'	[musukge]	[musukgʌ]	[musukga]

Their UFs and the processes that account for the allomorphs of each of the suffixes will be discussed in turn: [-le] 'Dative', [-tʌ] 'Ablative', and [-ka] '2s.Genitive'.

The Dative is [-le] after vowels and [-de] ~ [-ge] after consonants (Table 79). The two most likely UF candidates are /-de/ whose initial consonant softens (lenition) after vowels or /-le/ whose initial consonant hardens (fortition) after consonants. Either process is reasonably natural. Evidence will be presented later in connection with the

'also' suffix (Section 6.1.5, [g~p~t~k] Alternation) that /-le/ is the UF and that the process is one of fortition as expressed in (4).[42]

(4)　　Fortition

$$\begin{bmatrix} C \\ \text{+cons} \\ \text{+voice} \end{bmatrix} \rightarrow \begin{bmatrix} \text{-cont} \end{bmatrix} \ / \ C \ \underline{\quad}$$

Fortition (4) states that voiced continuants (Awara's spirants /ƀ/, /l/, and /ǥ/) become [-continuant] ([b], [d], and [g]) following consonants. Fortition (4) is limited to segments having the features [+consonantal] to exclude [y] and [+voice] to exclude [s], both of which can occur after consonants at morpheme boundaries. Though fortition only applies to the Dative suffix /-le/ becoming [-de] after consonants up to now, it will be shown with the 23p.Immediate verb suffix (see Section 9.1.4, [X~b] Alternation), that it can also partically account for [ǥ~b] alternations exhibited with that suffix.

Though Dorsal Assimilation (1) and Fortition (4) are not crucially ordered, Fortition is logically ordered before Dorsal Assimilation, as shown in Table 80 with the example /eŋaŋ -le/ 'baby -Dative'. If Dorsal Assimilation is applied first, it makes a non-existent velar lateral (represented by 'ǥ' in this chart) which has to be cleaned up by Fortition.

---

[42] McElhanon (1973a) also considered the form after vowels (such as /l/) as the UF for Selepet phonology.

Table 80.   Fortition Logically Ordered before Dorsal Assimilation

UF	/eŋaŋ -le/	UF	/eŋaŋ -le/
Fortition	eŋaŋde	Dorsal Assimilation	eŋaŋɡe
Dorsal Assimilation	eŋaŋge	Fortition	eŋaŋge
PR	[eŋaŋge]	PR	[eŋaŋge]
Gloss	'baby-Dative'		

The Ablative suffix is [-tʌ] after vowels and [-dʌ] ~ [-gʌ] after consonants (Table 78). The most likely UF candidate is either /-tʌ/ whose initial consonant is voiced after consonants, or /-dʌ/ whose initial consonant is devoiced after vowels. Evidence will be presented later with the 'also' suffix (Section 6.1.5, [ɡ~p~t~k] Alternation) that the UF is /-dʌ/. The following rule is needed to account for devoicing.

(5)   Devoicing

$$\begin{bmatrix} C \\ \text{-cont} \\ \text{-son} \\ \text{-labial} \end{bmatrix} \rightarrow \begin{bmatrix} \text{-voice} \end{bmatrix} \ / \ V \ \underline{\quad}$$

The feature [-labial] is needed because the /b/ in the 'Dubitative' suffix /-bʌ/ does not devoice. It does apply to coronals and dorsals (e.g. the 2s.Genitive, which will be discussed next). The feature [-continuant] excludes fricatives and [-sonorant] excludes nasals.[43] Devoicing (5) is not crucially ordered.

The 2s.Genitive is [-ka] after vowels and [-da] ~ [-ga] after consonants (Table 78).[44] If the UF for the 2s.Genitive is /-ga/, Devoicing (5) will account for the correct form after vowels. A rule for coronal assimilation is needed to account for [g] becoming [d].

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[43] The feature [-nasal] would also exclude nasals, but [-sonorant] is more general.
[44] Wantoat has a similar variation (Davis 1961a) such as with the Limitative which alternates as [kä~bän~gän], Subject Marker with [tä~gä~dä] and 'dative or directional' marker [de~ge].

(6)   Coronal Assimilation[45]

$$\begin{bmatrix} C \\ -\text{labial} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{coronal} \end{bmatrix} / \begin{bmatrix} C \\ -\text{dorsal} \end{bmatrix} \underline{\quad}$$

The Feature [-labial] is used in order to exclude labials such as the Dubitative

suffix /-bʌ/. Coronal Assimilation (6) is not crucially ordered.

There are no other suffixes that pattern like the Dative.

Other suffixes that pattern identically to the Ablative are listed in Table 81.

Table 81.   t~d~g Suffix List
Possessor	/-dʌne/
'one'	/-du/
'some'	/-duyi/

Other suffixes that pattern identically to the 2s.Genitive are listed in Table 82.

Table 82.   k~d~g Suffix List
'only'	/-gʌn/
'ever'	/-ga/

6.1.5 [g~p~t~k] Alternation

As shown in Table 83, the suffix 'also' is realized as [-gʌyʌ] after vowels, [-pʌyʌ] after labials, [-tʌyʌ] after coronals, and [-kʌyʌ] after dorsals.

---

[45] Though the alternation between coronal and dorsal is a natural process in Awara, it is impossible to specify a single rule that defines a voiced consonant as coronal after labials and coronals and dorsal after dorsals. This is problematic for both Distinctive Feature theory and Feature Geometry.

Table 83.   'also' Suffix Chart [-gʌyʌ] ~ [-pʌyʌ] ~ [-tʌyʌ] ~ [-kʌyʌ]

Noun	Gloss	'also'
[kekŋʌ]	'bamboo'	[kekŋʌgʌyʌ]
[nap]	'rope'	[napʌyʌ]
[teŋat]	'nephew in-law'	[teŋatʌyʌ]
[musuk]	'knife'	[musukʌyʌ]
[mom]	'aunt'	[mopʌyʌ]
[sandun]	'axe'	[sandutʌyʌ]
[eŋaŋ]	'baby'	[eŋakʌyʌ]

The two most likely UF candidates for the 'also' suffix are /-gʌyʌ/ whose initial

consonant hardens (fortition) after consonants or /-kʌyʌ/ whose initial consonant softens

(lenition) after vowels. If it is /-gʌyʌ/ and the /g/ hardens after consonants, there is

potential conflict with Fortition rule (4) which accounts for /l/ becoming [d] (a voiced

stop) after consonants. If both processes are cases of fortition, this would require two

fortition rules more restrictive in their scope—one resulting in a voiced stop [d] and the

other resulting in a voiceless stop [k]. Since having two very restrictive fortition rules is

undesirable, it seems better to posit /-kʌyʌ/ as the UF for 'also' and to apply a lenition

rule to account for /k/ becoming [g] after vowel-final nouns.

(7)   Lenition

$$\begin{bmatrix} C \\ -\text{voice} \\ -\text{cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{voice} \\ +\text{cont} \end{bmatrix} \ / \ V \ \underline{\quad} \ V$$
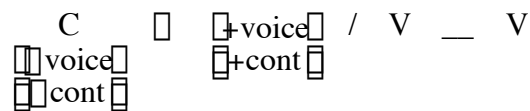
Assuming that all morphophonemic rules apply only in derived environments,

Lenition (7) does not apply to intervocalic word-medial voiceless stops (e.g. [gatʌp]

'stick it').

Degemination (2) counterfeeds Lenition (7), as shown in Table 84 with the

example /musuk -kʌyʌ/ 'knife -also'.

Table 84.   Degemination Counterfeeds Lenition

UF	/musuk -kʌyʌ/	UF	/musuk -kʌyʌ/
Lenition	---	Degemination	musukʌyʌ
Degemination	musukʌyʌ	Lenition	musuɡʌyʌ
PR	[musukʌyʌ]	PR	*[musuɡʌyʌ]
Gloss	'also the knife'		

Devoicing (5) counterfeeds Lenition (7), as shown in Table 85 with the example

/kekŋʌ -ga/ 'bamboo -2s.Genitive'.

Table 85.   Devoicing Counterfeeds Lenition

UF	/kekŋʌ -ga/	UF	/kekŋʌ -ga/
Lenition	---	Devoice	kekŋʌka
Devoice	kekŋʌka	Lenition	kekŋʌga
PR	[kekŋʌka]	PR	*[kekŋʌɡa]
Gloss	'your bamboo'		

There are two kinds of deletion occurring at morpheme boundaries. The first

reduces [pp], [tt], and [kk] clusters to [p], [t], and [k]. This is accounted for by

Degemination (2). The second deletes root-final nasals before voiceless stops. An

additional deletion rule is required to account for it.

(8)   Deletion

$$C \rightarrow \varnothing \ / \ \_\_ \ \begin{bmatrix} C \\ -cont \\ -voice \end{bmatrix}$$

Since other types of nasal-consonant clusters exist, Deletion (8) is restricted to

voiceless stops.

Deletion (8) counterfeeds Lenition (7), as shown in Table 86 with the example

/eŋaŋ -kʌyʌ/ 'baby -also'.

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Table 86.   Deletion Counterfeeds Lenition

UF	/eŋaŋ -kʌyʌ/	UF	/eŋaŋ -kʌyʌ/
Lenition	---	Deletion	eŋakʌyʌ
Deletion	eŋakʌyʌ	Lenition	eŋaɡʌyʌ
PR	[eŋakʌyʌ]	PR	*[eŋaɡʌyʌ]
Gloss	'also the baby'		

The alternation in point of articulation of the initial consonant for the 'also'

suffix can be accounted for by the following rule.

(9)   Voiceless Stop Assimilation

$$\begin{bmatrix} C \\ -\text{cont} \\ -\text{voice} \end{bmatrix} \rightarrow \begin{bmatrix} \alpha\,\text{POA} \end{bmatrix} \;/\; \begin{bmatrix} C \\ \alpha\,\text{POA} \end{bmatrix} \underline{\quad}$$

Voiceless Stop Assimilation (9) states that a voiceless stop assimilates to the

point of articulation of the preceding consonant. Voiceless Stop Assimilation (9) must be

restricted to -[voice]. Since voiced stops do not become labial after labials, Voiceless

Stop Assimilation (9) cannot be combined with the other assimilation rules: Coronal

Assimilation (6) and Dorsal Assimilation (1). Also, since there are other voiceless

consonants (/h/ and /s/) that do not assimilate, Voiceless Stop Assimilation must be

restricted to [-continuant].

Deletion (8) counterbleeds Voiceless Stop Assimilation (9), as shown in Table

87 with the example /mom -kʌyʌ/ 'aunt -also'.

Table 87.   Deletion Counterbleeds Voiceless Stop Assimilation

UF	/mom -kʌyʌ/	UF	/mom -kʌyʌ/
Voiceless Stop Assim.	mompʌyʌ	Deletion	mokʌyʌ
Deletion	mopʌyʌ	Voiceless Stop Assim.	---
PR	[mopʌyʌ]	PR	*[mokʌyʌ]
Gloss	'also aunt'		

Voiceless Stop Assimilation (9) feeds Degemination (2), as shown in Table 88

with the example /nap -kʌyʌ/ 'rope -also'.

Table 88.   Voiceless Stop Assimilation Feeds Degemination

UF	/nap -kʌyʌ/	UF	/nap -kʌyʌ/
Voiceless Stop Assim.	nappʌyʌ	Degemination	---
Degemination	napʌyʌ	Voiceless Stop Assim.	nappʌyʌ
PR	[napʌyʌ]	PR	*[nappʌyʌ]
Gloss	'also the rope'		

Though Voiceless Stop Assimilation (9) bleeds Coronal Assimilation (6), it is not crucially ordered since reversing the order still produces the correct results, as shown in Table 89 with the example /nap -kʌyʌ/ 'rope -also'.

Table 89.   Voiceless Stop Assimilation Bleeds Coronal Assimilation

UF	/nap -kʌyʌ/	UF	/nap -kʌyʌ/
Voiceless Stop Assim.	nappʌyʌ	Coronal Assimilation	naptʌyʌ
Coronal Assimilation	---	Voiceless Stop Assim.	nappʌyʌ
Degem	napʌyʌ	Degem	napʌyʌ
PR	[napʌyʌ]	PR	[napʌyʌ]
Gloss	'also the rope'		

Other suffixes that pattern identically to 'also' are listed in Table 90.

Table 90.   ɡ~p~t~k Suffix List

'with'	/-kʌt/
'at'	/-kʌtan/

There are alternative UFs to consider for the Dative, Ablative, 2s.Genitive and 'also' suffixes, as shown in Table 91.

Table 91.   Alternative UF Forms

Gloss	Original UF	Alternative UF	Original Rule
'Dative'	/-le/	/-de/	Fortition (4)
'Ablative'	/-dʌ/	/-tʌ/	Devoicing (5)
'2s.Geniotive'	/-ga/	/-ka/	Devoicing (5)
'also'	/-kʌyʌ/	/-ɡʌyʌ/	Lenition (7)

If the alternative UFs are assumed, the following rules must be substituted for Fortition (4), Devoicing (5), and Lenition (7).

(10)   Lenition (for Fortition (4))

$$\begin{bmatrix} C \\ +\text{voice} \\ -\text{cont} \\ -\text{nasal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{cont} \end{bmatrix} \ / \ V \ \_\_$$

(11)   Voicing (for Devoicing (5))

$$\begin{bmatrix} C \\ -\text{cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{voice} \end{bmatrix} \ / \ C \ \_\_$$

(12)   Fortition (for Lenition (7))

$$\begin{bmatrix} C \\ +\text{cont} \\ +\text{voice} \\ +\text{cons} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{cont} \\ -\text{voice} \end{bmatrix} \ / \ C \ \_\_$$

There is evidence of voiceless stop Lenition (7) occurring elsewhere, such as on noun-final voiceless stops with the Negative suffix discussed next (Section 6.1.6, [ø~u] Alternation) and with voiceless-stop initial classifiers (see Section 7.2.2, No Alternation of Classifier-Initial Segment) supporting the original analysis. Also, lenition of voiceless stops occurs at the reduplicant boundary and compound boundary (see Chapter 8, Reduplication and Compounds).

Since there is independent justification for Lenition (7), and not for Fortition (12), it follows that the UF for 'also' is /-kʌyʌ/. Devoicing (5) must applied instead of Voicing (11) and /-ga/ is posited as the UF for '2s.Genitive', since it would be impossible otherwise to predict the correct surface forms of /-kʌyʌ/ 'also' becoming [-gʌyʌ] and /-ka/ '2s.Genitive' becoming [-ga] after vowel-final nouns. Also, Fortition (4) must be applied instead of Lenition (10) and the UF for 'Dative' is /-le/, since it

would impossible to otherwise predict the correct surface forms of /-de/ 'Dative'

becoming [-le] and /-dʌ/ 'Ablative' becoming [-tʌ] after vowels.

6.1.6 [ø~u] Alternation

The Negative suffix is realized as [-ndo] after vowels and [-undo] after

consonants, as shown in Table 92.

Table 92.   Negative [-ndo] ~ [-undo]

Noun	Gloss	Negative
[kekŋʌ]	'bamboo'	[kekŋʌndo]
[nap]	'rope'	[naƀundo]
[teŋat]	'nephew in-law'	[teŋalundo]
[musuk]	'knife'	[musuǥundo]
[mom]	'aunt'	[momundo]
[sandun]	'axe'	[sandunundo]
[eŋaŋ]	'baby'	[eŋaŋundo]

All root-final voiceless stops lenite (become voiced spirants) when followed by

this suffix. There are no changes to root-final nasals.

It would be difficult to account for the alternation between the vowel /u/ and null

in terms of insertion in light of the fact that vowels are not inserted before /-bʌ/

'Dubitative' (/mom -bʌ/ 'aunt -Dubitative' is [mombʌ] not *[momumbʌ]) or before /na/

'1s.Genitive' (/mom -na/ 'aunt -1s.Genitive is [momna] not *[momuna]). In addition, the

same alternation is seen in the Topic marker /-u/ (among others), as shown in Table 93.

Table 93.   Topic Marker [-u] ~ [-ø]

Noun	Gloss	Topic
[kekŋʌ]	'bamboo'	[kekŋʌ]
[nap]	'rope'	[naɓu]
[teŋat]	'nephew in-law'	[teŋalu]
[musuk]	'knife'	[musuɠu]
[mom]	'aunt'	[momu]
[sandun]	'axe'	[sandunu]
[eŋaŋ]	'baby'	[eŋaŋu]

There is no justification for inserting a vowel in word-final position in these forms. Therefore, it is best to posit that the vowel [u] as part of the suffix UF and /u/ deletes after vowels. The UF for the Negative suffix is then /-udo/.

The alternation between the voiceless stops and the voiced spirants of the final segment of the noun root (/teŋat -udo/ 'nephew in-law -Negative' is [teŋalundo]) can be accounted for by Lenition (7).

To account for the alternation between the initial vowel of a suffix and null, a vowel deletion rule is applied.

(13)   Vowel Deletion

V → ø / V __

Vowel Deletion (13) is not crucially ordered.

Other suffixes that pattern identically to the Negative are listed in Table 94.

Table 94.   ø~u Suffix List

Topic, Linker, Conditional[46]	/-u/
Dislocation	/-un/
Locative	/-une/
Individuator	/-unin/

---

[46] It is unclear if the Topic, Linker, and Conditional are one suffix with multiple roles or are homonyms. They all pattern identically morphophonemically.

6.1.7 [h~s] Alternation

As shown in Table 95, the 2p.Genitive is realized as [-hʌ] after vowels and [-sʌ] after consonants. The root-final segment does not delete when followed by a voiceless fricative.

Table 95.   2p.Genitive [-hʌ] ~ [-sʌ]

Noun	Gloss	2p.Genitive
[kekŋʌ]	'bamboo'	[kekŋʌhʌ]
[nap]	'rope'	[napsʌ]
[teŋat]	'nephew in-law'	[teŋatsʌ]
[musuk]	'knife'	[musuksʌ]
[mom]	'aunt'	[momsʌ]
[sandun]	'axe'	[sandunsʌ]
[eŋaŋ]	'baby'	[eŋaŋsʌ]

The UF can be determined on the basis of other alternations, some of which have not yet been discussed. The 'after' suffix /-yʌ/ (Section 6.1.3, [y~n~ŋ] Alternation) was argued to have /y/ as the initial consonant of its UF. There is also the 2s.Imperative ([-yo] ~ [-so] alternation) found in the verb suffixes. Since /y/ was chosen as the UF for the [y~n~ŋ] alternations, then it follows that /s/ is the most logical choice for the [y~s] alternation.[47] This results in /-hʌ/ being the most logical UF for '2s.Genitive'.[48]

The following rule will account for the [-hʌ] ~ [-sʌ] alternation.

(14)   H-Fortition

    h → s / C __

H-Fortition (14) is not crucially ordered.

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[47] To select /y/ for both '2s.Imp' and 'after' suffixes complicates the rules in that /y/ becomes [s] after consonants with '2s.Imp'and [n] after consonants with 'after'.
[48] To select /s/ for both 2s.Imp' and '2s.gen' complicates the rules in that /s/ becomes [y] after vowels with '2s.imp' and [h] after vowels with '2s.Gen'.

The only other suffix that patterns identically to the 2p.Genitive is the Diminutive /-him/.[49]

6.2 Noun Roots

Root-initial segments in nouns do not alternate.[50] The only observed morphophonemic processes applying to the root-final segment in nouns are accounted for by the rules Deletion (8), Degemination (2), and Lenition (7). Since these rules account for the surface forms, there is no need to posit an abstract underlying form or a form which is different from the surface forms in isolation.

6.3 Irregular Morphophonemics

6.3.1 Alternate 3.Genitive Suffix [-i] ~ [-e] ~ [-ʌ]

The suffix /-nʌ/ '3.Genitive' has the allomorphs [-i], [-e], and [-ʌ]. These occur more often with body-part nouns such as those shown in Table 96. However, it is unpredictable when to use the alternate forms.

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[49] Though the Diminutive has the same h~s variation, there are extra complications which are discussed later in Section 7.2.1, Classifier-Final Segment Morphophonemics.
[50] There was one case in the recorded text data where a word-initial voiceless stop on a noun lenited after a vowel-final verb. However, further testing showed that lenition of initial-segment voiceless stops does not occur on nouns. The recorded text may have been a speaker preference or more likely a speech error.

Table 96.   Alternate 3.Genitive Chart

Noun	Gloss	With Alt. 3.Gen	Gloss
[baka]	'thigh'	[baki]	'its thigh'
[hapbʌ]	'calf'	[hapi]	'its calf'
[kayi]	'eye'	[kayi]	'its eye'
[kukʌ]	'belly'	[kuke]	'its belly'
[maha]	'back'	[mahe]	'its back'
[nʌŋʌ]	'spleen'	[nʌŋe]	'its spleen'
[sopʌ]	'knee cap'	[sopi]	'its knee cap'
[yembi]	'tongue'	[yembi]	'its tongue'
[yepmʌ]	'son in law'	[yepme]	'his son in law'
[banip]	'insides'	[baniyʌ]	'its insides'
[map]	'mouth'	[mayʌ]	'its mouth'
[hapʌt]	'shoulder blade'	[hapʌlʌ]	'its shoulder blade'
[kakʌt]	'molar'	[kakʌlʌ]	'its molar'
[dʌndʌn]	'teeth'	[dʌndʌlʌ]	'its teeth'
[tʌkʌpun]	'rib'	[tʌkʌpulʌ]	'its rib'

When the alternative form is used, [-ʌ] is consistently used after nouns ending in consonants, and [-i] and [-e] are used with nouns ending in vowels, replacing the final vowel. However, the application of [-i] and [-e] is not predictable. All /i/-final nouns and some /a/- and /ʌ/-final nouns use [-i], whereas other /a/- and [ʌ]-final nouns use [-e].

Since it is impossible to predict which nouns use the alternative 3.Genitive form, and since the choice of the 3.Genitive allomorphs are not fully predictable, the 3.Genitive form of the nouns that use these alternative forms are posited in the lexicon.

6.3.2 Irregular Root Morphophonemics

When noun roots take the alternate 3.Genitive form, the root-final segment does not follow normal lenition processes, as shown in Table 97.

Table 97.　　Noun Roots with Alternate 3.Genitive Chart

Noun	Gloss	With suffix	Gloss
[banip]	'insides'	[baniyʌ]	'its insides'
[hapʌt]	'shoulder blade'	[hapʌlʌ]	'its shoulder blade'
[dʌndʌn]	'teeth'	[dʌndʌlʌ]	'its teeth'

The final segment /n/ on nouns becomes [l], and the final segment /p/ on nouns becomes [y] before the alternate 3.Genitive suffix. There are no occurrences of final segments /k/, /m/, or /ŋ/ on nouns taking the alternate 3.Genitive suffix in the data. Lenition (7) accounts for the final /t/ becoming [l]. A minor rule needs to be posited to account for /p/ becoming /y/ before this suffix (not formalized).

When this suffix follows vowel-final nouns (see Table 96), the noun-final vowel deletes. Normally, the suffix-initial vowel deletes after vowel-final nouns (/sako -une/ 'choko leaf -Locative' is [sakone]) or reduplicated vowels at morpheme boundaries (/RED + uli/ is [uliuli], 'nettles') are not deleted. A minor deletion rule needs to be posited to account for this deletion (not formalized).

An alternative analysis is to posit in the lexicon the 3.Genitive form of these nouns that use the alternative 3.Genitive form since it cannot be predicted which nouns use this form. Also, the alternate '3.Genitive' form is not predictable after non-high vowels and two minor rules must be applied to consonant-final nouns that use the alternate 3.Genitive form.

A second irregularity in noun roots occurs when /m/-final nouns are bound to /t/-initial classifiers. The /m/ becomes [p], as shown in Table 98.

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Table 98.   Classifiers Bound to Nouns

UF	Gloss	PR	Gloss
/wam + tʌkŋa/	'word + rope'	[waptʌkŋa]	'speech'
/dubiyam + tʌpʌ/	'mole + stick'	[dumbiyaptʌpʌ]	'mole'

This only occurs with /m/-final nouns and /t/-initial classifiers. Classifiers will be discussed next in Chapter 7, Classifier Morphophonemics.

CHAPTER 7

CLASSIFIER MORPHOPHONEMICS

Awara classifiers are words that indicate the shape or arrangement of an object or group of objects.[51] For example, Awara has a generic noun /dʌki/ which can mean 'wood', 'tree', or 'fire'. When a classifier is attached, it determines the meaning of the noun, as shown in Table 99.[52]

Table 99.   Noun and Classifier Example

UF	Gloss	PR	Gloss
/dʌki + dʌkʌ/	'wood + Cl.stick'	[dakindʌka]	'thick tree'
/dʌki + han/	'wood + Cl.sheet'	[dakihan]	'plank'
/dʌki + ƀom/	'wood + Cl.place'	[dʌkiƀom]	'fire'

Classifiers never occur alone, but are always right or left bound. They are right-bound to noun phrases or demonstratives, as shown in Table 100.

Table 100.   Right Bound Classifier Examples

UF	Gloss	PR
/yʌgʌ + tʌkŋa/	'water + CL.rope'	[yaŋgʌlʌkŋa]
/dʌki + kʷʌbʌt/	'wood + Cl.extended'	[dʌkiɡʷʌmbʌt]
/gʌnaŋʌ + gʷʌk/	'hole + Cl.opening'	[gʌnaŋʌŋgʷʌk]
/dʌki + gʷʌkʌm/	'wood + Cl.chunk'	[dʌkiŋgʷʌkʌm]
/dʌki + gʷen/	'wood + Cl.lump'	[dʌkiŋgʷen]
/kʷalem + gutoŋ/	'bow + Cl.thin'	[kʷalemgutoŋ]

Classifiers are left-bound to quantifier suffixes, as shown in Table 101.

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[51] See S. Quigley (2002a) for a syntactic description of Awara classifiers. Also, in the UF examples, '-' is used to mark simple morpheme boundaries and '+' is used to mark other types of boundaries such as classifier, reduplication and compound boundaries.
[52] Though I have yet to justify the UF for classifiers, they are included in the following tables to help clarify the facts for the reader.

Table 101. Left Bound Classifier Examples

Classifier	Gloss	PR
/tʌkŋa -duyi/	'Cl.rope -some'	[tʌkŋatuyi]
/kʷʌbʌt -duyi/	'Cl.extended -some'	[kʷʌmbʌtduyi]
/gʷʌk -duyi/	'Cl.opening -some'	[gʷʌkguyi]
/gʷʌkʌm -duyi/	'Cl.chunk -some'	[gʷʌkʌmduyi]
/gʷen -duyi/	'Cl.lump -some'	[gʷenduyi]
/gutoŋ -duyi/	'Cl.thin -some'	[gutoŋguyi]

Classifiers cannot be concurrently bound to noun phrases or demonstratives and quantifier suffixes. However, classifiers can be concurrently right-bound to a noun phrase and left-bound to a postpositional suffix, as shown in Table 102.

Table 102. Classifier Examples Bound to Nouns and Postpositional Suffixes

UF	Gloss	PR
/yʌt + dupi -bʌ/	'sugar cane + Cl.finger -Dubitative'	[yʌtdupimbʌ]
/homu + gʷen -le/	'dog + Cl.lump -Dative'	[homuŋgʷende]

All noun suffixes except the suffix /-yʌ/ 'after' also attach to classifiers. The alternation pattern for these noun suffixes following classifiers is the same pattern found following nouns as previously described in Section 6.1, Noun Suffix Morphophonemics. The suffix /-yʌ/ 'after' cannot be immediately attached to classifiers due to semantic, not phonological, constraints.

7.1 Classifier Suffix Morphophonemics

There are suffixes that attach only to classifiers, as shown in Table 103. There are no examples of classifiers whose initial or final segment is [p].

Table 103. Classifier Suffixes

Classifier	Gloss	'two.Definite' [-yat] ~ [-nat] ~ [-ŋat]	'one' [-tu] ~ [-du] ~ [-gu]
/tʌkŋa/	'Cl.rope'	[tʌkŋayat]	[tʌkŋatu]
/kʷʌbʌt/	'Cl.extended'	[kʷʌmbʌtnat]	[kʷʌmbʌtdu]
/gʷʌk/	'Cl.opening'	[gʷʌkŋat]	[gʷʌkgu]
/gʷʌkʌm/	'Cl.chunk'	[gʷʌkʌmnat]	[gʷʌkʌmdu]
/gʷen/	'Cl.lump'	[gʷenat]	[gʷendu]
/gutoŋ/	'Cl.thin'	[gutoŋat]	[gutoŋgu]

Table 103. (Continued)

Classifier	Gloss	'Individuator' [-unin] ~ [-nin]	'Diminutive' [-him] ~ [-sim]
/tʌkŋa/	'Cl.rope'	[alʌkŋanin]	[tʌkŋahim]
/kʷʌbʌt/	'Cl.extended'	[agʷʌmbʌlunin]	[kʷʌmbʌsim]
/gʷʌk/	'Cl.opening'	[aŋgʷʌgunin]	[gʷʌksim]
/gʷʌkʌm/	'Cl.chunk'	[aŋgʷʌkʌmunin]	[gʷʌkʌsim]
/gʷen/	'Cl.lump'	[aŋgʷenunin]	[gʷesim]
/gutoŋ/	'Cl.thin'	[aŋgutoŋunin]	[gutoŋsim]

/a/ 'that' demonstrative is required with the Individuating suffix

These suffixes pattern identically to noun suffixes. The 'two.Definite' patterns identically to /-yʌ/ 'after' (see Section 6.1.3, [y~n~ŋ] Alternation), where it is [-yat] after vowels, [-nat] after labials and coronals, and [-ŋat] after dorsals. The UF for 'two.Definite' is /-yat/. Dorsal Assimilation (1) accounts for the [n~ŋ] alternation, and Nasalization (3) accounts for the [y~n] alternation.

The suffix 'one' patterns identically to /-dʌ/ 'Ablative' (see Section 6.1.4, [X~d~g] Alternation), where it is [-tu] after vowels, [-du] after labials and coronals, and [-gu] after dorsals. The UF for 'one' is /-du/. Dorsal Assimilation (1) accounts for the [d~g] alternation, and Devoicing (5) accounts for the [t~d] alternation.

The Individuator patterns identically to /-udo/ 'Negative' (see Section 6.1.6, [ø~u] Alternation), where it is [-nin] after vowels and [-unin] after consonants. The UF for 'Individuator' is /-unin/ and Vowel Deletion (13) accounts for the [u~ø] alternation.

The Diminutive patterns identically to 2p.Genitive (see Section 6.1.7, [h~s]

Alternation), where it is [-him] after vowels and [-sim] after consonants. The UF for

'Diminutive' is /-him/ and H-Fortition (14) accounts for the [h~s] alternation.

There is one minor variation regarding the classifier-final segment with the

Diminutive suffix /-him/. If the classifier-final segment is coronal, it deletes before

[-sim]. This will be discussed next in Section 7.2, Classifier Morphophonemics.

The complete set of suffixes that attach only to the right side of classifiers is

given with their UFs in Table 104.

Table 104.   Classifier Suffixes List

Gloss	Suffix
'one'	/-du/
'some'	/-duyi/
Diminutive	/-him/
Individuator	/-unin/
'two.Indefinite'	/-yalʌ/
'two.Definite'	/-yʌt/

7.2 Classifier Morphophonemics

7.2.1 Classifier-Final Segment Morphophonemics

As shown in Table 103 with the Diminutive suffix, the labial and coronal

classifier-final segments delete before [-sim] (e.g. /gʷen -him/ 'Cl.lump -Diminutive' is

[gʷesim]). However, morpheme-final labial and coronal consonants do not delete on

noun roots followed by an /s/-initial suffix (e.g. /sadun -hʌ/ 'axe -2p.Gen' is [sandunsʌ],

as shown in Table 95). It is impossible to modify Deletion (8) or Degemination (2) to

account for labial-final and coronal-final deletion with classifiers but not with nouns.

Thus, an additional deletion rule is needed specifically for the final consonant of

classifiers.

(15)   Classifier Final-Stop Deletion

$$\begin{bmatrix} C \\ -\text{dorsal} \end{bmatrix} \rightarrow \emptyset \ / \ \underline{\quad} \ ]_{Cl} \ \begin{bmatrix} C \\ +\text{cont} \\ -\text{voice} \end{bmatrix}$$
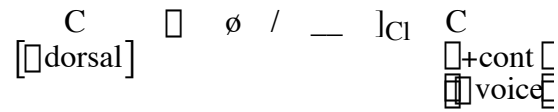
Classifier Final-Stop Deletion (15) counterbleeds H-Fortition (14), as shown in

Table 105 with the example /gʷʌkʌm -him/ 'Cl.chunk -Diminutive'.

Table 105. Classifier Final-Stop Deletion Counterbleeds H-Fortition

UF	/gʷʌkʌm -him/	UF	/gʷʌkʌm -him/
H-Fortition	gʷʌkʌmsim	CFS Deletion	gʷʌkʌhim
CFS Deletion	gʷʌkʌsim	H-Fortition	---
PR	[gʷʌkʌsim]	PR	*[gʷʌkʌhim]
Gloss	'small chunk'		

There is one dialectal variation in this rule. Some speakers delete just coronals

while others delete both labials and coronals.

Since the final segment alternation of classifiers can be accounted for by the

above rules, there is no need for positing an UF that is different from the unbound

surface form.

7.2.2 No Alternation of Classifier-Initial Segment

Classifiers that begin with consonants other than voiceless stops do not have

alternate initial-segment forms when bound to nouns or demonstratives, as shown in

Table 106.

Table 106. Classifier Examples with No Alternate Form

UF	Gloss	V-final Nouns
/dʌki + dʌkʌ/	'wood + Cl.thick'	[dʌkindʌkʌ]
/dʌki + gʷen/	'wood + Cl.lump'	[dʌkiŋgʷen]
/bata + muha/	'moss + Cl.wad'	[batamuhʌ]
/meyʌ + ɓom/	'heavy + Cl.place'	[meyʌɓom]
/titi + yʌgʷʌt/	'Titi + Cl.family'	[titiyʌŋgʷʌt]
/dʌki + han/	'wood + Cl.sheet'	[dʌkihan]

Table 106.   (Continued)

UF	Gloss	t-final Nouns
/gayʌt + dʌkʌ/	'axe + Cl.thick'	[gayʌtdʌkʌ]
/gayʌt + gwen/	'axe + Cl.lump'	[gayʌtgʷen]
/sibut + muha/	'cake + Cl.wad'	[simbutmuhʌ]
/yot + ƀom/	'house + Cl.place'	[yotƀom]
/siƀʌt + yʌgʷʌt/	'Siwät+ Cl.family'	[siƀʌtyʌngʷʌt]
/gʷikgʷit + han/	'shell + Cl.sheet'	[gʷikgʷithan]

However, voiceless stop-initial classifiers do exhibit initial-segment alternate forms when bound to nouns or demonstratives, as will be discussed next.

7.2.3 [ǥ~k] Initial Segment Alternation

The classifiers 'Cl.part' and 'Cl.extended' are realized as [ǥaƀut] and [ǥʷʌmbʌt] after vowel-final nouns and as [kaƀut] and [kʷʌmbʌt] after consonant-final nouns, as shown in Table 107.

Table 107.   [k] and [kʷ] Initial Classifiers

Noun	Gloss	/kaƀut/ 'Cl.part'
/dʌki/	'wood'	[dʌkiǥaƀut]
/hup/	'stone'	[hupkaƀut]
/yot/	'house'	[yotkaƀut]
/halak/	'bridge'	[halakaƀut]
/balem/	'wall'	[balemkaƀut]
/taƀan/	'mountain'	[taƀankaƀut]
/kʷaŋaloŋ/	'whirlpool'	[kʷaŋalokaƀut]

Table 107.   (Continued)

Noun	Gloss	/kʷʌbʌt/ 'Cl.extended'
/dʌki/	'wood'	[dʌkiǥʷʌmbʌt]
/nap/	'rope'	[napkʷʌmbʌt]
/ƀʌmat/	'gourd'	[ƀʌmatkʷʌmbʌt]
/tawik/	'clothes'	[tawikʷʌmbʌt]
/balem/	'wall'	[balemkʷʌmbʌt]
/nomʌn/	'good'	[nomʌnkʷʌmbʌt]
/inuluŋ/	'big'	[inulukʷʌmbʌt]

The boundary between nouns and classifiers is different from that between nouns and suffixes or classifiers and suffixes. Voiceless Stop Assimilation (9) and Deletion (8)

do not apply, as shown in examples such as /hup + kaƀut/ being pronounced as [hupkaƀut], not *[hupaƀut]. This can be accounted for by claiming that a classifier boundary is different than a morpheme boundary.

The [k~ɡ] alternation can be accounted for by assuming that the UFs are /kaƀut/ 'part' and /kʷʌbʌt/ 'extended', and extending Lenition (7) to be applied intervocalically across classifier boundaries.

(7.a)   Lenition

$$\begin{bmatrix} C \\ -\text{voice} \\ -\text{cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{voice} \\ +\text{cont} \end{bmatrix} / \ V \ ([_{Cl}) \ \underline{\quad} \ V$$

Since there is no clear evidence of noun-initial consonants leniting, Lenition (7) is not applied across noun boundaries.

If a noun-final segment is a velar, it deletes before /k/-initial classifiers. This is accounted for by extending Deletion (8) to be applied across classifier boundaries.

(8.a)   Deletion

$$C \rightarrow \emptyset \ / \ \underline{\quad} \ ([_{Cl}) \ \begin{matrix} C \\ \begin{bmatrix} -\text{cont} \\ -\text{voice} \end{bmatrix} \end{matrix}$$

7.2.4 [l~t~k] Initial Segment Alternation

The classifier 'rope' is realized as [lʌkŋa] after vowel-final nouns, [kʌkŋa] after dorsal-final nouns, and [tʌkŋa] elsewhere, as shown in Table 108.

Table 108. [l~t~k] Initial Classifiers

Noun	Gloss	/tʌkŋa/ 'Cl.rope'
/yagʌ/	'water'	[yaŋgʌlʌkŋa]
/nap/	'rope'	[naptʌkŋa]
/tutut/	'fence'	[tututʌkŋa]
/gomok/	'snake'	[gomokʌkŋa]
/ɓam/	'word'	[ɓaptʌkŋa]
/nomʌn/	'good'	[nomʌtʌkŋa]
/inuluŋ/	'big'	[inulukʌkŋa]

If the final segment of a word is a non-labial consonant, it deletes before voiceless stop-initial classifiers. This has been previously accounted for with the classifier /kaɓut/ 'Cl.part' by extending Deletion (8) to classifier boundaries.

However, Deletion (8) does not apply to labial-final nouns that are bound to /t/-initial classifiers (/nap + tʌkŋa/ 'rope + Cl.rope' is [naptʌkŋa]). Also, /m/-final nouns become /p/-final before /t/-initial classifiers (/ɓam + tʌkŋa/ 'word + Cl.rope' is [ɓaptʌkŋa]). A minor rule is posited to account for this alternation (not formalized).

As with /kaɓut/ 'Cl.part', the UF for 'Cl.rope' can be /tʌkŋa/, and Lenition (7), as modified above to extend to classifier boundaries, accounts for [lʌkŋa] after vowels.

To account for the [tʌkŋa] ~ [kʌkŋa] alternation, a classifier dorsal assimilation rule is applied to classifier boundaries.

(16)   Classifier Dorsal Assimilation

$$\begin{bmatrix} C \\ -cont \\ -voice \end{bmatrix} \rightarrow \begin{bmatrix} +dorsal \end{bmatrix} \ / \ \begin{bmatrix} C \\ +dorsal \end{bmatrix} \ [_{Cl} \ \underline{\quad}$$

Since there are no classifiers that are /p/-initial to indicate otherwise, Classifier Dorsal Assimilation (16) can be assumed to apply to all voiceless stops. Classifiers with initial voiced stops such as /dʌkʌ/ (see Table 106) do not have a velar allomorph; this justifies limiting Classifier Dorsal Assimilation to voiceless stops.

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Classifier Dorsal Assimilation (16) feeds Deletion (8), as shown in Table 109

with the example /inuluŋ + tʌkŋa/ 'big + Cl.rope'.

Table 109. Classifier Dorsal Assimilation Feeds Deletion

UF	/inuluŋ + tʌkŋa/	UF	/inuluŋ + tʌkŋa/
Class. Dorsal Assim.	inuluŋkʌkŋa	Deletion	---
Deletion	inulukʌkŋa	Class. Dorsal Assim.	inuluŋkʌkŋa
PR	[inulukʌkŋa]	PR	*[inuluŋkʌkŋa]
Gloss	'the big long one'		

Classifier Dorsal Assimilation (16) feeds Degemination (2). However, since

Deletion (8) subsumes all cases of classifier degemination, Degemination (2) is not

relevant for classifiers.

7.3 Irregular Classifier Morphophonemics

7.3.1 Specific Suffix

The Specific suffix is [-sim] after vowel-final and /n/-final classifiers and [-šim]

after velar-final and /t/-final classifiers, as shown in Table 110.

Table 110. Diminutive and Specific Suffix

Classifier	Gloss	'Diminutive'	'Specific'
/tʌkŋa/	'Cl.rope'	[tʌkŋahim]	[tʌkŋasim]
/kʷʌbat/	'Cl.exended	[kʷʌmbʌsim]	[kʷʌmbʌtšim]
/gʷʌk/	'Cl.opening'	[gʷʌksim]	[gʷʌkšim]
/gʷakam/	'Cl.chunk'	[gʷʌkʌsim]	[gʷʌkʌmsim]
/gʷen/	'Cl.lump'	[gʷesim]	[gʷensim]
/gutoŋ/	'Cl.thin'	[gutoŋsim]	[gutoŋšim]

The Specific suffix is similar to the Diminutive suffix /-him/ in that both occur

only after classifiers and both have an allomorph [-sim] (which for the Diminutive suffix

occurs after all consonant final classifiers). Whereas non-velar consonants delete before

the Diminutive suffix, they do not delete before the Specific suffix.

There is some confusion regarding the Diminutive and the Specific suffix.

Though people understand the difference between [gwesim] 'diminutive' and [gwensim]

'specific', they do not distinctly conjugate most of the other classifiers with these two suffixes. Since they acknowledge that there is contrast between the two words [gwesim] and [gwensim], it is assumed that the two words have separate suffixes.

Over the course of working through the Specific suffix, my language consultant went from using [-sim] to [-šim] after all consonants.[53] This was the only time we heard the phone [š] in Awara. [-šim] does not exist in any of the recorded texts and was never heard in normal conversation.

It is assumed that the UF is /-sim/ for the Specific suffix and a palatalization rule is applied. However, due to inconsistencies in the data, I have been unable to formalize the palatalization rule. It is unclear why Classifier Deletion (15) is applied to [gʷesim] (/gʷen -him/ 'Cl.lump -Dim.') but not to [gwensim] (/gʷen -sim/ 'Cl.lump -Specific').

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[53] see Appendix D, Noun Morphology Paradigms, for a complete list.

CHAPTER 8

REDUPLICATION AND COMPOUNDS

8.1 Reduplication

Awara has full reduplication of base forms, as shown in Table 111.

Table 111. Reduplication Examples

UF	Base Gloss	Reduplicated	Reduplicated Gloss
[don]	'bush'	[dondon]	'almost bush'
[guŋat]	'bird'	[guŋatguŋat]	'butterfly'
[halu]	'beach'	[haluhalu]	'sand'
[katak]	'hand'	[kʌtakʌtak]	'yam'
[uli]	'sharp'	[uliuli]	'nettles'

All base forms are one or two syllable words. The only case involving a three syllable word is [matekmatekŋʌ] 'little things' which has the derivational suffix /-ŋʌ/. It is unclear if reduplication is limited to two syllables or if it is applied before the derivational affix is attached. The result is the same.

There are two kinds of reduplication.[54] In the first kind, the base form exists independently. Words are reduplicated in full and the meaning is usually diminutive or lowering in semantic category, as shown in Table 111 above. In classifiers, reduplication usually indicates plurality.

In the second kind of reduplication, the base form does not exist independently, as shown in Table 112.

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[54] See S. Quigley (2002a) for further discussion of Reduplication.

Table 112.   Reduplication with no Base Form

UF	Reduplicated	Gloss
/RED + datʌ/	[datʌndatʌ]	'bird variety'
/RED + gak/	[gakgak]	'tree sp.'
/RED + giniŋ/	[giniŋginiŋ]	'naughty'
/RED + kʌlʌk/	[kʌlʌkkʌlʌk]	'noise'
/RED + naɡat/	[naɡatnaɡat]	'fearful'
/RED + oŋ/	[oŋoŋ]	'housefly'
/RED + tigi/	[tiŋgiliŋgi]	'bird sp.'
/RED + ɓʌlu/	[ɓʌluɓʌlu]	'winter squash'

These words include some cases of onomatopoeia, such as the name of a

particular species of bird[55] (e.g. [tiŋgiliŋgi] is the perceived sound which that particular

bird makes).

8.1.1 Reduplication Morphophonemics

The initial /t/ in /tʌpʌ/ 'Cl.Stick' and the initial /kʷ/ in /kʷalu/ 'bamboo' become

[l] and [ɡʷ] after the reduplicant, as shown in Table 113.

Table 113.   Reduplication with Lenition

UF	Gloss Base	Reduplicated	Gloss Reduplicated
/RED + tʌpʌ/	'Cl.Stick singular'	[tʌpʌlʌpʌ]	'Cl.Stick plural'
/RED + tʌbi/	'thick mucus'	[tʌmbilʌmbi]	'thin mucus'
/RED + kʷalu/	'bamboo'	[kʷaluɡʷalu]	'bamboo sp.'

When reduplication causes /t/ and /kʷ/ to occur between vowels, these

consonants are lenited.[56] This is accounted for by extending Lenition rule (7) to

reduplicant boundaries.

(7.b)   Lenition

$$\begin{bmatrix} C \\ -\text{voice} \\ -\text{cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{voice} \\ +\text{cont} \end{bmatrix} \ / \ V \ \left(l_{\{Cl, Red\}} \right) \ \underline{\quad} \ V$$

---

[55] R. Dixon (1977) reports a similar situation with the Yidin Language in Australia in which he considered fairly typical.

[56] There are no examples of /k/ in the data.

There are no examples in the data of reduplication causing /p/ or /k/ to occur between vowels to determine whether or not they are included in this lenition process. For now, it is assumed that they would lenite.

Geminate clusters delete at reduplicant boundaries, as shown in Table 114.

Table 114.   Reduplication with Degemination

UF	Gloss Base	PR	Gloss Reduplicated
/RED + tut/	'fingernail'	[tutut]	'fence'
/RED + kʌtak/	'hand'	[kʌtakʌtak]	'yam'
/RED + kok/	'intestines'	[kokok]	'diarrhea'
/RED + kʷak/	'light'	[kʷakʷak]	'bean'

This can be accounted for by extending Degemination rule (2) to reduplicant boundaries.

(2.a)   Degemination

$$\begin{bmatrix} C \\ \alpha\,\text{Feature} \end{bmatrix} \rightarrow \text{ø} \ / \ \underline{\quad} \ \left(]_{\text{Red}}\right) \begin{bmatrix} C \\ \alpha\,\text{Feature} \end{bmatrix}$$

The boundary condition for Degemination (2.a) states that degemination is optionally extended to apply to reduplicant boundaries (but not other boundaries, such as classifiers).

Unlike nouns, Deletion (8) optionally (in fast speech) applies to all voiceless stops, as shown in Table 115.

Table 115.   Reduplication with Voiceless Stops

UF	Gloss Base	PR	Gloss Reduplicated
/RED + kʌtum/	'dumb'	[kʌtukʌtum]	'retarded'
/RED + kekem/	'wrong'	[kekekekem]	'wrong'
/RED + kep/	'ground'	[kekep]	'field'
/RED + kupit/	'dry'	[kupikupit]	'dried'
/RED + miŋ/	'mother'	[mimiŋ]	'aunt'
/RED + palʌm/	'boil'	[palʌpalʌm]	'boil'
/RED + put/	'bend'	[puput]	'knuckle'
/RED + toƀik/	'care taker'	[toƀitoƀik]	'orphan'

PR for this table is fast speech

In fast or continuous speech, final voiceless stops on the left root delete at reduplicant boundaries before voiceless stops. In slow speech, only geminates delete. So, in fast speech, deletion takes the form shown in (8.b).

(8.b)   Deletion

$$C \rightarrow \emptyset \;/\; \underline{\quad} \left(l_{\{Cl, \, Red\}} \right) \begin{bmatrix} -cont \\ -voice \end{bmatrix} C$$

The boundary condition for Deletion (8.b) states that deletion is optionally extended to apply to classifier and reduplicant boundaries.

As in nouns, Deletion (8.b) does not occur before voiced stops, as shown in Table 116.

Table 116.   Reduplication with Voiced Consonants

UF	Gloss Base	Reduplicated	Gloss Reduplicated
/RED + bʌlʌŋ/	'leg'	[bʌlʌmbʌlʌŋ]	'legs'
/RED + dasiŋ/	'how'	[dasiŋdasiŋ]	'how many'
/RED + don/	'property'	[dondon]	'bush, property'
/RED + gatʌk/	'to stick'	[gatʌkgatʌk]	'sticky, sticky seed'
/RED + gʌtam/	'large nut'	[gʌtamgʌtam]	'nut sp.'
/RED + guŋat/	'bird'	[guŋakguŋat]	'butterfly'
/RED + gʷak/	'sprout'	[gʷakgʷak]	'traditional bean'
/RED + matek -ŋʌ/	'small singular'	[matekmatekŋʌ]	'small plural'
/RED + mulup/	'dust'	[mulupmulup]	'dust'
/RED + yiɓik/	'live'	[yiɓikyiɓik]	'life style'

As shown in Table 116 with [dasiŋdasiŋ] 'how many', Dorsal Assimilation (1) does not occur with voiced stops. By claiming that reduplicant boundaries are different from morpheme boundaries, Dorsal Assimilation (1) is not applied here.

There are some examples of irregular deletion. It is unclear if these words are examples of reduplication, as shown in Table 117.

Table 117.   Other Cases of Deletion

UF	Gloss Base	Reduplicated	Gloss Reduplicated
1. /RED + imin/	'who singular'	[imiimin]	'who plural'
2. /RED + miŋ/	'mother'	[mimiŋ]	'aunt'
3. /RED + ipmʌ -k/	'cut -3s.Present'	[ipmʌipmʌk]	'drizzle'

Example 1 has the nasal /n/ deleting before the vowel /i/ at the reduplicant boundary. Nasals do not normally delete intervocalically. So, this is an irregular form that must be listed in the lexicon.

Example 2 has a lingual nasal deleting before a labial nasal at the reduplicant boundary. This is the only example of nasal clusters across the reduplicant boundary. Until there is more evidence for modifying a deletion rule to account for nasal deletion, this word is listed in the lexicon as /mimiŋ/ 'aunt'.

It is unclear if the UF for Example 3 should be /RED + ipmʌ -k/ 'RED + cut -3s.Present'. There are no other cases of verbs reduplicating. The base form and reduplicant form do not agree in meaning. It is also unclear why /k/ or [ɡ] is missing at the reduplicant boundary. This word is listed in the lexicon as /ipmʌipmʌk/ 'drizzle'.

There are two suspicious forms of reduplication in the data, as shown in Table 118.

Table 118.   Suspicious Reduplication

PR	Gloss
1. [mʌpmʌk]	'mud'
2. [mupmut]	'chest'

In Example 1, /k/ becomes [p] after /m/ at the reduplicant boundary. Since there are counter examples, such as [matekmatekŋʌ] 'little' that do not have /k/ becoming [p] before /m/, [mʌpmʌk] is posited in the lexicon as /mʌpmʌk/. Example 2 is also listed in the lexicon as /mupmut/ 'chest.

8.2 Compounds

Awara compounding is fairly common and is not limited to fixed syntactic or semantic categories. Compounds can be nouns, verbs, or classifiers.[57] There are two kinds of compounding. The first is where both roots are separate words, as shown in Table 119.

---

[57] When nouns are compounded to classifiers the distinction is blurred between the word being an actual compound or whether it is just the classifier being bound to the noun.

Table 119. Compounds

UF	Gloss	Compound	Compound Gloss
/alak + katʌp/	'bamboo + fire'	[alʌkʌtʌp]	'torch'
/bʌlʌŋ + tok/	'leg + pain'	[bʌlʌtok]	'uselessly'
/dʌki + ɓom/	'wood + Cl.place'	[dʌkiɓom]	'smoldering stick'
/gulʌk + salin/	'neck + seed'	[gulʌksalin]	'Adams apple'
/gʷame + ɓaɓak/	'pitpit + son'	[gʷʌmeɓʌɓak]	'insect sp.'
/hakʌ + miŋa/	'bird + mother'	[hakʌmiŋa]	'bush fowl'
/iɓat + ʌmin/	'illness + man'	[iɓatʌmin]	'sick person'
/kep + yamun/	'ground + quake'	[kepyamun]	'earthquake'
/puyʌ + don/	'garden + property'	[puyʌndon]	'old garden'
/takʷan + salin/	'holy + seed'	[takʷasalin]	'limbum seed'
/ɓam + gʌmʌn/	'talk + red'	[ɓamgʌmʌn]	'scolding'
/yagʌ + saŋut/	'water + lid'	[yaŋgʌsaŋut]	'fern'

The second kind, listed in Table 120, is where one of the roots is not known as a separate word.

Table 120. Cranberry Compound Examples

UF	Gloss	Compound	Compound Gloss
/gulʌk + ɓikat/	'neck + ?'	[gulʌkɓikat]	'plant'
/katak + pʌpʌk/	'hand + ?'	[katapʌpʌk]	'handle'
/katʌtek + mʌmʌn/	'elbow + ?'	[katʌtekmʌmʌn]	'frog sp.'
/kok + dek/	'intestines + ?'	[kokdek]	'toilet'
/naŋ + gamin/	'father + ?'	[naŋgamin]	'insect sp.'

There are CC, CV, and VC sequences but no recorded VV sequences across morpheme boundaries in compounds.

8.2.1 Compound Morphophonemics

There is one compound [alʌkʌtʌp] 'torch' that has a geminate cluster which deletes, as shown in Table 121.

Table 121. Compounds with Degemination

UF	Gloss	PR	Compound Gloss
/alʌk + katʌp/	'bamboo + fire'	[alʌkʌtʌp]	'torch'

Degemination can be accounted for by extending Degemination rule (2) to compound boundaries.

(2.b)   Degemination

$$
\begin{matrix} C \\ [\alpha \text{ Feature}] \end{matrix} \rightarrow \text{ø } / \underline{\quad} \left(l_{\{\text{Red, Comp}\}} \right) \begin{matrix} C \\ [\alpha \text{ Feature}] \end{matrix}
$$

In compounds like [ʌmitʌpa] 'sorcerer', where the word on the right begins with

a voiceless stop (/tʌpa/ 'Cl.Stick'), the final consonant of the word on the left (/ʌmin/

'person') deletes before the voiceless stop, as shown in Table 122.

Table 122.   Compounds with Deletion

UF	Gloss	Compound	Compound Gloss
/ʌmin + tʌpʌ/	'person + Cl.stick'	[ʌmitʌpa]	'sorcerer'
/bʌlʌŋ + tok/	'leg + pain'	[bʌlʌtok]	'uselessly'
/kuhit + palaŋ/	'head + thorn'	[kuhipalaŋ]	'insect sp.'
/mɛkŋʌn + kuɓit/	'forest + I will go'	[mɛkŋʌkuɓit]	'bird sp.'
/yayiŋ + kuhit/	'step + head'	[yayikuhit]	'fence'

These examples are accounted for by extending Deletion (8) to compound

boundaries.

(8.c)   Deletion

$$
C \rightarrow \text{ø } / \underline{\quad} \left(l_{\{\text{Cl, Red, Comp}\}} \right) \begin{matrix} C \\ \begin{bmatrix} -\text{cont} \\ -\text{voice} \end{bmatrix} \end{matrix}
$$

Since there are [ŋt] clusters that do not assimilate (e.g. /bʌlʌŋ + tok/ is [bʌlʌtok]

not *[bʌlʌkok], as shown in Table 122), Classifier Dorsal Assimilation (16) is

apparently not applied to compounds.

There are other compounds not subject to deletion, as shown in Table 123.

Table 123.   Compounds with no Deletion

UF	Gloss	Compound	Compound Gloss
/kep + yamun/	'ground + quake'	[kepyamun]	'earthquake'
/mʌŋʌt + dʌkʌ/	'girl + Cl.thick'	[mʌŋʌtdʌkʌ]	'pitpit sp.'
/nop + dak/	'ripe + blood'	[nopdak]	'ripe'
/ɓam + gʌmʌn/	'talk + red'	[ɓamgʌmʌn]	'scolding'
/ɓam + yayak/	'speech + loose'	[ɓamyayak]	'speaker'
/ɓʌnʌm + hakʌt/	'cassowary + yellow'	[ɓʌnʌmhakʌt]	'cassowary sp.'
/ɓaɓak + dʌkʌ/	'son + Cl.thick'	[ɓaɓakdʌkʌ]	'child'
/ya -pʌn + ya -k/	'talk -3s.DS + talk -3s.Pst'	[yaɓʌnyak]	'question'

As with noun and reduplication morphophonemics, the final segment of the left compound does not delete before voiced consonants.

Deletion of voiceless stops at compound boundaries with voiceless stop sequences is not applied consistently in compounds, as shown in Table 124.

Table 124.   Inconsistent Deletion Examples

UF	Gloss	Compound	Gloss whole
/kutap + kupit/	'yam + silence'	[kutapkupit]	'yam sp.'
/gusit + kayi/	'time + eye'	[gusitkayi]	'sun'

It is unclear if these are examples of slow speech (not deleted) rather than fast speech (deleted). Further testing is required to clarify the facts. Either way, only in cases of geminate clusters is deletion applied consistently in both slow and fast speech.

There are two compounds where the right word is /s/-initial, as shown in Table 125.

Table 125.   Deletion before Right Word /s/ Initial Nouns

UF	Gloss	Compound	Compound Gloss
1. /takʷan + salin/	'holy + seed'	[takʷasalin]	'limbum seed'
2. /hup + salin/	'stone + seed'	[hupsalin]	'coin'

These are problematic. In example 1, /n/ deletes before /s/ but in example 2 /p/ does not delete before /s/.

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There are examples of lenition not applying to compounds, as shown Table 126. These are cases of final consonants on a left compounds not leniting before initial vowels on right compounds.

Table 126. Compounds without Lention.

UF	Gloss	Compound	Compound Gloss
/banip + ʌmin/	'inside + person'	[bʌnipʌmin]	'believer'
/iɓat + ʌmin/	'illness + man'	[iɓatʌmin]	'sick person'

There are also examples of lenition applying to compounds, as shown in Table 127. These are cases of vowel-final left compounds and consonant-initial right compounds.

Table 127. Possible Lenition in Compounds

UF	Gloss	Compound	Compound Gloss
/apu -ku/	'come + go'	[apuɡu]	'go by'
/buta + kupit/	'pandanus + dark'	[butaɡuwik]	'pandanus'
?/kʷata + kalen/	? + ?	[kʷataɡalen]	'fern'

Lenition (7) can be extended to account for /k/ becoming [ɡ] at compound boundaries.

(7.c)   Lenition

$$\begin{bmatrix} C \\ -\text{voice} \\ -\text{cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{voice} \\ +\text{cont} \end{bmatrix} \ / \ V \ \left(l_{\{Cl, \ Red, \ Comp\}}\right) \ \underline{\quad} \ V$$

Lenition (7.c) states that initial voiceless stops on right compounds lenite after left compound-final vowels. Also, Lenition as stated, correctly does not apply to the final consonant of the left-compound word when it occurs before a right compound-initial vowel, as shown in Table 126.

8.3 Compounding with Possible Reduplication

There is one possible case of compounding occurring with reduplication with the word 'wisdom' [natʌndetdet]; there are two possible analyses, as shown in Table 128.

Table 128. Compounding and Reduplication Combined

UF	Gloss	Compound
1. /natʌp + RED + det/	'perceive + detach'	[natʌndetdet]
2. /natʌpdet + det/	'knowledge + detach'	[natʌndetdet]

Option 1 involves reduplication with compounding and option 2 only compounding. With regards to option 1, /natʌp/ 'perceive' exists independently, but no other examples of /RED + det/ occur elsewhere. However, in support of option 2, both /natʌpdet/ and /det/ occur independently. The preferred analysis for [natʌndetdet] is therefore option 2.

CHAPTER 9

VERB MORPHOPHONEMICS

Awara uses affixes on the verb to mark both subject and object agreement as well as aspect and modality. Verb prefixes mark object agreement which is discussed later in Section 9.6, Verb Prefix Morphophonemics. Awara's subject agreement suffixes indicate a combination of tense, modality and subject agreement in person and number which are to a certain extent suppletive.[58] For this thesis, they are analyzed as a single paradigm suffix as has been done for the nearby languages—Wantoat, Irumu, Nankina, and Nahu (see Table 268, Subject Agreement Summary Chart, in Appendix G, Verb Morphology Paradigms, for further discussion on this topic). The structure of the verb suffix morphology is shown in Table 129.

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[58] Suppletion of these suffixes is common in many Papuan languages including Wantoat (Davis 1964), Nankina (Spaulding 1988), Irumu (Webb 1992b), Umbu-Ungu (Head 1993) and Kewapi (Yarapea 1993).

Table 129.   Verb Suffix Morphology Chart

Root	Temporal	Aspect	Subject Agreement	Enclitics

	Persist
	Durative
	soon
		Imperfective
		Dynamic
		Static
			FINAL VERBS
			Tense
			    Past
			    Present
			    Future
			Imperative
			    Immediate
			    Imperative
			Irrealis
			    Apprehension
			    Probable
			    Hypothetical
			MEDIAL VERBS
			Same Subject
			    Perfective
			    Durative
			    Imperfective
			Different Subject
				Conditional
				After

Most of the combined subject agreement suffixes have alternate initial-segment forms. These suffixes are called Set 1 suffixes. For example, the 3s.Past tense has the forms [-kut] and [-but], and the 3s.Future tense has the forms [-pik], [-bik], and [-ƀik]. The other verb suffixes which do not have alternate initial-segment forms are called Set 2 suffixes. An example is the 2s.Present tense which only has the form [-lʌk]. These are shown with several verb roots in Table 130.

Table 130.   Example Paradigms of Set 1 and Set 2 Verb Suffixes

Gloss	Set 1 Examples		Set 2 Example
	'3s.Past'	'3s.Future'	'2s.Present'
	[-kut]~[-but]	[-pik]~[-bik]~[-ƀik]	[-lʌk]
'sew'	[bupbut]	[bupik]	[bupmʌlʌk]
'cut'	[matʌkut]	[matʌƀik]	[matʌlʌk]
'eat'	[nakut]	[nʌpik]	[nalʌk]
'drink'	[taŋopbut]	[taŋopik]	[taŋolʌk]
'come up'	[akopbut]	[akopik]	[akolʌk]
'wash'	[halukut]	[haluƀik]	[halulʌk]
'throw'	[mukut]	[mumbik]	[mulʌk]

A summary of these verb suffix sets is shown in Table 131.

Table 131.   Suffix Sets

Set 1: Alternate Form	Set 2: No Alternate Form
Tense	Tense
Past	Present
Future	Aspect
Imperative	Dynamic Imperfective
Immediate	Static Imperfective
Imperative	Durative
Irrealis	Persistent
Apprehension	Temporal
Hypothetical	Persist
Probable	Durative
Different Subject	Soon
	Modal Nouns
	Deontic
	Purpose
	Same Subject
	Benefactive

Morphologically based justification for positing two suffix sets is presented next

in Sections 9.1, Set 1 Verb Suffix Morphophonemics and 9.2, Set 2 Verb Suffix

Morphophonemics.[59] All of the combined suffixes, except for the Present tense suffix set

and the 2s.Immediate suffix, pattern differently from the rest of the verbal suffixes in Set

---

[59] These distinctions are most clearly observed with mʌ-final verb roots which are
discussed next.

2. The only distinction between the two sets is that Set 1 suffixes combine subject

agreement with tense or mood whereas Set 2 does not. As a result, the combined subject

agreement suffixes (Set 1) exhibit alternate surface forms whereas the other suffixes do

not.[60]

Awara verb roots do not exist in isolation. Since it was impossible for my

language consultant to say a verb root without a subject agreement suffix attached, verb

roots and subject agreement suffixes are co-analyzed.

Verb roots pattern into four main groups based on the final part of the root. They

are [mʌ]-final, [Vowel]-final, [p]-final, and [t]-final.[61] The main contrast is seen with the

2s.Immediate, 1d.Immediate, and 3s.Present forms, as shown in Table 132.

Table 132.   Verb Groups

Group	Gloss	'2s.Immediate'	'1d.Immediate'	'3s.Present'
mʌ-final	'sew'	[bupmʌŋ]	[bupda]	[bupmʌk]
V-final	'cut'	[matʌŋ]	[matʌta]	[matʌk]
p-final	'drink'	[taŋop]	[taŋopda]	[taŋok]
t-final	'wash'	[halut]	[halutda]	[haluk]
V~t-final	'pick it up'	[butuŋ] ~ [butut]	[bututa] ~ [bututda]	[butuk]

The 1d.Immediate forms of the verb consistently end in [ta~da] and the

3s.Present forms of the verb consistently end in [k]. So it is assumed that [-ta]~[-da] is

'1d.Immediate' and /-k/ is 3s.Present. The verb 'cut' (V-final) is consistently [matʌ], so

/matʌ/ can be posited as the UF, and that means [-ŋ] is 2s.Immediate.

---

[60] If the Present tense suffix set and the 2s.Immediate suffix are analyzed as the unmarked case, then they are not combined and are morphologically similar to the other suffixes in Set 2.

[61] There is also a fifth group that have verbs that has both vowel-final and t-final surface forms.

All V-final verbs end in a vowel before the three suffixes. Most mʌ-final verbs have a short form ending in [p] before 1d.Immediate and a long form consisting of the short form + [mʌ] before 2s.Immediate and 3s.Present. The few mʌ-final verbs that do not end in [p] will be discussed in Section 9.4.1, mʌ-Final Verbs.[62] All p-final verbs have allomorphs ending in [p] before 2s.Immediate (with no [ŋ]) and 1d.Immediate, and [V] before 3s.Present. All t-final verbs are like p-final verbs except that they have [t] instead of [p]. Finally, all V~t-final verbs have two alternate surface forms, one that patterns like V-final verbs and one that patterns like t-final verbs.[63]

It is assumed that the UF for mʌ-final verbs ends in /-p(mʌ)/, the UF for V-final verbs end in a vowel, the UF for p-final verbs ends in /p/, and the UF for t-final verbs ends in /t/. The alternation in mʌ-final roots is determined by the suffix—Set 1 suffixes take the short form, and Set 2 suffixes take the long form (see Table 131).

There are at least three options for analyzing V~t-final verbs. One option lists both alternate forms in the lexicon. A second option lists the V-final form in the lexicon and having these forms marked to have an optional minor insertion rule apply to insert a final [t] before all other morphophonemic rules are applied. A third option lists the t-final form in the lexicon and having these forms marked to have an optional minor deletion rule apply to remove the final /t/ before all other morphophonemic rules are applied. Option one is not preferred since it posits two forms in the lexicon. For now,

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[62] Short forms of these verbs end in [p] or [m] with [p] being the more common.
[63] This is very common in the Tawaya village dialect. However, it is unknown to what extend other villages do the same.

option three is assumed and justification will be presented later in Section 9.4.5, Dual V-Final and t-Final Verbs.

All verbs pattern in one of these five verb groups. Each verb group has a minor variant which will be discussed later in Section 9.4, Verb Roots.

9.1 Set 1 Verb Suffix Morphophonemics

9.1.1 [ŋ~ø] Alternation: 2s.Immediate Suffix

The Second Singular Immediate forms of verbs have the following final segments: mʌ-final and V-final verbs end in [ŋ], p-final verbs end in [p], and t-final verbs end in [t], as shown in Table 133.

Table 133.   2s.Immediate [ŋ] ~ Null

UF	Gloss	2s.Immediate
/bup(mʌ)/	'sew'	[bupmʌŋ]
/matʌ/	'cut'	[matʌŋ]
/taŋop/	'drink'	[taŋop]
/halut/	'wash'	[halut]

Several analyses are possible to account for these verb forms ending in [ŋ], [p], or [t]. One possibility follows Wantoat (Davis 1964) where 2s.Immediate is [-ŋ] after vowels (mʌ-final long form and V-final verbs), [-p] after p-final verbs and [-t] after t-final verbs with geminate consonants deleting.

A second option is that 2s.Immediate is null. This assumes that mʌ-final verbs are /mʌŋ/-finally, V-final verbs are /Vŋ/-final, p-final are /p/-final, and t-final are /t/-final.

A third option assumes 2s.Immediate is /-ŋ/ and the phoneme /ŋ/ deletes after consonants.

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The first option does not give any significant insight and puts all allomorphs in the lexicon. The second option requires an analysis of the alternation of [ŋ] and null at the end of mʌ-final and V-final verbs. There are at least two ways of analyzing it. The first assumes two lexical forms (/matʌŋ/ and /matʌ/ for 'cut'). The /ŋ/-final form is used when the root is word-finally, and the vowel-final form is used when the root is followed by a suffix (see V-final examples in Table 132). This analysis is not preferred because it posits two lexical forms. The second way assumes that V-final verbs and the long form of mʌ-final verbs are /ŋ/-final and a verb specific nasal deletion rule is applied before all other verb suffix morphophonemic processes. For Example, /matʌŋ -da/ 'cut -1d.Imm' would require the final /ŋ/ to delete first to produce the form [matʌta] not *[matʌnda] (as discussed next in Section 9.1.2, [t~d] Alternation). However, this is still less desirable since nasals do not always delete. For example, the noun /sadun -dʌ/ 'axe -Ablative' / is [sandundʌ] not *[sandutʌ] (see Table 78, Section 6.1.4, [X~d~g] Alternation).

The preferred option is the third where it is assumed that the UF for the 2s.Immediate is /-ŋ/ and the phoneme /ŋ/ deletes after consonants (as in /taŋop -ŋ/ is [taŋop] 'Drink it!' and /halut -ŋ/ is [halut] 'Wash it!'). This option supports the assumptions made regarding V-final verbs and the long form of mʌ-final verbs as vowel-final.

A deletion rule can be formulated to account for the nasal deleting after consonants.

(17)   Nasal Deletion

$$\begin{bmatrix} C \\ +\text{nasal} \end{bmatrix} \rightarrow \emptyset \ / \ C \ \rule{1cm}{0.4pt} \ ]_\sigma$$

Nasal Deletion states that a nasal-final segment on a syllable deletes if it immediately follows another consonant. Since [CN] clusters exist at morpheme boundaries, Nasal Deletion (17) is limited to syllable boundaries. Nasal Deletion is not crucially ordered.

There are no other verb suffixes that pattern like the 2s.Immediate suffix.

9.1.2 [t~d] Alternation

As shown in Table 134, the 1d.Immediate is realized as [-ta] after V-final verbs, and [-da] after p-final verbs, t-final verbs, and the short form of mʌ-final verbs.

Table 134.   t~d Alternation [-ta] ~ [-da]

UF	Gloss	1d.Immediate
/bup(mʌ)/	'sew'	[bupda]
/matʌ/	'cut'	[matʌta]
/taŋop/	'drink'	[taŋopda]
/halut/	'wash'	[halutda]

Since 1d.Immediate patterns like the Ablative suffix (6.1.4, [X~d~g] Alternation), it can be assumed that its UF is /-da/ and that Devoicing (5) accounts for /-da/ becoming [-ta] after vowels.

The 1d.Immediate does not have a [-ga] alternate. Since 1d.Immediate otherwise patterns identically to the Ablative suffix and there is no indication that Dorsal Assimilation (1) does not apply to verbs, this infers that there are no velar-final verb roots.

Other verb suffixes that pattern like the 1d.Immediate are listed in Table 135.

Table 135.   t~d Verb Suffix List

1d.Immediate	/-da/
1d.Hypothetical	/-dam/
1d.Different Subject	/-da/

As shown in Table 136, the 23d.Imperative is realized as [-hon] after V-final

verbs and [-son] elsewhere.

Table 136.   h~s Alternation [-hon] ~ [-son]

UF	Gloss	23d.Imperative
/bup(mʌ)/	'sew'	[bupson]
/matʌ/	'cut'	[matʌhon]
/taŋop/	'drink'	[taŋopson]
/halut/	'wash'	[haluson]

Since 23d.Imperative patterns identically to the 2s.Genitive /-hʌ/ (see Table 95),

the UF for 23d.Imperative is posited as /-hon/ and the H-Fortition rule (14) accounts for

23d.Immediate becoming [-son] after consonants.

To account for the final /t/ in t-final verbs deleting, but not the final /p/ in p-final

verbs, the following deletion rule is applied.

(18)   Coronal Deletion (restricted to verbs)

$$
\begin{bmatrix} C \\ +\text{coronal} \end{bmatrix} \rightarrow \emptyset \ / \ \underline{\quad} \ ]_{[S1} \begin{bmatrix} C \\ +\text{cont} \\ -\text{voice} \end{bmatrix}
$$

Coronal Deletion states that coronal consonants are deleted before [+continuant,

-voice] consonants at morpheme boundaries with Set 1 verb suffixes (S1). Whereas

Classifier Final-Stop Deletion (15) is applied to labials and coronals, Coronal Deletion

(18) applies to just coronals. This further justifies limiting Classifier Final-Stop Deletion

(15) to only classifiers.

Coronal Deletion (18) counterbleeds H-Fortition (14), as shown in Table 137

with the example /halut -hon/ 'wash -23d.Imperative'.

Table 137. Coronal Deletion Counterbleeds H-Fortition

UF	/halut -hon/	UF	/halut -hon/
H-Fortition	halutson	Coronal Deletion	haluhon
Coronal Deletion	haluson	H-Fortition	---
PR	[haluson]	PR	*[halutson]
Gloss	'You go wash!'		

Other verb suffixes that pattern after the 23d.Imperative are listed in Table 138.

Table 138. h~s Verb Suffix List

1d.Future	/-him/
23d.Future	/-himʌlʌk/
1d.Imperative	/-hom/
23d.Imperative	/-hon/
1d.Apprehension	/-hʌm/
23d.Apprehension	/-hʌn/

9.1.4 [X~b] Alternation

3s.Past is [-kut] after V-final and t-final verbs, and [-but] after p-final verbs and the short form of mʌ-final verbs, as shown in Table 139. The 23p.Immediate is [-ɡut] after V-final and t-final verbs, and [-but] after p-final verbs and the short form of mʌ-final verbs. The final /t/ in t-final verbs deletes before these two suffixes.

Table 139. X~b Alternation Sets

		[-kut] ~ [-but]	[-ɡut] ~ [-but]
UF	Gloss	3s.Past	23p.Immediate
/bup(mʌ)/	'sew'	[bupbut]	[bupbut]
/matʌ/	'cut'	[matʌkut]	[matʌgut]
/taŋop/	'drink'	[taŋopbut]	[taŋopbut]
/halut/	'wash'	[halukut]	[haluɡut]

Though several analyses are possible, the least problematic and economical[64] posits /-gut/ for the 3s.past UF (though [g] is not an alternate surface form[65]) and /-ɡut/

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[64] Other analyses considered required the addition of more verb specific rules to be applied thus adding to the complexity of the overall system.

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for the 23p.Immediate UF. Devoicing (5) accounts for /g/ becoming [k] after vowels. Fortition (4) accounts for /ɡ/ becoming a voiced stop ([g]) after consonants.

Two verb specific rules need to be posited; one to account for labial assimilation after mʌ-final and p-final verbs, and another for the final /t/ in t-final verbs deleting before Devoicing (5) and Fortition (4) are applied.

A labial assimilation rule is posited for verbs to account for /g/ becoming [b] after consonants.

(19)   Labial Assimilation (restricted to verbs)

$$\begin{bmatrix} C \\ +\text{dorsal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{labial} \end{bmatrix} \ / \ \begin{bmatrix} C \\ +\text{labial} \end{bmatrix}]_{[S1}\ \underline{\hspace{1cm}}$$

Labial Assimilation (19) states that a dorsal consonant becomes labial after a verb-final labial consonant at morpheme boundaries with Set 1 verb suffixes (S1). Labial Assimilation must be restricted to dorsals since coronals do not assimilate (e.g. /taŋop -da/ 'drink -1d.Immediate' is [taŋopda] 'Let us drink!' not *[taŋopba]). Labial Assimilation is in a mutual bleeding (bleeding and counterbleeding) relationship with Coronal Assimilation (6), as shown in Table 140 with the example /taŋop -gut/ 'drink -3s.Past'.

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[65] One supporting argument for the UF being /g/ initial is that in most Awara dialects, the allomorphs are [-kut] ~ [-gut], not [-but]. This dialect has an additional process to labialise verb suffix dorsals after labials.

Table 140. Labial Assimilation Mutually Bleeds Coronal Assimilation

UF	/taŋop -gut/	UF	/taŋop -gut/
Labial Assimilation	taŋopbut	Coronal Assimilation	taŋopdut
Coronal Assimilation	---	Labial Assimilation	---
PR	[taŋopgut]	PR	*[taŋopdut]
Gloss	'He drank.'		

Since there is justification for the UF of t-final verbs being /t/-final, a coronal

deletion rule for verbs must be applied to account for /t/ deleting before Fortition (4) is

applied in order to get the form [halukut] 'He washed it.' from /halut -gut/ 'wash

-3s.Past'. However it is impossible to modify Coronal Deletion (18) so that coronals are

deleted before voiced labials, voiced dorsals, and voiceless coronals, but not voiced

coronals such as in [halutda] 'Let us wash' from /halut -da/ 'wash-1d.Immediate'. Thus,

a second coronal deletion rule is posited as applying to just verbs.

(20)   Coronal Deletion 2 (restricted to verbs)

$$\begin{bmatrix} C \\ +\text{coronal} \end{bmatrix} \rightarrow \emptyset \ / \ \_\!\_ \ ]_{[S1} \ \begin{bmatrix} C \\ -\text{coronal} \end{bmatrix}$$

Coronal Deletion 2 (20) states that verb-final coronal consonants are deleted

before [-coronal] consonants in Set 1 verb suffixes. Coronal Deletion 2 (20) feeds

Devoicing (5), as shown in Table 141 with the example /halut -gut/ 'wash -3s.Past'.

Table 141. Coronal Deletion 2 Feeds Devoicing

UF	/halut -gut/	UF	/halut -gut/
Coronal Deletion 2	halugut	Devoicing	---
Devoicing	halukut	Coronal Deletion 2	halugut
PR	[halukut]	PR	*[halugut]
Gloss	'He washed.'		

Coronal Deletion 2 (20) bleeds Fortition (4), as shown in Table 142 with the

example /halut -gut/ 'wash -23d.Immediate'.

Table 142.   Verb Coronal Deletion 2 Bleeds Fortition

UF	/halut -ɡut/	UF	/halut -ɡut/
Coronal Deletion 2	haluɡut	Fortition	halutkut
Fortition	---	Coronal Deletion 2	halukut
PR	[haluɡut]	PR	*[halukut]
Gloss	'You wash!'		

Coronal Deletion 2 (20) is in a mutual bleeding relationship (bleeding and counterbleeding) with H-Fortition (14), as shown in Table 143 with the example /halut -hon/ 'wash -23d.Imperative'.

Table 143.   Coronal Deletion 2 Bleeds H-Forit[ton

UF	/halut -hon/	UF	/halut -hon
H-Fortition	halutson	Coronal Deletion 2	haluhon
Coronal Deletion 2	---	H-Fortition	---
Coronal Deletion	haluson	Coronal Deletion	---
PR	[haluson]	PR	*[haluhon]
Gloss	'You wash!'		

Other suffixes that pattern like the 3s.Past are listed in Table 144.

Table 144.   k~b Verb Suffix List

1s.Past	/-gum/
2s.Past	/-gulʌk/
3s.Past	/-gut/
1d.Past	/-gumʌk/
23d.Past	/-gumʌlʌk/
1p.Past	/-gumʌŋ/
23p.Past	/-gin/

The only suffix that patterns like the 23p.Immediate is the 23d.Immediate /-ɡun/.

9.1.5 [y~s] Alternation

As shown in Table 139, the 2s.Imperative is realized as [-yo] after V-final and t-final verbs and [-so] after p-final verbs and the short form of mʌ-final verbs.

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Table 145. y~s Suffix Alternation [-yo] ~ [-so]

UF	2s.Imperative	Gloss
/bup(mʌ)/	[bupso]	'sew'
/matʌ/	[matʌyo]	'cut'
/taŋop/	[taŋopso]	'drink'
/halut/	[haluyo]	'wash'

As with the 3s.Past and 23p.Immediate suffixes, the final /t/ in t-final verbs deletes before other morphophonemic processes apply, causing t-final verbs to act like vowel-final verbs (V-final verbs).

To assume that the UF for the 2s.Imperative is /-so/ and a S-Lenition rule generates [-yo] after vowels is problematic because of suffixes like /-hon/ '23d.Imperative'. This is because the S-Lenition rule would also apply to these suffixes, as shown in Table 146 with the examples /halut -hon/ 'wash -23d.Imperative' and /halut -so/ 'wash -2s.Imperative'.

Table 146. Derivation under an Analysis Involoving S-Lenition

UF	/halut -hon/	/halut -so/
H-Fortition (14)	halutson	---
Coronal Deletion (18)	haluson	haluso
S-Lenition	haluyon	haluyo
PR	*[haluyon]	[haluyo]
Gloss	'You wash!'	'You drink!'

H-Fortition (14) is applied before Coronal Deletion (18). S-Lenition would be applied after Coronal Deletion so that /halut -so/ 'wash -2s.Imperative' would become [haluyo]. Yet, the resulting derivation of /halut -hon/ 'wash -23d.Imperative' to [haluson] would feed S-Lenition resulting in an incorrect surface form *[haluyon].

Thus, the UF for the 2s.Imperative must be /-yo/, which becomes [-so] after

consonants.[66] A fortition rule is posited to account for /y/ becoming [s] after consonants.

(21)   Y-Fortition (restricted to verbs)

y → s / C]$[_{S1}$ __

Y-Fortition states that a /y/-initial Set 1 verb suffix becomes [s] after a

consonant. Coronal Deletion 2 (20) is in a mutual bleeding relationship (bleeding and

counterbleeding) with Y-Fortition (21), as shown in Table 147 with the example /halut

-yo/ 'wash -2s.Imperative'.

Table 147. Coronal Deletion 2 Bleeds Y-Fortition

UF	/halut -yo/	UF	/halut -yo/
Coronal Deletion 2	haluyo	Y-Fortition	halutso
Y-Fortition	---	Coronal Deletion 2	---
Coronal Deletion	---	Coronal Deletion	haluso
PR	[haluyo]	PR	*[haluso]
Gloss	'You wash!'		

Y-Fortition (21) must be restricted to verbs because the /y/ in /-yʌ/ 'after'

becomes a nasal rather than /s/ after consonants. Y-Fortition mutually bleeds

Nasalization (3), as shown in Table 148 with the example /taŋop -yo/ 'drink -

2s.Imperative'.

Table 148.   Y-Fortition Bleeds Nasalization

UF	/taŋop -yo/	UF	/taŋop -yo/
Y-Fortition	taŋopso	Nasalization	taŋopno
Nasalization	---	Y-Fortition	---
PR	[taŋopso]	PR	*[taŋopno]
Gloss	'You Drank!'		

Other verb suffixes that pattern like the 2s.Imperative are shown in Table 149.

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[66] The southern dialect uses just the [-yo] form for '2s.Imperative.

Table 149.   y~s Verb Suffix List

1s.Imperative	/-yot/
2s.Imperative	/-yo/
3s.Imperative	/-yok/
1s.Apprehension	/-yʌt/
2s.Apprehension	/-yʌ/
3s.Apprehension	/-yʌk/

9.1.6 [p~b~ƀ] Alternation

As shown in Table 150, the 3s.Future suffix is realized as [-pik] after p-final verbs and the short form of mʌ-final verbs and [-ƀik] after V-final and t-final verbs.

Table 150.   p~ƀ Alternation [-pik] ~ [-ƀik]

UF	3s.Future	Gloss
/bup(mʌ)/	[bupik]	'He will sew it.'
/matʌ/	[matʌƀik]	'He will cut it.'
/taŋop/	[taŋopik]	'He will drink it.'
/halut/	[haluƀik]	'He will wash it.'

The 3s.Future suffix is similar to the 'also' suffix in that both have initial spirants after vowels and voiceless stops after consonants. As with /-kʌyʌ/ 'also' (Section 6.1.5, [g~p~t~k] Alternation), the UF for the 3s.Future is /-pik/ which becomes [-ƀik] after vowels. Lenition (7) accounts for /p/ becoming /ƀ/ after vowels and Degemination rule (2) or Deletion (8) accounts for [pp] simplifying. Coronal Deletion 2 (20) accounts for the final /t/ in t-final verbs deleting before Lenition (7) is applied.

Coronal Deletion 2 (20) feeds Lenition (7), as shown in Table 151 with the example /halut -pik/ 'wash -3s.Future'.

Table 151.   Coronal Deletion 2 Feeds Lenition

UF	/halut -pik/	UF	/halut -pik/
Coronal Deletion 2	halupik	Lenition	---
Lenition	haluƀik	Coronal Deletion 2	halupik
PR	[haluƀik]	PR	*[halupik]
Gloss	'He will wash it.'		

Though /-pik/ is realized as [-ƀik] after most V-final and t-final verbs, it is

realized as [-pik] after some V-final verbs and [-bik] after some t-final verbs, as shown

in Table 152.[67]

Table 152.   p~b~ƀ Alternation on V-Final and t-Final Verbs

UF	Gloss		3s.Future	Gloss
/matʌ/	'cut'		[matʌƀik]	'He will cut it.'
/na/	'eat'	(Non-leniting)	[napik]	'He will eat it.'
/halut/	'wash'		[haluƀik]	'He will wash it.'
/mut/	'throw'	(Voicing)	[mumbik]	'He will throw it.'

V-final verbs which use [-pik] are lexically marked for suspending Lenition (7)

(Lenition (7) does not apply). t-final verbs which use [-bik] are lexically marked to have

a minor voicing rule applied to account for /p/-initial consonants on Set 1 suffixes

becoming [b] before other rules are applied, specifically, before Lenition (7).

Other verbs suffixes that pattern like the 3s.Future suffix are shown in Table 153.

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[67] Apart from /p/ initial suffixes, non-leniting V-final verbs and voicing t-final verbs
pattern identically to v-final verbs and t-final verbs. See Section 9.4, Verb Roots.

Table 153.   p~ƀ~ƀ Verb Suffix List

Future	1s	/-pit/	Probable	3s	/-pʌnak/
	2s	/-pilʌk/		3d	/-pʌtnak/
	3s	/-pik/		3d	/-pʌlak/
Immediate	1s	/-pa/		3p	/-pʌyak/
	3s	/-pʌn/	Different Subject	1s	/-pa/
Hypothetical	1s	/-pam/		2s	/-pi/
	2s	/-pim/		3s	/-pʌn/
	3s	/-pʌn/		23d	/-pʌt/
	23d	/-pʌt/		23p	/-pʌ/
	23p	/-pʌm/			

Summarizing, some V-final verbs that take the [p]-initial form are lexically

marked for not having Lenition (7) applied and some t-final verbs are lexically marked

to have a minor voicing rule applied to Set 1 [p]-initial suffixes. All other verbs roots

take the expected form; mʌ-final and p-final verbs take the [p]-initial form, and V-final

and t-final verbs take the [ƀ]-initial forms.

9.2 Set 2 Verb Suffix Morphophonemics

9.2.1 /n/-Initial Verb Suffixes (Set 1 or Set 2)

As shown in Table 154, the 23p.Imperative suffix [-noŋ] has no alternate form. It

is [-noŋ] after all verb roots. The final segment on p-final verbs and t-final verbs final

does not delete before these suffixes, and mʌ-final verbs use the short form.

Table 154.   /n/-Initial Suffix Example

UF	23P.Imperative	Gloss
/bup(mʌ)/	[bupnoŋ]	'you sew it.'
/matʌ/	[matʌnoŋ]	'you cut it.'
/taŋop/	[taŋopnoŋ]	'you drink it.'
/halut/	[halutnoŋ]	'you wash it.'

Since [n]-initial verb suffixes have no alternate form and there is no justification

for supporting an abstract UF, the UF for the 23P.Imperative is /-noŋ/. No further

modifications are required to the morphophonemic rules previously defined to account for /n/-initial verb suffixes.

There is evidence however to group /n/-initial suffixes with Set 1 suffixes rather than Set 2. Mʌ-final verbs use the short form before these /n/-initial suffixes as with all other Set 1 suffixes, whereas it will be shown in the next section 9.2.2, Singular Dynamic Imperfective, and Section 9.2.3, Present Tense Subject Agreement Suffixes, that mʌ-final verbs use the long form with Set 2 suffixes. Final segments on p-final and t-final verbs delete before Set 2 verb suffixes (which will be shown next in sections 9.2.2, Singular Dynamic Imperfective, and 9.2.3, Present Tense Subject Agreement Suffixes), but not before /n/-initial suffixes. Finally, /n/-initial suffixes, including those listed in Table 157 below, are part of the combined subject agreement suffix paradigms which make up the Set 1 suffix group.[68] Thus, even though they do not alternate, /n/-initial suffixes do otherwise follow the pattern for Set 1 morphophonemic processes. Therefore /n/-initial suffixes are grouped with Set 1 verb suffixes, not with Set 2.

Other final verb subject agreement markers that begin with /n/ are listed in Table 155.

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[68] See Appendix H, Verb Subject Agreement Suffixes for the complete list.

Table 155.   /n/-Initial Subject Agreement

Future	1p	/-nim/
	23p	/-niŋ/
Immediate	1p	/-na/
Imperative	1p	/-nom/
	23p	/-noŋ/
Apprehension	1p	/-nʌm/
	23p	/-nʌŋ/
Hypothetical	1p	/-nam/
Different Subject	1p	/-na/

All of the above /n/-initial suffixes listed in Table 155 are marked for subject

agreement and tense or mood (the combined set).

9.2.2 Singular Dynamic Imperfective

The Singular Dynamic Imperfective (s.DIpf) [-ga] does not exhibit alternations,

as shown in Table 156 with the subject agreement suffix /-k/ '3s.Present'.

Table 156.   Singular Dynamic Imperfective [-ga]

UF	Gloss		'ROOT -s.DIpf -3s.Present'
/bup(mʌ)/	'sew'		[bupmʌŋgak]
/matʌ/	'cut'		[matʌŋgak]
/taŋop/	'drink'		[taŋokgak]
/akop/	'come up'	Deleting	[akoŋgak]
/halut/	'wash'		[halukgak]

Mʌ-final verbs use the long form before the s.DIpf. The final consonant of t-final

verbs and most p-final verbs assimilates to [k]. There is however, a small group of p-

final verbs whose final consonant does not assimilate, but deletes before this suffix.[69]

Since there is no justification for positing an abstract UF, the UF for the s.DIpf is

/-ga/. Devoicing (5) does not apply to Set 2 verb suffixes (e.g. /matʌ -ga -k/ 'cut -s.DIpf

-3s.Present' is [matʌŋgak] not *[matʌkak]). As with the /n/-initial suffixes shown above

---

[69] The [ŋ] before the suffix /-ga/ 's.DIpf' for these verbs can be accounted for by
prenasalization.

in Table 154, root final /p/ and /t/ do not delete before [-ga]. Rather, they assimilate to

[k] before /--a/ by a dorsal assimilation rule.

(22)   Root Dorsal Assimilation (restricted to verbs)

$$C \rightarrow \left[+\text{dorsal}\right] \ / \ \_\_ \ ]_{[S2} \ g$$

Root Dorsal Assimilation (22) states that a consonant becomes dorsal before a

Set 2 verb suffix (S2) that is /g/-initial. It is limited to /g/ because it will be shown next

in section 9.2.3, Present Tense Subject Agreement Suffixes, that the final verb segments

/p/ and /t/ delete before /g/, /h/, and /k/-initial Set 2 suffixes. Root Dorsal Assimilation is

in a mutual bleeding relationship with Coronal Assimilation (6), as shown in Table 157

with the example /halut -ga -k/ 'wash -s.DIpf -3s.Present'.

Table 157.   Root Dorsal Assimilation Mutually Bleeds Coronal Assimilation

UF	/halut -ga -k/	UF	/halut -ga -k/
Root Dorsal Assim.	halukgak	Coronal Assimilation	halutdak
Coronal Assimilation	---	Root Dorsal Assim.	---
PR	[halukgak]	PR	*[haludak]
Gloss	'He is washing it.'		

Root Dorsal Assimilation (22) is in a mutual bleeding relationship with Labial

Assimilation (19), as shown in Table 158 with the example /taŋop -ga -k/ 'drink -s.DIpf

-3s.Present'.

Table 158.   Root Dorsal Assimilation Mutually Bleeds Labial Assimilation

UF	/taŋop -ga -k/	UF	/taŋop -ga -k/
Root Dorsal Assim.	taŋokgak	Labial Assimilation	taŋopbak
Labial Assimilation	---	Root Dorsal Assim.	---
PR	[taŋokgak]	PR	*[taŋopbak]
Gloss	'He is drinking it.'		

Root Dorsal Assimilation (22) is in a mutual bleeding relationship with Coronal

Deletion 2 (20), as shown in Table 159 with the example /halut -ga -k/ 'wash -s.DIpf

-3s.Present'.

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Table 159.   Root Dorsal Assimilation Bleeds Coronal Deletion 2

UF	/halut -ga -k/	UF	/halut -ga -k/
Root Dorsal Assim.	halukgak	Coronal Deletion 2	halugak
Coronal Deletion 2	---	Root Dorsal Assim.	---
PR	[halukgak]	PR	*[halugak]
Gloss	'He is washing it.'		

As shown in Table 156, the final /p/ in most p-final verbs assimilates to [k] before these /g/-initial suffixes. However, there are a few p-final verbs whose final /p/ deletes. This variant will be discussed in Section 9.4.3, p-Final Verbs.

The only other /g/-initial suffix that patterns like /-ga/ 's.DIpf' is the Persistent suffix /-gʌmʌta/.

9.2.3 Present Tense Subject Agreement Suffixes

The present tense subject agreement suffixes do not exhibit alternations, as shown in Table 160.

Table 160.   Present Tense Paradigm

Gloss:	mʌ-final /bup(mʌ)/ 'sew'	V-final /matʌ/ 'cut'	p-final /taŋop/ 'drink'	t-final /halut/ 'wash'
1s.Present	[bupmʌt]	[matʌt]	[taŋot]	[halut]
2s.Present	[bupmʌlʌk]	[matʌlʌk]	[taŋolʌk]	[halulʌk]
3s.Present	[bupmʌk]	[matʌk]	[taŋok]	[haluk]
1d.Present	[bupmʌmʌk]	[matʌmʌk]	[taŋomʌk]	[halumʌk]
23d.Present	[bupmʌmʌlʌk]	[matʌmʌlʌk]	[taŋomʌlʌk]	[halumʌlʌk]
1p.Present	[bupmʌmʌŋ]	[matʌmʌŋ]	[taŋomʌŋ]	[halumʌŋ]
23p.Present	[bupmʌyiŋ]	[matʌyiŋ]	[taŋoyiŋ]	[haluyiŋ]

When followed by these suffixes, mʌ-final verbs use the long form, and the final consonant of p-final and t-final verbs deletes.[70] Since there is no justification for positing abstract UFs, the UFs for these suffixes are the surface forms, as listed in Table 161.

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[70] The deletion rule will be formulized after further data is presented.

Table 161.   Subject Agreement

1s.Present	/-t/
2s.Present	/-lʌk/
3s.Present	/-k/
1d.Present	/-mʌk/
23d.Present	/-mʌlʌk/
1p.Present	/-mʌŋ/
23p.Present	/-yiŋ/

Other verb suffixes that do not exhibit alternations are listed in Table 162.

Table 162.   Other Verbal Suffixes

Same Subject Perfective	/-keŋ/
Same Subject Durative Perfective	/-hikaŋ/
Same Subject Imperfective	/-ǥabik/
Dynamic Imperfective, Plural Subject	/-ka/
Static Imperfective	/-ǥa/
Durative	/-hi/

Accounting for verb-final segments /p/ and /t/ deleting before /t, k, h, m, l, ǥ, y/ is problematic since this set of sequences is not a natural class. One option is to define a brute force deletion rule (or rewritten as three separate natural rules). However, the real issue is that verb final segments /p/ and /t/ delete before Set 2 verb suffixes. This is morphological, not phonological. Since deletion is morphological, the preferred option is to specify a morphologically conditioned deletion rule.

(23)   Consonant Deletion (restricted to verbs)

$$\begin{matrix} \text{C} \\ \text{[-dorsal]} \end{matrix} \rightarrow \text{ø} \ / \ \underline{\quad} \ _{\text{Root}}][_{\text{S2}}$$

Consonant Deletion (23) states that verb root final consonants delete before Set 2 verb suffixes (S2). Consonant Deletion is limited to [-dorsal] since the final segments of t-final verbs and p-final verbs do not delete before /-ga/ 's.DIpf (e.g. /halut - ga -k/ 'wash -s.DIpf -3s.Pres' is [halukgak]) as previously shown in Section 9.2.2, Singular Dynamic Imperfective.

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Consonant Deletion counterbleeds Root Dorsal Assimilation (22), as shown in

Table 163 with the example /halut -ga -k/ 'wash -s.DIpf -3s.Present'.

Table 163.   Consonant Deletion Counterbleeds Root Dorsal Assimilation

UF	/halut -ga -k/	UF	/halut -ga -k/
Root Dorsal Assimilation	halukgak	Consonant Deletion	halugak
Consonant Deletion	---	Root Dorsal Assim.	---
PR	[halukgak]	PR	*[halugak]
Gloss	'He is washing it.'		

Consonant Deletion (23) is also in a bleeding relationship with the rules listed in

Table 164.

Table 164.   Bleeding Relationship Rule List

3.	Nasalization
4.	Fortition
6.	Coronal Assimilation
9.	Voiceless Stop Assimilation
14.	H-Fortition
19.	Labial Assimilation
21.	Y-Fortition

A cyclical rule order chain exists with Lenition (7) being ordered before

Consonant Deletion (23) which is ordered before H-Fortition (14) which is ordered

before Coronal Deletion 2 (20) which is ordered before Lenition (7). There is also

independent evidence with p-final verbs that Lenition does not apply to Set 2 verb

suffixes (e.g. /taŋop -keŋ/ 'drink -SS.Pr' [taŋoke]). Therefore Lenition is modified to not

apply to Set 2 verb suffix initial segments.

(7.d)   Lenition

$$
\begin{bmatrix} C \\ \text{-voice} \\ \text{-cont} \end{bmatrix} \rightarrow \begin{bmatrix} \text{+voice} \\ \text{+cont} \end{bmatrix} / \text{ V } \left(\text{]}_{\{Cl, Red, Comp\}} \right) \text{ [}_{\sim S2} \text{ --- V}
$$

Lenition (7.d) states that lenition does not apply to the initial consonant of Set 2

verb suffixes (~S2) at morpheme boundaries.

<u>9.2.4 Modal Nouns</u>

Awara has three modal nouns[71] which are suffixed to the verb root. Modal nouns do not take subject agreement markers, as shown in Table 165.

Table 165.   Modal Noun Examples

	Gloss	'Deontic' [naŋʌn]	'Deontic' [naŋʌsʌ]	'Purpose' [naŋge]
UF				
/bup(mʌ)/	'sew'	[bupnaŋʌn]	[bupnaŋʌsʌ]	[bupnaŋge]
/matʌ/	'cut'	[matʌnaŋʌn]	[matʌnaŋʌsʌ]	[matʌnaŋge]
/taŋop/	'drink'	[taŋopnaŋʌn]	[taŋopnaŋʌsʌ]	[taŋopnaŋge]
/halut/	'wash'	[halutnaŋʌn]	[halutnaŋʌsʌ]	[halutnaŋge]

These suffixes behave identically to the other /n/-initial suffixes. Since there is no justification for positing an abstract form, the UF is the surface forms /-naŋʌn/ 'Deontic', /-naŋʌsa/ 'Deontic', and /-nage/ 'purpose'.

<u>9.3 Irregular Verb Suffix Morphophonemics</u>

<u>9.3.1 2s.Immediate Suffix With The Dynamic Imperfective</u>

The 2s.Immediate suffix is /-ŋ/ and the phoneme /ŋ/ deletes after root-final consonants (See Table 132). However, when 2s.Immediate occurs after the Singular Dynamic Imperfective /-ga/ 's.DIpf', it is null, as shown in Table 166. Also, the final vowel /a/ in /-ga/ 's.DIpf' is [ʌ].

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[71] Modal nouns are nouns that express concepts related to possibility and obligation that take non-finite clauses as their complements. They are clitics phonologically bound to non-finite verbs. (S. Quigley 2002b)

Table 166.   The Immediate Suffix Paradigm with the Dynamic Imperfective

		/-ga/ 's.DIpf'	/-ka/ 'p.DIpf'
/-pa/	'1s.Imm'	pahaŋgaɓa	*
/-ŋ/	'2s.Imm'	pahaŋgʌ	*
/-pʌn/	'3s.Imm'	pahaŋgaɓʌn	*
/-da/	'1d.Imm'	*	pahakata
/-gun/	'23d.Imm'	*	pahakakun
/-na/	'1p.Imm'	*	pahakana
/-gut/	'23p.Imm'	*	pahakakut

/paha/ 'to do' is a V-final verb

All of the other Immediate suffixes occur after the Dynamic Imperfective as expected. It is unclear why /-ga/ 's.DIpf' is [-gʌ] and the 2s.Immediate suffix /-ŋ/ is missing on [pahaŋgʌ] (/paha -ga -ŋ/ 'to do -s.DIpf -2s.Immediate'). The alternative analysis of 2s.Immediate as null (see Section 9.1.1, [ŋ~ø] Alternation: 2s.Immediate Suffix), would account for [pahaŋgʌ] not being [ŋ]-final (/paha -ga -ø/ 'to do -s.DIpf -2s.Immediate'). However, this alternative analysis does not account for why /-ga/ 's.DIpf' is pronounced as [-gʌ]. Therefore it is analyzed as suppletion (e.g. /-ga -ŋ/ '-s.DIpf -2s.Imm' is [-gʌ]).

9.3.2 23p.Immediate with the Dynamic Imperfective

The 23p.Immediate /-ɡut/ is normally [-ɡut] after V-final and t-final verbs and [-but] after p-final verbs and the short form of mʌ-final verbs, as shown in Table 167.[72]

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[72] The 23p.Immediate and 23d.Immediate suffixes are the only two suffixes that exhibit the [ɡ] ~ [b] initial segment alternation pattern (see Section 9.1.4, [X~b] Alternation).

Table 167. 23p.Immediate Suffix

UF	Gloss	23p.Immediate	23d.Immediate
/bup(mʌ)/	'sew'	[bupbut]	[bupbun]
/matʌ/	'cut'	[matʌɡut]	[matʌɡun]
/taŋop/	'drink'	[taŋopbut]	[taŋopbun]
/halut/	'wash'	[haluɡut]	[haluɡun]

However, it is [-kut], not *[-ɡut] after the vowel-final /-ɡa/ 'SIpf' and /-ka/ 'p.DIpf', as

shown in Table 168.

Table 168. 23p.Immediate with the Imperfective Suffix

/paha -ka -gut/	'do.p -p.DIpf -23p.Imm'	[pahakakut]
/natʌp -ɡa -gut/	'to know -SIpf -23p.Imm'	[natʌɡakut]

The norm is for suffixes following /-ɡa/ and /-ka/ to use the form which they

normally use after vowels. For example, /paha -da/ 'do.p -1d.Imm' is [pahata] and /paha

-ka -da/ 'do.p -p.DIpf -1d.Imm' is [pahakata]. It is unclear why /-ɡut/ 23p.Imm' is

[k]-initial after these vowel-final suffixes but is [ɡ]-initial after vowel-final verb roots

(e.g. /matʌ -ɡut/ 'cut -23p.Imm' is [matʌɡut]).

9.3.3 Static Imperfective [-ɡʌt]~[-ɡa]

The Static Imperfective has two forms: [-ɡʌt] and [-ɡa]. [-ɡʌt] is used before

coronal-initial Set 1 Suffixes and [-ɡa] is used with all other suffixes.

Table 169. Static Imperfective Examples

UF	Gloss	PR
/natʌp -ɡa -k/	'to know -SIpf -3s.Pres' (Set 2)	[natʌɡak]
/natʌp -ɡa -pit/	'to know -SIpf -1s.Future' (Set 1)	[natʌɡaƀit]
/natʌp -ɡʌt -nim/	'to know -SIpf -3s.Future' (Set 1)	[nataɡʌtnim]

Since the two forms of the SIpf are suppletive, the UF is both forms /-ɡʌt/ and

/-ɡa/: /-ɡʌt/ is marked for coronal-initial Set 1 suffixes and /-ɡa/ is used elsewhere.

9.3.4 Same Subject -keŋ and -hikaŋ

The Same Subject Perfective (SS.Pf) and Same Subject Durative Perfective (SS.DurPf) markers have two forms. The first forms are [-ke] and [-hika], which occur when they are not followed by other suffixes, as shown in Table 170.

Table 170.   Same Subject Word Final

UF	Verb	Gloss	SS.Pr [-ke]	SS.DurPf [-hika]
/bup(mʌ)/	/bupmʌ/	'sew'	[bupmʌke]	[bupmʌhika]
/matʌ/	/matʌ/	'cut'	[matʌke]	[mathahika]
/taŋop/	/taŋop/	'drink'	[taŋoke]	[thaŋohika]
/halut/	/halut/	'wash'	[haluke]	[haluhika]

The second forms are [-keŋ] and [-hikaŋ], which occur when they are followed by other suffixes, as shown in Table 171.

Table 171.   Same Subject Word Medial

		SS.Pf [-keŋ]	SS.DurPf [-hikaŋ]
Conditional	/-u/	[kukeŋu]	[kuhikaŋu]
After	/-yʌ/	[kukeŋʌ]	[kuhikaŋʌ]
Dislocation	/-un/	[kukeŋun]	[kuhikaŋun]

The Verb is /kup/ 'to go'

If these suffixes were always vowel-finally, the 'after' suffix /-yʌ/ following the SS.Pf [-keŋ] should result in *[kukeya], the Dislocation suffix /-un/, *[kuken], and the Conditional suffix /-u/, *[kuke]. Since they do not, the final segment [ŋ] of SS.Pf and SS.DurPf deletes when not followed by other suffixes, is inserted when followed by other suffixes, or SS.Pf and SS.DurPf have two lexical forms, one form used word-medially and one form used word-finally. Insertion is not preferred since no other vowel-final suffix requires nasal insertion. A deletion rule is also not preferred since it must be limited to just these two suffixes since nasals exist word-finally elsewhere. The preferred analysis is to have two lexical forms.

9.3.5 Benefactives

The morphophonemic processes between the final segment on verb roots and the

initial segment of the Benefactive are not fully consistent with those seen previously.

The examples shown in Table 172 are shown with the 3s.Present tense suffix /-k/.

Table 172.   Benefactives

	mʌ-final 'sew' /bupmʌ -Ben -k/	V-final 'cut' /matʌ -Ben -k/	p-final 'drink' /taŋop-Ben -k/
1s.Benefactive	[bupmʌŋamik]	[matʌŋamik]	[taŋokŋamik]
2s.Benefactive	[bupmʌŋgamik]	[matʌŋgamik]	[taŋokgamik]
3s.Benefactive	[bupmʌŋʌmik]	[matʌŋʌmik]	[taŋokŋʌmik]
1p.Benefactive	[bupmʌŋnimik]	[matʌŋnimik]	[taŋoknimik]
2p.Benefactive	[bupmʌŋdamik]	[matʌŋdamik]	[taŋokdamik]
3p.Benefactive	[bupmʌŋyʌmik]	[matʌŋyʌmik]	[taŋokyʌmik]

Table 172.   (Continued)

	p-final deleting 'come up' /akop-Ben -k/	t-final 'wash' /halut-Ben -k/
1s.Benefactive	[akoŋamik]	[halukŋamik]
2s.Benefactive	[akoŋgamik]	[halukgamik]
3s.Benefactive	[akoŋʌmik]	[halukŋʌmik]
1p.Benefactive	[akoŋnimik]	[haluknimik]
2p.Benefactive	[akoŋdamik]	[halukdamik]
3p.Benefactive	[akoŋyʌmik]	[halukyʌmik]

The long form of mʌ-final verbs, V-final verbs, and the p-final deleting subset[73]

are consistently [ŋ]-final before the Benefactive suffixes, and p-final and t-final verbs

are consistently [k]-final. The Benefactive surface forms do not exhibit alternations, as

listed in Table 173.

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[73] These are the same set of p-final verbs that pattern differently from regular p-final
verbs in Section 9.2.2, Singular Dynamic Imperfective.

Table 173.   Benefactive

1s.Benefactive	[-ŋami]
2s.Benefactive	[-gami]
3s.Benefactive	[-ɲʌmi]
1p.Benefactive	[-nimi]
2p.Benefactive	[-dami]
3p.Benefactive	[-yʌmi]

For now, it is assumed that the UFs for the Benefactive suffixes is the surface form listed in Table 173.

It is unclear why mʌ-final, V-final, and some p-final verbs are [ŋ]-final and p-final and t-final verbs are [k]-final before the Benefactive. The only occurrence of [ŋn] clusters in Awara are with the 1P.Benefactive affixed to mʌ-final, V-final, and the p-final subset verbs.

9.4 Verb Roots

This section recapitulates the behavior of the four main groups of verbs; mʌ-final, V-final, p-final, and t-final verbs. The following verb charts list one example verb from the group under investigation and one example verb suffix from each of the different verb suffix alternation sets. The left column lists the verb suffix alternation set.

The analysis of these verb groups is based on the collection of 117 verb paradigms selected from 355 verb entries in the Awara data lexicon.

9.4.1 mʌ-Final Verbs

Mʌ-final verb roots have a short form and a long form which contains the short form plus /mʌ/[74]), as shown in Table 174.[75] The short form is used before the combined

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[74] Spaulding (1988) reports that Nankina also has /-mʌŋ/ verbs but notes that it is unclear if the UF is /mʌŋ/ or /mʌ/.
[75] The Southern dialect of Awara only has the long form.

subject agreement forms (Set 1), and the long form is used with non-alternating suffixes (Set 2).

Table 174.   mʌ-Final Verb Root

	Variant	Ex. suffix	[bup] 'sew'	Gloss
Set 1	t~d	1d.Imm	[bupda]	'Let us sew it!'
	h~s	23d.Imp	[bupson]	'You sew it.'
	k~b	3s.Past	[bupbut]	'He sewed it.'
	g~b	23p.Imm	[bupbut]	'You sew it!'
	y~s	2s.Imp	[bupso]	'You sew it.'
	p~b~b	3s.Future	[bupik]	'He will sew it.'
	n	23p.Imp	[bupnoŋ]	'You sew it.'
Set 2	ŋ~ø	2s.Imm	[bupmʌŋ]	'You sew it!'
	NC	3s.Present	[bupmʌk]	'He sewed it.'
	/-ga/	s.DIpf	[bupmʌŋgak]	'He is sewing it.'

NC = No Change

There is no phonological distinction of the short form of mʌ-final verbs from other p-final verbs with Set 1 suffixes, and there is no phonological distinction between the long form of mʌ-final verbs and V-final verbs with Set 2 suffixes.

Besides the short form of mʌ-final verbs ending in [p], there are some [m]-final short forms, as shown in Table 175 with the example [tem] 'write'.[76]

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[76] There are seven mʌ-final verbs that have [p]-final short forms, and two that have [m]-final short forms in the data.

Table 175.   Other mʌ-Final Verb Examples

	Variant	Ex. suffix	[tem] 'write'
Set 1	t~d	1d.Imm	[temda]
	h~s	23d.Imp	[temson
	k~b	3s.Past	[tembut]
	g~b	23p.Imm	[tembut]
	y~s	2s.Imp	[temso]
	p~b~b	3s.Future	[tepik]
	n	23p.Imp	[temnoŋ]
Set 2	ŋ~ø	2s.Imm	[temʌŋ]
	NC	3s.Present	[temʌk]
	/-ga/	s.DIpf	[temʌŋgak]

These [m]-final short forms pattern identically to the other mʌ-final verbs.

It is nonpreferred to analyze [mʌ] on mʌ-final verbs as a morpheme on syntactic grounds since no meaning is associated to it. However, it is also not preferred on phonological grounds to posit two lexical forms for all the verbs that exhibit the [mʌ] alternation;[77] the short form used with Set 1 verb suffixes and the long form used with Set 2 verb suffixes. Since mʌ-final verbs are a common verb group in Awara, [mʌ] is posited as a formative with the UF /-mʌ/.[78] The UF for mʌ-final verbs is the short form (e.g. the UF for 'sew' is /bup/ and 'the UF for 'write' is /tem/). Since there is no phonological process to distinguish p-final verbs from the /p/ final short form of mʌ-final verbs that take the /-mʌ/ suffix, all mʌ-final verbs are marked in the lexicon to take the formative /-mʌ/ with Set 2 verb suffixes.

There is one verb that patterns similarly in that it has both a long and short form, /kuŋʌ/ 'die', as shown in Table 176. It differs in that the short form is [m]-final rather than [p]-final and the long form is [ŋʌ]-final rather than [mʌ]-final.

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[77] As S. Quigley's (2002a) analysis of [mʌ] does.
[78] Formatives are suffixes with no apparent meaning attached.

Table 176.   mʌ-Final Verb /kuŋʌ/ 'die'

	Suffix	Sub. Agr	/kuŋʌ/ ~ /kum/'to die'	Gloss
Set 1	t~d	1d.Imm	[kumda]	'Let us die'
	h~s	23d.Imp	[kumson]	'You die.'
	k~b	3s.Past	[kumbut]	'He died.'
	ɡ~b	23p.Imm	[kumbut]	'You die!'
	y~s	2s.Imp	[kumso]	'You die.'
	p~ƀ~b	3s.Future	[kupik]	'He will die.'
	n	23p.Imp	[kumnoŋ]	'You die.'
Set 2	ŋ~ø	2s.Imm	[kuŋʌŋ]	'You die!'
	NC	3s.Present	[kuŋʌk]	'He died.'
	/-ga/	s.DIpf	[kuŋʌŋgak]	'He is dying.'

/kuŋʌ/ 'die' is analyzed as having both forms /kuŋʌ/ and /kum/ in the lexicon and

/kuŋʌ/ is marked to take Set 2 suffixes and /kum/ is marked to take Set 1 suffixes.

9.4.2 V-Final Verbs

V-final verbs are exemplified in Table 177.

Table 177.   V-Final Verb Example

	Suffix	Sub. Agr	/matʌ/ 'cut'	Gloss
Set 1	t~d	1d.Imm	[matʌta]	'Let us cut it!'
	h~s	23d.Imp	[matʌhon]	'You cut it.'
	k~b	3s.Past	[matʌkut]	'He cut it.'
	ɡ~b	23p.Imm	[matʌɡut]	'You cut it!'
	y~s	2s.Imp	[matʌyo]	'You cut it.'
	p~ƀ~b	3s.Future	[matʌƀit]	'He will cut it.'
	n	23p.Imp	[matʌnoŋ]	'you cut it.'
Set 2	ŋ~ø	2s.Imm	[matʌŋ]	'You cut it!'
	NC	3s.Present	[matʌk]	'He cut it.'
	/-ga/	s.DIpf	[matʌŋgak]	'He is cutting it.'

With some V-final verbs, the /p/ in /p/-initial suffixes does not lenite, as shown

in Table 178.[79] These V-final verbs otherwise pattern identically to V-final verbs shown

in Table 177.

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[79] There are 24 standard V-final verbs and 3 non-leniting V-final verbs in the data.

Table 178. Non-leniting V-Final Verb Example

Suffix	Sub. Agr	/na/ 'eat'	Gloss
p~ɓ~b	3s.Future	[napik]	'He will eat it.'

There is no phonological distinction for separating these non-leniting V-final verbs that use the [p]-initial verb suffix form from the other V-final verbs. As previously mentioned in Section 9.1.6, [p~b~ɓ] Alternation, V-final verbs which use [-pik] are lexically marked for suspending Lenition (7).

9.4.3 p-Final Verbs

P-final verbs are exemplified in Table 179. These differ from mʌ-final verbs in that the /-mʌ/ suffix is not applied to these roots.

Table 179. P-final Verb Example

	Suffix	Sub. Agr	/taŋop/ 'drink'	Gloss
Set 1	t~d	1d.Imm	[taŋopda]	'Let us drink it!'
	h~s	23d.Imp	[taŋopson]	'You drink it .'
	k~b	3s.Past	[taŋopbut]	'He drank it.'
	ɡ~b	23p.Imm	[taŋopbut]	'You drink it!'
	y~s	2s.Imp	[taŋopso]	'You drink it.'
	p~ɓ~b	3s.Future	[taŋopik]	'He will drink it.'
	n	23p.Imp	[taŋopnoŋ]	'you drink it.'
Set 2	ŋ~ø	2s.Imm	[taŋop]	'You drink it!'
	NC	3s.Present	[taŋok]	'He drank it.'
	/-ga/	s.DIpf	[taŋokgak]	'He is drinking it.'

There are a few action verbs that are p-final verbs and have the final segment /p/ deleting before /-ga/ 's.DIpf', as shown in Table 180.[80] These deleting p-final verbs otherwise pattern identically to the p-final verbs shown in Table 179.

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[80] There are five p-final verbs and four deleting p-final verbs in the database used for this study. However, there are many p-final examples in our lexicon which do not delete.

Table 180.   Deleting p-Final Verb Example

	Suffix	Sub. Agr	/akop/ 'come up'	Gloss
Set 2	/-ga/	s.DIpf	[akoŋgak]	'He is coming up.'

There is no phonological distinction separating these deleting p-final verbs from the other p-final verbs (see Section 9.2.2, Singular Dynamic Imperfective). Since there are only four verbs that exhibit this pattern, these deleting p-final verbs are marked in the lexicon for Root Dorsal Assimilation (22) not applying.

9.4.4 t-Final Verbs

t-final verbs are exemplified in Table 181.

Table 181.   t-Final Verb Example

	Suffix	Sub. Agr	/halut/ 'wash'	Gloss
Set 1	t~d	1d.Imm	[halutda]	'Let us wash it!'
	h~s	23d.Imp	[haluson]	'You wash it.'
	k~b	3s.Past	[halukut]	'He washed it.'
	g~b	23p.Imm	[halugut]	'You wash it!'
	y~s	2s.Imp	[haluyo]	'You wash it.'
	p~ɓ~b	3s.Future	[haluɓik]	'He will wash it.'
	n	23p.Imp	[halutnoŋ]	'you wash it.'
Set 2	ŋ~ø	2s.Imm	[halut]	'You wash it!'
	NC	3s.Present	[haluk]	'He washed it.'
	/-ga/	s.DIpf	[halukgak]	'He is cutting it.'

There are some t-final verbs that have /p/-initial suffixes becoming voiced, as shown in Table 182.[81] These t-final verbs otherwise pattern identically to t-final verbs, shown in Table 181.

Table 182.   Voicing t-Final Verb Example

	Suffix	Sub. Agr	/mut/ 'throw'	Gloss
Set 1	p~ɓ~b	3s.Future	[mumbik]	'He will throw it.'

There is no phonological distinction separating these voicing t-final verbs from the other t-final verbs. As previously mention in Section 9.1.6, [p~b~ɓ] Alternation,

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[81] There are 49 t-final and 10 voicing t-final forms in the data.

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t-final verbs which use [-bik] are lexically marked to have a minor voicing rule applied

to account for /p/-initial consonants on Set 1 suffixes becoming [b] before other rules are

applied, specifically, before Lenition (7).

9.4.5 Dual V-Final and t-Final Verbs

        There is a set of verb roots that have two optional surface forms. These verbs are

V-final and t-final, as shown in Table 183. These words can be said either way by the

same Awara speaker.

Table 183.   Dual Verb Example: /butut/ 'pick up'

	Suffix	Sub. Agr	V-final		t-final	Gloss
Set 1	t~d	1d.Imm	[bututa]	~	[bututda]	'Let us pick up it!'
	h~s	23d.Imp	[butuhon]	~	[butuson]	'You pick up it.'
	k~b	3s.Past		[butukut]		'He picked up it.'
	ɡ~b	23p.Imm		[butuɡut]		'You pick up it!'
	y~s	2s.Imp		[butuyo]		'You pick up it.'
	p~ƀ~b	3s.Future		[butuƀik]		'He will pick up it.'
	n	23p.Imp	[butunoŋ]	~	[bututnoŋ]	'You pick up it.'
Set 2	ŋ~ø	2s.Imm	[butuŋ]	~	[butut]	'You pick up it!'
	NC	3s.Present		[butuk]		'He picked up it.'
	/-ga/	s.DIpf	[butuŋgak]	~	[butukgak]	'He is picking up it.'

        As it has been previously shown, deletion of the final /t/ in t-final verbs is

common in Awara verb morphophonemics. This is observed with Coronal Deletion (18)

(Section 9.1.3, [h~s] Alternation) and Coronal Deletion 2 (20) (Section 9.1.4, [X~b]

Alternation). Since there is no justification for listing the V-final form in the lexicon and

having these forms marked for an option minor [t] insertion rule, but there is a

precedence for applying an optional minor coronal deletion rule, the t-final form is

chosen as the UF for these verbs. These forms are marked in the lexicon to have an

optional minor deletion rule apply to delete the final /t/ before all other morphophonemic

rules are applied (not formalized).

9.4.6 Verb Root Lenition

Voiceless stop-initial segments /p, t, k/ on verb roots become /ɓ, l, g̶/ after vowel-final words, as shown in Table 184.

Table 184.   Verb Root Lenition Across Words

Surface Form	Underlying Form	Gloss
[hikŋʌ ɓahaŋgalʌk]	/hikŋʌ paha -ga -lʌk/	'real do.pO -s.DIpf -2s'
[hikŋʌ likin]	/hikŋʌ ti -gin/	'real be -23p.Pst
[ɓau g̶opbum]	/ɓau kop -gum/	'Wau go up -1s.Pst'

Voiceless stops leniting can be accounted for by applying Lenition (7) to word boundaries of verbs.

(7.e)   Lenition

$$\begin{bmatrix} C \\ \text{-voice} \\ \text{-cont} \end{bmatrix} \rightarrow \begin{bmatrix} \text{+voice} \\ \text{+cont} \end{bmatrix} \; / \; V \; \left( ]_{\{Cl, \, Red, \, Comp, \, Verb\}} \right) \; [_{\sim S2} \; \_\_ \; V$$

9.5 Irregular Verb Roots

9.5.1 Motion Verbs

There are two motion verbs 'come' and 'come down' that, like mʌ-final verbs, have a long and short form, as shown in Table 185.

Table 185. Action Verbs [apu]~[ap] and [epu] ~ [ep]

	Suffix	Sub. Agr	'come'	'come down'
Set 1	t~d	1d.Imm	[apda]	[epda]
	h~s	23d.Imp	[apson]	[epson]
	k~b	3s.Past	[apbut]	[epbut]
	g~b	23p.Imm	[apbut]	[epbut]
	y~s	2s.Imp	[apso]	[epso]
	p~b~b	3s.Future	[apik]	[epik]
	n	23p.Imp	[apnoŋ]	[epnoŋ]
Set 2	ŋ~ø	2s.Imm	[ap]	[ep]
	NC	3s.Present	[apuk]	[epuk]
	/-ga/	s.DIpf	[apuŋgak]	[epuŋgak]

Like mʌ-final verbs, these verbs use the short forms [ap] and [ep] with Set 1 suffixes and the long forms [apu] and [epu] with Set 2 suffixes. Unlike mʌ-final verbs, these verbs use the short form with the 2s.Immediate.

Since there are no other verbs that exhibit the [u] for the long form, the preferred option is to posit in the lexicon the two forms /ap/ and /apu/ for 'come' and /ep/ and /epu/ for 'come down'.[82] The short form is marked for Set 1 suffixes and the long form is marked for Set 2 suffixes. The irregular 2s.Immediate form is also listed in the lexicon.

9.5.2 Verb 'give'

The verb 'give' takes object prefixes. When it occurs with the Third Singular Object Agreement prefix, the 2s.Imm form of 'give' is the expected form [imiŋ], as shown in Table 186.

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[82] Other options include positing /-u/ as a separate suffix (as was done with /-mʌ/) and applying minor rules to these two suffixes. Since [u] only exists on these two verbs, the preferred analysis is to posit them in the lexicon.

Table 186.   The Verb /mi/ 'Give'

	Suffix	Sub. Agr	UF	/i- mi/ 3s.O- give'	/na- mi/ '1s.O- give'
Set 1	t~d	1d.Imm	/-da/	[imita]	*
	h~s	23d.Imm	/-hʌn/	[imihon]	[namihon]
	k~b	3s.Past	/-gut/	[imikut]	[namikut]
	ɡ~b	23p.Imm	/-ɡut/	[imiɡun]	[namiɡun]
	y~s	3s.Imm	/-yok/	[imiyok]	[namiyok]
	p~b~b	3s.Fut	/-pik/	[imik]	[namik]
		3s.Imm	/-pʌn/	[imʌn]	[namʌn]
	n	23p.Fut	/-niŋ/	[iminiŋ]	[naminiŋ]
Set 2	ŋ~ø	2s.Imm	/-ŋ/	[imiŋ]	[nam]
	NC	3s.Pres	/-k/	[imik]	[namik]
	g	s.DIpf	/-ga/	[imiŋgak]	[namiŋgak]

However, when /mi/ 'give' occurs with the 1s.Object prefix /na-/,[83] the

2s.Immediate form of '1s.O- give' is [nam] 'Give it to me!'. This is the only case of the

2s.Immediate form of a verb being [m]-final. The 2s.Imm form of /mi/ 'give' occurring

with the other object agreement prefixes is the expected [ŋ]-final form. The

2s.Immediate form of /mi/ 'give' with the 1s.Object prefix /na-/ is posited in the lexicon

as /nam/.

Furthermore, the final /i/ in 'give' deletes before /p/-initial suffixes, repeated in

Table 187.

Table 187.   [ip] Sequences Deleting in the Verb /mi/ 'give'

UF	Gloss	PR
/i- mi -pik/	'3s.O- give -3s.Future'	[imik]
/na- mi -pik/	'1s.O- give -3s.Future'	[namik]
/na- mi -pʌn/	'1s.O- give -3s.Imm'	[namʌn]

It is unclear why these sequences reduce on this verb. No other /i/-final verbs

with /p/-initial suffixes reduce. These are also posited in the lexicon.

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[83] See Section 9.6.3, Person and Number Object Agreement Prefixes, for the discussion of the object prefixes.

9.6 Verb Prefix Morphophonemics

Verbs can have proclitics and object agreement prefixes before the verb root, as shown in Table 188.[84]

Table 188. Verb Prefix Morphology Chart

Proclitics	Object Agreement	Root
Predicate Focus Negative Prohibitive	Number Person & Number	

Just as Awara enclitics were analyzed as suffixes for the purposes of phonological analysis, Awara proclitics can be treated as prefixes.[85]

9.6.1 Predicate Focus, Negative, and Prohibitive Prefixes

Table 189 shows the Predicate Focus, Negative, and Prohibitive prefixes attached to some Awara verbs. The column labeled "3s.Present /-k/" shows these verbs as they occur without a prefix.

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[84] See S. Quigley (2002b) for further information.
[85] See Chapter 6, Noun Morphophonemics.

Table 189.   Verb Proclitic Chart

	'3s.Present' /-k/	'P.Focus' [a-]	'Negative' [do-]	'Prohibitive' [ma-]
'come up'	[akok]	[aakok]	[doakok]	[maakop]
'do'	[pʌhak]	[abʌhak]	[dobʌhak]	[mabʌhaŋ]
'drink'	[taŋok]	[alaŋok]	[dolaŋok]	[malaŋop]
'go up'	[kok]	[aɡok]	[doɡok]	[maɡop]
'detach'	[dek]	[andek]	[dondek]	[mandet]
'shoot'	[masik]	[amasik]	[domasik]	[mamasit]
'wash'	[haluk]	[ahaluk]	[dohaluk]	[mahalut]

The PFocus and Negative are with /-k/ '3s.Present'.
The Prohibitive is with /-ŋ/ '2s.Immediate'.

There is a fourth prefix [ma-] 'almost' which is homonymous to [ma-] 'Prohibitive'. However, not all people use this form. My consultant did not use this form but used another adverbial construction. As such it is not included in the present study.

These prefixes are vowel-final. Root-initial voiceless stops lenite, and prenasalization on voiced stops is realized as part of the preceding open syllable. Lenition (7) accounts for voiceless stops leniting after these prefixes.

The UF for these prefixes can be the same as the surface form: /a-/ for Predicate Focus, /do-/ for Negative, and /ma-/ for Prohibitive and 'almost'.

9.6.2 Singular ~ Plural Object Prefix Distinction

Object agreement on the root falls into two separate categories. The first distinguishes only between singular object [t-] and plural object [p-], as shown in Table 190 with the Prohibitive prefix /ma-/.

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Table 190.   Singular ~ Plural Distinction

	UF	Gloss	PR
Singular	/t- ʌ -ŋ/	's.O- take -2s.Imm'	[tʌŋ]
	/ma- t- ʌ -ŋ/	'Prohib- s.O- take -2s.Imm	[malʌŋ]
	/t- e -ŋ/	's.O- leave -2s.Imm'	[teŋ]
	/ma- t- e-ŋ/	'Prohib- s.O- leave -2s.Imm	[maleŋ]
Plural	/p- ʌ -ŋ/	'p.O- take -2s.Imm'	[pʌŋ]
	/ma- pʌ -ŋ/	'Prohib- p.O- take -2s.Imm	[maɓʌŋ]
	/p- e -ŋ/	'p.O- leave -2s.Imm'	[peŋ]
	/ma- p- e -ŋ/	'Prohib- p.O- leave -2s.Imm	[maɓeŋ]

The forms with the Prohibitive prefix /ma-/ show that [p] and [t] lenite after vowel-final prefixes; they also lenite after vowel-final words (not shown). The UF for these are /p-/ 'p.O' and /t-/ 's.O' and Lenition (7) accounts for these prefixes leniting.

There are several points to suggest that [t] and [p] could be analyzed as part of the verb root rather than as separate morphemes. There is no evidence to support that they attach to consonant-initial verbs (e.g. *[dopbumʌŋ] /do- p- bupmʌ -ŋ/ 'Do not sew them'). Rather, only vowel-initial transitive verb roots take /p/ or /t/. Yet, there are other vowel-initial transitive verbs which do not take these prefixes. However, since the evidence for analyzing [p] and [t] as part of the verb root is inconclusive, the preferred option is to posit the prefixes /p-/ 'p.O' and /t-/ 's.O' in the lexicon separately with one lexical verb root entry rather than positing multiple /p/-initial and /t/-initial verb-root pairs.

9.6.3 Person and Number Object Agreement Prefixes

The second type of object agreement prefixes attaches to a small class of verbs[86] that require direct objects and are marked for both person and number as listed in Table 191.

Table 191.   Object Prefix Agreement Chart

	'laugh'	'give'	'to leave	'cook'	'slice'
	/-k/ 3s.pres'	/-ŋ/ '2s.Imm'	/-k/ 3s.pres'	/-ŋ/ '2s.Imm'	/-yʌk/ '3s.App'
1sO	[nanimik]	[namiŋ]	napmak	[nahaŋ]	[natʌɲiyʌk]
2sO	[ganimik]	[gamiŋ]	gapmak	[gahaŋ]	[gatʌɲiyʌk]
3sO	[inimik]	[imiŋ]	ipmak	[ihiŋ]	[itʌɲiyʌk]
1pO	[ninimik]	[nimiŋ]	nipmak	[nihiŋ]	[nitʌɲiyʌk]
2pO	[danimik]	[damiŋ]	dapmak	[dahaŋ]	[datʌɲiyʌk]
3pO	[yʌnimik]	[yʌmiŋ]	yʌpmak	[yʌhaŋ]	[yʌtʌɲiyʌk]

The verb 'give' is consistently [mi], the verb 'to leave' is [pma], the verb 'cook' is [hi] and [ha],[87] and the verb 'slice' is [tʌɲi]. The object prefixes can be analyzed either as [n]-final or [V]-final, as listed in Table 192.

Table 192.   Object Prefix UF

	Option 1	Option 2
1sO	[nan-]	[na-]
2sO	[gan-]	[ga-]
3sO	[in-]	[i-]
1pO	[nin-]	[ni-]
2pO	[dan-]	[da-]
3pO	[yʌn-]	[yʌ-]

The first option for analysis claims that these prefixes are /n/-final and the verb 'laugh' is [imi]. Deletion (8) accounts for the nasal deleting before voiceless stops.

Deletion (8) would also need to be modified to account for /n/ deleting before /mi/ 'give'

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[86] There are eight clear cases of these types of verbs in the data.
[87] There is no phonological process that will account for the alternations [ha] and [hi] on the verb 'cook'. Both forms are posited in the lexicon and are marked for which object agreement prefixes it can take.

and /ha/ 'cook'. Since [nm] clusters do not exist in Awara, this is not problematic for

[nm] on the verb 'to give'. However, the UF /nh/ sequence on the verb 'cook' surfacing

as [h] is problematic. Other UF /nh/ sequences surface as [ns] sequences (e.g. /sadun -

hʌ/ 'axe -2p.Gen' is [sandunsʌ], as shown in Section 6.1.7, [h~s] Alternation) or as [s]

(e.g. /gʷen -him/ 'Cl.lump -Dim' is [gʷesim], as shown in Section 7.1, Classifier Suffix

Morphophonemics).[88]

Option 2 claims that these object prefixes are vowel-final and the verb 'laugh' is

[nimi]. This option is problematic with the verb [taŋi] 'slice'. This verb root does not

lenite. Lenition has been shown to apply with other verb prefixes and voiceless stop

initial verbs (see verb examples in Table 189). This option requires that the verb /tʌni/

'slice' be marked in the lexicon as being an exception to Lenition (7).

Since neither option is ideal and there is no clear justification for preferring

option 1 to option 2, option 2 is selected.

There are five verbs that are irregular in the use of the person and number object

agreement prefixes, as shown in Table 193.

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[88] Also, as noted in Table 29, Awara Consonant Sequences in Section 2.1.8, Consonant
Co-occurrence, there are [mh] and [ŋh] sequences which suggest that there are no
phonotactic constraints against [nh] sequences.

Table 193.   Irregular Verb Object Prefixes

	'see'	'want'	'hit'	'follow'	'call'
1sO	[nanduk]	[nanduŋhak]	[nuk]	[nʌɓak]	[yanʌɓak]
2sO	[ganduk]	[ganduŋhak]	[guk]	[gʌɓak]	[yaŋgʌɓak]
3sO	[kak]	[kaŋhak]	[taŋuk]	[tʌɓak]	[yatʌɓak]
1pO	[ninduk]	[ninduŋhak]	[nihipmʌk]	[niɓak]	[yaniɓak]
2pO	[danduk]	[danduŋhak]	[dahipmʌk]	[dʌɓak]	[yandʌɓak]
3pO	[dayik]	[dayiŋhak]	[sipmʌk]	[yʌɓak]	[yanyʌɓak]

3s.Present subject agreement form /-k/ is used.

Since the prefix morphophonemic patterns for these verbs are not consistent, all

five verbs with their object agreement forms are listed in the lexicon (e.g. [ka] is entered

as /ka/ 'see.3sO').

CHAPTER 10

LOAN WORDS

The main source of loan words in Awara is Melanesian Pidgin English (Pidgin), although some come directly from English. Names and religious terms are often taken from Yabim.[89] It is unclear to what extent words are borrowed from the related language Wantoat.[90] Most of the words listed below have been gleaned from our corpus of texts (see Section 1.3, Methodology) and from works of literature translated into Awara.

10.1 Loan Words that Conform to Awara Phonology

Word-final voiced stops in the source language become unreleased voiceless stops in Awara, as shown in Table 194.

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[89] Yabim and Kôte, historically, were the two Evangelical Lutheran Church languages used in the church until Melanesian Pidgin English replaced them. Awara people generally give their children Yabim names when the children are baptized.
[90] Regarding Wantoat loan words, each Awara village has its own set of shared vocabulary with Wantoat which they regard as being Awara (this is expected since Awara is a related language to Wantoat). Where these shared sets of lexemes do not overlap from one Awara village to another, there are accusations between the two villages that the other village is speaking the Wantoat word. Villages on the western side of the Leron river and especially the northern villages on the western side tend to be the most vocal. This is a sociolinguistic issue dealing with language attitudes rather than an issue of what are considered loan words linguistically. As such it is left to a later date to determine which Wantoat words are actually "borrowed".

Table 194.   Loan Word Conformity

Loan		Source	Gloss	Awara	Orthographic
<Jekob>	[džekob]	Pidgin	'Jacob'	[džekop]	<Jekop>
<Ed>	[ɛd]	English	'Ed'	[ɛt]	<Et>
<kod>	[kod]	Pidgin	'chord'	[kot]	<kot>

Many Awara people have Yabim names that normally begin with [ŋ], as shown in Table 195.

Table 195.   Yabim Names

	Gloss
[ŋaɓiŋom]	man's name
[ŋayamo]	woman's name

10.2 Loan Words that Violate Awara Phonology

Word-medial voiced stops in the source language are not prenasalized in Awara, as shown in Table 196.[91]

Table 196.   Voiced Stop Violation

Loan	PR	Source	Gloss	PR (Awara)	Orthographic
<Elisebet>	[ɛlɪzʌbɛt]	Pidgin	'Elisabeth'	[ɛlɪsʌpɛt]	<Elisabet>
<Dabung>	[dabuŋ]	Yabim	'holy'	[dapuŋ]	<Dabung>
<kalabus>	[kalabus]	Pidgin	'jail'	[kalapus]	<kalabus>

Since voiced stops in the source languages are not prenasalized word-medially, they are not perceived as voiced by Awara speakers, who therefore devoice them. These however, are not the same as ordinary voiceless stops word-medially. Voiceless stops normally have some aspiration, whereas these have none.

The most common phonotactic violation is with loan words that begin with [l] or [r]. Awara does not have /l/-initial words. Table 197 contains some examples of borrowed [l]-initial words.

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[91] See Section 2.1.1, Voiced Stops, regarding prenasalized voiced stops.

Table 197.   [l]-Initial Words

Loan	PR	Source	Gloss	PR (Awara)	Orthographic
<rais>	[rais]	Pidgin	'rice'	[lais]	<lais>
<lamp>	[lamp]	English	'lamp'	[lɛm]	<lem>
<lotu>	[lotu]	Pidgin	'worship'	[lotu]	<lotu>

Loan words can end in [s], as shown in Table 198.

Table 198.   [s]-Final Words

Loan	PR	Source	Gloss	PR (Awara)	Orthographic
<rais>	[rais]	Pidgin	'rice'	[lais]	<lais>
<bos>	[bos]	Pidgin	'supervisor'	[bos]	<bos>
<masis>	[masis]	Pidgin	'matches'	[masis]	<masis>
<polis>	[polis]	Pidgin	'police'	[polis]	<polis>

10.3 Loan Words that Add to the Awara Phonemic Inventory

There are several segments that are found only in loan words. The diphthong [aⁱ] occurs frequently in loan words, as shown in Table 199.

Table 199.   [aⁱ] Diphthong

Loan	PR	Source	Gloss	PR (Awara)	Orthographic
<ais>	[aⁱs]	Pidgin	'snow'	[aⁱs]	<ais>
<aian>	[aⁱʌn]	Pidgin	'iron'	[aⁱʌn]	<aiän>
<pailot>	[paⁱlot]	Pidign	'pilot'	[paⁱlot]	<pailot>

Another loan phoneme is [dž]. This mainly occurs with borrowed Pidgin or English names, as shown in Table 200.

Table 200.   [dž] Segments

Loan	PR	Source	Gloss	PR (Awara)	Orthographic
<Jems>	[džems]	Pidgin	'James'	[džems]	<Jems>
<Jon>	[džon]	Pidgin	'John'	[džon]	<Jon>

The last observed phoneme is [f] which occurs with borrowed Pidgin words, as shown in Table 201.

Table 201.   [f] Segments

Loan	PR	Source	Gloss	PR (Awara)	Orthographic
<fok>	[fok]	Pidgin	'fork'	[fok]	<fok>
<fis>	[fɪs]	Pidgin	'fish'	[fɪs]	<fis>

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CHAPTER 11

ORTHOGRAPHY

The following sections document an initial orthography and some issues that needed to be addressed in helping the Awara people to read and write their language.

11.1 Basic Orthographic Presentation and Spelling

The orthography that has been adopted for Awara is based on the phonemic inventory, as shown in Table 202.

Table 202.   Orthography Table

Phoneme	Variants	Orthographic		Example	Gloss
/a/		A	a	\<akop\>	'you come up'
/ʌ/		Ä	ä	\<kwäman\>	'cold'
/b/		B	b	\<bulip\>	'bush'
/d/		D	d	\<dandambun\>	'physical strength'
/e/	[ε]	E	e	\<bukge\>	'unseasoned'
/g/		G	g	\<danggäm\>	'hair'
/gʷ/		Gw	gw	\<gwame\>	'pitpit' (wild sugar cane)
/h/		H	h	\<hikwak\>	'drum'
/i/	[ɪ]	I	i	\<pilʌ\>	'its wing'
/k/		K	k	\<täkäpsäläk\>	'grass skirt'
/kʷ/		Kw	kw	\<tekwe\>	'tree species'
/l/	[r][ř]	L	l	\<dulinä\>	'silk'
/m/		M	m	\<nämäk\>	'cousin'
/n/		N	n	\<nasik\>	'uncle'
/ŋ/		Ng	ng	\<teng\>	'drop it!'
/ŋʷ/		Ngw	ngw	\<sangwam\>	'pandanus species'
/o/		O	o	\<yokomo\>	'short spirit'
/p/		P	p	\<täkäpun\>	'rib'
/s/		S	s	\<sakge\>	'still'
/t/		T	t	\<wätä\>	'sore'
/u/		U	u	\<dum\>	'roof beam'
/β/	[w][v]	W	w	\<wäpu\>	'belt'
/ɣ/		X	x	\<naxalä\>	'much' or 'many'
/y/		Y	y	\<yokä\>	'mango'

The normal spelling convention is for words to be spelled as they would be pronounced in isolation. All affixes are written in their surface representation, not their lexical form. For example: /ok -na/ 'uncle -1s.Gen' is [okŋa] which is spelled as \<oknga\>[92] and /a- ku -ga -lʌk/ 'PFocus- go -s.DIpf -3s.Pres' is [aɣuŋgalʌk] which is spelled as \<axunggaläk\>.

The glottal stop, which is not considered a phoneme, is not written in the Awara orthography. The two words that use it are underspecified (e.g. [hiʔi] is written as \<hii\>).

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[92] Note that /ŋ/ is \<ng\>.

Where [ɓu] is in free variation with [pu] word-initially, it is written as <pu>.

Where [ɓu] is not in free variation with [pu] word-initially it is written as <wu>.

The loan diphthong [a^i] is written as <ai> (e.g. [ra^{i}s] 'rice' is written as <lais>).

Additional letters included to account for words borrowed from languages of wider communication are listed in Table 203.

Table 203.   Additional Letters

Phoneme	Orthographic		Example	Gloss
/f/	F	f	<fok>	'fork'
/dž/	J	j	<Jems>	'James'

The choice of letters has been dictated by the use of the Melanesian Pidgin English alphabet and the English alphabet which are the dominant alphabets in use in Papua New Guinea (PNG). Before PNG Independence (1975) it was more common to represent the velar nasal /ŋ/ by the letter <ŋ> in many of the Huon-Finisterre languages following the Yabim and Kôte orthographies. Wantoat also used the letter <ŋ>. However, with Pidgin becoming more popular since PNG Independence and English being taught in the elementary schools, most people now prefer <ng>.

11.2 Writing /ʌ/

Originally, /ʌ/ was underspecified by writing it and /a/ as <a>. However, there were too many minimal pairs where context was not sufficient to distinguish between them and this often lead to confusion, as shown in Table 204.

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Table 204. Minimal Pair Contrasts

	Minimal pair 1		Minimal pair 2	
Orthographic	UF	Gloss	UF	Gloss
<minga>	/miŋ -na/	'my mother'	/miŋ -nʌ/	'his mother'
<ina>	/ina/	'what'	/inʌ/	'himself'
<inale>	/inale/	'why, because'	/inʌle/	'for himself'

Because this phoneme needed to be written as a separate letter, the umlaut <¨>

was chosen to combine with <a>. It was important to stay with <a> because people often

write both sounds with the letter <a>. As they become more aware of this phoneme they

are then able to add the umlaut to their writing without making additional corrections.

11.3 Writing Prenasalization

Originally, prenasalization was not written intervocalically except at morpheme

boundaries since it could be accounted for phonologically. However, problems

consistently arose at writers' workshops with people who have been educated in Pidgin

or English.[93] They preferred to write prenasalization intervocalically (e.g. preferring

<simbut> to <sibut>). To test people's preferences about writing prenasalization, a word

list was created with 30 pairs of words (10-b vs. mb, 10-d vs. nd, and 10-g vs. ngg), as

shown in Table 205.

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[93] All education in the Awara area starts with Pidgin taught in one of several local
kindergartens called Tokples Schools sponsored by the local communities. Children then
advance to the national government sponsored community school located at Matak. See
Quigley and Quigley (1999a) for a detailed discussion on the literacy rate and education
system of the Awara people.

Table 205.   Prenasalization Test

babam	bambam	kendet	kedet	dagam	danggam
hamba	haba	dadan	dandan	dunggum	dugum
kumbum	kubum	dadam	dandam	pagwat	panggwat
lobo	lombo	dondon	dodon	sanggum	sagum
simbut	sibut	gadong	gandong	sugwak	sunggwak
tambak	tabak	kandeng	kadeng	sugum	sunggum
tabi	tambi	pandap	padap	pinggu	pigu
wambi	wabi	sadun	sandun	waga	wangga
yebi	yembi	undan	udan	yangga	yaga
gobik	bombik	adan	andan	banggwat	bagwat

These words were randomly listed and given to the participants at a writers'

workshop, asking them to circle which words they felt were spelled correctly. Out of all

who were tested, everyone had a preference for prenasalization being written

intervocalically. People who had greater education showed a higher preference for

prenasalization to be written than those with less education. It was decided to write

prenasalization intervocalically. Since it will be the literate people who will encourage

or discourage the less literate people in learning to read Awara, it is important that they

feel comfortable with using what is produced.[94]

Another factor that supports writing prenasalization comes from borrowed words

that have word-medial voiced stops that are not prenasalized. Writing prenasalization

helps Awara readers distinguish the non-prenasalized voiced stops in borrowed words

such as [dabuŋ] 'holy' written as <dabung> from the prenasalized voiced stops in Awara

words such as /sibut/ 'cake' written as <simbut>.

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[94] Via personal communication, most other SIL colleagues working in Morobe Province
reported similar situations. in which they originally did not represent prenasalization.
However, the literate community preferred writing prenasalization intervocalically, so
they also switched to writing it.

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Because of the support from the literate community for writing prenasalization and the linguistic rational for representing it, it was decided to represent prenasalization intervocalically, as shown in Table 206.

Table 206.   Writing Prenasalization

UF	PR	Original	Current	Gloss
/sibut/	[simbut]	\<sibut\>	\<simbut\>	'cake'
/sadun/	[dandun]	\<sadun\>	\<sandun\>	'axe'
/sugum/	[sugum]	\<sugum\>	\<sunggum\>	'sweet potato'

11.4 Writing \<l\> Versus \<r\>

Another issue with spelling occurred early on with the free variation between [ř] and [l] intervocalically. Some people felt that some words should be spelled with \<r\> and others spelled with \<l\>. To clarify this issue, a word list was created of 155 Awara words that had [l] or [ř] occurring intervocalically. The two most vocal people were asked which of these words should be spelled with \<l\> verses \<r\>. Table 207 lists the total count of words for which each speaker clearly chose either \<l\> or \<r\>.

Table 207.   Sample Total

	Speaker 1	Speaker 2
l	52	108
r	88	47
total	140	155

As shown in Table 207, Speaker 1 preferred spelling more Awara words with \<r\> whereas Speaker 2 had a stronger preference for \<l\>.

Table 208 lists the comparison of their choices.

Table 208.   Distribution Chart

Speaker	Speaker 2	Number of matches	
l	l	36	26%
r	r	29	20%
r	l	59	54%
l	r	16	

The first row states that there were 36 words (26%) that both agreed should be spelled with <l>. The second row states that there were 29 words (20%) that both agreed should be spelled with <r>. The last two rows show that the speakers did not agree on 54% of the words considered. Speaker 1 preferred <r> and Speaker 2 <l> on 59 words and Speaker 1 preferred <l> and Speaker 2 preferred <r> on 16 words.

After tabulating the results, it was obvious that there was no consensus between the two men regarding the use of <l> and <r>. Over 50% of the time they disagreed on which way an individual Awara word should be spelled. Since they agreed 26% of the time on the use of <l> and only 20% on the use of <r>, they agreed (came to a consensus) with us to use the letter <l> all the time for writing the [l] and [ř] sound.[95]

11.5 Writing Lenition

There was concern over the writing of voiceless stops that are lenited word-initially due to a word-final vowel in the preceding word, as shown in Table 209.

Table 209.   Representing Lenition

UF	PR	Orthographic	Gloss
/gusit-u tokŋʌ/	[gusilu lokŋʌ]	<gusilu tokngä> or <gusilu lokngä>	'the sun is hot'

In writing, people generally wrote words using the voiceless stop word-initially regardless of the final segment in the preceding word. However, in reading, some people

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[95] Since that decision was made, there has been little to no resistance to spelling everything with <l>, including people attending writers' workshops from neighboring villages.

commented that the initial voiceless stops of these words should be spelled in their lenited form when they were lenited because of a preceding vowel.

To clarify which way word-initial lenition should be written, an informal test containing two stories was devised, as shown in Figure 7.

Test Sheet A	Test Sheet B
Story A Lenited initial	Story A Stop initial
Story B Stop initial	Story B Lenited initial
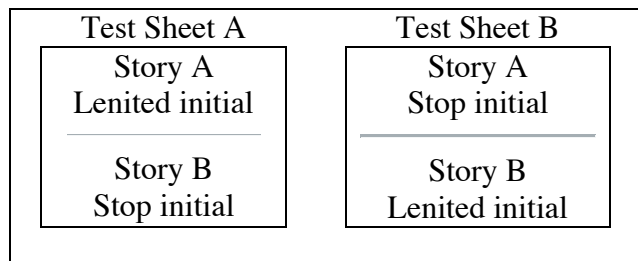
Figure 7.   Story Layout

Four people were each given one sheet containing two stories. They were asked to read each story and make spelling corrections where they thought words were spelled incorrectly. When two people took the test at the same time, one was given Sheet A and the other Sheet B.

All of those tested consistently corrected those words which were written in the lenited form to the voiceless stop form (e.g. <Wadotde xahit täpä xopbumäk.> was corrected to <Wadotde kahit täpä kopbumäk.>). Because of this, it was decided not to write the lenited form word-initially.

11.6 Writing [š]

[š] only occurs in the classifier suffix /-sim/ 'Specific' when it follows a consonant. Because of the similarity in form and distribution of this suffix with the classifier suffix /-him/ 'diminutive' which has the allomorph [-sim] following consonants, most Awara people had difficulty distinguishing the two suffixes when asked about them. In fact, because of a correspondence between /h/ in Awara and /s/ in

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Wantoat, several people said that that the forms with [-sim] were Wantoat words. At this point /-sim/ 'specific' is always written with <s>.

11.7 Unresolved Issues

Further testing should be done with both the Prenasalization test and the Lenition test in other villages to determine if these preferences are the same for the entire language community. These tests were recently developed and due to time constraints only initial trial testing was made with people living at or visiting Guninggwan. The Lenition test also needs further work in quantifying the kinds of corrections people make.

Another orthographic issue still unresolved pertains to the writing of clitics. Should they be written separately or bound to the word they are phonetically attached to? Common practice in PNG has been to write monosyllabic clitics as joined and polysyllabic clitics as separate words. However, in the Huon Finisterre languages, this has not been the norm. Webb (1992a), Reed (2000), and others reported that all monosyllabic postpositional clitics, as well as many of the polysyllabic clitics, had to be written attached to the previous word. This was because people were not able to read them as separate words and people were confused by them not written as bound. For now it has been decided to write these clitics as part of the word. As people become more fluent in reading Awara, this decision will need to be reassessed with the potential of changing the spelling conventions.

APPENDICES

APPENDIX A

ABBREVIATION CHART

Table 210 lists all the abbreviations used in this paper.

Table 210.   List of Abbreviations

Abbreviation	Term
-	affixes including suffixes, prefixes and clitics
/ /	phonemic representation
[ ]	phonetic representation
+	other boundaries including classifiers, compounds, and reduplication
<>	orthographic representation
±1 day	plus or minus 1 day (tomorrow or yesterday)
±2 day	plus or minus 2 days
1	First Person
2	Second Person
23	Second-Third Person
3	Third Person
Abl	Ablative
Appr	Apprehension
Ben	Benefactive
Cl	Classifier
Comp	Complementizer
Cond	Conditional
cons	consonant
cont	continuant
d	Dual
Def	Definite
Dim	Diminutive
DIpf	Dynamic Imperfective
DIpf	Dynamic Imperfective
Dis	Dislocation
DS	Different Subject
Dub	Dubitative
Dur	Durative
ELC	Evangelical Lutheran Church
Fut	Future
Gen	Genitive

Table 210.   (Continued)

Abbreviation	Term
Hyp	Hypothetical
Imm	Immediate
Imp	Imperative
Indef	Indefinite
Indiv	Individuator
Loc	Locative
Neg	Negative
NP	Noun Phrase
O	Object
p	Plural
Persist	Persistent
PFocus	Predicate Focus
PNG	Papua New Guinea
POA	Point of Articulation
PR	Phonetic Representation
Pres	Present
Prob	Probable
Prohib	Prohibitive
RFS	Root Final Segment
s	Singular
SIL	SIL International (formally Summer Institute of Linguistics)
SIL-PNG	Summer Institute of Linguistics, Papua New Guinea Branch
SIpf	Static Imperfective
son	sonorant
sp	species
Spec	Specific
SS	Same Subject
SS.Dur.Pf	Same Subject Durative Perfective
SS.Ipf	Same Subject Imperfective
SS.Pf	Same Subject Perfective
SS.Sib	Same Sex Sibling
Top	Topic
UF	Underlying Form
UND	University of North Dakota

APPENDIX B

MORPHOPHONEMIC RULES

<u>B.1 Crucial Ordering Chart</u>

Table 211 lists all the morphophonemic rules in their crucial ordering.

Table 211.   Crucial Ordering Summary Chart

No.	Rule	*	Order
22	Root Dorsal Assimilation		MB6, MB19, MB20, CB 23
23	Consonant Deletion		B3, B4, B6, B9, B14, B19, B21
14	H-Fortition	*	CB15, CB18, MB20, MB21
20	Coronal Deletion 2	*	B4, F5, F7, MB21
21	Y-Fortition	*	MB3
3	Nasalization	*	F1, F2
4	Fortition		L1
1	Dorsal Assimilation	*	F2
9	Voiceless Stop Assimilation		F2, CB8
7	Lenition	*	CF2, CF5, CF8
2	Degemination	*	
5	Devoicing	*	
16	Classifier Dorsal Assimilation		F8
8	Deletion	*	
15	Classifier Final-Stop Deletion	*	
18	Coronal Deletion	*	
19	Labial Assimilation		MB6
6	Coronal Assimilation	*	
13	Vowel Deletion		
17	Nasal Deletion		

F = Feeding, B = Bleeding, CF = Counterfeeding, CB = Counterbleeding,
L = Logical, M = Mutual

The 'Order' column states the ordering relationship of that rule with the

following rules listed below it. For example, H-Fortition (14) has 'CB15'. That means

H-Fortition is in a counterbleeding relationship with Classifier Final-Stop Deletion (15).

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The '*' column indicates that this rule is crucially ordered after a previously listed rule.

The 'No.' column lists the reference number used in the text for that rule.

<u>B.2 Rule Summary List</u>

(1)   Dorsal Assimilation

$$\begin{bmatrix} C \\ \text{-labial} \\ \text{-cont} \end{bmatrix} \rightarrow \begin{bmatrix} \text{+dorsal} \end{bmatrix} \ / \ \begin{bmatrix} C \\ \text{+dorsal} \end{bmatrix} \ \underline{\quad}$$

Accounts for /n, d, t/ becoming [ŋ, g, k] after /ŋ, g, k/ at morpheme boundaries.

(2)   Degemination

$$\begin{bmatrix} C \\ \alpha \text{ Feature} \end{bmatrix} \rightarrow \text{ø} \ / \ \underline{\quad} \left(l_{\{\text{Red, Comp}\}} \right) \begin{bmatrix} C \\ \alpha \text{ Feature} \end{bmatrix}$$

Accounts for /nn, ŋŋ, pp, tt, kk/ clusters becoming [n, ŋ, p, t, k] at morpheme

boundaries.

$$\underline{\quad} \left(l_{\text{Red}} \right) \begin{bmatrix} C \\ \alpha \text{ Feature} \end{bmatrix}$$ accounts for [tt] clusters degeminating at the

reduplicant boundary.

$$\underline{\quad} \left(l_{\text{Comp}} \right) \begin{bmatrix} C \\ \alpha \text{ Feature} \end{bmatrix}$$ accounts for [kk] clusters degeminating at the

compound boundary.

(3)   Nasalization

$$y \ \rightarrow \ n \ / \ C \ \underline{\quad}$$

Accounts for /y/ becoming [n] after consonants at morpheme boundaries.

(4)   Fortition

$$\begin{bmatrix} C \\ \text{+cons} \\ \text{+voice} \end{bmatrix} \rightarrow \begin{bmatrix} \text{-cont} \end{bmatrix} \ / \ C \ \underline{\quad}$$

Accounts for /l, g/ becoming [d, g] after consonants at morpheme boundaries.

(5) Devoicing

$$\begin{bmatrix} C \\ -cont \\ -son \\ -labial \end{bmatrix} \rightarrow \begin{bmatrix} -voice \end{bmatrix} \ / \ V \ \_\_$$

Accounts for /d, g/ becoming [t, k] after vowels at morpheme boundaries. Does not apply to verbs.

(6) Coronal Assimilation

$$\begin{bmatrix} C \\ -labial \end{bmatrix} \rightarrow \begin{bmatrix} +coronal \end{bmatrix} \ / \ \begin{bmatrix} C \\ -dorsal \end{bmatrix} \ \_\_$$

Accounts for /g/ becoming [d] after coronal and labial consonants at morpheme boundaries.

(8) Deletion

$$C \ \rightarrow \ \emptyset \ / \ \_\_ \ \left(l_{\{Cl, \ Red, \ Comp\}} \right) \ \begin{bmatrix} C \\ -cont \\ -voice \end{bmatrix}$$

Accounts for /mp, nt, ŋk/ becoming [p, t, k] at morpheme boundaries. Deletion overlaps with Degemination in that deletion also reduces /pp, tt, kk/ to [p, t, k] at morpheme boundaries.

$$\_\_ \ \left(l_{Cl} \right) \ \begin{bmatrix} C \\ -cont \\ -voice \end{bmatrix}$$ accounts for /t, k, n, ŋ/-final nouns deleting before /t, k/-

initial classifiers. This does not apply to labial-final nouns which do no delete before /t/-initial classifiers.

— $\left( ]_{\text{Red}} \right)$ $\begin{bmatrix} \text{C} \\ -\text{cont} \\ -\text{voice} \end{bmatrix}$ accounts for /t, k, n, ŋ/ deleting before /p, t, k/ at

reduplicant boundaries in fast speech.

— $\left( ]_{\text{Comp}} \right)$ $\begin{bmatrix} \text{C} \\ -\text{cont} \\ -\text{voice} \end{bmatrix}$ accounts for /t, k, n, ŋ/-final nouns deleting before /t, k/-

initial nouns at compound boundaries.

(9)   Voiceless Stop Assimilation

$$\begin{bmatrix} \text{C} \\ -\text{cont} \\ -\text{voice} \end{bmatrix} \rightarrow [\alpha\,\text{POA}] \ / \ \begin{bmatrix} \text{C} \\ [\alpha\,\text{POA}] \end{bmatrix} \ \underline{\quad}$$

Accounts for /k/ becoming [p, t, k] after /m or p, n or t, ŋ or k/ at morpheme

boundaries.

(7)   Lenition

$$\begin{bmatrix} \text{C} \\ \text{-voice} \\ \text{-cont} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{voice} \\ +\text{cont} \end{bmatrix} \ / \ \text{V} \ \left( ]_{\{\text{Cl, Red, Comp, Verb}\}} \right) \ [_{\sim\text{S2}} \ \underline{\quad} \ \text{V}$$

Accounts for /k/ initial suffix becoming [g] after vowels at morpheme

boundaries. It also accounts for /p, t, k/ final nouns becoming [ƀ, l, g] before vowels at

morpheme boundaries.

V $\left( ]_{\text{Cl}} \right)$ $\underline{\quad}$ V accounts for /t, k/ initial classifiers becoming [l, g] after V-

final nouns.

V $\left( ]_{\text{Red}} \right)$ $\underline{\quad}$ V accounts for /t/ becoming [l] at reduplicant boundaries.

V $\left( ]_{\text{Comp}} \right)$ $\underline{\quad}$ V accounts for /k/ becoming [g] at compound boundaries.

V $\left(]_{\text{Verb}}\right)$ ___ V accounts for initial voiceless stops on verbs leniting, such

as /k/ becoming [g] at the verb root boundary after vowel-final words.

V $[_{\sim S2}$ ___ V accounts for Lenition not being applied to verbs with Set 2

suffixes.

(13)   Vowel Deletion

V → ø / V ___

Accounts for /u/ deleting after vowels at morpheme boundaries.

(14)   H-Fortition

h → s / C ___

Accounts for /h/ becoming [s] after consonants at morpheme boundaries.

(15)   Classifier Final-Stop Deletion

$$\begin{bmatrix} C \\ -\text{dorsal} \end{bmatrix} \rightarrow \text{ø} \,/\, \text{___} \,]_{\text{Cl}} \begin{bmatrix} C \\ +\text{cont} \\ -\text{voice} \end{bmatrix}$$

Accounts for /m, n, t/ deleting before /s/ at the classifier morpheme boundary.

Does not apply to the noun, verb, compound, or reduplicant morpheme boundary.

(16)   Classifier Dorsal Assimilation

$$\begin{bmatrix} C \\ -\text{cont} \\ -\text{voice} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{dorsal} \end{bmatrix} \,/\, \begin{bmatrix} C \\ +\text{dorsal} \end{bmatrix} [_{\text{Cl}} \text{___}$$

Accounts for /t/-initial classifiers becoming /k/ after dorsals at word boundaries.

(17)   Nasal Deletion

$$\begin{bmatrix} C \\ +\text{nasal} \end{bmatrix} \rightarrow \text{ø} \,/\, C \text{___}]_{\sigma}$$

Accounts for /ŋ/ (2s.Imm) deleting word-finally after /t/-final and /p/-final verb roots.

(18)   Coronal Deletion (restricted to verbs)

$$\begin{bmatrix} C \\ +coronal \end{bmatrix} \rightarrow \text{ø} \; / \; \underline{\quad} \;][_{S1} \begin{bmatrix} C \\ +cont \\ -voice \end{bmatrix}$$

Accounts for the final segment /t/ in verbs deleting before /h/-initial Set 1 verb suffixes.

(19)   Labial Assimilation (restricted to verbs)

$$\begin{bmatrix} C \\ +dorsal \end{bmatrix} \rightarrow \begin{bmatrix} +labial \end{bmatrix} \; / \; \begin{bmatrix} C \\ +labial \end{bmatrix}][_{S1} \underline{\quad}$$

Accounts for [g] becoming [b] after labial verbs for Set 1 verb suffixes.

(20)   Coronal Deletion 2 (restricted to verbs)

$$\begin{bmatrix} C \\ +coronal \end{bmatrix} \rightarrow \text{ø} \; / \; \underline{\quad} \;][_{S1} \begin{bmatrix} C \\ -coronal \end{bmatrix}$$

Accounts for /t/-final segments on t-final verbs deleting before non-coronal Set 1 verb suffixes.

(21)   Y-Fortition (restricted to verbs)

y → s / C][_{S1} __

Accounts for /y/-initial segments on Set 1 verb suffixes becoming /s/ after consonants.

(22)   Root Dorsal Assimilation (restricted to verbs)

$$C \rightarrow \begin{bmatrix} +dorsal \end{bmatrix} \; / \; \underline{\quad} \;][_{S2} \; g$$

Accounts for /p, t/ becoming /k/ before /g/ at Set 2 verb suffix morpheme boundaries.

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(23)   Consonant Deletion

$$\begin{matrix} C \\ \text{[-dorsal]} \end{matrix} \rightarrow \text{ø} \quad / \quad \underline{\quad\quad} \quad {}_{\text{Root}}][_{\text{S2}}$$

Accounts for the final /p/ and /t/ segments in verb roots deleting before Set 2

verb suffixes.

B.3 Sample Derivations

Some sample derivations of the rules are shown below in Table 212.

Table 212.   Sample Derivations

Rule	'Hikwäng -after' /hikʷʌŋ -yʌ/	'knife -2s.Gen' /nap -ga/	'aunt -also' /mom -kʌyʌ/	'wood -Locative' /dʌki -une/
22 Root Dorsal Assimilation				
23 Consonant Deletion				
14 H-Fortition				
20 Coronal Deletion 2				
21 Y-Fortition				
3 Nasalization	hikʷʌŋnʌ			
4 Fortition				
1 Dorsal Assimilation	hikʷʌŋgʌ			
9 Voiceless Stop Assimilation			mompʌyʌ	
7 Lenition				
2 Degemination	hikʷʌgʌ			
5 Devoicing				
16 Classifier Dorsal Assimilation				
8 Deletion			mopʌyʌ	
15 Classifier Final-Stop Deletion				
18 Coronal Deletion				
19 Labial Assimilation				
6 Coronal Assimilation		napda		
13 Vowel Deletion				dʌkine
PR:	[hikʷʌgʌ]	[napda]	[mopʌyʌ]	[dʌkine]

Table 212. (Continued)

Rule	'Cl.lump -Dim' /gʷen -him/	'big + Cl.rope' /inuluŋ + tʌkŋa/	'bamboo -also' /kekŋʌ -kʌyʌ/	'drink -23p.Imm' /taŋop -gut/
22 Root Dorsal Assimilation				
23 Consonant Deletion				
14 H-Fortition	gʷensim			
20 Coronal Deletion 2				
21 Y-Fortition				
3 Nasalization				
4 Fortition				taŋopgut
1 Dorsal Assimilation				
9 Voiceless Stop Assimilation				
7 Lenition			kekŋʌɣʌyʌ	
2 Degemination				
5 Devoicing				
16 Classifier Dorsal Assimilation		inuluŋkʌkŋa		
8 Deletion		inulukʌkŋa		
15 Classifier Final-Stop Deletion	gʷesim			
18 Coronal Deletion				
19 Labial Assimilation				taŋopbut
6 Coronal Assimilation				
13 Vowel Deletion				
PR:	[gʷesim]	[inulukʌkŋa]	[kekŋʌɣʌyʌ]	[taŋopbut]

Table 212.   (Continued)

Rule	'drink -23p.Imm' /taŋop -gut/	'wash -23d.Imp' /halut -hon/	'drink -2s.Imp' /taŋop -yo/	'drink -s.DIpf -3s.Pres' /taŋop -ga -k/
22 Root Dorsal Assimilation				taŋokgak
23 Consonant Deletion				
14 H-Fortition		halutson		
20 Coronal Deletion 2				
21 Y-Fortition			taŋopso	
3 Nasalization				
4 Fortition	taŋopgut			
1 Dorsal Assimilation				
9 Voiceless Stop Assimilation				
7 Lenition				
2 Degemination				
5 Devoicing				
16 Classifier Dorsal Assimilation				
8 Deletion				
15 Classifier Final-Stop Deletion				
18 Coronal Deletion		haluson		
19 Labial Assimilation	taŋopbut			
6 Coronal Assimilation				
13 Vowel Deletion				
PR:	[taŋopbut]	[haluson]	[taŋopso]	[taŋokgak]

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Table 212.   (Continued)

Rule	'drink -3s.Pres' /taŋop -k/	'wash -2s.Imp' /halut -yo/	'cut -3s.Past' /matʌ -gut/
22 Root Dorsal Assimilation			
23 Consonant Deletion	taŋok		
14 H-Fortition			
20 Coronal Deletion 2		haluyo	
21 Y-Fortition			
3 Nasalization			
4 Fortition			
1 Dorsal Assimilation			
9 Voiceless Stop Assimilation			
7 Lenition			
2 Degemination			
5 Devoicing			matʌkut
16 Classifier Dorsal Assimilation			
8 Deletion			
15 Classifier Final-Stop Deletion			
18 Coronal Deletion			
19 Labial Assimilation			
6 Coronal Assimilation			
13 Vowel Deletion			
PR:	[taŋok]	[haluyo]	[matʌkut]

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APPENDIX C

WORD STRUCTURE

The following tables (tables 213 to 243) list all known syllable combinations that
can be used to form words. They are grouped based on the number of syllables and by
the syllable being either open or closed. Only two examples were listed if two or more
examples exist in the data.

<u>C.1 Monosyllabic words</u>

Table 213.   Open

Syllable	UF	PR	Gloss
V	/a/	[a]	'this'
	/u/	[u]	'that'
CV	/ge/	[ge]	'so'
	/nʌ/	[nʌ]	'I, me'

C = Consonant, V = vowel

Table 214.   Closed

Syllable	UF	PR	Gloss
VC	/ok/	[ok]	'uncle'
	/uk/	[uk]	'hook'
CVC	/tut/	[tut]	'fingernail'
	/pit/	[pit]	'wing'

C.2 Bisyllabic Words

Table 215.   Open-Open

Syllable	UF	PR	Gloss
V.CV	/amu/	[a.mu]	'down far'
	/ane/	[a.ne]	'here'
CV.CV	/sita/	[si.ta]	'sweet potato'
	/baka/	[ba.ka]	'wall beam'

Table 216.   Open-Close

Syllable	UF	PR	Gloss
V.VC	ʔ/a=ep/	ʔ[a.ep][aep][ep]	'come down'
V.CVC	/akop/	[a.kop]	'come up'
	/alam/	[a.lam]	'cheek'
CV.CVC	/yeɓʌn/	[ye.ɓʌn]	'±2 days'
	/yekʌp/	[ye.kʌp]	'moon'

Table 217.   Close-Open

Syllable	UF	PR	Gloss
VC.CV	/ap-so/	[ap.so]	'you go'
	/apme/	[ap.me]	'later'
CVC.CV	/tokŋʌ/	[tok.ŋʌ]	'pain'
	/ɓepdʌ/	[ɓep.dʌ]	'slowly'

Table 218.   Close-Close

Syllable	UF	PR	Gloss
VC.CVC	/apman/	[ap.man]	'today'
	/utdop/	[ut.dop]	'take it off'
CVC.CVC	/ɓʌmsʌk/	[ɓam.sʌk]	'gecko'
	/gokŋot/	[gok.ŋot]	'mushroom'

C.3 Trisyllabic Words

Table 219. Open-Open-Open

Syllable	UF	PR	Gloss
V.CV.CV	/amʌle/	[a.mʌ.le]	'betelnut sp.'
	/atepa/	[a.te.pa]	'string'
CV.CV.CV	/dʌpila/	[dʌ.pi.la]	'shorten'
	/butayʌ/	[bu.ta.yʌ]	'pity'

Table 220. Open-Open-Closed

Syllable	UF	PR	Gloss
V.CV.CVC	/inʌŋok/	[i.nʌ.ŋok]	'honey'
	/epuhit/	[e.pu.hit]	'trap'
CV.CV.CVC	/yʌpʌhik/	[yʌ.pʌ.hik]	'lightning'
	/ɓʌkʌlʌm/	[ɓʌ.kʌ.lʌm]	'animal sp.'

Table 221. Open-Closed-Open

Syllable	UF	PR	Gloss
V.CVC.CV	/inukŋʌ/	[i.nuk.ŋʌ]	'sap'
	/ilakŋʌ/	[i.lak.ŋʌ]	'greens'
CV.CVC.CV	/tulukŋʌ/	[tu.luk.ŋʌ]	'soft'
	/tʌmakŋʌ/	[tʌ.mak.ŋʌ]	'rotten'

Table 222.   Open-Closed-Closed

Syllable	UF	PR	Gloss
V.CVC.CVC	/amibam/	[a.mim.bam]	'everyone'
	/usipmʌk/	[u.sip.mʌk]	'louse killer'
CV.CVC.CVC	/yamadan/	[ya.man.dan]	'insect sp.'

Table 223. Closed-Open-Open

Syllable	UF	PR	Gloss
VC.CV.CV	/apmeyi/	[ap.me.yi]	'unripe'
CVC.CV.CV	/gʌpmayi/	[gap.ma.yi]	'deep'
	/gokŋolʌ/	[gok.ŋo.lʌ]	'cold'

Table 224. Closed-Open-Closed

Syllable	UF	PR	Gloss
CVC.CV.CVC	/kepyamun/	[kep.ya.mun]	'earthquake'
	/tapbulʌm/	[tap.bu.lam]	'pandanus sp.'

Table 225. Closed-Closed-Open

Syllable	UF	PR	Gloss
CVC.CVC.CV	/gobikŋʌ/	[gom.bik.ŋʌ]	'middle beam'

Table 226. Closed-Closed-Closed

Syllable	UF	PR	Gloss
CVC.CVC.CVC	/hupgʌpbat/	[hup.gʌp.bat]	'stone ledge'

C.4 Quadrasyllabic Words

Table 227. Open-Open-Open-Open

Syllable	UF	PR	Gloss
V.CV.CV.CV	/alʌpisʌ/	[a.lʌ.pi.sʌ]	'tree sp.'
	/ʌmin+tʌpʌ/	[ʌ.mi.tʌ.pʌ]	'sorcerer'
V.CV.V.CV	/RED+ina/	[i.na.i.na]	'what.p'
	/RED+uli/	[u.li.u.li]	'burr'
CV.CV.CV.CV	/hakʌ+miŋʌ/	[ha.kʌ.mi.ŋʌ]	'fowl'

Table 228. Open-Open-Open-Closed

Syllable	UF	PR	Gloss
V.CV.V.CVC	/RED+imin/	[i.mi.i.min]	'who.p'
V.CV.CV.CVC	/RED+epʌn/	[e.pʌ.ne.pʌn]	'same parents'
	/ibʌ+bamʌk/	[i.bʌ.ba.mʌk]	'bandage'
CV.CV.CV.CVC	/kuhit+palaŋ/	[ku.hi.pa.laŋ]	'insect sp.'

Table 229. Open-Open-Closed-Open

Syllable	UF	PR	Gloss
CV.CV.CVC.CV	/habu+tekŋʌ/	[ha.bu.lek.ŋʌ]	'slippery'

Table 230.   Open-Closed-Open-Open

Syllable	UF	PR	Gloss
CV.CVC.CV.CV	/gusit+kayi/	[gu.sit.ka.yi]	'sun'
	/ɓaɓak+dʌkʌ/	[ba.ɓak.dʌ.kʌ]	'child'

Table 231.   Open-Closed-Open-Closed

Syllable	UF	PR	Gloss
V.CVC.CV.CVC	/alʌgʌmʌn/	[a.lʌŋ.gʌ.mʌn]	'clear'
V.CVC.V.CVC	/RED+usiŋ/	[u.siŋ.u.siŋ]	'so many'
CV.CVC.CV.CVC	/banip+gʷalaŋ/	[ba.nip.gʷa.laŋ]	'kindness'
	/gulʌk+salin/	[gu.lʌk.sa.lin]	'adams apple'

Table 232.   Open-Closed-Closed-Closed

Syllable	UF	PR	Gloss
CV.CVC.CVC.CVC	/natʌdetdet/	[na.tʌn.det.det]	'knowledge'
	/taɓik+sipmʌk/	[ta.ɓik.sip.mʌk]	'tree'

Table 233.   Closed-Open-Open-Open

Syllable	UF	PR	Gloss
CVC.CV.CV.CV	/yagʌ+yagʌ/	[yaŋ.gʌ.ya.gʌ]	'watery'

Table 234.   Closed-Open-Open-Closed

Syllable	UF	PR	Gloss
CVC.CV.CV.CVC	/yagʌ+saŋut/	/yaŋ.gʌ.sa.ŋut/	'fern'

Table 235.   Closed-Open-Closed-Open

Syllable	UF	PR	Gloss
CVC.CV.CVC.CV	/tʌbi+tʌbi/	[tʌm.bi.lʌm.bi]	'mucous'
	/ɓʌbi+ɓʌbi/	[ɓʌm.bi.ɓʌm.bi]	'spider sp.'

Table 236.   Closed-Open-Closed-Closed

Syllable	UF	PR	Gloss
VC.CV.VC.CVC	/RED+ipmʌk/	[ip.mʌ.ip.mʌk]	'drizzle'

Table 237.   Closed-Closed-Open-Closed

Syllable	UF	PR	Gloss
CVC.CVC.CV.CVC	/mekŋʌn+kuɓit/	[mek.ŋʌn.ku.ɓit]	'bird sp.'

C.5 Pentasyllabic Words

Table 238.   Open-Open-Open-Open-Open

Syllable	UF	PR	Gloss
V.CV.CV.CV.CV	/ʌminʌlake/	[ʌ.mi.nʌ.la.ke]	'old person'
CV.CV.CV.CV.CV	/mʌŋʌlʌ+ɓʌɓi/	[mʌ.ŋʌ.lʌ.ɓʌ.ɓi]	'people'

Table 239.   Open-Open-Open-Open-Closed

Syllable	UF	PR	Gloss
V.CV.CV.CV.CVC	/ʌmin+tʌpʌ+him/	[ʌ.mi.tʌ.pʌ.him]	'pupil'

Table 240.   Open-Open-Open-Closed-Open

Syllable	UF	PR	Gloss
CV.CV.CV.CVC.CV	/pʌpʌyʌ+hakŋʌ/	[pʌ.pʌ.yʌ.hak.ŋʌ]	'dry'

Table 241.   Open-Open-Closed-Open-Closed

Syllable	UF	PR	Gloss
CV.CV.CVC.CV.CVC	/toɓiyʌ+gʌmʌn/	[to.ɓi.yʌŋ.gʌ.mʌn]	'cow'
CV.CV.CVC.CV.CVC	/katʌtek+mʌmʌn/	[ka.tʌ.tek.mʌ.mʌn]	'frog sp.'

Table 242.   Open-Closed-Open-Open-Open

Syllable	UF	PR	Gloss
CV.CVC.CV.CV.CV	/gatʌk+gatʌyi/	[ga.tʌk.ga.tʌ.yi]	'sticky'

Table 243.   Open-Closed-Open-Closed-Open

Syllable	UF	PR	Gloss
CV.CVC.CV.CVC.CV	/matek+matekŋʌ/	[ma.tek.ma.tek.ŋʌ]	'small'
V.CVC.CV.CVC.CV	/agotna+agotna/	[a.got.na.got.na]	'stingy'

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APPENDIX D

NOUN MORPHOLOGY PARADIGMS

D.1 Noun Paradigms

Table 244 lists example nouns that are vowel-final and the morphophonemic alternations that take place with the final segment of the noun.

Table 244.   Vowel-Final Nouns

		'wood'	'bamboo'	'sweet potato'
Gloss	UF	/daki/	/kekŋʌ/	/sita/
1s.Gen	/-na/	[dakina]	[kekŋʌna]	[sitana]
2s.Gen	/-ga/	[dakika]	[kekŋʌka]	[sitaka]
2p.Gen	/-hʌ/	[dakihʌ]	[kekŋʌhʌ]	[sitahʌ]
Ablative	/-dʌ/	[dakitʌ]	[kekŋʌtʌ]	[sitatʌ]
'only'	/-gʌn/	[dakikʌn]	[kekŋʌkʌn]	[sitakʌn]
Dative	/-le/	[dakile]	[kekŋʌle]	[sitale]
'also'	/-kʌyʌ/	[dakigʌyʌ]	[kekŋʌgʌyʌ]	[sitagʌyʌ]
Negative	/-udo/	[dakindo]	[kekŋʌndo]	[sitando]
Dubitative	/-bʌ/	[dakimbʌ]	[kekŋʌmbʌ]	[sitambʌ]

Table 244.   (Continued)

		'dog'	'choko'
Gloss	UF	/homu/	/sako/
1s.Gen	/-na/	[homuna]	[sakona]
2s.Gen	/-ga/	[homuka]	[sakoka]
2p.Gen	/-hʌ/	[homuhʌ]	[sakohʌ]
Ablative	/-dʌ/	[homutʌ]	[sakotʌ]
'only'	/-gʌn/	[homukʌn]	[sakokʌn]
Dative	/-le/	[homule]	[sakole]
'also'	/-kʌyʌ/	[homugʌyʌ]	[sakogʌyʌ]
Negative	/-udo/	[homundo]	[sakondo]
Dubitative	/-bʌ/	[homumbʌ]	[sakombʌ]

Table 245 lists example nouns that are consonant-final and the morphophonemic alternations that take place with the final segment of the noun.

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Table 245.   Consonant-Final Nouns

Gloss	UF	'rope' /nap/	'nephew in-law' /teŋat/	'knife' /musuk/
1s.Gen	/-na/	[napna]	[teŋatna]	[musukŋa]
2s.Gen	/-ga/	[napda]	[teŋatda]	[musukga]
2p.Gen	/-hʌ/	[napsʌ]	[teŋatsʌ]	[musuksʌ]
Ablative	/-dʌ/	[napdʌ]	[teŋatdʌ]	[musukgʌ]
'only'	/-gʌn/	[napdʌn]	[teŋatdʌn]	[musukgʌn]
Dative	/-le/	[napde]	[teŋatde]	[musukge]
'also'	/-kʌyʌ/	[napʌyʌ]	[teŋatʌyʌ]	[musukʌyʌ]
Negative	/-udo/	[naɓundo]	[teŋalundo]	[musuɡundo]
Dubitative	/-bʌ/	[napmbʌ]	[teŋatmbʌ]	[musukmbʌ]

Table 245.   (Continued)

Gloss	UF	'aunt' /mom/	'axe' /sadun/	'baby' /eŋaŋ/
1s.Gen	/-na/	[momna]	[sanduna]	[eŋaŋa]
2s.Gen	/-ga/	[momda]	[sandunda]	[eŋaŋga]
2p.Gen	/-ha/	[momsʌ]	[sandunsʌ]	[eŋaŋsʌ]
Ablative	/-da/	[momdʌ]	[sandundʌ]	[eŋaŋgʌ]
'only'	/-gʌn/	[momdʌn]	[sandundʌn]	[eŋaŋgʌn]
Dative	/-le/	[momde]	[sandunde]	[eŋaŋge]
'also'	/-kʌyʌ/	[mopʌyʌ]	[sandutʌyʌ]	[eŋakʌyʌ]
Negative	/-udo/	[momundo]	[sandunundo]	[eŋaŋundo]
Dubitative	/-bʌ/	[mombʌ]	[sandunbʌ]	[eŋaŋbʌ]

D.2 Genitive Paradigm

Table 246 contains examples all possible final segment nouns with the Genitive

suffix set.

Table 246.   Genitive Chart

Noun	Gloss	1s /-na/	2s /-ga/	3 /-nʌ/
/sita/	'sweet potato'	[sitana]	[sitaka]	[sitanʌ]
/kekŋʌ/	'bamboo'	[kekŋʌna]	[kekŋʌka]	[kekŋʌnʌ]
/pʌye/	'SS.sib'	[pʌyena]	[pʌyeka]	[pʌyenʌ]
/daki/	'wood'	[dakina]	[dakika]	[dakinʌ]
/sako/	'choko'	[sakona]	[sakoka]	[sakonʌ]
/homu/	'dog'	[homuna]	[homuka]	[homunʌ]
/nap/	'rope'	[napna]	[napda]	[napnʌ]
/sibut/	'cake'	[simbutna]	[simbutda]	[simbutnʌ]
/musuk/	'knife'	[musukŋa]	[musukga]	[musukŋʌ]
/kaham/	'ginger'	[kahamna]	[kahamda]	[kahamnʌ]
/sadun/	'axe'	[sanduna]	[sandunda]	[sandunʌ]
/balaŋ/	'leg'	[balaŋa]	[balaŋga]	[balaŋʌ]
/pis/	'fish'	[pisna]	[pisda]	[pisnʌ]
/sel/	'tarp'	[selna]	[selda]	[selnʌ]

Table 246.   (Continued)

Noun	Gloss	1d /-nit/	2p /-hʌ/	1p /-nin/
	'sweet potato'	[sitanit]	[sitahʌ]	[sitanin]
/sita/	'bamboo'	[kekŋʌnit]	[kekŋʌhʌ]	[kekŋʌnin]
/kekŋʌ/	'SS.sib'	[pʌyenit]	[pʌyehʌ]	[pʌyenin]
/pʌye/	'wood'	[dakinit]	[dakihʌ]	[dakinin]
/daki/	'choko'	[sakonit]	[sakohʌ]	[sakonin]
/sako/	'dog'	[homunit]	[homuhʌ]	[homunin]
/homu/	'rope'	[napnit]	[napsʌ]	[napnin]
/nap/	'cake'	[simbutnit]	[simbutsʌ]	[simbutnin]
/sibut/	'knife'	[musukŋit]	[musuksʌ]	[musukŋin]
/musuk/	'ginger'	[kahamnit]	[kahamsʌ]	[kahamnin]
/kaham/	'axe'	[sandunit]	[sandunsʌ]	[sandunin]
/sadun/	'leg'	[balaŋit]	[balaŋsʌ]	[balaŋin]
/balaŋ/	'fish'	[pisnit]	[pisʌ]	[pisnin]
/pis/	'tarp'	[selnit]	[selsʌ]	[selnin]

Table 247 contains a comprehensive list of nouns taking the alternate form of the

3.Genitive Suffix.

Table 247.   Alternate 3.Genitive Chart

Gloss	Root	3 [i, e, ʌ]	Gloss
'thigh'	/baka/	[baki]	'it's thigh'
'calf'	/hapbʌ/	[hapi]	'it's calf'
'eye'	/kayi/	[kayi]	'it's eye'
'belly'	/kukʌ/	[kuke]	'it's belly'
'back'	/maha/	[mahe]	'it's back'
'spleen'	/nʌŋʌ/	[nʌŋe]	'it's spleen'
'knee cap'	/sopʌ/	[sopi]	'it's knee cap'
'body'	/tʌŋʌ/	[tʌŋe]	'it's body'
'tongue'	/yebi/	[yembi]	'it's tongue'
'bile'	/kakŋayi/	[kakŋayi]	'it's bile'
'son-in-law'	/yepmʌ/	[yepme]	'his son-in-law'
'namesake'	/tʌŋʌ/	[tʌŋe]	'his namesake'
'insides'	/banip/	[baniyʌ]	'it's insides'
'mouth'	/map/	[mayʌ]	'it's mouth'
'husband'	/ap/	[ayʌ]	'her husband'
'shoulder blade'	/hapʌt/	[hapʌlʌ]	'it's shoulder blade'
'molar'	/kakʌt/	[kakʌlʌ]	'it's molar'
'organ.var'	/kʷakaput/	[kʷakapulʌ]	'it's organ.var'
'chest'	/mupmut/	[mupmulʌ]	'it's chest'
'fingernail'	/tut/	[tulʌ]	'it's fingernail'
'teeth'	/dʌdʌn/	[dʌndʌlʌ]	'it's teeth'
'ankle'	/ketapun/	[ketapulʌ]	'it's ankle'
'rib'	/tʌkʌpun/	[tʌkʌpulʌ]	'it's rib'

D.3 Classifier Affix Paradigms

The following suffixes listed in Table 248 can only go on Classifiers.

Table 248.   Classifier Suffix Chart

Root	Gloss	'one' /-du/	'two.Definite' /-yat/	'two.Indefinite' /-yalʌ/
/tʌkŋa/	'Cl.rope'	[tʌkŋatu]	[tʌkŋayat]	[tʌkŋayalʌ]
/tʌpʌ/	'Cl.stick'	[tʌpʌtu]	[tʌpʌyat]	[tʌpʌyalʌ]
/take/	'Cl.big'	[taketu]	[takeyat]	[takeyalʌ]
/dupi/	'Cl.finger'	[dupitu]	[dupiyat]	[dupiyalʌ]
*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
/kʷʌbʌt/	'Cl.extended'	[kʷʌmbʌtdu]	[kʷʌmbʌtnat]	[kʷʌmbʌtnalʌ]
/gʷʌk/	'Cl.opening'	[gʷʌkgu]	[gʷʌkŋat]	[gʷʌkŋalʌ]
/gʷʌkʌm/	'Cl.chunk'	[gʷʌkʌmdu]	[gʷʌkʌmnat]	[gʷʌkʌmnalʌ]
/gʷen/	'Cl.lump'	[gʷendu]	[gʷenat]	[gʷenalʌ]
/gutoŋ/	'Cl.thin'	[gutoŋgu]	[gutoŋat]	[gutoŋalʌ]

Table 248.   (Continued)

Root	Gloss	'some' /-duyi/	'Individuating'[96] /-unin/
/tʌkŋa/	'Cl.rope'	[tʌkŋatuyi]	[alʌkŋanin]
/tʌpʌ/	'Cl.stick'	[tʌpʌtuyi]	[alʌpʌnin]
/take/	'Cl.big'	[taketuyi]	[alakenin]
/dupi/	'Cl.finger'	[dupituyi]	[andupinin]
*	*	*	*
*	*	*	*
*	*	*	*
/kʷʌbʌt/	'Cl.extended'	[kʷʌmbʌtduyi]	[agʷʌmbʌlunin]
/gʷʌk/	'Cl.opening'	[gʷʌkguyi]	[aŋgʷʌɡunin]
/gʷʌkʌm/	'Cl.chunk'	[gʷʌkʌmduyi]	[aŋgʷʌkʌmunin]
/gʷen/	'Cl.lump'	[gʷenduyi]	[aŋgʷenunin]
/gutoŋ/	'Cl.thin'	[gutoŋguyi]	[aŋgutoŋunin]

Table 249 contains all known classifiers that occur with the Diminutive and the

Specific suffix.[97]

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[96] This paradigm needed the demonstrative /a-/ "this" to pronounce the individuating suffix.

[97] It is unclear if all these classifiers can be conjugated with these suffixes. One of our language consultants said that some of these words conjugated with the Specific suffix are not real Awara words but just "play" words.

Table 249.   Classifier List with Diminutive and Specific Suffixes

Gloss	Classifier	Diminutive /-him/	Specific /-sim/
'Cl.thick'	/dʌkʌ/	[dʌkʌhim]	[dʌkʌsim]
'CL.cliff'	/dʌmʌ/	[dʌmʌhim]	[dʌmʌsim]
'Cl.old &big'	/damʌn/	[damʌsim]	[damʌnšim]
'Cl.finger'	/dupi/	[dupihim]	[dupisim]
'Cl.village'	/gʌpaŋ/	[gʌpaŋsim]	[gapaŋšim]
'Cl.tube'	/gulʌŋ/	[gulʌŋsim]	[gulʌŋšim]
'Cl.thin'	/gutoŋ/	[gutoŋsim]	[gutoŋšim]
'Cl.opening'	/gʷʌk/	[gʷʌksim]	[gʷʌkšim]
'Cl.chunk'	/gʷʌkʌm/	[gʷʌkʌsim]	[gʷʌkʌmšim]
'Cl.lump'	/gʷen/	[gʷesim]	[gʷenšim]
'Cl.limb'	/hamʌn/	[hamʌnsim]	[hamʌnšim]
'Cl.sheet'	/han/	[hasim]	[hanšim]
'Cl.boy'	/ɓaɓak/	[ɓaɓaksim]	[ɓaɓakšim]
'Cl.place'	/ɓʌm/	[ɓʌsim]	[ɓʌmsim]
'Cl.place'	/ɓom/	[ɓomsim]	[ɓomšim]
'Cl.extended'	/kʷʌbʌt/	[kʷʌmbʌsim]	[kʷʌmbʌtšim]
'Cl.girl'	/mʌŋʌt/	[mʌŋʌsim]	[mʌŋʌtšim]
'Cl.wad'	/muha/	[muhahim]	[muhasim]
'Cl.place'	/tʌŋʌ/	[tʌŋʌhim]	[tʌŋʌsim]
'Cl.rope'	/tʌkŋa/	[tʌkŋahim]	[tʌkŋasim]
'Cl.big'	/take/	[takehim]	[takesim]
'Cl.group'	/tʌkʷʌk/	[tʌkʷʌksim]	[tʌkʷʌkšim]
'Cl.stick'	/tʌpʌ/	[tʌpʌhim]	[tʌpʌsim]
'Cl.bundle'	/tupʌ/	[tupʌhim]	[tupʌsim]
'Cl.family'	/yʌŋgʷʌt/	[yʌŋgʷʌsim]	[yʌŋgʷʌtšim]
'Cl.cluster'	/yʌpun/	[yʌpusim]	[yʌpunšim]

D.4 Postpositions

The following charts list all the postpositions. They are bound to the right side of the noun phrase or classifier phrase.

Table 250.   Postpositions

Root[98]	Gloss	Dubitative /-bʌ/	Ablative /-dʌ/	Dative /-le/	'only' /-gʌn/
/haƀa/	'grandma'	[haƀambʌ]	[haƀatʌ]	[haƀale]	[haƀakʌn]
/mʌŋʌlʌ/	'female'	[mʌŋʌlʌmbʌ]	[mʌŋʌlʌtʌ]	[mʌŋʌlʌle]	[mʌŋʌlʌkʌn]
/giyame/	'Giyame'	[giyamembʌ]	[giyametʌ]	[giyamele]	[giyamekʌn]
/ƀʌƀi/	'male'	[ƀʌƀimbʌ]	[ƀʌƀitʌ]	[ƀʌƀile]	[ƀʌƀikʌn]
/ŋayamo/	'Ngaymo'	[ŋayamombʌ]	[ŋayamotʌ]	[ŋayamole]	[ŋayamokʌn]
/homu/	'dog'	[homumbʌ]	[homutʌ]	[homule]	[homukʌn]
/kisip/	'Kisip'	[kisipbʌ]	[kisipdʌ]	[kisipde]	[kisipdʌn]
/teŋat/	'nephew IL'	[teŋatbʌ]	[teŋatdʌ]	[teŋatde]	[teŋatdʌn]
/ok/	'uncle'	[okbʌ]	[okgʌ]	[okge]	[okgʌn]
/mom/	'aunt'	[mombʌ]	[momdʌ]	[momde]	[momdʌn]
/ʌmin/	'person'	[ʌminbʌ]	[ʌmindʌ]	[ʌminde]	[ʌmindʌn]
/eŋaŋ/	'child'	[eŋaŋbʌ]	[eŋaŋgʌ]	[eŋaŋge]	[eŋaŋdʌn]
/sailas/	'Silas'	[sailasbʌ]	[sailasdʌ]	[sailasde]	[sailasdʌn]
/dɛnyel/	'Daniel'	[dɛnyelbʌ]	[dɛnyeldʌ]	[dɛnyelde]	[dɛnyeldʌn]

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Table 250.   (Continued)

Root	Gloss	'with' /-kʌt/	'also' /-kʌyʌ/	Possessive /-dʌne/
/haƀa/	'grandma'	[haƀagʌt]	[haƀagʌyʌ]	[haƀatʌne]
/mʌŋʌlʌ/	'female'	[mʌŋʌlʌgʌt]	[mʌŋʌlʌgʌyʌ]	[mʌŋʌlʌtʌne]
/giyame/	'Giyame'	[giyamegʌt]	[giyamegʌyʌ]	[giyametʌne]
/ƀʌƀi/	'male'	[ƀʌƀigʌt]	[ƀʌƀigʌyʌ]	[ƀʌƀitʌne]
/ŋayamo/	'Ngaymo'	[ŋayamogʌt]	[ŋayamogʌyʌ]	[ŋayamotʌne]
/homu/	'dog'	[homugʌt]	[homugʌyʌ]	[homutʌne]
/kisip/	'Kisip'	[kisipʌt]	[kisipʌyʌ]	[kisipdʌne]
/teŋat/	'nephew IL'	[teŋatʌt]	[teŋatʌyʌ]	[teŋatdʌne]
/ok/	'uncle'	[okʌt]	[okʌyʌ]	[okgʌne]
/mom/	'aunt'	[mopʌt]	[mopʌyʌ]	[momdʌne]
/ʌmin/	'person'	[ʌmitʌt]	[ʌmitʌyʌ]	[ʌmindʌne]
/eŋaŋ/	'child'	[eŋakʌt]	[eŋakʌyʌ]	[eŋaŋgʌne]
/sailas/	'Silas'	[sailastʌt]	[sailastʌyʌ]	[sailasdʌne]
/dɛnyel/	'Daniel'	[dɛnyeltʌt]	[dɛnyeltʌyʌ]	[dɛnyeldʌne]

[98] Names are used where there is no other known word with the same ending that could be used with many of these postpositions. Borrowed names with /s/ and /l/ final segments are also included in this chart for reference.

Table 250. (Continued)

Root	Gloss	Topic /-u/	Negative /-udo/	Dislocation /-un/
/haƀa/	'grandma'	[haƀa]	[haƀando]	[haƀan]
/mʌŋʌlʌ/	'female'	[mʌŋʌlʌ]	[mʌŋʌlʌndo]	[mʌŋʌlʌn]
/giyame/	'Giyame'	[giyame]	[giyamendo]	[giyamen]
/ƀʌƀi/	'male'	[ƀʌƀi]	[ƀʌƀindo]	[ƀʌƀin]
/ŋayamo/	'Ngaymo'	[ŋayamo]	[ŋayamondo]	[ŋayamon]
/homu/	'dog'	[homu]	[homundo]	[homun]
/kisip/	'Kisip'	[kisiƀu]	[kisiƀundo]	[kisiƀun]
/teŋat/	'nephew IL'	[teŋalu]	[teŋalundo]	[teŋalun]
/ok/	'uncle'	[oɡu]	[oɡundo]	[oɡun]
/mom/	'aunt'	[momu]	[momundo]	[momun]
/ʌmin/	'person'	[ʌminu]	[ʌminundo]	[ʌminun]
/eŋaŋ/	'child'	[eŋaŋu]	[eŋaŋundo]	[eŋaŋun]
/sailas/	'Silas'	[sailasu]	[sailasundo]	[sailasun]
/dɛnyel/	'Daniel'	[dɛnyelu]	[dɛnyelundo]	[dɛnyelun]

Table 250. (Continued)

Root	Gloss	'at' /-kʌtan/	Locative /-une/
/gʌpma/	'hole'	[gʌpmagʌtan]	[gʌpmane]
/yaŋgʌ/	'water'	[yaŋgʌgʌtan]	[yaŋgʌne]
/dame/	'landslide'	[dameɡʌtan]	[damene]
/dʌki/	'wood'	[dʌkiɡʌtan]	[dʌkine]
/sako/	'choko leaf'	[sakoɡʌtan]	[sakone]
/bʌku/	'hill'	[bʌkuɡʌtan]	[bʌkune]
/bulip/	'forest'	[bulipʌtan]	[buliƀune]
/yot/	'house'	[yotʌtan]	[yolune]
/dʌkiɡok/	'fireplace'	[dʌkiɡokʌtan]	[dʌkiɡoɡune]
/kʷayim/	'side'	[kʷayipʌtan]	[kʷayimune]
/tʌƀan/	'mountain'	[tʌƀatʌtan]	[tʌƀanune]
/kʷaŋʌloŋ/	'whirlpool'	[kʷaŋʌlokʌtan]	[kʷaŋʌloŋune]
/balus/	'plane'	[balustʌtan]	[balusune]
/skul/	'school'	[skultʌtan]	[skulune]

Table 250.   (Continued)

	Gloss	Root	'ever' /-ga/
a+_	'what'	/ina/	[inaka]
ʌ+_	When (Future)	/sahipnʌ/	[sahipnʌka]
e+_	'where'	/sʌne/	[sʌneka]
p+_	'when'	/sahip/	[sahipda]
n+_	'who'	/imin/	[iminda]
ŋ+_	'how'	/dasiŋ/	[dasiŋga]

D.5 Clausal Postpositions

Table 251.   Clausal Postpositions

	Verb Final		Time Words	Place Names
	Conditional	'after'	'after'	'after'
	/-u/	/-yʌ/	/-yʌ/	/-yʌ/
a+_	*	*	[tembʌnʌyʌ]	[golokayʌ]
ʌ+_	*	*	*	[matayʌyʌ]
e+_	*	*	[tukʷatdeyʌ]	[ɓaŋaneyʌ]
i+_	*	*	*	[bakundupiyʌ]
o+_	*	*	*	[ampoyʌ]
u+_	*	*	*	[yotbʌkuyʌ]
p+_	*	*	[kʷepnʌ]	[bukʌpnʌ]
t+_	[kukulu]	[kukutnʌ]	*	[hapitnʌ]
k+_	[kukumʌɠu]	[kukumʌkŋʌ]	*	[yapulʌkŋʌ]
m+_	[kukumu]	[kukumnʌ]	[kepmaɓomnʌ]	[bilomnʌ]
n+_	[kukinu]	[kukinʌ]	[yeɓʌnʌ]	[sakopʌnʌ]
ŋ+_	[kukumʌŋu]	[kukumʌŋʌ]	*	[hikʷʌŋʌ]

Table 252.   Clausal Postpositions with Medial Verb Suffixes

		Conditional /-u/	'after' /-yʌ/	Dislocation /-un/
Same Subject				
SS.Pf	/-keŋ/	[kukeŋu]	[kukeŋʌ]	[kukeŋun]
SS.Dur.Pf	/-hikaŋ/	[kuhikaŋu]	[kuhikaŋʌ]	[kuhikaŋun]
SS.Ipf	/-ɡaƀik/	[kuɡaƀiɡu]	[kuɡaƀikŋʌ]	[aɡuɡaƀiɡun]
Different Subject				
1s	/-pa/	*	[kuƀayʌ]	[kuƀan]
2s	/-pi/	*	[kuƀiyʌ]	[kuƀin]
3s	/-pʌn/	[kuɡaƀʌnu]	[kuƀʌnʌ]	[kuƀʌnun]
1d	/-da/	*	[kutayʌ]	[kutan]
23d	/-pʌt/	[kuɡaƀʌlu]	[kuƀʌtnʌ]	[kuƀʌlun]
1p	/-na/	*	[kunayʌ]	[kunan]
23p	/-pʌ/	*	[kuɡaƀʌyʌ]	[kuƀʌn]

APPENDIX E

REDUPLICATION

Table 253 lists examples of reduplication where the base form exists

independently.

Table 253.   Reduplication with Base

UF	Gloss Base	PR	Gloss Reduplicated
/RED + bʌlʌŋ/	'leg'	[bʌlʌmbʌlʌŋ]	'legs'
/RED + dasiŋ/	'how'	[dasiŋdasiŋ]	'how many'
/RED + don/	'property'	[dondon]	'bush, property'
/RED + epʌn/	'he came down'	[epʌnepʌn]	'same parents'
/RED + gatʌk/	'to stick'	[gatʌkgatʌk]	'sticky, sticky seed'
/RED + gʌtam/	'large nut'	[gʌtamgʌtam]	'nut sp.'
/RED + guŋat/	'bird'	[guŋakguŋat]	'butterfly'
/RED + gʷak/	'sprout'	[gʷakgʷak]	'traditional bean'
/RED + haŋa/	'thing specific'	[haŋahaŋa]	'things generic'
/RED + halu/	'sand, beach'	[haluhalu]	'sand, grain'
/RED + hoŋʌ/	'fruitless'	[hoŋʌhoŋʌ]	'fruitlessly'
/RED + imin/	'who singular'	[imiimin]	'who plural'
/RED + ina/	'what singular'	[inaina]	'what plural'
/RED + inʌ/	'3.emphatic'	[inʌinʌ]	'alone'
/RED + ipmʌ/	'cut'	[ipmʌipmʌk]	'drizzle'
/RED + kʌtak/	'hand'	[kʌtakʌtak]	'yam'
/RED + kʌtum/	'dumb'	[kʌtukʌtum]	'retarded'
/RED + kekem/	'wrong'	[kekekekem]	'wrong'
/RED + kep/	'ground'	[kekep]	'field'
/RED + kok/	'intestines'	[kokok]	'diarrhea'
/RED + kupit/	'dry'	[kupikupit]	'dried'
/RED + kʷak/	'light'	[kʷakʷak]	'bean'
/RED + kʷalu/	'bamboo'	[kʷalugʷalu]	'bamboo sp.'
/RED + matek -ŋʌ/	'small singular'	[matekmatekŋʌ]	'small plural'
/RED + miŋ/	'mother'	[mimiŋ]	'aunt'
/RED + mulup/	'dust'	[mulupmulup]	'dust'
/RED + palʌm/	'boil'	[palʌpalʌm]	'boil'
/RED + put/	'break'	[puput]	'knuckle'
/RED + tʌbi/	'thick mucus'	[tʌmbilʌmbi]	'thin mucus'

Table 253. (Continued)

UF	Gloss Base	PR	Gloss Reduplicated
/RED + tʌpʌ/	'Cl.Stick singular'	[tʌpʌlʌpʌ]	'Cl.Stick plural'
/RED + toƀik/	'care taker'	[toƀitoƀik]	'orphan'
/RED + tut/	'fingernail'	[tutut]	'fence'
/RED + uli/	'sharp'	[uliuli]	'burr'
/RED + usiŋ/	'that way'	[usiŋusiŋ]	'so many'
/RED + ƀʌbi/	'spider'	[ƀʌmbiƀʌmbi]	'spider, small'
/RED + ƀaƀu/	'spirit'	[ƀaƀuƀaƀu]	'sweat, perspire'
/RED + ƀepdʌ/	'gently'	[ƀepdʌƀepdʌ]	'slowly'
/RED + yaŋgʌ/	'water'	[yaŋgʌyaŋgʌ]	'Watery'
/RED + yiƀik/	'reside'	[yiƀikyiƀik]	'life style'

Table 254 lists examples of reduplication where the base form does not exist

independently.

Table 254. Reduplication with no Base Form

UF	PR	Gloss
/RED + dʌn/	[dʌndʌn]	'teeth'
/RED + dʌpʌ/	[dʌpʌndʌpʌ]	'fire pit dirt'
/RED + dati/	[datʌndati]	'bird variety'
/RED + gak/	[gakgak]	'tree sp.'
/RED + giniŋ/	[giniŋginiŋ]	'naughty'
/RED + gʷak/	[gʷaŋgʷak]	'banana fiber'
/RED + gʷilʌ/	[gʷikgʷilʌ]	'shell'
/RED + kʌlʌk/	[kʌlʌkʌlʌk]	'noise'
/RED + kulʌn/	[kulʌkulʌn]	'branches'
/RED + kʷik -ŋʌ/	[kʷikʷikŋʌ]	'cool gentle mild'
/RED + mʌk/	[mʌpmʌk]	'mud'
/RED + mut/	[mupmut]	'chest'
/RED + mus/	[musmus]	'louse sp.'
/RED + nagat/	[nagatnagat]	'fearful'
/RED + oŋ/	[oŋoŋ]	'housefly'
/RED + opʌ -k/	[opʌopʌk]	'wrong'
/RED + puŋ/	[pumbuŋ]	'roof pole'
/RED + taŋ/	[tataŋ]	'quartz'
/RED + tiŋgi/	[tiŋgiliŋgi]	'bird sp.'
/RED + tolok/	[tolotolok]	'spotted'
/RED + ƀʌlu/	[ƀʌluƀʌlu]	'winter squash'
/ƀam + RED + kʷik/	[ƀamkʷikʷik]	'soft'

APPENDIX F

COMPOUNDS

Table 255 lists compounds where both roots exist independently.

Table 255.   Compounds

UF	Gloss	PR	Compound Gloss
/alak + katʌp/	'bamboo + wood'	[alʌkʌtʌp]	'torch'
/ʌmin + tʌpʌ/	'person + Cl.stick'	[ʌmitʌpa]	'sorcerer'
/bʌlʌŋ + tok/	'leg + pain'	[bʌlʌtok]	'uselessly'
/banip + ʌmin/	'inside + person'	[bʌnipʌmin]	'believer'
/banip + gʷalaŋ/	'inside + nice'	[bʌnipgʷalʌŋ]	'kindness'
/dʌki + ɓom/	'wood + Cl.place'	[dʌkiɓom]	'smoldering stick'
/dʌm + dʌkʌ/	'rope + Cl.thick'	[dʌmdʌkʌ]	'banana sp.'
/gulʌk + salin/	'neck + seed'	[gulʌksalin]	'adams apple'
/gusit + kayi/	'time + eye'	[gusitkayi]	'sun'
/gʷame + ɓaɓak/	'pitpit + son'	[gʷʌmeɓʌɓak]	'insect sp.'
/hakʌ + miɲa/	'bird.sp + mother'	[hakʌmiɲa]	'bush fowl'
/hup + salin/	'stone + seed'	[hupsalin]	'coin'
/iɓat + ʌmin/	'illness + man'	[iɓatʌmin]	'sick person'
/kep + yamun/	'ground + quake'	[kepyamun]	'earthquake'
/kuhit + palaŋ/	'head + thorn'	[kuhipalaŋ]	'insect sp.'
/kutap + kupit/	'yam + silence'	[kutapkupit]	'yam sp.'
/mʌŋʌt + dʌkʌ/	'girl + Cl.thick'	[mʌŋʌtdʌkʌ]	'pitpit sp.'
/mekŋʌn + kuɓit/	'forest + I will go'	[mekŋʌkuɓit]	'bird sp.'
/puyʌ + don/	'garden + property'	[puyʌndon]	'old garden'
/takʷan + salin/	'holy + seed'	[takʷasalin]	'limbum seed'
/ɓam + gʌmʌn/	'talk + red'	[ɓamgʌmʌn]	'scolding'
/ɓam + yayak/	'speech + loose'	[ɓamyayak]	'speaker'
/ɓʌnʌm + hakʌt/	'cassowary + fowl'	[ɓʌnʌmhakʌt]	'cassowary sp.'
/ɓʌtʌ + gʷʌlik/	'sore + scar'	[ɓʌtʌngʷʌlik]	'scar'
/ɓʌtʌ + ɓamʌk/	'sore + he tied it'	[ɓʌtʌɓamʌk]	'doctor'
/ɓaɓak + dʌkʌ/	'son + Cl.thick'	[ɓaɓakⁿdʌkʌ]	'child'
/yaŋgʌ + saɲut/	'water + lid'	[yaŋgʌsaɲut]	'fern'
/yayiŋ + kuhit/	'step + head'	[yayikuhit]	'fence'

Table 256 lists compounds in which one element does not exist independently.

Table 256. Cranberry Compounds

UF	Gloss	PR	Compound Gloss
/gulʌk + kʷikat/	'neck + ?'	[gulʌkʷikat]	'plant'
/katak + pʌpʌk/	'hand + ?'	[katapʌpʌk]	'handle'
/katʌtek + mʌmʌn/	'elbow + ?'	[katʌtekmʌmʌn]	'frog sp.'
/kok + dek/	'intestines + ?'	[kokdek]	'toilet'
/naŋ + gamin/	'father + ?'	[naŋgamin]	'insect sp.'
/napʌt + taŋuk/	'? + He hits it'	[napʌtaŋuk]	'flower sp.'
/nep + gʌmʌn/	'? + red'	[nepgʌmʌn]	'sweat'
/yot + pupuk/	'house + ?'	[yopupuk]	'old place'

APPENDIX G

VERB MORPHOLOGY PARADIGMS

G.1 Verb Object Prefix

Verb Object prefix Tables 257 and 258 are with /-k/ '3s.Present' subject

agreement suffix.

Table 257.   Verb Object Prefixes

		'pass' /pmit/	'bite' /ha/	'give' /miŋ/	'thank' /nidatap/	'teach' /nidʌmut/
1sO	/na-/	[napmik]	[nahak]	[namik]	[nanindatak]	[nanindʌmuk]
2sO	/ga-/	[gapmik]	[gahak]	[gamik]	[ganindatak]	[ganindʌmuk]
3sO	/i-/	[yapmik]	[ihik]	[imik]	[inindatak]	[inindʌmuk]
1pO	/ni-/	[nipmik]	[nihik]	[nimik]	[ninindatak]	[ninindʌmuk]
2pO	/da-/	[dapmik]	[dahak]	[damik]	[danindatak]	[danindʌmuk]
3pO	/yʌ-/	[yʌpmik]	[yʌhak]	[yʌmik]	[yʌnindatak]	[yʌnindʌmuk]

Table 257.   (Continued)

		'laugh at' /nimik/	'tell' /niŋ/	'take hand' /pmaŋ/	'slice' /tʌŋi/
1sO	/na-/	[nanimik]	[nanik]	[nʌpmak]	[natʌŋik]
2sO	/ga-/	[ganimik]	[ganik]	[gʌpmak]	[gatʌŋik]
3sO	/i-/	[inimik]	[inik]	[ipmak]	[itʌŋik]
1pO	/ni-/	[ninimik]	[ninik]	[nipmak]	[nitʌŋik]
2pO	/da-/	[danimik]	[danik]	[dapmak]	[datʌŋik]
3pO	/yʌ-/	[yʌnimik]	[yʌnik]	[yʌpmak]	[yʌtʌŋik]

Table 258.   Irregular Verb Object Prefixes

	'see' /dadup/	'want' /daduŋha/	'hit' /dahipma/	'follow' /taɓʌm/	'call' /yanaɓʌm/
1sO	[naduk]	[nanduŋhak]	[nuk]	[nʌɓak]	[yanʌɓak]
2sO	[ŋgaduk]	[ganduŋhak]	[guk]	[gʌɓak]	[yaŋgʌɓak]
3sO	[kak]	[kaŋhak]	[taŋuk]	[tʌɓak]	[yatʌɓak]
1pO	[ninduk]	[ninduŋhak]	[nihipmʌk]	[niɓak]	[yaniɓak]
2pO	[danduk]	[danduŋhak]	[dahipmʌk]	[dʌɓak]	[yandʌɓak]
3pO	[dayik]	[dayiŋhak]	[sipmʌk]	[yʌɓak]	[yanyʌɓak]

Table 259.   Verb Proclitic Prefixes

Gloss		'Predicate Focus' /a-/	'Negative' /do-/	'Prohibitive' /ma-/
'come up'	[akok]	[aakok]	[doakok]	[maakop]
'come down'	[epuk]	[aepuk]	[doepuk]	[maep]
'attach'	[itʌk]	[aitʌk]	[doitʌk]	[maitʌŋ]
'cover'	[omik]	[aomik]	[doomik]	[maomit]
'remove'	[utdok]	[autdok]	[doutdok]	[mautdop]
'do'	[pʌhak]	[aɓʌhak]	[doɓʌhak]	[maɓʌhaŋ]
'drink'	[taŋok]	[alaŋok]	[dolaŋok]	[malaŋop]
'go up'	[kok]	[agok]	[dogok]	[magop]
'dig'	[kʷayik]	[agʷayik]	[dogʷayik]	[magʷayiŋ]
'sew'	[bupmʌk]	[ambupmʌk]	[dombupmʌk]	[mambupmʌŋ]
'detach'	[dek]	[andek]	[dondek]	[mandet]
'stick'	[gatʌk]	[aŋgatʌk]	[doŋgatʌk]	[maŋgatʌp]
'carry'	[gʷʌlamik]	[aŋgʷʌlamik]	[doŋgʷʌlamik]	[maŋgʷʌlamit]
'shoot'	[masik]	[amasik]	[domasik]	[mamasit]
'eat'	[nak]	[anak]	[donak]	[manaŋ]
'tie'	[ɓamʌk]	[aɓamʌk]	[doɓamʌk]	[maɓamʌŋ]
'write'	[yamʌk]	[ayamʌk]	[doyamʌk]	[mayamʌŋ]
'wash'	[haluk]	[ahaluk]	[dohaluk]	[mahalut]
'loosen'	[sik]	[asik]	[dosik]	[masit]

The PFocus and Negative are with the 3s.Present subject agreement.
The Prohibitive is with the 2s.Immediate subject agreement.

G.2 Verb Subject Agreement Suffixes

The 'V-final NL' column in the following tables means V-final Non-Leniting.

Table 260.   Present Tense with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-t/	[bupmʌt]	[matʌt]	[nat]	[taŋot]
2s	/-lʌk/	[bupmʌlʌk]	[matʌlʌk]	[nalʌk]	[taŋolʌk]
3s	/-k/	[bupmʌk]	[matʌk]	[nak]	[taŋok]
1d	/-mʌk/	[bupmʌmʌk]	[matʌmʌk]	[namʌk]	[taŋomʌk]
23d	/-mʌlʌk/	[bupmʌmʌlʌk]	[matʌmʌlʌk]	[namʌlʌk]	[taŋomʌlʌk]
1p	/-mʌŋ/	[bupmʌmʌŋ]	[matʌmʌŋ]	[namʌŋ]	[taŋomʌŋ]
23p	/-yiŋ/	[bupmʌyiŋ]	[matʌyiŋ]	[nayiŋ]	[taŋoyiŋ]

Table 260.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-t/	[akot]	[halut]	[mut]
2s	/-lʌk/	[akolʌk]	[halulʌk]	[mulʌk]
3s	/-k/	[akok]	[haluk]	[muk]
1d	/-mʌk/	[akomʌk]	[halumʌk]	[mumʌk]
23d	/-mʌlʌk/	[akomʌlʌk]	[halumʌlʌk]	[mumʌlʌk]
1p	/-mʌŋ/	[akomʌŋ]	[halumʌŋ]	[mumʌŋ]
23p	/-yiŋ/	[akoyiŋ]	[haluyiŋ]	[muyiŋ]

Table 261.   Past Tense with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-gum/	[bupbum]	[matʌkum]	[nakum]	[taŋopbum]
2s	/-gulʌk/	[bupbulʌk]	[matʌkulʌk]	[nakulʌk]	[taŋopbulʌk]
3s	/-gut/	[bupbut]	[matʌkut]	[nakut]	[taŋopbut]
1d	/-gumʌk/	[bupbumʌk]	[matʌkumʌk]	[nakumʌk]	[taŋopbumʌk]
23d	/-gumʌlʌk/	[bupbumʌlʌk]	[matʌkumʌlʌk]	[nakumʌlʌk]	[taŋopbumʌlʌk]
1p	/-gumʌŋ/	[bupbumʌŋ]	[matʌkumʌŋ]	[nakumʌŋ]	[taŋopbumʌŋ]
23p	/-gin/	[bupbin]	[matʌkin]	[nakin]	[taŋopbin]

Table 261.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-gum/	[akopbum]	[halukum]	[mukum]
2s	/-gulʌk/	[akopbulʌk]	[halukulʌk]	[mukulʌk]
3s	/-gut/	[akopbut]	[halukut]	[mukut]
1d	/-gumʌk/	[akopbumʌk]	[halukumʌk]	[mukumʌk]
23d	/-gumʌlʌk/	[akopbumʌlʌk]	[halukumʌlʌk]	[mukumʌlʌk]
1p	/-gumʌŋ/	[akopbumʌŋ]	[halukumʌŋ]	[mukumʌŋ]
23p	/-gin/	[akopbin]	[halukin]	[mukin]

Table 262.   Future Tense with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-pit/	[bupit]	[matʌɓit]	[nʌpit]	[taŋopit]
2s	/-pilʌk/	[bupilʌk]	[matʌɓilʌk]	[nʌpilʌk]	[taŋopilʌk]
3s	/-pik/	[bupik]	[matʌɓik]	[nʌpik]	[taŋopik]
1d	/-him/	[bupsim]	[matʌhim]	[nʌhim]	[taŋopsim]
23d	/-himʌlʌk/	[bupsimʌlʌk]	[matʌhimʌlʌk]	[nʌhimʌlʌk]	[taŋopsimʌlʌk]
1p	/-nim/	[bupnim]	[matʌnim]	[nʌnim]	[taŋopnim]
23p	/-niŋ/	[bupniŋ]	[matʌniŋ]	[nʌniŋ]	[taŋopniŋ]

Table 262.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-pit/	[akoɓit]	[haluɓit]	[mumbit]
2s	/-pilʌk/	[akopilʌk]	[haluɓilʌk]	[mumbilʌk]
3s	/-pik/	[akopik]	[haluɓik]	[mumbik]
1d	/-him/	[akopsim]	[halusim]	[musim]
23d	/-himʌlʌk/	[akopsimʌlʌk]	[halusimʌlʌk]	[musimʌlʌk]
1p	/-nim/	[akopnim]	[halutnim]	[mutnim]
23p	/-niŋ/	[akopniŋ]	[halutniŋ]	[mutniŋ]

Table 263.   Immediate with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-pa/	[bupa]	[mataƀa]	[nʌpa]	[taŋopa]
2s	/-ŋ/	[bupmʌŋ]	[matʌŋ]	[naŋ]	[taŋop]
3s	/-pʌn/	[bupʌn]	[mataƀʌn]	[napʌn]	[taŋopʌn]
1d	/-da/	[bupda]	[matata]	[nʌta]	[taŋopda]
23d	/-ǥun/	[bupbun]	[mataǥun]	[naǥun]	[taŋopbun]
1p	/-na/	[bupna]	[matana]	[nʌna]	[taŋopna]
23p	/-ǥut/	[bupbut]	[mataǥut]	[naǥut]	[taŋopbut]

Table 263.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-pa/	[akopʌ]	[haluƀa]	[mumba]
2s	/-ŋ/	[akop]	[halut]	[mut]
3s	/-pʌn/	[akopʌn]	[haluƀʌn]	[mumbʌn]
1d	/-da/	[akopdʌ]	[halutda]	[mutda]
23d	/-ǥun/	[akopbun]	[haluǥun]	[muǥun]
1p	/-na/	[akopnʌ]	[halutna]	[mutna]
23p	/-ǥut/	[akopbut]	[haluǥut]	[muǥut]

Table 264.   Imperative with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-yot/	[bupsot]	[matʌyot]	[nʌyot]	[taŋopsot]
2s	/-yo/	[bupso]	[matʌyo]	[nʌyo]	[taŋopso]
3s	/-yok/	[bupsok]	[matʌyok]	[nʌyok]	[taŋopsok]
1d	/-hom/	[bupsom]	[matʌhom]	[nʌhom]	[taŋopsom]
23d	/-hon/	[bupson]	[matʌhon]	[nʌhon]	[taŋopson]
1p	/-nom/	[bupnom]	[matʌnom]	[nʌnom]	[taŋopnom]
23p	/-noŋ/	[bupnoŋ]	[matʌnoŋ]	[nʌnoŋ]	[taŋopnoŋ]

Table 264.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-yot/	[akopsot]	[haluyot]	[muyot]
2s	/-yo/	[akopso]	[haluyo]	[muyo]
3s	/-yok/	[akopsok]	[haluyok]	[muyok]
1d	/-hom/	[akopsom]	[halusom]	[musom]
23d	/-hon/	[akopson]	[haluson]	[muson]
1p	/-nom/	[akopnom]	[halutnom]	[mutnom]
23p	/-noŋ/	[akopnoŋ]	[halutnoŋ]	[mutnoŋ]

Table 265.   Apprehension with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-yʌt/	[bupsʌt]	[matayʌt]	[nʌyʌt]	[taŋopsʌt]
2s	/-yʌ/	[bupsʌ]	[matʌyʌ]	[nʌyʌ]	[taŋopsʌ]
3s	/-yʌk/	[bupsʌk]	[matʌyʌk]	[nʌyʌk]	[taŋopsʌk]
1d	/-hʌm/	[bupsʌm]	[matʌhʌm]	[nʌhʌm]	[taŋopsʌm]
23d	/-hʌn/	[bupsʌn]	[matʌhʌn]	[nʌhʌn]	[taŋopsʌn]
1p	/-nʌm/	[bupnʌm]	[matʌnʌm]	[nʌnʌm]	[taŋopnʌm]
23p	/-nʌŋ/	[bupnʌŋ]	[matʌnʌŋ]	[nʌnʌŋ]	[taŋopnʌŋ]

Table 265.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-yʌt/	[akopsʌt]	[haluyʌt]	[muyʌt]
2s	/-yʌ/	[akopsʌ]	[haluyʌ]	[muyʌ]
3s	/-yʌk/	[akopsʌk]	[haluyʌk]	[muyʌk]
1d	/-hʌm/	[akopsʌm]	[halusʌm]	[musʌm]
23d	/-hʌn/	[akopsʌn]	[halusʌn]	[musʌn]
1p	/-nʌm/	[akopnʌm]	[halutnʌm]	[mutnʌm]
23p	/-nʌŋ/	[akopnʌŋ]	[halutnʌŋ]	[mutnʌŋ]

Table 266.   Hypothetical with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-pam/	[bupam]	[matʌƀam]	[nʌpam]	[taŋopam]
2s	/-pim/	[bupim]	[matʌƀim]	[napim]	[taŋopim]
3s	/-pʌn/	[bupʌn]	[matʌƀʌn]	[napʌn]	[taŋopʌn]
1d	/-dam/	[bupdam]	[matʌtam]	[natam]	[taŋopdam]
23d	/-pʌt/	[bupʌt]	[matʌƀʌt]	[napʌt]	[taŋopʌt]
1p	/-nam/	[bupnam]	[matʌnam]	[nʌnam]	[taŋopnam]
23p	/-pʌm/	[bupʌm]	[matʌƀʌm]	[napʌm]	[taŋopʌm]

Table 266.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-pam/	[akopʌm]	[haluƀam]	[mumbam]
2s	/-pim/	[akopim]	[haluƀim]	[mumbim]
3s	/-pʌn/	[akopʌn]	[haluƀʌn]	[mumbʌn]
1d	/-dam/	[akopdʌm]	[halutdam]	[mutdam]
23d	/-pʌt/	[akopʌt]	[haluƀʌt]	[mumbʌt]
1p	/-nam/	[akopnʌm]	[halutnam]	[mutnʌm]
23p	/-pʌm/	[akopʌm]	[haluƀʌm]	[mumbʌm]

Table 267.   Probable with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
3s	/-pʌnak/	[bupʌnak]	[mataƀʌnak]	[napʌnak]	[taŋopʌnak]
3d[99]	/-pʌtnak/	[bupʌtnak]	[mataƀʌtnak]	[napʌtnak]	[taŋopʌtnak]
3d	/-pʌlak/	[bupʌlak]	[mataƀʌlak]	[napʌlak]	[taŋopalak]
3p	/-pʌyak/	[bupayak]	[matʌƀayak]	[napayak]	[taŋopayak]

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[99] There are two forms for 3d.Probable.

Table 267.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
3s	/-pʌnak/	[akopʌnak]	[haluƀʌnak]	[mumbʌnak]
3d	/-pʌtnak/	[akopʌtnak]	[haluƀʌtnak]	[mumbʌtnak]
3d	/-pʌlak/	[akopʌlak]	[haluƀʌlak]	[mumbʌlak]
3p	/-pʌyak/	[akopayak]	[haluƀayak]	[mumbayak]

Table 268 lists the combined subject agreement suffixes together.

Table 268.   Subject Agreement Summary Chart

Suffix	1S	2S	3S	1D	23D	1P	23P
Pres.	/-t/	/-lʌk/	/-k/	/-mʌk/	/-mʌlʌk/	/-mʌŋ/	/-yiŋ/
Past	/-gum/	/-gulʌk/	/-gut/	/-gumʌk/	/-gumʌlʌk/	/-gumʌŋ/	/-giŋ/
Fut.	/-pit/	/-pilʌk/	/-pik/	/-him/	/-himʌlʌk/	/-nim/	/-niŋ/
Imm.	/-pa/	/-ŋ/	/-pʌŋ/	/-da/	/-ǥun/	/-na/	/-ǥut/
Imp.	/-yot/	/-yo/	/-yok/	/-hom/	/-hon/	/-nom/	/-noŋ/
Appr.	/-yʌt/	/-yʌ/	/-yʌk/	/-hʌm/	/-hʌn/	/-nʌm/	/-nʌŋ/
Hyp.	/-pam/	/-pim/	/-pʌn/	/-dam/	/-pʌt/	/-nam/	/-pʌm/
DS	/-pa/	/-pi/	/-pʌn/	/-da/	/-pʌt/	/-na/	/-pʌ/

It is impossible to consistently separate tense or mood from person and number for these suffixes. There are multiple forms for the combined person and number as well as multiple forms for tense and mood. The choice of which forms to use does not appear to be morphophonemically based. Since it is impossible to predict which tense or mood form is used with which person and number form, they are analyzed as a single combined suffix.

G.3 Verb Aspectual Markers

Table 269.   Aspect with Verb Roots and Subject Agreement Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/
s.DIpf	/-ga/	[bupmʌŋgak]	[matʌŋgak]	[anʌŋgak]
p.DIpf	/-ka/	[bumʌkayiŋ]	[matʌkayiŋ]	[anʌkayiŋ]
SIpf	/-ga/	[bupmʌgabʌn]	[matʌgabʌn]	[anagabʌn]
Persist	/-gʌmʌta/	[bupmʌŋgʌmʌtak]	*	[naŋgʌmʌtʌŋgak]
Durative	/-hi/	[bupmʌhik]	[amatʌhik]	[anahik]

Table 269.   (Continued)

		p-final 'drink' /taŋop/	p-final Deleting 'come up' /akop/
s.DIpf	/-ga/	[taŋokgak]	[akoŋgak]
p.DIpf	/-ka/	[taŋokayiŋ]	[akokayiŋ]
SIpf	/-ga/	[taŋogabʌn]	[akogabʌn]
Persist	/-gʌmʌta/	[taŋokgʌmʌtʌŋgak]	*
Durative	/-hi/	[taŋohik]	[akohik]

Table 269.   (Continued)

		t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
s.DIpf	/-ga/	[halukgak]	[mukgak]
p.DIpf	/-ka/	[halukayiŋ]	[mukayiŋ]
SIpf	/-ga/	[halugabʌn]	[mugabʌn]
Persist	/-gʌmʌta/	[halukgʌmʌtak]	[mukgʌmʌtʌk]
Durative	/-hi/	[haluhik]	[muhik]

Subject agreement suffixes are /-k/ '3s', /-yiŋ/ '3p', and /-pʌn/ '3s.DS'.

Table 270.   Modal Nouns with Verb Root Examples

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
Deontic	/-naŋʌn/	[bupnaŋʌn]	[matʌnaŋʌn]	[anʌnaŋʌn]	[taŋopnaŋʌn]
Deontic	/-naŋʌsa/	[bupnaŋʌsʌ]	[matʌnaŋʌsʌ]	[nʌnaŋʌsʌ]	[taŋopnaŋʌsʌ]
Purpose	/-naŋe/	[bupnaŋge]	[matʌnaŋge]	[anʌnaŋge]	[taŋopnaŋge]

Table 270.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
Deontic	/-naŋʌn/	[akopnʌŋʌn]	[halutnaŋʌn]	[mutnaŋʌn]
Deontic	/-naŋʌsa/	[akopnaŋʌsʌ]	[halutnaŋʌsʌ]	[mutnaŋʌsʌ]
Purpose	/-naŋge/	[akopnaŋge]	[halutnaŋge]	[mutnaŋge]

Table 271.   Benefactive

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-ŋami/	[bupmʌŋamik]	[matʌŋamik]	[nʌŋamik]	[taŋokŋamik]
2s	/-gami/	[bupmʌŋgamik]	[matʌŋgamik]	[nʌŋgamik]	[taŋokgamik]
3s	/-ŋʌmi/	[bupmʌŋʌmik]	[matʌŋʌmik]	[nʌŋʌmik]	[taŋokŋʌmik]
1p	/-nimi/	[bupmʌŋnimik]	[matʌŋnimik]	[nʌŋnimik]	[taŋoknimik]
2p	/-dami/	[bupmʌŋdamik]	[matʌŋdamik]	[nʌŋdamik]	[taŋokdamik]
3p	/-yʌmi/	[bupmʌŋyʌmik]	[matʌŋyʌmik]	[nʌŋyʌmik]	[taŋokyʌmik]

Table 271.   (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-ŋami/	[akoŋʌmik]	[halukŋamik]	[mukŋamik]
2s	/-gami/	[akoŋgamik]	[halukgamik]	[mukgamik]
3s	/-ŋʌmi/	[akoŋʌmik]	[halukŋʌmik]	[mukŋʌmik]
1p	/-nimi/	[akoŋnimik]	[haluknimik]	[muknimik]
2p	/-dami/	[akoŋdamik]	[halukdamik]	[mukdamik]
3p	/-yʌmi/	[akoŋyʌmik]	[halukyʌmik]	[mukyʌmik]

G.4 Medial Verb Suffixes

Table 272.   Same Subject Word-Finally

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
SS.Pf	/-keŋ/	[bupmʌke]	[matʌke]	[nake]	[taŋoke]
SS.DurPf	/-hikaŋ/	[bupmʌhika]	[matahika]	[nahika]	[taŋohika]
SS.Ipf	/-gaɓik/	[bupmʌgaɓik]	[matagaɓik]	[nagaɓik]	[taŋogaɓik]

Table 272. (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
SS.Pf	/-keŋ/	[akoke]	[haluke]	[muke]
SS.DurPf	/-hikaŋ/	[akohika]	[haluhika]	[muhika]
SS.Ipf	/-gaƀik/	[akogaƀik]	[halugaƀik]	[mugaƀik]

Table 273. Same Subject Followed by Other Suffixes

		Conditional	'after'	Dislocation
SS.Pf	/-keŋ/	[kukeŋu]	[kukeŋʌ]	[kukeŋun]
SS.DurPf	/-hikaŋ/	[kuhikaŋu]	[kuhikaŋʌ]	[kuhikaŋun]
SS.Ipf	/-gaƀik/	[kugaƀigu]	[kugaƀikŋʌ]	[kugaƀigun]

Table 274. Different Subject[100]

		mʌ-final 'sew' /bupmʌ/	V-final 'cut' /matʌ/	V-final NL 'eat' /na/	p-final 'drink' /taŋop/
1s	/-pa/	[bupa]	[mataƀa]	[napa]	[taŋopa]
2s	/-pi/	[bupi]	[mataƀi]	[napi]	[taŋopi]
3s	/-pʌn/	[bupʌn]	[mataƀʌn]	[napʌn]	[taŋopʌn]
1d	/-da/	[bupda]	[matata]	[nʌta]	[taŋopda]
23d	/-pʌt/	[bupʌt]	[mataƀʌt]	[napʌt]	[taŋopʌt]
1p	/-na/	[bupna]	[matana]	[nʌna]	[taŋopna]
23p	/-pʌ/	[bupʌ]	[matʌƀʌ]	[napʌ]	[taŋopʌ]

Table 274. (Continued)

		p-final Deleting 'come up' /akop/	t-final 'wash' /halut/	t-final Voicing 'throw' /mut/
1s	/-pa/	[akopʌyʌ]	[haluƀayʌ]	[mumbayʌ]
2s	/-pi/	[akopiyʌ]	[haluƀiyʌ]	[mumbiyʌ]
3s	/-pʌn/	[akopʌnʌ]	[haluƀʌnʌ]	[mumbʌnʌ]
1d	/-da/	[akopdʌyʌ]	[halutdaya]	[mutdayʌ]
23d	/-pʌt/	[akopʌtnʌ]	[haluƀʌtnʌ]	[mumbʌtnʌ]
1p	/-na/	[akopnʌyʌ]	[halutnaya]	[mutnayʌ]
23p	/-pʌ/	[akopʌyʌ]	[haluƀʌyʌ]	[mumbʌyʌ]

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[100] Some of these verbs have /-yʌ/ 'after' suffix attached. My langauge consultant was not able to say these words with just the Different Subject suffix attached.

Table 275. Different Subject with Clausal Clitics

		Conditional /-u/	After /-yʌ/	Dislocation /-un/
1s	/-pa/	*	[kuƀayʌ]	[kuƀan]
2s	/-pi/	*	[kuƀiyʌ]	[kuƀin]
3s	/-pʌn/	[kuɡaƀʌnu]	[kuƀʌnʌ]	[kuƀʌnun]
1d	/-da/	*	[kutayʌ]	[kutan]
23d	/-pʌt/	[kuɡaƀʌlu]	[kuƀʌtnʌ]	[kuƀʌlun]
1p	/-na/	*	[kunayʌ]	[kunan]
23p	/-pʌ/	*	[kuɡaƀʌyʌ]	[kuƀʌn]

AWARA ORTHOGRAPHIC TEXT

H.1 'Matai's Hunting Trip' by Matai Giatlu, Tawaya (1995)

Gwendune yekäp kukumäk, Yäkutungkät. Wandotde kahit täpä kopbumäk. Täko Yäkutungu Mätän dupine teke nä kupiläne nätä gämäk kopbum. Kongu Kupahanggämänune kälawu täpätu kakum. Nomgämän kake, tosu täpa ihiwän, kuhitnane mapa pukukut. Tiwän kälawu uläpä kake, kwalemu tulike, kasima däkätu hong tahakum. Tikengu däkätu käyän, tikengu däkätu tulikum päyän, tikengu däkätu tulikumu, wasekngä däkä amumba puluwänu, kwalem gutongu ayayi puke, amuhaxätan mumba kukin. Tiwän yiwäxawa Yäkutungu axopbut. Tiwänu unetä hipdu Makdäkäne kopbumäk. Kokengu kälapde yäwä täkopda maliwänu, hipdu unetä täta täkwämbän, yolune epbumäk. Uninggän.

H.2 Phonetic Transcription

gwendune | yekʌp kukumʌk | yʌkutukʌt ‖ wʌndotde hi tʌpʌ opbumʌk ‖ tʌko yʌkutuŋu | mʌtʌn dupine řɛke nʌ kupiřʌne | nʌtʌ ŋgʌmʌk kopbum ‖ koŋu | kupaŋgʌmune | kʌřawu řʌpʌtu kakum ‖ nomgʌmʌn | kake | tosu tʌpa ihiwʌn | kuhitnane mʌpʌ wukukut ‖ tiwʌ kʌlawu uřʌpʌ ake | kwʌřemu uřike | kʌsima ndʌkʌtu hoŋ tʌhʌkum ‖ tikɛŋu ndʌkʌtu ayɛn | tikɛŋu ndʌkʌtu řuřiku payɛn | tikɛŋu | dʌkʌtu řikumu | wʌsekŋʌ ndʌkʌ ʌmumba puřuwʌnu | kwʌlɛm gutoŋu yʌi puke | ʌmuhʌ ta mumbʌ ukin ‖ tiwʌn yiwʌwai yʌkutuŋ ʌopbut ‖ ti unɛtʌ hipdu makdʌkʌnʌ opbumʌk ‖

kokɛŋu | kʌřapde yʌwʌ rʌkopda mariwʌnu | hipdu unetʌ rʌta řʌkumbʌn | yonɛ epbumʌŋ ‖ uniŋgʌn ‖

H.3 Free Translation by Sentence

One day Yakutung and I went out by moonlight. We went up the Wantoat road. I went up and left Yakutung at the Mätän river, and I went up first at night. I went up and saw an animal at Kupähanggaman. I saw a cuscus, turned on the flashlight and put it on my head. I saw the animal, pulled the bow, shot the arrow, and missed. Then another one, and I shot another, then I shot another and then I shot another, and when I shot the last, I stepped on the bow and broke it and threw (the pieces) down below. I was there and Yakutung went up. Then we went up from there to Makdakane. We went up to find an animal, but we didn't find anything, so again from there we turned around and came down to home. That's all.

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