MANGA BUANG PHONOLOGICAL HIERARCHY II

Joan Healey

First Draft

Summer Institute of Linguistics
Brisbane, Australia.

January, 1967.

TABLE OF CONTENTS

0. Introduction

This paper deals specifically with the phonological word, the syllable, and the phoneme in Manga Buang,[1] and attempts to show the units on each level and the features which identify them and distinguish them from other units, as well as the variations within each unit, and the distribution potential of each unit.[2]

A point of particular interest in the paper is the treatment of vowels. It appeared at first that there were five short vowels and seven long vowels. This discrepancy in numbers and slight change in quality between some short and long vowels, posed quite a problem for finding a neat description. That which is proposed in this paper seems to cover the problem adequately.

The analysis of the phonological word in particular is quite tentative and incomplete, but was included so that, together with Roma Hardwick's paper, "Manga Buang Phonological Hierarchy Part I", the complete phonological hierarchy should be described, however inadequately.

1. Phonological Word

The phonological word in Manga Buang consists of one obligatory nuclear syllable marked by stress, with usually one or two marginal syllables, although there may be up to four marginal syllables.[3] Stress is heard as slight intensity, and a slight lengthening of the vowel, and may also have slight high pitch, unless the intonation pattern affects it otherwise.

Stress is often very difficult to distinguish, especially on words spoken in isolation. However it seems that words tend to have ante-penultimate stress with a secondary ultimate stress, and two syllable words have ultimate stress. Stress may be pulled forward to a preceeding syllable with a long vowel if the syllable which is usually stressed has a short vowel.[4] Thus there are the following word patterns:

'mora'bir	'type of bird'[5]
pa'se:pis	'fern'
ba'gak	'moth'
'de:dis	'wasp'

Four syllable words do not follow this pattern as regularly, and whether stress may be determined according to affixation and compounds remains unsolved.

Stress appears to contrast in a few words:

ni'paya	'bad'
'nibasa	'good'

From this it would seem that stress could be used as a criterion for marking juncture between words. However, the stress patterns on many of these words change as they are included in phrases, and considerably more study needs to be done to determine how these changes occur.[6]

One criterion which is sometimes useful in determining word juncture is that the CVC type of syllable pattern may only occur word finally, and is very frequent in that position.

However, this often fails where it could be expected to be useful as word final consonants tend to be lost in fast speech, except clause final, and even in slow speech the final consonants of verbs are always dropped before consonant initial words within the same clause and final consonants of pronouns are lost before most verbs.

rayi bik ('rayi'bik)[7] 'they saw a pig'

rayiis bik 'rayii'bik) 'they killed a pig'

Grammatical words do not necessarily correspond with phonological words. The latter may include more than one grammatical word.

gaba;b kin be:re (ga'ba;kin'be:re) 'light the fire first'

ga raam bu tana (ga'raabu'tana) 'where did you come from?'

There is also a possibility that some grammatical words may include two phonological words, as some four syllable words retain two stressed syllables even when included in utterances.

sa;ge ga;dobari:ŋ ti base:n ('sa;ge'ga;doba'ri:ŋ'tiba'se:n)
'I saw a beetle yesterday'

Although most word borders are not able to be determined so far, yet there seems to be equal timing between the nuclei of phonological words, however, many marginal syllables come between.

narukara;g gir ba;ru de gir ba;ru ma

(na'ruka'ra;gi'ba;ru de'gir 'ba;ru'ma)

'It was enough for half the people, but not for the other half.'

sa karinin sa baag ra de sa nado

('saka'rinin sa'baag 'rade'sana'do)

'I forgot about my home, and I stayed.'

2. Syllable

There are basically four syllable types in Manga Buang, namely V, VC, CV, and CVC. Of these, three may occur with a long vowel in the nucleus, namely V°, CV°, CV°C.[8] Perhaps it is most convenient to consider all seven as syllable types, as CV° is more restricted as to where it may occur than is CV.

V	a.bi	'mouth'
V°	a;.mag	'father'
VC	od	'well then'
CV	ro.pa.yo	'inside'
CV°	ba;.wan	'onion'
CVC	bik	'pig'
CV°C	ba;n	'his home'

Each of these syllable types varies according to its position in the phonological word. In word nuclear position syllables tend to have more intensity and to be slightly longer than in marginal positions.

All but one of the syllable types have limited distribution within phonological words.

Word initial only -	V, V°
Word initial and medial only -	CV°
Word final only -	CVC, CV°C
Two occurrences only -	VC (od 'well then',) (in 'because')
Unrestricted occurrence -	CV

Thus, the syllable types which may occur as monosyllabic words are CV, CVC, CV°C and VC. The predominant phonological word patterns are two syllable words with a final closed syllable.

The syllable types CVC and CV°C undergo a morphophonemic change and become CV and CV° in certain environments. In medium speech this change occurs in pronouns preceding most verbs, in verbs in clause non-final position, and in certain nouns in clause non-final position. The change appears to be even more widespread in fast speech, but the extent of it needs to be studied more specifically.

ga;y baka;s	(ga;baka;s)	'we two talked'
ru:s ber	(ru:ber)	'he bathed'
baye:n pasib	(baye:pasib)	'a small house'

3. Phoneme

Manga Buang has twenty consonant phonemes.[9] Voiceless stops, prenasalized voiced stops and nasals contrast at bilabial, alveolar, velar and back velar points of articulation. In the velar position they have a labialized release. There is also an alveo-palatal nasal. Voiced fricatives contrast at

bilabial and back velar positions, and a voiceless fricative and prenasalized voiced affricate occur in alveolar position. Semi-vowels contrast at bilabial and palatal positions. A vibrant occurs at the alveolar position. Of the five vowel phonemes, high and mid vowels contrast at front and back positions, and there is a low central vowel. The phonemes are charted in Table 1.

Table 1: Phonemes

CONSONANTS	Bilabial	Alveolar	Alveo-Palatal	Velar	Back Velar
Voiceless stops	p	t		kw	k
Voiced stops	b	d		gw	g
Fricatives	b	s			g
Affricate		j			
Nasals	m	n	ny	ŋw	ŋ
Vibrant		r			
Semi-vowels	w		y		

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

SUPRASEGMENTAL ITEMS

At first it was thought that there were seven vowels namely i, e, ɛ, a, ɔ, o and u with a suprasegmental phoneme of length. This hypothesis was rejected for the following reasons:

(1) e and ɛ, and o and ɔ could not be found to contrast and, after checking it appeared that there was actually only one form of each of these vowels, and that in quality they appeared to come between the two different lengthened forms of each.

(2) a [ʌ], when lengthened, became lower in quality.

Charted vowels then appeared as:

	Front	Central	Back
High	i i•		u u•
Mid	e e• ɛ•	a [ʌ]	o o^• ɔ•
Low		a•	

Hockett (I.J.A.L., 1953, p.166), in discussing short and long syllable nuclei, speaks of directional lengtheners such as raising lengtheners and lowering lengtheners. It seems that, in considering the vowels in Manga Buang, it is very reasonable to propose these two suprasegmental phonemes of length. The raising lengthener can be symbolized as /:/ [ˑ↑] [ː] where [ːˆ] occurs with mid vowels and [ː] with high vowels. The lowering lengthener can be symbolized as /;/.

The vowel chart then appears as:

	Front	Central	Back
High	i i:		u u:
Mid	e e: e;	a a;	o o: o;
Low			

3.1 Bilabials contrast as in:

papa;b	'shin'
raba;p	'type bird'
ŋaba;n	'leaf plate'
bama;n	'wild'
mawa;m	'red dye'

Alveolar and alveo-palatals contrast as in:

te:y	'splash'
de:g	'saucepan'
re:b	'stopped a fight'
se:y	'plait'
ne:r	'said'
nye:y	'snake'
je:r	'light brown'
ye:y	'shook'

Velars and back velars contrast as in:

bakwa;b	'type yam'
bagwa;b	'type vine'
baŋwa;k	'double banana'
baka;b	'will peel'
maga;n	'sucker'
baga;n	'end'
baŋa;b	'poison'

Voiceless stops contrast as in:

papa;b 'shin'

pata;b 'lean'

bakwa;b 'type yam'

baka;b 'will peel'

Voiced stops contrast as in:

bi:ŋ 'will do'

di:n 'long'

gwi:ŋ 'claws'

gi:m 'type tree'

Fricatives and affricates contrast as in:

be;y 'cast off'

se;y 'move'

je;y 'tomorrow'

ge;y 'some'

Nasals contrast as in:

bama;n 'wild'

mana;m 'you two come'

manya;m 'type tree'

baŋa;m 'your sister'

maŋwa;m 'your brother'

The five vowels contrast as in:

gwin	'orchid'		gwen	'type fungus'	
me	'or'		ma	'no'	
rag	'type yam'	rog	'our insides'	rug	'our heads'

The four high and mid vowels may be contrastively lengthened by the raising lengthener, which raises the two mid vowels, but does not alter the quality of the two high vowels. They contrast as in:

jip	'forget it'	ji:p	'type tree'
ber	'water'	be:r	'uproot'
yi:b	'healed'	ye:b	'chief'
rog	'follow'	ro:g	'held'
rug	'remove'	ru:g	'served food'

The three mid and low vowels may be contrastively lengthened by the lowering lengthener as in:

bes	'will fall'	be;s	'wings'
pak	'run away'	pa;k	'thin'
ge;s	'will shiver'	ga;s	'salt'
nom	'will come back'	no;m	'Your child' na;m 'will come'

It can be seen that mid vowels may be lengthened by both the raising lengthener and the lowering lengthener, and the resultant lengthened forms contrast as in:

ko:k	'message'	ko;k	'bone'
ke:r	'scratch'	ke;r	'step over'[9]

3.2. There is not a very large range of variation within any of the phonemes. The main variations occur with the prenasalized voiced stops and affricate which become voiceless word final. The alveolar voiceless stop is slightly fronted with some speakers, and the alveolar grooved fricative becomes an alveolar or alveo-palatal affricate with some speakers.

The palatal semi-vowel has a variant with friction in word final position with some speakers.[10]

The labialized velar consonants are phonemic for some speakers only - others use only the back velar consonants. It has not yet been determined whether this is a dialect difference, as members within the same clan may use either system.

3.3. The distribution of phonemes is as follows:

Any consonant may occur as syllable onset. Any vowel may occur in nucleus of CV, CVC and CV°C syllable types. All vowels except e have been found to occur in V, although only a is common, and only a; occurs in V° syllables.

Certain consonants have not been found to occur in final C of CVC and CV°C syllable types namely kw, gw, ŋw and ny. These consonants, and also the semi-vowel w, are fairly rare in occurrence.

F O O T N O T E S

1. Buang is an Austronesian language, spoken by approximately 7000 people, many of whom live in and above the Snake River Valley, in the Morobe District of the Territory of New Guinea. (There are, however, a large number of Buang people living either permanently or semi-permanently at various places of employment, especially the main coastal towns.) Of the three so called dialects of Buang, that which is spoken at the Southwest end of the valley seems sufficiently different from the other two to be regarded as a separate language and is here referred to as Manga Buang. There are approximately 2,000 speakers of Manga Buang.

The data on which this paper is based was collected during a total of 19 months residence in the village of Manga, the main village of the area, between 1963 and 1966. Much of the original material was gleaned from general conversation with the villagers, but this has been supplemented and checked by Lukas Paka, a man of about 36 years of age, who is fluent in at least three languages beside his own.

I wish to acknowledge the help of my partner, Rona Hardwick, and advice given by Dorothy James and Joyce Hooley as this paper was being prepared during three weeks at the Summer Institute of Linguistics course held in Brisbane, December, 1966 - February 1967.

2. This view was first proposed by Pike, (1954), p.

3. No conclusion has been reached concerning features which may mark juncture between words, except that there are no consonant clusters or vowel clusters within words, so word juncture occurs between such clusters.

4. Lengthened a seems to have less power to do this than do other lengthened vowels.

5. For the purpose of this paper the following phonemes are represented by these symbols:

/^{m}b/	b
/^{n}d/	d
/k̥/	k
/k^{w}/	kw
/^{ŋ}g̥/	g
/^{ŋ}g^{w}/	gw
/^{n}dž/	j
/g̥/	g
/n̥/	n
/n̥^{w}/	nw
/r̥/	r
/n^{y}/	ny
/ʌ/	a

6. The following type of change has been observed so far:

mo'wem 'type bird' 'sa:ge 'mowem 'ti ba'se:n
'I saw a bird yesterday'

ba'gak 'moth' 'bagak ma'ba 'is it a moth or what?'

oga'to 'you go down' o'gato ma'do 'you sit down.'

7. Brackets indicate the utterance as spoken in contrast to its breakdown into grammatical words.

8. V° is used here to symbolize any lengthened vowel. There are two suprasegmental phonemes of length symbolized as ; and :. Thus lengthened o may be o: or o;.

9. For further examples of phoneme contrasts see our phonemic statement.

10. For details of variation of phonemes and examples of their occurrence see our phonemic statement. The following adjustments should be made:

(1) The word "backed" should be deleted from the description of each labialized velar.

(2) The description of /ɛ/ and /ɔ/ should be deleted. Perhaps the descriptions of /e/ and /ɔ^/ may need some slight adjustment, but this has not yet been decided.

B I B L I O G R A P H Y

Hardwick, Roma and Healey, Joan. "A Tentative Phonemic Statement of Manga Buang," S.I.L., New Guinea, 1965. (ts.)

Hockett, Charles F., "Short and Long Syllable Nuclei," I.J.A.L., XIX (July, 1953) 165-71.

Pike, Kenneth L. Language (Part I). California: Summer Institute of Linguistics, 1954. Pp. 35-40.