

PHONEMES OF BINUMARIEN

DES and JENNIFER OATRIDGE

0. Introduction.
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0. INTRODUCTION

The segmental and suprasegmental phonemes of Binumarien are presented in this study in terms of their contrast, variation and distribution.¹

Binumarien belongs to the Tairora, Gadsup, Auyana, Awa language group as indicated by S.A. Wurm (1961). It is most closely related to Tairora.

It is spoken by one hundred and seventeen people living in three small villages on the North Eastern boundary of the Kainantu subdistrict. Within the memory of the older men, the Binumariens were more numerous; but because of tribal fighting resulting in prolonged residence in the Markham Valley and resultant malaria, their numbers have been greatly reduced.

To the West and South live the Gadsups, to the North, the Azeras in the Markham Valley. The closely related language of Kambaira is in the South East. Some of the men speak Azera and Gadsup while others speak Gadsup and Tairora beside their own language. All the men except the very old, speak Neo-Melanesian.

1. CONTRAST

1.1. Chart of Phonemes

	<i>Bilabial</i>	<i>Alveolar</i>	<i>Velar</i>	<i>Glottal</i>
Stops	p	t	k	ʔ
Fricatives	ɸ	s		
Nasals	m	n		
Vibrant		r		
Semivowels	w	y		

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1.1. Chart of Phonemes - continued from page 13

	Front	Central	Back
High	i		u
Mid	e ²		o
Low		a	

High Tone /´/

Low Tone Unmarked (/˘/ in section 3.3. only)

1.2. Contrast of Segmental Phonemes

- p : p /putaá/³ 'rotten', /pukaá/ 'tobacco'; /upeékáa/ 'push into', /apeeka/ 'difficult'.
- t : r /raʔárará/ 'will break', /táʔárará/ 'will cross river'; /páíraka/ 'type of tree', /paitáká/ 'type of frog'.
- t : s /patáa/ 'scrape', /pasaá/ 'type of bird'; /túká/ 'root', /suká/ 'sour'.
- k : ʔ /ásáúku/ 'your hand', /ásáúʔa/ 'old person'; /kukúma/ 'type of bird', /ʔuʔúsá/ 'fence'.
- i : ee /pipá/ 'he's gone', /peepa/ 'arrow'; /páiní/ 'dog', /paééná/ 'red dye'.
- ii : ee /máriiʔa/ 'I have been (there)', /máreeʔa/ 'I took it'.
- u : oo /múná/ 'smoke', /moóná/ 'the next day'; /uróóna/ 'type of bird', /ooraúná/ ' '.
- uu : oo /ʔtóo/ 'O.K.!', /ʔtuú/ 'type of yam'.
- i : ii /máriño/ 'he stays', /máriino/ 'he has been staying'; /akíiʔa/ 'head', /ákiʔtá/ 'pith (of sugar cane)'.
- a : aa /máaʔá/ 'house', /maʔá/ 'ground'; /saaká/ 'sugar', /sáká/ 'fill with water'; /taáká/ 'type of tree', /táká/ 'frog'.
- ʔ : # word initially
/ʔáféʔá/ 'I see', /apéká/ 'difficult'; /ó/ 'mouth', /ʔo/ 'dividing line'; /ʔuʔúsá/ 'fence', /úʔóná/ 'moon'

1.3. Contrast of Tones. There are two phonemic tone levels, (h)igh and (l)ow. (Only high is marked.)

- l-h : h-h /iní murí mǎríʔtánoo./ 'My lemon is here.'
 /iní múrí mǎríʔtánoo./ 'My mole is here.'
- h-l : h-h /iní sumpa antáa./ 'Cut my sweet potato.'
 /iní nántá antáa./ 'Cut my forest.'
- l-h : l-l /iní saná suʔáa./ 'Cook my taro.'
 /iní paki suʔáa./ 'Cook my gum.'
- h-l : l-l /iní sáni mǎríʔtánoo./ 'My stone axe is here.'
 /iní aʔti mǎríʔtánoo./ 'My skin is here.'
- h-h : l-l /iní táká suʔáa./ 'Cook my frog.'
 /iní paki suʔáa./ 'Cook my gum.'
- h-l : l-h /iní sumpa mǎríʔtánoo./ 'My sweet potato is here.'
 /iní muri mǎríʔtánoo./ 'My lemon is here.'

2. VARIATION

For the purpose of this paper a word is defined as the minimal phonological unit which can occur in isolation.

2.1. Variation of Segmental Phonemes

2.11. Unaspirated stops are /p/, /t/, /k/ and /ʔ/. When occurring intervocally /p/, /t/ and /k/ are lengthened. [píp·à:nà]⁴ 'insect', [pit·ūt·ū] 'type of bird', [kùk·ūr̥ā] 'beads'.

/p/ and /t/ have voiced variants following nasals at their respective points of articulation. In addition /t/ may vary from an alveolar position to a dental position before /i/ and /e/ in some speakers.

/k/ and /ʔ/ have labialized off glides when they are preceded by /u/ except when followed by /u/. [úk^wAsī] 'wood grub', [áú^wá:náí] 'shade'.

2.12. Voiceless fricatives are /p/ and /s/. [āpè:k·ā] 'hard', [sàínīsà] 'small plant'. /s/ has a variant [ts] which occurs word initially. It is used only by some older speakers.

2.13. Voiced nasals are /m/ and /n/.⁵ A variant of /m/ is [m^w] which occurs after /u/ except before /u/. [tùm^wānā] 'type of pandanus fruit'.

2.14. /r/ is the retroflexed alveolar flap [ɾ̥]. [ɾ̥áʔáɾ̥áɾ̥á] 'will break'.

2.15. Semivowels are /y/ and /w/. /w/ has a second variant [b̥] which sometimes fluctuates with [w]. [l̥b̥à:b̥īngūsūnā]

'type of yam', [kū̀bò:nànǎ] / [kū̀wò:nànǎ] 'small wallaby'.

2.16. The high vowel phonemes /i/ and /u/ both have two variants. [ɪ] and [ʊ] occur before nasal initial consonant clusters and [i] and [u] occur in all other positions. [pímbúmbú'ā:nǎ] 'type of insect', [ít.ít.íǎ] 'shut it', [súmbǎ]

2.17. The mid vowels /e/ and /o/ each have one variant, the phonemic norm. /eetá'tí/ [è:t.ā'dī] 'type of rat', /kú-kóó'oona/ [kúk.ó:'ò:nǎ] 'type of sweet potato'.

2.18. The variants of the central vowel phoneme /a/ are conditioned as follows:

When occurring after /i/ in a vv sequence /a/ has a fronted quality [ʌ<] [kā'diǎ<řǔ] 'worm'. The vowel quality is lowered to low open [a] when two occur together in a geminate cluster, except utterance finally when carrying a high low tone sequence. In this instance the [ʌ] quality is retained. The low close variant [ʌ] also occurs elsewhere.

2.2. **Variation of Tone.** Binumarien has a system of register tones which show only two significant levels. These levels are heard within a simultaneous falling intonation contour which is spread over the utterance concerned. The following examples show how this is applied. Each vowel is of one mora of length and carries its own register tone.

2.21. In words carrying a series of high tones on all vowels, all tones after the first fall successively lower.

/sáárisá/ [sá:řisǎ] 'cricket'. This would be more accurately transcribed [sa:řisǎ].

2.22. A series of word final high tones following a low tone is phonetically mid. /nammári/ [nám:āřī] 'water'.

2.23. Words carrying a series of low tones on all syllables begin at a low mid level and drop successively lower throughout the word, except when the word occurs utterance finally. The final low tone then rises to form a short rising glide and the vowel on which it occurs is lengthened.

/sasoota mǎráa/ [sasoot.ā mǎráa] 'take the wood'

/iní sasoota [iní sasoot.ā] 'my wood'.

The rising glide has been assigned to low tone because it remains low and the vowel remains short when utterance non-final. Its occurrence contrasts with the sequences low-low and low-high, and with high tone in an utterance final

syllable: /sasoota/ 'type of wood', /sapaa/ 'eel trap';
/karoopáá/ 'water melon', /ʔumisá/ 'red dye'.

3. DISTRIBUTION

3.1. Syllables Within Word

3.11. Nuclei. There are two types of syllable, short and long. The nucleus of short syllables consists of one vowel of one mora of length carrying one register tone. The nucleus of a long syllable consists of two contiguous vowels, like or diverse, two moras of length and carries two register tones.⁶ Long syllables have been set up because the phonemes /e/ and /o/ never occur singly, but only in geminate clusters.

3.12. General Distribution. The syllable patterns are V and VV optionally preceded by onset of one or two consonants. For description of permitted arrangements in the word, syllables are classed as *main*, with onset and nucleus, and *auxiliary*, with no onset.

(1) *Main.* There appear to be no limitations of distribution of main syllables either with reference to position in the word or position relative to each other. There may be some minor restrictions on their distribution relative to auxiliary syllables in the word.

(2) *Auxiliary.* Word initially only one V syllable or one or two VV syllables occur. /a.ʔti/ 'skin', /óó.aa.ma.ra/ 'mouth'.^{6a}

Word medially short auxiliary syllables occur contiguous to long main syllables, and long auxiliary syllables occur contiguous to short main syllables.

/pee.ú.ná/ 'type of tree', /pi.óó.sá/ 'wallaby'.

A long auxiliary syllable contiguous to a long main syllable occurs commonly in the speech of young people in words where they omit a glottal stop pronounced by older speakers.

/paaʔóótáná/ > /paaóótáná/ 'type of nettle'

/kúkóóʔoona/ > /kúkóóoona/ 'type of sweet potato'

/tátóóʔeesa/ > /tátóóeesa/ 'type of grub'.

Medial sequences of auxiliary syllables have been observed in one word only, /ʔiú.aa.óó.ná/ 'scrub turkey'.

Auxiliary syllables do not occur in word final position except in the following example: /róó.i.ráá.i/ 'bamboo cleaning stick'.

3.2. Phonemes Within Syllable and Word

3.21. Consonants. All consonants may manifest onset in CV and CVV syllables.

In CCV and CCVV syllables, glottal stop and nasals fill the first consonant position of the onset. Bilabial and alveolar stops, nasals and semi-vowel /y/ fill the second. The resulting consonant clusters are as follows:

/ʔp/, /ʔt/, /ʔm/, /ʔn/, /mp/, /nt/, /nn/, /mm/ and /ʔy/.⁷

Of these only /ʔt/, /ʔm/, /ʔn/ and /ʔy/ have been observed occurring word initially.

3.22. Semivowels. /y/ and /w/ occur as syllable onsets and are comparatively rare phonemes occurring most frequently in place and personal names.

/aayakaráání/ 'type of yam', /yankawána/ 'place name', /wóowá/ 'man's name'.

3.23. Vowels. /i/, /a/ and /u/ occur as short syllable nuclei. Long syllable nuclei consist of geminate vowel clusters /ee/, /oo/, /aa/, /ii/, /uu/ and diverse clusters /ua/, /au/, /ai/, /ia/, /ui/, /iu/. The phonemes /e/ and /o/ never occur singly but only in geminate clusters.

The vowel clusters /ui/, /ii/ and /uu/ have not been observed word initially.

All permitted vowel sequences except /iu/ and /uu/ occur in long syllables in medial position. In sequences of main plus auxiliary all vowel combinations have been observed except: /aa/, /ee/, and /oo/ plus /a/; /aa/ and /oo/ plus /u/; /i/ plus /ee/; and /a/ plus /aa/.

/i/, /a/, and /u/ may occur as the vowel of short main syllables in word final position. All permitted vowel sequences except /ui/, /iu/ and /ii/ may occur as the nuclei of word final long main syllables.

3.3. Distribution of Tone. Tone sequences on words of up to five vowels have been charted. Distributional limitations have been observed only on words of three, four and five vowels having all long, or short and long syllables.

3.31. On three and four vowel words following the first high tone all other tones will be high preceding a final high. /' ' ' /, / ' ' ' ' /, / ' ' ' ' ' / . In five vowel words with CVV.CVV.CV syllable pattern, this restriction applies only to the penultimate and final syllables. / ' ' ' ' ' / .

3.32. Following a high tone on antipenultimate vowel, and preceding low tone on final vowel, a penultimate vowel will carry low tone. /' /, /' /, /' /, /' /, /' /.

3.33. The tone sequence high high has not been observed on a final long syllable of a multisyllabic word.

NOTES

1. The data for this paper were collected by the authors during a stay of two and a half years in the village of Onikuródarannai while working with the New Guinea Branch of the Summer Institute of Linguistics. The Administration name for this group of people 'Binumarien', was derived from a former village name /Pinumaarénai/. The people call themselves and the language /Afaqína/. A large number of informants were used during this time but two middle-aged men, Aaʔti and the Government-appointed chief, Maraaʔaroo, were the principal ones. The tone analysis was done at a linguistic workshop under the direction of Dr K.L. Pike. The outline for this paper was suggested by the theoretical framework of Pike (1954, 1955, 1960). Our informants at the workshop were Tata and Kuntaʔpi. We wish to record our thanks to members of the Institute for help with this analysis.

2. The phonemes /e/ and /o/ never occur singly but only in geminate clusters.

3. When two /a/ [Λ̃] phonemes occur contiguously, the vowel quality is changed to [a].

4. Throughout this paper, the raising and lowering wedge on the phonetic symbols [ɔ̂] and [Λ̂] have been omitted and the symbols written [ɔ] and [Λ]. [:] equals two moras of length and [.] equals one and a half moras of length. Phonetic pitch is symbolized [´] high, [ˉ] mid, [˘] low.

5. Voiced velar nasal /ŋ/ is a loan phoneme from Azera. It occurs in place and personal names and in a few loan words.

/uŋáʔa/ 'place name'; /tuŋúŋa/ 'house post'.

Voiced velar stop [g], variant of the phoneme /k/ occurs after /ŋ/ in loan words from Azera.

/yaŋkawána/ 'place name'; /saŋkuma/ 'corn'.

6. In slow and deliberate speech two clear phonetic syllable pulses are heard particularly on geminate clusters [e.e] [ɔ.ɔ] [a.a].

6a. The boundaries of phonemic syllables are indicated by a dot but are not themselves considered phonemes.

7. The /ʔy/ cluster of phonemes is separate from the [ʔy] conditioned variant of /ʔ/. /ʔy/ occurs initially in question words and in one word /uʔyáa/ 'put'. An alternative analysis of the consonant clusters /ʔp/, /ʔt/, /ʔm/, /ʔn/ and /ʔy/ as single phonetically complex phonemes is also possible.

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