Amarasi

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Amarasi (ISO 693–3 aaz), spoken in the south-western part of the island of Timor, is at one end of the complex Uab Meto language chain. Uab Meto (also called Dawan[ese], Timorese or Atoni) is a cluster of closely related Austronesian languages and dialects spoken in Timor.

A variety of Uab Meto is the first language of nearly a million speakers on the western part of the island of Timor in Indonesia as well as the East Timorese enclave of Oecusse. Amarasi itself has about 80,000 speakers (Lewis, Simons & Fenning 2013). Nearly all are also bilingual in Kupang Malay and/or standard Indonesian. All varieties of Uab Meto have only a single liquid, and while in most varieties this liquid is the lateral /l/, Amarasi is different in that its liquid is the rhotic /r/.

Speakers identify four dialects of Amarasi: Ro'is, Kotos, Tais Nonof and Ketun. Within these four varieties, many further differences exist between individual villages. The variety of Amarasi described in this paper is a Kotos dialect identified by speakers as Koro'oto. It was spoken historically in the village of Koro'oto, one of four villages that merged into the single modern day village Nekmese' (see the recorded text for a brief history). It is based primarily on the speech of my two main consultants, Heronimus Bani (Roni) a forty-five year old male and Yedida Ora (Oma) a twenty-five year old female.

Published materials on the language are scarce. Middelkoop (1939) is a collection of texts with a preliminary description of the sound system, though glottal stops and sequences of two identical vowels were often not recorded. Likewise, Middelkoop (1950) is a sketch grammar of the Molo variety of Uab Meto, with differences between Molo and Amarasi occasionally noted. Grimes et al. (2012) describe quantification in Amarasi grammar and Jacob & Grimes (2011) contains a brief overview of serial verb constructions.

Amarasi has thirteen consonants and five vowels. Consonants contrast at five places of articulation and with four manners of articulation. One interesting feature of the language is the occurrence of a variety of unusual consonant clusters, including clusters of which the first member is a glottal stop. Another interesting feature is the productive synchronic process of final CV metathesis affecting nearly all words in the lexicon. See Steinhauer (1996a, b) for an initial discussion of Metathesis in the Nilulat variety of Uab Meto.

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Consonants

	Labial	Apical	Palatal	Velar	Glottal
Plosive	p b	t	(ʤ)	k (g)	ʔ
Fricatives	f	s			h
Nasals	m	n			
Trill/Tap		r			

All consonants, with the exception of /ʤ/ and /g/, appear word-initially, word-medially and word-finally. The voiced plosives /ʤ/ and /g/ have a limited distribution. They occur only at the morpheme boundary of certain enclitics[1] and in a handful of lexemes, mostly loans.

	Initial	Medial	Final		Initial	Medial	Final
/p/	/pasu-f/	/na-ʔapuʔ/	/a-n-tuup/	/m/	/mutiʔ/	/ama-f/	/nɛɛm/
	[ˈpasʊf]	[naˈʔa̤puʔ]	[ʔaṉˈṭuːp]		[ˈmʊṭiʔ]	[ˈʔamɐf]	[nɛːm]
	‘skin’	‘pregnant’	‘sleeps’		‘white’	‘father’	‘comes’
/b/	/basi/	/kbubuʔ/	/na-ʔuab/	/n/	/nui-f/	/anah/	/na-hɛun/
	[ˈbasi]	[ˈkbʊbʊʔ]	[naˈʔʊɐb]		[ˈnʊɪf]	[ˈʔanɐh]	[naˈheʊn]
	‘mosquito’	‘round’	‘speaks		‘bone’	‘child	‘full’
/f/	/fai/	/afu/	/a-n-məuf/	/k/	/kɔrɔ /	/rɛkaʔ/	/a-n-tɔɔk/
	[faj]	[ˈʔafʊ]	[ʔanˈmowf]		[ˈkɔrɔ]	[ˈhrɛkɐʔ]	[ʔɐṉˈṭɔːk]
	‘night’	‘earth’	‘falls’		‘bird’	‘when’	‘sits’
/t/	/tɛkɔʔ/	/atɛ/	/a-n-tɔit/	/ʔ/	—	/mɛʔɛ/	/saaʔ/
	[ˈṭɛkɔʔ]	[ˈʔaṭɛ]	[ʔɐṉˈṭɐiṭ]		—	[ˈmɛʔɛ]	[saːʔ]
	‘egg’	‘servant’	‘asks’		—	‘red’	‘what?’
/ʤ/	—	/biʤaɛ/	—	/h/	/hɔ/	/na-hiin/	/na-mnaah/
	—	[biˈʤaɛ]	—		[hɔː]	[naˈhiːn]	[nɐmˈnaːh]
	—	‘cow’	—		‘you (sg)’	‘knows’	‘is hungry’
/r/	/rɛkɔ/	/paraʔ/	/a-n-piir/	/s/	/sɛɔ/	/tasi/	/a-n-kius/
	[ˈhrɛkɔ]	[ˈparɐʔ]	[ʔɐnˈpiːr]		[ˈsɛɔ]	[ˈṭasi]	[ʔanˈkiʉs]
	‘good’	‘short’	‘selects’		‘nine’	‘sea’	‘sees’

Vowel-initial words are realised with a predictable word-initial glottal stop. Despite this, there is a contrast between roots with an initial glottal stop and roots with an initial vowel. The contrast surfaces when morphology is added to roots. When a vowel-initial root occurs with a prefix, no glottal stop occurs. Examples in which the 3rd person prefix /n-/ occurs attached to vowel-initial roots are given in (1).

(1) /n-/ *before vowel-initial roots*

/n-/ + /akan/	→	/n-akan/	[ˈnakɐn]	‘grumbles’
/n-/ + /ain/	→	/n-ain/	[ˈnain]	‘before’
/n-/ + /ɔɔn/	→	/n-ɔɔn/	[ˈnɔːn]	‘harvests’
/n-/ + /ɔʔɛn/	→	/n-ɔʔɛn/	[ˈnɔʔɛ̤n]	‘calls’
/n-/ + /ɛuk/	→	/n-ɛuk/	[ˈnɛʊk]	‘eats (hard food)’

[1] This is a regular morphophonemic process which operates word-finally when certain vowel-initial enclitics attach to a word which ends in a vowel in the unmetathesised form. One such enclitic is /=ɛ/ ‘3SG.ACC/3DET’. After final /i/ and /ɛ/ the obstruent /ʤ/ is inserted, e.g. {fafi + =ɛ} → /faafʤ=ɛ/ ‘pig=3DET’. After final /u/ or /ɔ/ the obstruent /g/ followed by [w] is found, e.g. {fatu + =ɛ} → /faatgw=ɛ/ ‘stone=3DET’. No obstruent is inserted after consonant final words, e.g. {barɛʔ + =ɛ} → /baɛrʔ=ɛ/ ‘stuff=3DET’.

However, when a glottal-stop–initial root occurs with a prefix, the glottal stop occurs as expected between the prefix and the root. Examples in which the 3rd person prefix /n-/ occurs attached to a range of glottal-stop–initial roots are given in (2).

(2) /n-/ *before glottal-stop–initial roots*

/n-/ + /ʔatɔr/	→	/n-ʔatɔr/	[ˈnʔa̤tɔr]	‘arranges’
/n-/ + /ʔain/	→	/n-ʔain/	[ˈnʔain]	‘heads toward’
/n-/ + /ʔɔban/	→	/n-ʔɔban/	[ˈnʔɔbɐn]	‘digs (with snout)’
/n-/ + /ʔɔnɛn/	→	/n-ʔɔnɛn/	[ˈnʔɔnɛn]	‘prays’
/n-/ + /ʔɛɐr/	→	/n-ʔɛɐr/	[n̤ˈʔɛːr]	‘looks intently’

The alveolar nasal /n/ assimilates to the place of a following plosive in non-careful speech, with the exception of the labial plosives /p/ and /b/, before which such assimilation has not been observed in Amarasi. Examples are given in (3).

(3)

	PHONEMIC	PHONETIC	GLOSS
/n/	/a-n-tuup/	[ʔan̤ˈt̤uːp]	‘sleeps’
	/a-n-ʤair/	[ʔaɲˈʤaer]	‘becomes’
	/bankɔfaʔ/	[bɐŋˈkɔ̤fɐʔ]	‘caterpillar’
	/tunguru/	[t̤uŋˈgʊrʊ]	‘teacher’

The voiceless velar plosive /k/ is usually palatalised before or after a front vowel:

(4)

	PHONEMIC	PHONETIC	GLOSS
/k/	/uki/	[ˈʔʊkʲi]	‘banana’
	/n-ɛik/	[nejkʲ]	‘takes’

The voiced plosives are frequently realised as voiced fricatives or approximants. The alternation is a case of free variation; both [ˈkbʊβʊʔ] and [ˈkβʊβʊʔ] are acceptable pronunciations of /kbubuʔ/ ‘round’. This being said, stop and/or continuant realisations are more common in certain phonetic environments.

In natural speech, continuant allophones are more common than stop allophones word-medially (V_V, V_C and C_V), with the exception of when the voiced plosive is preceded by a homorganic nasal, in which case plosive allophones are almost universally found. Word-intially, plosive allophones are slightly more common than continuant allophones.

Some speakers prefer one allophone over the other. Thus, in a count of the realisation of voiced plosives in three texts, 67 out of 108 instances for Roni were continuants, while for Oma only a single instance of a contiuant was observed out of 29 instances.

Finally, plosive allophones are also more common than continuant allophones in careful speech, such as when reading or eliciting a wordlist.

The voiceless apical stop /t/ is universally realised as a lamino-dental plosive [t̪]. No Uab Meto variety has a voiced alveolar plosive /d/ in native vocabulary. [d] only occurs in Amarasi epenthetically between /n/ and /r/ in the speech of some speakers, as in the word /anrɔɔʔ/ ‘spews’ → [ʔanˈdrɔˑʔ]. The liquid /r/ is realised as an alveolar trill [r], or a tap [ɾ]. It is usually preceded by a voiceless component phrase-initially, in the speech of at least some speakers. This is shown in (5).

(5)

	PHONEMIC	PHONETIC	GLOSS
/r/	/ruman/	[ˈhrʊmɐn]	‘empty’
	/ruru-f/	[ˈhrʊrʊf]	‘lips’
	/rɛkaʔ/	[ˈhrɛkaʔ]	‘when?’

Consonant clusters

I begin my discussion with a description of the clusters found in monomorphemic words, after which I will discuss the clusters found in polymorphemic words.

Words may begin with a maximum of two consonants in Amarasi. Amarasi permits several unusual clusters word-initially, including glottal-stop–initial clusters. The following matrix shows root-initial consonant clusters identified so far in my corpus:

$C_1\downarrow$	p	b	m	f	t	n	r	s	k	ʔ	h	$\leftarrow C_2$
p						pn	pr	ps				
b					bt	bn	br	bs	bk		bh	
m				mf	mt	mn	mr	ms				
f						fn	fr					
t	tp			tf		tn	tr		tk		th	
n								ns				
r												
s	sp	sb	sm	sf	st	sn	sr		sk			
k	kp	kb	km	kf	kt	kn	kr				kh	
ʔ	ʔp	ʔb	ʔm	ʔf	ʔt	ʔn	ʔr	ʔs	ʔk			
h												

It is difficult to state general restrictions on the appearance of root-initial consonant clusters for which exceptions cannot be found. Despite this, the following preferences can be said to loosely hold: First, clusters of two identical consonants are disallowed root-initially within a single morpheme. Secondly, homorganic clusters are disfavoured root-initially. In particular, sequences of two labial consonants are not found, with the exception of the cluster /mf/. Thirdly, most Amarasi root-initial clusters involve either a sonority plateau or sonority rise on the sonority hierarchy liquid > nasal > fricative > plosive (for an overview of the sonority sequencing principle and sonority hierarchy see Blevins 1995: 210–211), though, again, exceptions occur.

Apart from these three general restrictions, other restrictions involve specific sets of consonants. The glottal stop /ʔ/ never occurs as the second member of a cluster. The glottal fricative /h/ and the alveolar liquid /r/ do not occur as the first member of any consonant cluster. Some examples of roots with initial consonant clusters are given in (6). Clusters with an initial glottal stop are discussed separately further down.

(6)	CC	PHONEMIC	PHONETIC	GLOSS
	/ʔs/	/ʔsaɔ/	[ʔsaɔ]	‘k.o. green snake’
	/kf/	/kfuu-n/	[kfʊn]	‘stars’
	/km/	/kmama-f/	[ˈk͡mamɐf]	‘fat’ (noun)
	/tn/	/tnana-f/	[ˈt̪n̪anɐf]	‘waist’
	/sb/	/sbɛta-f/	[ˈsb̥ɛt̪ɐf] ~ [ˈsβɛt̪ɐf]	‘upper arm’
	/sk/	/skuku?/	[ˈskʊkʊʔ]	‘dust’
	/sn/	/snaɛn/	[ˈsnaɛn]	‘sand’
	/mn/	/mnɛas/	[ˈm͡nɛ̝as]	‘hulled rice’

Epenthesis does not occur between any of the consonants listed in the above matrix. However, epenthesis of the vowel /a/ does commonly occur word-initially in Amarasi to avoid disallowed tri-consonantal sequences that would be created across word boundaries. This epenthesis also optionally occurs before certain consonant clusters phrase-initially. Both types of epenthesis are illustrated in (7), in which the epenthetic vowel is separated from

the stem with a pipe symbol. Epenthesis occurs before the cluster /ʔt/ in /ʔtɛɛk/ 'gecko' and between the two words /n-ɛuk/ '3-eat' and /kbɛnu/ 'fly'.[2]

(7) /a|ʔtɛɛk anaʔ nɛɛ n-ɛuk a|kbɛnu/
[ʔɐ̰ʔt̤ɛk ʔa̰nɐ̰ʔ ˈnɛː neʊk ʔɐkβenʊ]
gecko:M small:U that 3-eat:M fly:U
'That small gecko is eating a fly.'

In addition to the monomorphemic clusters listed in the above matrix, a number of additional clusters are created by the addition of prefixes. Amarasi contains several prefixes which consist of a single consonant. The most common are the consonantal verbal agreement prefixes: /ʔ-/ '1SG', /t-/ '1PL.INCL', /m-/ '2SG/2PL/1PL.EXCL' and /n-/ '3PL/3SG'. These prefixes attach freely to verbal roots beginning with a single consonant. Any combination of one of these consonants followed by another consonant is thus also an allowable stem-initial cluster, even if it violates the restrictions against root-initial consonant clusters. Three examples of geminate consonant clusters formed through the addition of morphology are given in (8).

(8)	Prefix	Root	Phonemic	Phonetic	Gloss
	/n-/	/naɔ/	/n-naɔ/	[nːaɔ̰]	'goes'
	3SG	go			
	/m-/	/mɛup/	/hai m-mɛup/	[hajˈmːɛʊp]	'we (EXCL) work'
	1PL.EXCL	work			
	/t-/	/tɛbi/	/hit t-tɛbi/	[hɪˈt̤ːeβi]	'we (INCL) turn'
	1PL.INCL	turn			

One unusual type of consonant cluster in Amarasi is a cluster of two obstruents with disharmonic voicing, such as /sb/ and /bk/. The voiced member of such clusters usually maintains its voicing. Devoicing has only been observed once; in an elicitation of the word /bkaʔu/ 'fruit-bat' from Oma. Examples are given in (9).

(9)	CC	Phonemic	Speaker	Phonetic	Gloss
	/bk/	/bkaʔu/	Oma:	[ˈp͡kɐ̰ʔʊ]~[ˈpkɐ̰ʔʊ]	'fruit bat'
			Roni:	[ˈbˠkaʔʊ]	

The other kind of unusual consonant cluster is one in which the glottal stop /ʔ/ is the first member, in particular, clusters of /ʔ/ followed by another plosive. Such clusters can be realised word-initially without epenthesis of any kind. Examples of /ʔb/ and /ʔp/ are given in (10), along with examples of /kb/, /b/ and /kp/, /p/ to demonstrate the contrast.

(10)	(C)C	Phonemic	Phonetic	Gloss	(C)C	Phonemic	Phonetic	Gloss
	/ʔb/	/ʔbasa-f/	[ˈb̰asɐf]	'chest'	/ʔp/	/ʔpanuʔ/	[ˈʔpanʊʔ]	'coconut shell'
	/kb/	/kbatɛʔ/	[ˈkbat̤ɛʔ]	'k.o. grub'	/kp/	/kpaʔum/	[ˈk͡paʔʊm]	'k.o. rattan'
	/b/	/basi/	[ˈbasi]	'mosquito'	/p/	/pana-f/	[ˈpanɐf]	'nose'

These clusters could be plausibly analysed in one of three ways. First, they could be analysed as a sequence of /ʔ/ followed by a consonant (the analysis adopted in this Illustration). Secondly, they could be analysed as a sequence of a consonant followed by /ʔ/ and, thirdly, they could be analysed as a third series of glottalised consonants, i.e. /pˀ/, /bˀ/ etc.

I have adopted the analysis of such sequences as a /ʔC/ for the following reasons: First, in phrases and sentences the initial glottal stop is usually distinctly heard prior to the consonant

[2] Abbreviations in glosses (in order of appearance); 1, 2, 3 = first, second, third person; DET = determiner; U = unmetathesised; M = metathesised; SG = singular; PL = plural; INCL = inclusive; EXCL = exclusive; TR = transitive; ACC = accusative; LOC = locative; NMLZ = nominalizer; REL = relativizer; DEM = demonstrative; GEN = genitive.

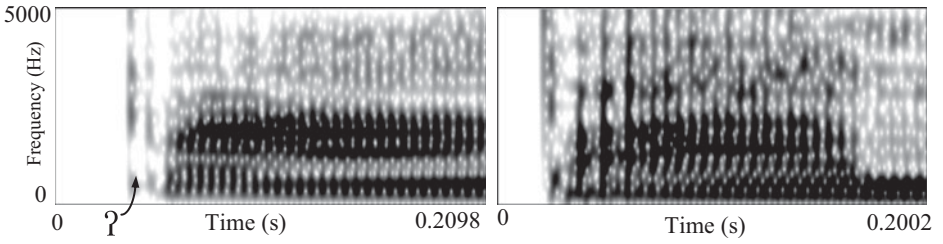


Figure 1 Spectrogram of /ʔpanuʔ/ (left), with glottal indicated, and /pana-f/ (right).

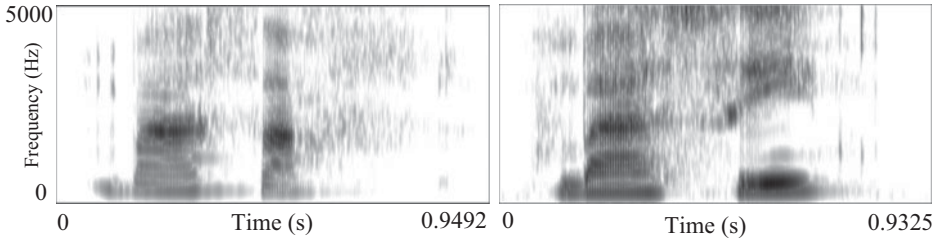


Figure 2 Spectrogram of /ʔbasa-f/ (left) and /basi/ (right).

in question. One example is the word /ʔbaʔa-f/ 'roots' in the phrase /hau ʔbaʔa-f/ 'tree roots' → [hau̯ʔbaʔɐf].

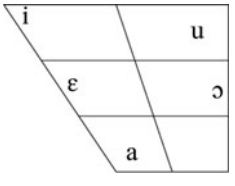
Secondly, there are at least two productive prefixes in the language which consist of a single glottal stop 1st person verbal prefix /ʔ-/ and the nominalizing circumfix /ʔ- . . . -ʔ/. When these prefixes occur attached to a word, we observe realisations identical to those observed for words which begin with an underlying sequence /ʔC/.

Thirdly, I do not analyse such sequences as an extra series of glottalised consonants, because epenthesis frequently occurs before such sequences; one example has already been given in (3) above. Finally, while untrained native speakers are inconsistent in writing any instance of a glottal stop, upon receiving training they choose to write words such as /ʔbasa-f/ as *'basaf* and not **b'asaf*.[3]

The spectrograms of the first syllables of /ʔpanuʔ/ and /panaf/ are given in Figure 1 for comparison. The initial glottal stop of /ʔpanuʔ/ is indicated with an arrow.

The spectrograms of /ʔbasa-f/ and /basi/ are given in Figure 2 for comparison, note particularly the highly visible creak at the beginning the initial [b] in /ʔbasa-f/.

Vowels



[3] Note that several of the Rote languages to the East of Amarasi have both voiced imploded plosives and plain voiced plosives. In these languages a digraph of voiced plosive + apostrophe is used to write implosives; i.e. *b'* = /ɓ/.

(11)		PHONEMIC	PHONETIC	GLOSS
	/i/	/hi/	[hiˑ]	‘you (PL)’
	/ɛ/	/nɛɛ/	[nɛ̰ː]	‘six’
	/a/	/haa/	[hɐː]	‘four’
	/ɔ/	/hɔ/	[hɔː]	‘you (SG)’
	/u/	/tuu-f/	[t̪ʊˑf]	‘knee’

Within this system there is a certain degree of allophonic variation. The mid vowels /ɛ/ and /ɔ/ have mid-high allophones [e] and [o] when followed by a high vowel. This raising is most pronounced for /ɔ/ before labial phonemes, and most pronounced for /ɛ/ before /s/ and /k/. While this is the most common realisation in this environment in my corpus, the mid allophones [ɛ] and [ɔ] are also occasionally heard before high vowels.

(12)		PHONEMIC	PHONETIC	GLOSS		PHONEMIC	PHONETIC	GLOSS
	/ɛ/	/a-n-rɛruʔ/	[ʔɐnˈdɾɛɾʊʔ]	‘sleepy’	/ɔ/	/kɔʔu/	[ˈkoʔʊ]	‘big’
		/bɛsi/	[ˈbesɐ]	‘knife’		/ɔri-f/	[ˈʔoɾɪf]	‘younger sibling’

The low vowel /a/ is realised as [a] when stressed. This vowel is usually centralised to [ɐ] in post-stress position. Pre-stress the realisation [a] is most common, though [ɐ] also occasionally occurs.

The high front vowel /i/ has a lower allophone [ɪ], or occasionally [e], in several environments: before the fricative /f/, before a voiceless alveolar consonant followed by a high vowel, after a voiceless alveolar consonant which is preceded by a front vowel, and when preceding stress. It also tends to be slightly lower when it occurs after the alveolar fricative /s/. This distribution is summarised in (13), with examples in (14).

(13)	/i/	→	[ɪ]	/_f, /_{s,t}{i,u}, /{s,t}{ɛ,i}_, /σ̲ˈσσ
		→	[ɪ] ~ [i]	/s_
		→	[i]	elsewhere

(14)		ENVIRONMENT	PHONEMIC	PHONETIC	GLOSS	PHONEMIC	PHONETIC	GLOSS
	/i/	/_f	/bifɛɛ/	[bɪˈfɛː]	‘woman’	/nui-f/	[ˈnʊɪf]	‘bone’
		/_{s,t}{i,u}	/hitu/	[ˈhɪt̪ʊ]	‘seven’	/si̲si/	[ˈsɪsɪ]	‘flesh’
		/{s,t}{ɛ,i}_	/bɛsi/	[ˈbesɐ]	‘knife’	/si̲si̲/	[ˈsɪsɪ]	‘flesh’
		/σ̲ˈσσ	/bikasɛʔ/	[bɪˈkasɛʔ]	‘horse’	/riʔanaʔ/	[ɾɪˈʔa̰nɐ̰ʔ]	‘child’
		/s_	/siʔu-f/	[ˈsɪʔʊf]	‘elbow’	/masik/	[ˈmasɪk]	‘salt’

The high back vowel /u/ displays no significant allophones. It is pronounced [ʊ] in all environments.

(15)		PHONEMIC	PHONETIC	GLOSS
	/u/	/uki/	[ˈʔʊkʲi]	‘banana’
		/uran/	[ˈʔʊɾɐn]	‘rain’

A vowel plot of the first two formants of the Amarasi vowels is given in Figure 3.

Vowel sequences

Every sequence of two vowels occurs in Amarasi, with the exception of sequences of a high vowel followed by a mid vowel. The matrix below shows the vowel sequences observed in

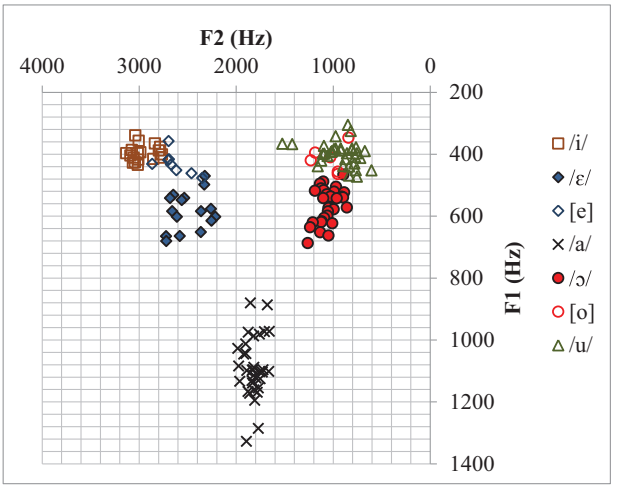


Figure 3 (Colour online) Formant chart of Amarasi monophthongs, as spoken by Oma (25-year-old female speaker). The raised allophones of the mid vowels are also plotted.

my data. Sequences of more than two vowels do not occur.

V_1↓	i	ɛ	a	ɔ	u	←V_2
i	ii		ia		iu	
ɛ	ɛi	ɛɛ	ɛa	ɛɔ	ɛu	
a	ai	aɛ	aa	aɔ	au	
ɔ	ɔi	ɔɛ	ɔa	ɔɔ	ɔu	
u	ui		ua		uu	

One distinctive feature of Amarasi compared with other varieties of Uab Meto is that the first element of a sequence of /a/ followed by a high vowel is often centralised schwa. This is most common in the sequence /au/, but has also been observed in the sequence /ai/. Such centralisation does not take place in vowel sequences created through metathesis.

(16) VV	PHONEMIC	PHONETIC	GLOSS
/au/	/asu a-n-sau/	[ˌʔḁsʊɐnˈsəw]	‘the dog bites’
	/sɛkau/	[sɛ̥ˈkəw]	‘who’

In natural data, the first element of the sequence /ai/ is sometimes realised as a mid-front vowel [ɛ]. Such sequences remain distinct from underlying sequences of /ɛ/+/i/, which are usually realised as [ej], according to the rule of mid vowel raising before high vowels. Two examples extracted from texts are given in (17).

(17) VV	PHONEMIC	PHONETIC	GLOSS
/ai/	/n-murai/	[nmʊˈɾɛj]	‘begins’
	/mainuan/	[mɛjˈnʊɐn]	‘open(ness), freedom’

The second vowel of sequences beginning with /i/ is usually fronted. This may only happen before apical consonants, seen here with the voiceless apical sibilant /s/.

(18) VV	PHONEMIC	PHONETIC	GLOSS
/iu/	/a-n-kius/	[ʔankiʉs]	‘sees’
/ia/	/a-n-kias/	[ʔankiæs]	‘sees’[4]

[4] /a-n-kias/ ‘s/he sees’ is a Koro'oto specific form of the general Amarasi /a-n-kius/.

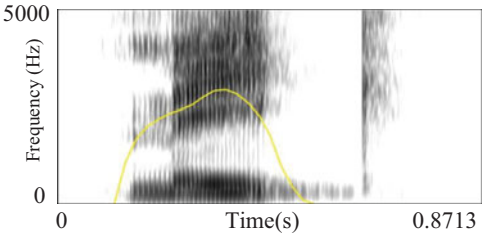


Figure 4 (Colour online) Spectrogram and intensity trace of /n-ɛik/ → [nejkʲ].

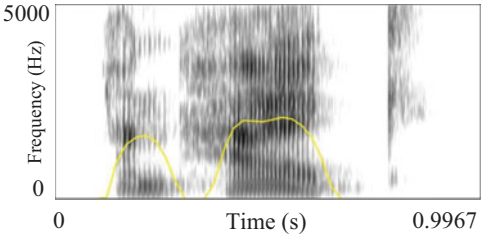


Figure 5 (Colour online) Spectrogram and intensity trace of /a-n-haɛk/ → [ʔanˈha.ɛkʲ].

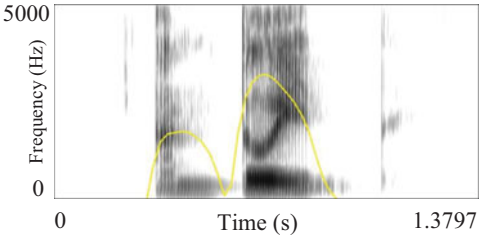


Figure 6 (Colour online) Spectrogram and intensity trace of /a-n-tɔit/ → [ʔaɳˈt̪ə.it̪].

The mid back vowel /ɔ/ often dissimilates in backness and rounding from a directly following high vowel. This results in a centralised rounded or unrounded vowel, as dissimilated from the rounding quality of the following vowel.

(19)	VV	PHONEMIC	PHONETIC	GLOSS
	/ɔi/	/a-n-tɔit/	[ʔaɳˈt̪əit̪]	'asks'
	/ɔu/	/a-n-tɔup/	[ʔɐɳˈt̪ʊ̈wp]	'receives'

Syllabification of vowel sequences

Certain vowel sequences can form a single phonetic syllable in certain environments. A single phonetic syllable composed of two distinct vowels is characterised by a single peak in intensity located near the transition between the two vowels and followed by a sharp decline in intensity. An example of such a phonetic diphthong is given in Figure 4.

Such examples contrast with sequences of two vowels which form two separate syllables. In such sequences there is either an intensity plateau across the two vowels, as in Figure 5, or there is a single intensity peak on the first vowel followed by a decline in intensity, as shown in Figure 6.

Phonemic sequences of two identical vowels are never pronounced with two phonetic syllables (except perhaps in ultra careful speech). Instead, the vowel sequence surfaces as a

Table 1 Vowel lengths in Amarasi.

	V	$V_\alpha V_\alpha$	$V_\alpha V_\beta$	All
Total length of all tokens (s)	24.6939	21.2748	47.1374	93.106
Number of tokens	254	177	326	757
Standard deviation	0.0379	0.0511	0.0677	0.059
Average length (s)	0.0972	0.1202	0.1446	0.1228
t-test vs. ($V_\alpha V_\alpha$)	$p < .0001$		$p < .0001$	

single syllable with a lengthened vowel. An example is the word /oo/ 'bamboo', which is universally pronounced [ʔɔː], with a single intensity peak rather than *[ˈʔɔ.ɔ] with two intensity peaks or an intensity plateau.

If the second vowel is higher than the first, it is sometimes realised as an off-glide. Three examples are given in (20).

(20)

VV	PHONEMIC	PHONETIC	GLOSS
/ɔu/	/a-n-tɔup/	[ʔɐn̪ˈt̪ɤ̆wp]	'receives'
/ɛi/	/nɛik/	[nejkʲ]	'takes'
/ɛi/	/tɛi/	[ˈt̪e.i]~[t̪ej]	'faeces'

The realisation of the second vowel as an off-glide is more frequent in rapid speech and when the vowel sequence does not bear phrasal stress. Thus, in a particular wordlist, the word /hau/ 'tree, wood' occurs in isolation as [hɐ.ʊ], without the second vowel being realised as an off-glide. However, in the same word-list when the same word occurs in the compound /hau-nɔʔɔ/ 'tree-leaf' (in which the second noun bears phrasal stress) it is realised as [hawˈnɔʔɔ], with the second vowel of /hau/ desyllabified.

Finally, when the second vowel of words with the structure (C)VVCV(C) is a high vowel, it is universally realised as a glide. In such words the antepenultimate vowel is also the locus of stress placement rather than the usual penultimate vowel. An example is /aikaʔ/ 'thorn' → [ˈʔajkɐʔ].

Quantification

The lengths of 757 stressed vowels and/or sequences of two vowels in which at least one of the vowels was penultimate were measured in polysyllabic words for Roni in three texts. Of these 254 tokens were of a single vowel, 177 represented a sequence of two identical vowels and 326 represented a sequence of two different vowels.

The vowels to be measured were marked in Praat with a text-grid and the lengths extracted with a script. The measurements for vowels of words with a distinctive pause intonation as well as pronouns, which are often unstressed, were excluded from the data set. The results are summarised in Table 1.

This table shows that a sequence of two different vowels is on average 49% longer than a single vowel, while a sequence of two identical vowels is on average 23% longer than a single vowel. These differences are statistically significant, as shown by a two-tailed *t*-test.

Transcription of a recorded passage

I present here the first half of a text spoken by Oma. In this text, Oma introduces herself and relates a short history of Nekmese' village. A video recording of the complete version of this text can be found on YouTube with the title 'Amarasi – Nekmese, Oma 1' or at the following address: http://www.youtube.com/watch?v=MwyNRkl1nBE&list=UUPgQAg8bQcEDqWMtYLmEt.

Orthographic transcription

Amarasi letters have the same value as their Indonesian equivalents. The glottal stop /ʔ/ in Amarasi is represented by the straight apostrophe <'>.

Au kaank ii bi Oma, au u'ko Nekmese', au u'uab 'eik Uab Meto', Kotos Amarasi. Au he utoon nok kuan Nekmese'. Nekmese' (au ho-), nahoni' kau nbi Nekmese'. Nekmese' re' ia, unu' te nmui' kuan, kuan amnaa' mana nua. Es et a'Taka', 'Taka'. Es et Kotos, Koor'oto. Au mama no'ka 'Taka' au papa no'ka kuan amnasi', re' abit nee. Onaim ma oras ia sin nmoin et kuan es kaan ee Nekmese'.

Phonemic transcription

Sentences are numbered sequentially with Roman numerals. Each time the speaker pauses, a new line is given. Lines which belong to the same sentence are marked by letters, i.e. (iii.a) and (iii.b) are two lines belonging to a single sentence.

(i)	au	kaan-k = i	bi	ɔma		
	1SG	name:M = 1DET	Ms.	Name:U		
(ii)	au	u-ʔkɔ	nɛkmɛsɛʔ			
	1SG	1SG-from	Name:U			
(iii.a)	au	u-ʔuab	ʔ-ɛik	uab	mɛtɔʔ	
	1SG	1SG-speak	1SG-use:M	speech	dry:U	
(iii.b)	kɔtɔs	amarasi				
	Name	Name				
(iv.a)	au	hɛ	u-tɔɔn	n-ɔk		
	1SG	IRREALIS	1SG-tell:M	3-with		
(iv.b)	kuan	nɛkmɛsɛʔ				
	village:U	Name:U				
(v)	nɛkmɛsɛʔ	(au hɔ)	na-hɔni-ʔ	kau	n-bi	nɛkmɛsɛʔ
	Name:U		3-born:U-TR	1SG.ACC	3-REALIS.LOC	Name:U
(vi.a)	nɛkmɛsɛʔ	rɛʔ	ia			
	Name:U	REL	1DEM			
(vi.b)	unuʔ = tɛ					
	earlier:U = NEW.TOPIC					
(vi.c)	n-muiʔ	kuan				
	3-exist:M	village:U				
(vi.d)	kuan	a|mnaaʔ = ma	naʔ	nua		
	village:U	former = and	then	two		
(vii.a)	ɛs	ɛt	a|ʔtakaʔ			
	one	LOC	Name:U			
(vii.b)	ʔtakaʔ					
	Name:U					
(viii.a)	ɛs	ɛt	kɔtɔs			
	one	LOC	Name:U			
(viii.b)	kɔɔrʔɔtɔ					
	Name:U					

(ix.a)	au	mama	n-ɔʔka	ʔtakaʔ	au	bapa	n-ɔʔka	kuan	a|mnasiʔ
	1SG	mum:U	3-from	Name:U	1SG	dad:U	3-from	village:U	old:U

(ix.b)	rɛʔ	a-bi-t	nɛɛ
	REL	NMLZ-REALIS.LOC-NMLZ	3DEM

(x.a)	ɔnaim = ma	ɔras	ia	sin	n-mɔin	ɛt
	and.so = and	time:U	1DEM	3PL	3-live:M	LOC

(x.b)	kuan = ɛs	kaan-n = ɛ	nɛkmɛsɛʔ
	village:U = one	name:M-3SG.GEN = 3DET	Name:U

Phonetic transcription

(i) ʔɐw kaːŋk iˑ βi ʔɔmɐ
(ii) ʔɐw ʔkɔ nɛkmɛsɛʔ
(iii.a) ʔɐ̰w̰ ʊ̰ːɐb ʔejk ʔwɐb mɛt̪ɔʔ
(iii.b) kɔt̪ɔs ʔɐmɐrasɪ
(iv.a) ʔəw h ʊt̪ɔːn nɔk
(iv.b) kʊɐn nɛkmɛsɛʔ
(v) nɛkmɛsɛʔ (əw hɔʔ) nəhonɪʔ kɔ nbi nɛkmɛsɛʔ.
(vi.a) nɛkmɛsɛ rɛʔ iɐ
(vi.b) ʔʊnʊʔ t̪ɛ
(vi.c) nmʊɪʔ kʊˑɐˑn
(vi.d) kʊɐn ɐmna̰ːʔ ma na̰ʔ nʊɐ.
(vii.a) ʔɛs ɛt̪ ʔa̰t̪akɐʔ
(vii.b) t̪ʔakɐʔ
(viii.a) ʔɛs ʔɛt̪ kɔt̪ɔs
(viii.b) kɔrʔɔt̪ɔ
(ix.a) ʔəw mamɐ nɔʔkɐ ʔt̪akɐʔ əw bapɐ nɔʔkɐ kʊɐn ɐmnasɻʔ
(ix.b) rɛʔ abɪt̪ nɛː
(x.a) ʔɔnem ɐ ʔɔras iɐ sin nmojn ɛt̪˥
(x.b) kʊɐn ɛs kan ɛ nɛkmɛsɛʔ

Translation

(i) My name is Oma.
(ii) I'm from Nekmese',
(iii) I'm speaking Uab Meto', [the] Kotos Amarasi [variety].
(iv) I want to talk about Nekmese' village.
(v) I was born in Nekmese'.
(vi) Now, [concerning] Nekmese', there used an old village and then a second [one]
(vii) One [called] 'Taka' was at 'Taka',
(viii) One [called] Koro'oto was at Kotos. *[points]*
(ix) My mum was from Taka', *[points]* my dad was from the old village which is over there. *[points]*
(x) And now they live in one village with the name Nekmese'.[5]

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[5] The name of the village is derived from /nɛka/ 'liver (as seat of emotions)' and /mɛsɛʔ/ 'one', thus 'one heart' or 'unity'.

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