

m	<i>masi</i> ‘good’ <i>tama</i> ‘father’ <i>mimmirina</i> ‘bitter’ <i>saurom</i> ‘darkness’	β	<i>vatum</i> ‘tapioca’ <i>kova</i> ‘stomach’ - -
s	<i>salana</i> ‘road’ <i>mosu</i> ‘pig’ <i>essua</i> ‘she is breastfeeding him’ -	l	<i>latolu</i> ‘they (trial)’ <i>ghalua</i> ‘two’ <i>ella</i> ‘daytime’ -
gh	<i>ghalua</i> ‘two’ <i>aghi</i> ‘I’ <i>koto ghaghgha</i> ‘tsunami’ -		

3 Vowels

i		u
		o
ε		
		ɑ

i	<i>ita</i> ‘we (plural inclusive)’ <i>kina</i> ‘mother’ <i>ararim</i> ‘your (sg) name’ <i>parasi</i> ‘quickly’	u	<i>ulana</i> ‘moon, month’ <i>kura</i> ‘firewood’ <i>vatum</i> ‘tapioca’ <i>katu</i> ‘fall down’
ε	<i>epona</i> ‘on’ <i>keru</i> ‘round basket’ <i>kekem</i> ‘your (sg) leg’ <i>vause</i> ‘woman’	o	<i>ose</i> ‘paddle’ <i>mosu</i> ‘pig’ <i>saurom</i> ‘darkness’ <i>galailo</i> ‘yesterday’
		ɑ	<i>aghi</i> ‘I’ <i>talo</i> ‘colour’ <i>kinam</i> ‘your (sg) mother’ <i>nima</i> ‘arm, hand’

4 Vowel clusters

There are many vowel clusters. In most cases, these consist of a vowel followed by a higher vowel, in which case they are realised as off-glides. A vowel followed by a lower vowel is realised as an on-glide when it is the onset of the syllable, but generally as two separate syllables if there is a consonant before the first vowel. The sequence /iu/ can be realised as [i.u] or as [ju], the latter being more common in

rapid speech. Any vowel sequence can be pronounced as separate vowels, especially in contexts such as songs, where two or more syllables may be required in the music. The analysis here assumes normal speech, in which sequences are normally realised as diphthongs.

A geminate vowel is realised as length in most cases, but is occasionally broken up by a glottal stop in reduplication. The lengthening can occur across word boundaries as well as within a word, but apparently not across morpheme boundaries. A sequence of two identical vowels within a word produced by bringing two morphemes together seems to be split by introducing an epenthetic consonant, [ʏ], [ʔ], or [ŋ]. [ʏ] occurs between subject clitics and verb stems, [ʔ] occurs in some cases of reduplication, and [ŋ] occurs in other environments.

Following are examples of sequences of two vowels that are realised as length or diphthongs:

ɑɑ	<i>aa.na.sa</i> ‘hot’ <i>kaa.la</i> ‘Singapore taro’ - - <i>laa</i> ‘go (nearby)’	oi	- <i>koi.koi</i> ‘coconut shell’ <i>ni.moi.a</i> ‘trial’ - <i>o.roi</i> ‘many’
æe	- <i>lae.lae</i> ‘trochus shell’ <i>tae.a</i> ‘crab’ <i>raem</i> ‘your (sg) blood’ <i>sae</i> ‘go up’	oo	- <i>too.too</i> ‘picture’ - - <i>loo</i> ‘fly’
ai	<i>ai.sa.lo</i> ‘platform’ <i>tai.ta</i> ‘man’ <i>a.sai.e.la</i> ‘I cut it’ <i>aim niu e.te.ae</i> ‘your (sg) coconut tree’ <i>sai</i> ‘cut’	ou	<i>ou.na</i> ‘new’ <i>u.sou.sou.a.na</i> ‘white’ <i>u.sou.sou.a.na</i> ‘white’ - <i>tou</i> ‘sugarcane’
ɑo	- <i>ghao.no.mo</i> ‘six’ <i>ghao.a.lu</i> ‘eight’ - <i>lao</i> ‘go’	ei	- <i>nei.na</i> ‘smell’ <i>tei.e.ghi</i> ‘with me’ - <i>a.lu.sei</i> ‘tall, long’

au	<i>au.pa.ka</i> ‘sweat’ <i>vau.se</i> ‘woman’ <i>pau.a</i> ‘dog’ - <i>vau</i> ‘chief’	ii	<i>ii.ri</i> ‘fence in’ - - - <i>sii</i> ‘mangrove sp.’
oa	<i>oa.sa</i> ‘vine, rope’ <i>ai.noa.na</i> ‘breathe’ - - <i>ai.poa</i> ‘converse’	iu	- <i>a.tiu.lu</i> ‘classifier (sg)’ <i>riu.riu.e.na</i> ‘thin’ - <i>niu</i> ‘coconut’
ui	<i>ui.na</i> ‘its tail’ - - - <i>lui</i> ‘hurry’	uu	<i>uu.si</i> ‘epiphyte’ <i>suu.suu</i> ‘swim, dive, bathe’ <i>tuu.e.la</i> ‘cook it’ <i>uum</i> ‘your (sg) hair’ <i>tuu</i> ‘cook’

Here are some examples of sequences of two identical vowels across morpheme and word boundaries, showing length and avoidance of length:

pau.a a.te.va ‘the dog’ [pau.a.te.va] (paua ateva, dog classifier)
me e.ta.ra ‘and he saw’ [me:.ta.ra] (me e-tara, and 3s-see)
ai.ta.ra.nga ‘look after her’ [ai.ta.ra.ŋa] (ai-tara-ng-a, RECIP-look.at-LIG-3sO)
a.gha.lo.a.na ‘I want’ [a.ɣa.lo.a.na] (a-gh-aloana, 1s-LIG-want)
a.gha.taa.ta ‘I am hot’ [a.ɣa.ta:.ta] (a-gh-ata-ata, 1s-LIG-RDP-burn)
u.hgu.su.u.su ‘you are eating (sugarcane)’ [u.ɣu.su?.u.su] (u-gh-usu-usu, 2s-LIG-RDP-eat)

In a sequence of three or more vowels, it is not always predictable how the syllables will be split. Some examples of such sequences are:

<i>Lo.au.a</i> name of an island	<i>a.ue.na</i> ‘then’
<i>ghai.ai.ni</i> ‘bury (a body)’	<i>kau.e.ri.ki</i> ‘lizard species’
<i>ai.u</i> ‘coconut crab’	<i>ghao.a.lu</i> ‘eight’
<i>a.te.ae</i> classifier	<i>iao</i> ‘all right’
<i>o.io</i> ‘this, here’	<i>ra.ri.ao</i> ‘mouse’

5 Suprasegmentals

Stress is generally predictable, with primary stress on the penultimate syllable of the word, and secondary stress on every second syllable preceding. Following Malcolm Ross’s analysis, there are some exceptions. Words that originated in Proto Oceanic with a final consonant have had an echo vowel added in Mussau, but the stress remains on the penultimate syllable of the underlying form, and thus on the antepenultimate syllable of the modern form. The other exception is that stress can

be shifted towards the beginning of the word when a stress vowel is immediately preceded by an identical or lower vowel (which we are analysing as a diphthong), or preceded by an /a/ with a consonant intervening. However, this latter exception is optional, with examples of stress in both positions being observed.

Stress shifts to the penultimate vowel with the addition of suffixes and clitics, although the optional movement of stress described above can also happen.

Some examples of these variations in stress patterns follow:

Proto Oceanic	Mussau	English gloss
*padran	'arana	pandanus
*panas	'a:nasa	hot
*kauR	'kauru	bamboo
*pulan	'ulana	moon
*ranum	'rarum	liquid

'raena 'his blood'

a'teo 'river'

'βause 'woman'

'ateo 'river'

e'leiβo 'night'

'ropi 'drink'

a'ya'ta:ta 'I feel hot/have a fever'
(lit. 'I am burning')

ro'pila 'drink (imperative)'

'kina 'mother'

ka,sa'ηaulu 'ten'

ki'nagi 'my mother'

Length is present in both vowels and consonants. Length in vowels is analysed above as a sequence of two identical vowels. Similarly, length in consonants is also a sequence of two identical consonants, usually across a syllable boundary. It appears that such sequences of consonants are the result of vowel deletion. In some cases, the original form with the vowel is remembered, but rarely said, while in other cases, only the form without the vowel is known.

Following are some contrasts for length in vowels:

anamisi 'play'

aanasa 'hot'

kala 'fill up'

kaala 'Singapore taro'

la '3rd person plural'

laa 'go (nearby)'

ira 'count'

iiri 'fence in'

lolo 'pray'

looloo 'fly'

totu 'erect'

tootoo 'picture'

usi 'follow'

uusi 'epiphyte'

tue 'chop down'

tuu 'cook'

Following are some examples of long consonants:

koto ghaagha 'breaking wave'

ko.to ghaagh.gha 'tsunami'

mukei ‘mango’
elamana ‘sea near shore’
la ‘3rd person plural’
maa ‘gecko’
monamonamanga ‘swamp’
nana ‘pus, semen’
kapa ‘complete’
eruuruu ‘it is finishing’
esuusuu ‘he is swimming’
katu ‘seed’

muk.ko ‘sea cucumber’
el.la ‘daytime’
lla ‘light’
mma ‘yawn’
mom.mo.ro ‘be fat’
nan.na ‘thinking’
pap.pa ‘shoulder’
e.rur.ru ‘she is carrying on her head’
e.ssu ‘she is breastfeeding’ (*esusu)
kat.to ‘star’

6 Syllable Patterns

The syllable patterns are V, CV, VV, CVV, VC, CVC, CVVC. However, note that the patterns with two vowels can be split into two syllables, with each vowel in a separate syllable. Otherwise, these are realised as diphthongs in normal speech (see section 4 above). The closed syllables generally occur in the context of a long consonant, where the final consonant of the closed syllable is the same as the first consonant of the following syllable. Only <m> and <ng> have been observed as the close of a syllable that does not correspond to a long consonant.

V	<i>o</i> ‘this’ <i>a.na.mi.si</i> ‘play’ <i>a.li.e.na</i> ‘centipede’ <i>pau.a</i> ‘dog’	VC	<i>am</i> ‘you (pl)’ <i>el.la</i> ‘daytime’ <i>tau.mat.tu</i> ‘person’ <i>i.ru.em</i> ‘honey’
CV	<i>pa</i> ‘mouth’ <i>pa.na.ka</i> ‘boat’ <i>vi.li.ki</i> ‘skin’ <i>lu.ku</i> ‘go fishing with a net’	CVC	<i>tum</i> ‘collarbone’ <i>mom.mo.ro</i> ‘be fat’ <i>ma.tek.ka</i> ‘anus’ <i>va.lieng</i> ‘cliff’
VV	<i>ai</i> ‘tree, wood’ <i>ou.na</i> ‘new’ <i>ghai.ai.ni</i> ‘bury’ <i>gha.si.ou</i> ‘nine’	CVVC	<i>raem</i> ‘your (sg) blood’ - - -
CVV	<i>tou</i> ‘sugarcane’ <i>vau.se</i> ‘woman’ <i>gha.lai.lo</i> ‘yesterday’ <i>a.lu.sei</i> ‘tall, long’		

7 Conventions: Phonological

All stops are unaspirated.

The voiced bilabial fricative, /β/, can also occur as a stop, [b], especially word-initially. However, there appears to be some free variation with this.

The voiced velar stop, /g/, generally occurs as a voiced velar fricative, [ɣ], intervocalically when not geminated, and frequently word initially as well, as this tends to be an intervocalic environment in continuous speech. Again, there is some free variation with this.

Final vowels are frequently dropped, so that there are other closed syllables at the ends of words in common speech, although the full form is given in isolation. There are, however, some word-final closed syllables that do not appear to have a deleted vowel. These include <am> ‘you (pl)’, the second person singular possessive suffix, <-m>, and the word <valieng> ‘cliff’. Some examples of such forms are:

<i>am</i> ‘you (pl)’	<i>sinak</i> ‘sun’ (<i>sinaka</i>)
<i>nimam</i> ‘your (sg) hand’	<i>kameririk</i> ‘ant’ (<i>kameririki</i>)
<i>saurom</i> ‘darkness’	<i>utan</i> ‘garden’ (<i>utana</i>)

There are a few extra phonemes and phoneme patterns that only exist in names and borrowed words. These include the consonants /tʃ/, /d/, /f/, /h/, /dʒ/, /ʃ/, /θ/, /v/, /w/, and, /z/ vowels /ʌ/, /ɔ/, /æ/, and /ɪ/, and closed syllables and some consonant clusters. Not all speakers pronounce the names in the English way: many make adjustments to conform more to the Mussau-Emira phonology. Names are generally spelt by analogy to the equivalent English name, if such exists. Examples of such names are:

/tʃɑ:lz/	<Charles>	/dʒɔub/	<Job>
/klɛmɛnt/	<Clement>	/kɪŋzli/	<Kingsley>
/dɛzmɑlm/	<Desmalin>	/lʌvlɪn/	<Lovelyn>
/dɛθɪɑs/	<Dethias>	/mæks/	<Max>
/dɛkstɑ/	<Dexter>	/nɛldʒɔi/	<Neljoy>
/dɔvlɪn/	<Dovlin>	/rælf/	<Ralph>
/ɛzɪkiɛl/	<Ezekiel>	/ʃeɪn/	<Shane>
/frɛdlɪn/	<Fredlyn>	/tɒmɑs/	<Thomas>
/hɛmli/	<Hemly>	/tɪmɒθi/	<Timothy>
/ɑɪzæk/	<Isaac>	/wɔrɛn/	<Warren>

There are two regular phonological changes. Firstly, there is some vowel harmony, principally with the first person singular possessive suffix /-gi/, which alternates with /-gu/ after a rounded vowel. These are written as pronounced.

The other change is a vowel raising rule, which changes /ɑ/ to /ɛ/ after a high vowel. There is some complication with this, as there is some qualification about whether another morpheme follows, and we have not yet formulated the rule precisely. This rule also operates across word boundaries, notably with the classifier [atɛβɑ], which becomes [ɛtɛβɑ] after a word ending in a high vowel. At present, we are writing such raised vowels as pronounced.

8 Conventions: Orthographic

The velar nasal /ŋ/ is written as <ng>, as in English and Tok Pisin. The combination /ŋg/ is written as <nggh>, although this has not been extensively tested. It has occurred in the data only in certain past tenses.

The voiced bilabial fricative, /β/, is often pronounced as a voiced bilabial stop word initially, but will mostly be represented by <v>. However, there are some village names that are traditionally spelt with an initial (Boliu, Bai), that we will retain. It is possible that there will be some people who would wish to spell other words with an initial , and this will need to be tested.

Long vowels and consonants will be written with double letters. However, some long vowels are written with single letters, particularly words borrowed from Tok Pisin, such as popo ‘pawpaw’, pronounced [po:po:]. In some written Mussau-Emira, long consonants have been written as doubled, but inconsistently. Long vowels have not been written so far.

When a proclitic (<a> or <e>) is joined to a proper name, the first letter of the proper name is capitalised, rather than the clitic. Again, acceptance of this convention has not been tested.

As noted above, extra symbols are borrowed from English for spelling names, including <c>, <ch>, <d>, <f>, <h>, <j>, <ph>, <sh>, <th>, <w>, <x>, <y>, and <z>.

Long verb forms are broken up by writing some of the proclitics as separate words, though they are phonologically part of the verb. These include ghe ‘PAST’ and aue ‘IRREALIS’.

9 Sample Transcribed Text

/ gaine akiukiua ne natuna:teβa tueyi || natuna:teβa tueyi geγa:la | aliki eteβa taita:teβa || taita:teβa getau la: aliki eteβa me taita:teβa gekasula || aliki eteβa βause:teβa oio ge kina gesuŋiela gesae mae etayi gela: sio || aimaratie ne gela: sioemarati epo || gemaratila epo natuna natu taita:rigi || natuna taita:rigi gekarimiela kina karika rigi rarum es:una | ue || kina karika rigi rarum es:una geγenim toka sus:u poi geae epo i rarum es:uta kin:a me karika poi erigi rarum es:u gemaemae || βara ageŋaβa βa mas ga: teβa ne dokta me:mæ me:tara aliki eteβa me apasaŋu arigi salana tani aitarali:liki eteβa || aliki eteβa oio dokta getau mae sio marasina ta kin:a geropila kateβa ulana || kateβa ulana geropila karika ge tani ne rararumena ne aimotomoto etana || aliki eteβa oio karika gesusu emasina || areare s:una geusaila || areare s:una geusaila dokta geue gela: pae eteβa mene teβa ma:ma: emaemae s:u aliki eteβa || okei | βause ateβa agelao sio tani paea lila || lila gemae sio ges:ula:liki eteβa || βause ateβa ia:næ || taŋanuena enae ami geγoala enae gele aliki eteβa βause ateβa ges:ua lila ges:uela eroro kateβa ulana || la me ge lagemene so mae || ioio aliki eteβa genim namanama po:po: | eropiropi supu po:po: | supu pamkeni me egolugolu pamkeni me enamanama kau || aliki eteβa iao ia etokatoka ami nim aitaraja βalua iao || /

< Ghaine akiukiua ne natuna ateva tueghi. Natuna ateva tueghi ghe ghaala aliki eteva taita ateva. Taita ateva ghe tau laa aliki eteva me taita ateva ghe kasula. Aliko eteva vause eteva oio ghe kina ghe sungiela ghe sae mae etaghi ghe laa sio. Aimaratie ne ghe laa sio emarati Epo. Ghe maratila Epo natuna natu taita arighi. Natuna taita arighi ghe karimiela kina karika righi rarum essuna, ue. Kina karika righi rarum essuna ghe ghenim toka sussu poi ghe ae Epo i rarum essuta kinna me karika poi erighi rarum essu ghe maemae. Vara me aghe nganga va mas ghaa teva ne dokta me emae me etara aliki eteva me apasangu arighi salana tani aitara aliki eteva. Aliko eteva oio dokta ghe tau mae sio marasina ta kinna ghe ropila kateva ulana. Kateva ulana ghe ropila karika ghe tani ne rararumena ne aimotomoto etana. Aliko eteva oio karika ghe susu emasina. Areare ssuna ghe usaila. Areare ssuna ghe usaila dokta ghe ue ghe laa pae eteva mene teva maamaa emaemae ssu aliki eteva. OK, vause ateva aghe lao sio tani paea Lila. Lila ghe mae sio ghe ssula aliki eteva. Vause ateva ia aNae. Tanganuena eNae ami ghe ghoala eNae ghele aliki eteva vause ateva ghe ssua Lila ghe ssuela eroro kateva ulana. La me ghe laghe mene so mae. Ioio aliki eteva ghe nim namanama popo, eropiropi supu popo, supu pamkeni me egholugholu pamkeni me enamanama kau. Aliko eteva iao ia etokatoka ami nim aitaranga valua iao. >

‘Today, I will talk about her son. My older sister’s daughter had a son. A man gave the child and the man left. This young woman was sent by her mother and came to me. The delivery was at Epo. She gave birth to her son at Epo. She gave birth to a son, but the mother had no milk in her breasts, yes. The mother had no milk in her breasts although she tried and in Epo his mother had no milk coming from her breast. Later, I thought I should get a doctor to come and look at the baby and tell us how to look after the baby. The doctor gave some medicine to the mother and she took it for one month. She took it for a month, but the baby could not get any milk when he was sucking. This boy could not breastfeed well. Her nipple became sore. Her nipple became sore and the doctor said to find another mother to come and breastfeed the baby. OK, A woman went down to find Lila. Lila came to feed the baby. The woman is from Nae. Her home is in Nae, so we went to Nae and the woman breastfed him, Lila was able to breastfeed him for one month. We came back again. This boy is trying to eat pawpaw, soup of pawpaw, soup of pumpkin, pumpkin, and sweet potato. So, this boy is living with us and we are just looking after him.’

10 Orthography Chart

Although the phonology of Tungag is somewhat similar to that of Mussau-Emira, it has little practical influence, as the large separation makes for little contact, and the Mussau-Emira people tend to travel directly to Kavieng. Thus, the English and Tok Pisin orthographies are more important.

However, there are several orthographies in use for Mussau-Emira. The first was developed by the early missionaries in the 1930s, and is based on the Fijian orthography. This was used for the hymnbook. When the hymnbook was reprinted in 1990, a preface was included which uses a second orthography. There is also a third orthography currently in use by the vernacular elementary schools. In the table below, these three are compared with the orthography proposed in this paper.

Phoneme or sequence	Fijian Orthography	Hymn Book Preface	Elementary Schools	SIL
ɑ	a	a	a	a
ɑ:	a	a, a'	a	aa
ɛ	e	e	e	e
g	q	g	gh	gh
g:	q	g	gh	ghgh
i	i	i	i	i
k	k	k	k	k
k:	k	k	k	kk
l	l	l	l	l
l:	l	l	l	ll
m	m	m	m	m
m:	m	m	m	mm
n	n	n	n	n
n:	n	n, nn	n	nn
ŋ	g	ng	ngh	ng
ŋ:	g	ng	ngh	ngng
o	o	o	o	o
o:	o	o	o	oo
p	p	p	p	p
p:	p	p	p	pp
r	r	r	r	r
r:	r	r	r	rr
s	s	s	s	s
t	t	t	t	t
t:	t	t	t	tt
u	u	u	u	u
u:	u	u, u-u	u	uu
β	b, v	b, v	v	v, b

11 Bibliography

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