

CHAPTER 6

CONCLUSION

6.1 Summary

Based on the geographical classification of the Karenic branch, the Bwe and Geba languages are placed in the Central Karen group. There has been little research on these languages. So, I decide to study the phonology of these languages to avoid language death by the influence of the surrounding languages. (Sgaw and Burmese) and to confirm the typology of these Central Karenic languages.

The goal of this study is to describe the Bwe, Geba 1, and Geba 2 phonologies. A significant phonetic characteristic of the Bwe, Geba 1 and Geba 2 languages is breathiness which is a feature of the Central Karen group as found in Western Kayah, (Bryant 1993).

6.1.1 Bwe

The phonological description of the Bwe language includes the phonemes, the tones, and the syllable structure.

6.1.1.1 Phonemes

Consonants: There are 23 consonant phonemes in Bwe. The following table shows the Bwe consonant phonemes from the word list.

		Bilabial	Labial-Velar	Dental	Alveolar	Postalv	Alveo-Palatal	Palatal	Velar	Glottal
Plosive	Asp.	p ^h (28)			t ^h (45)				k ^h (56)	
	VL	p(74)			t(66)			c(21)	k(66)	ʔ(42)
	Vd.	b(39)			d(41)			j(4)		
Fricative	Asp.				s ^h (1)	f ^h (51)				
	VL		m(5)	θ(81)						h(23)
Affricate							tc(18)			
Nasal	Vd.	m(83)			n(37)					
Liquid	Lateral fricative				ɬ(1)					
	Lateral approximant				l(112)					
	Trill				r(6)					
Glide			w(70)				j(27)			

Table 96: Consonant phoneme chart in Bwe and frequency counts

Vowels: There are 10 clear vowel phonemes, and 9 breathy vowel phonemes. The breathy vowel is phonemic because minimal pairs and the analogous environment contrast can be found at high rates.

	Front			Central		Back	
	breathy	Unrounded	Rounded	breathy	rounded	Breathy	rounded
Close	ɨ(9)	i(79)				ɯ(39)	u(68)
Near-close	ɨ̃(2)	ɪ(29)					
Close-mid	ɛ̃(23)	e(30)				ɔ̃(22)	o(86)
Mid				ə̃(2)	ə(44)		
Open-Mid	ɛ̃(89)	ɛ(94)	œ(2)			ɔ̃(21)	ɔ(83)
Open	ɑ̃(38)	a(140)					

Table 97: Vowel phoneme chart in Bwe and frequency counts

Tones: There are 4 tones in Bwe: low tone, mid tone, high tone and half-high rising tone.

Phonemic Notation	Description	Tone stick	Frequency counts
/11/	Low tone	┘	60
/33/	mid tone	┘	547
/55/	High tone	┘	203
/45/	Half-high rising tone	┘	15

Table 98: Phonemic tone chart in Bwe and frequency counts

6.1.1.2 Syllable Structure

It was determined that there are two types of syllables: major syllables and minor syllables. The major syllable consists of all vowel phones and all tonemes. Minor syllables with onsets generally have a /ə/ nucleus, though /a/, /a/, /ə/, and /ɛ/ are also found. Onsetless minor syllables always have an /a/ nucleus.

Based on the co-occurrence of consonant phonemes and vowels, this study found that the aspirated voiceless plosives generally occur with a clear vowel, including a voiced bilabial plosive, a voiced alveolar plosive, a voiceless glottal plosive, a voiceless dental fricative, and a voiceless glottal fricative. The labial-velar glide mostly occurs with a breath vowel, but there are 2 examples which occur with a clear vowel as the medial element.

It was noted that an aspirated plosive, a voiced bilabial plosive, a voiced alveolar plosive, and a voiceless palatal plosive never occur with low tone. For the co-occurrence of vowels and tone, there are three characteristics of the Bwe language where the half-high rising tone always occurs with a clear vowel, the high tone mostly occurs with a clear vowel and the low tone mostly occurs with a breathy vowel.

6.1.2 Geba 1

The phonological description of the Geba 1 language includes the phonemes, the tones, and the syllable structure.

6.1.2.1 Phonemes

Consonants: There are 24 consonant phones in Geba 1. The following table shows the Geba 1 consonant phonemes from the word list.

		Bilabial	Labial-Velar	Dental	Alveolar	Postalv	Alveolo Palatal	Palatal	Uvular	Velar	Glottal
Plosive	Asp.	p ^h (30)			t ^h (48)					k ^h (47)	
	Vl.	p(66)			t(76)					k(59)	ʔ(32)
	Vd.	b(42)			d(45)			j(3)			
Fricative	Asp.				s ^h (48)	ʃ ^h (7)					
	Vl.		w(8)	θ(51)	s(31)						h(21)
Affricate							tc(1)				
Nasal	Vd.	m(65)			n(32)		tc ^h (1)				
Liquid											
	Lateral fricative				ɬ(10)						
	Lateral approximant				l(92)						
	Trill				r(2)						
Glide			w(52)				j(20)				

Table 99: Consonant phoneme chart in Geba 1 and frequency counts

Vowels: There are 10 clear vowel phonemes and 10 breathy vowel phonemes

	Front				Central		Back	
	breathy	Unrounded	breathy	rounded	rounded		breathy	rounded
Close	ɨ(13)	i(78)					ɯ(30)	u(50)
Near-close	ɨ̃(9)	ɪ(25)						
Close-mid	ẽ(31)	e(45)					ɤ(18)	o(87)
Mid					ə̃(1)	ə(38)		
Open-Mid	ɛ̃(61)	ɛ(100)	œ̃(3)	œ(4)			ɔ̃(22)	ɔ(66)
Open	ɶ̃(47)	a(109)						

Table 100: Vowel phoneme chart in Geba 1 and frequency counts

Tones: There are 4 tones in Geba 1: low tone, mid tone, half-high rising tone, and high tone.

Phonemic Notation	Description	Tone stick	Frequency counts
/11/	Low tone	┘	55
/33/	mid tone	┘	523
/55/	High tone	┘	104
/45/	Half-high rising tone	┘	46

Table 101: Phonemic tone char in Geba 1 and frequency counts

6.1.2.2 Syllable Structure

It was determined that there are two types of syllables in Geba 1: major syllable and minor syllable. The major syllable consists of all vowel phones and all tonemes. Minor syllables with onsets have generally /ə/ nucleus, though /a/, /ɔ/, /ɛ/ and /ɛ/ are also found. Onsetless minor syllables always have an /a/ nucleus.

Based on the co-occurrence of consonant phonemes and vowels, this study found that the aspirated plosives and the aspirated fricatives generally occur with a clear vowel, including a voiced bilabial plosive, a voiced alveolar plosive, a voiceless glottal plosive, a voiceless dental fricative, and a voiceless glottal fricative. A labial-velar glide, an alveolar lateral approximant, an alveolo-palatal glide, and a voiced alveolar nasal may occur with a breathy vowel, but there are a few examples in which this occurs with a clear vowel and therefore this has been assigned to residue.

It was noted that /w, j, l, ʌ, n/ never occur with a high tone. /h, t/ never occur with a low tone. An aspirated plosive and an aspirated fricative generally never occur with low tone, but there is one example with /p^h/ which occurs with low tone and has been assigned to residue. For the co-occurrence of vowels and tone, there are three characteristics of the Geba 1 language where the half-high rising tone always occurs with a clear vowel, the high tone mostly occurs with a clear vowel and the low tone mostly occurs with a breathy vowel.

6.1.3 Geba 2

6.1.3.1 Phonemes

The phonological description of the Geba 2 language includes the phonemes, the tones, and the syllable structure.

Consonants: There are 25 consonant phonemes in Geba 2. The following table shows the Geba 2 consonant phonemes which were found in the word list.

		Bilabial	Labial-Velar	Dental	Alveolar	Postalv	Alveolo Palatal	Palatal	Uvular	Velar	Glottal
Plosive	Asp.	p ^h (40)			t ^h (29)					k ^h (42)	
	Vl.	p(63)			t(64)			c(13)		k(61)	ʔ(32)
	Vd.	b(30)			d(42)						
Fricative	Asp.				s ^h (29)	ʃ ^h (13)					
	Vl.		m(10)	θ(58)	s(10)						h(20)
	Vd.						z(8)				
Affricate	Asp.						tʃ ^h (15)				
	Vl.						tʃ(13)				
Nasal	Vd.	m(57)			n(34)						
Liquid											
Lateral approximant					l(99)						
Trill					r(8)						
Glide			w(47)				j(19)				

Table 102: Consonant phoneme chart in Geba 2 and frequency counts

Vowels: There are 10 clear vowel phonemes and 10 breathy vowel phonemes.

	Front				Central		Back	
	breathy	unrounded	breathy	rounded	breathy	rounded	breathy	rounded
Close	ɨ(23)	i(96)					ɯ(38)	u(58)
Near-close	ɨ(13)	i(23)						
Close-mid	ɛ(18)	e(23)					ɔ(12)	o(63)
Mid					ə(1)	ɚ(8)		
Open-Mid	ɛ(53)	e(93)	œ(4)	œ(14)			ɔ(16)	ɔ(66)
Open	ɶ(49)	a(98)						

Table 103: Vowel phoneme chart in Geba 2 and frequency counts

Tones: There are 4 tones in Geba 2: low tone, mid tone, high tone and half-high rising tone.

Phonemic Notation	Description	Tone stick	Frequency counts
/11/	Low tone	┘	52
/33/	mid tone	┘	555
/55/	High tone	┘	187
/45/	Half-high rising tone	┘	1

Table 104: Phonemic tone chart in Geba 2 and frequency counts

6.1.3.2 Syllable Structure

It was determined that there are two types of syllables: major syllables and minor syllables. The major syllable consists of all vowel phones. Minor syllables with onsets generally have /ə/ nucleus, though /u/, /œ/, and /i/ are also found. Onsetless minor syllables always have an /a/ nucleus.

Based on the co-occurrence of consonant phonemes and vowels, this study found that the aspirated plosives, the aspirated fricatives and the aspirated affricate occur with a clear vowel, including a voiced bilabial plosive, a voiceless glottal plosive, a labial-velar fricative, a voiceless dental fricative and a voiceless glottal fricative. A labial-velar glide occurs with breathy vowel,

It was noted that /w, j/ never occur with high tone. /h, ʌ/ never occur with low tone. An aspirated plosive and an aspirated fricative generally never occur with low tone, but in one example /k^h/ occur with low tone and has been assigned to residue. For the co-occurrence of vowels and tone, there are three characteristics of the Geba 2 language where the half-high rising tone always occurs with a plain vowel, the high tone mostly occurs with a plain vowel and the low tone mostly occurs with a breathy vowel.

6.2 Comparison of Phonology of Bwe, Geba 1, Geba 2

The consonants in Bwe, Geba 1 and Geba 2 are comparatively similar. This study concluded that there are 25 different consonant sounds in Central Karenic languages, but not all the languages have all 25 phonological units.

The vowels in Bwe, Geba 1 and Geba 2 are also quitesimilar. Geba 1 and Geba 2 have the same pattern of vowel inventories. Bwe lacks only a breathy open-mid front vowel. Although a breathy mid central vowel occurs very low in frequency in three languages, this study will retain it to maintain symmetry of similarity to other vowels.

The comparison of tones in Bwe, Geba 1 and Geba 2 are similar. There are four tones in the three Central Karenic languages, although Bwe and Geba 2 have very low frequencies of the half-high rising tone. This study proposes that the half-high rising tone has almost died out.

6.3 Problem in the study

The information about the villages, the number of speakers, the locations, and the informants of Bwe, Geba 1 and Geba 2 are limited. In this study the number of villages where people speak Bwe, Geba 1 and Geba 2 are not yet known. So the number of speakers of the three Central Karenic languages are also unknown.

The computer program which was used for analysis is named "Speech Manager". Unfortunately, this program can not separate the vowels and tone sticks from each other. So it is very hard to analyze tone in a particular environment. To remedy this, this study substituted a different symbol instead of a tone stick, such as [h̄] for high tone, [d̄] for low tone, [ū] for mid tone, and [f̄] for half-high rising tone.

The minor syllables of three Central Karenic languages are stressless. They never bear a distinctive tone. This study realized that the tones of the minor syllables are mid tones.

6.4 Further Study

I would like to encourage further research to study the tones and vowels. Tone is problematic in Karenic languages. In this study there is not enough data to study them well. The linguist who recorded this data found 10 tones in Bwe, 14 tones in Geba 1, and 7 tones in Geba 2. There are only four tones left after analysis based on the phonetic similarity and the frequency counts.

This study proposes that [ṽ], [ḍ], [ḥ], and [ḏ] may all be a mid tone, [ḏ], [ḏ̄] may be a low tone, [ḥ̄] may be a half-high rising tone and [ṽ], [ḏ̄], and [ḏ̄̄] may a high tone. If it is true, two words may be homophones, and not minimal pairs. Because of this problem with tone, it is still not clear what the real situation is. It is a good point for someone else to investigate.

In addition it will be helpful to determine whether phonological rules which are found in the word lists are correct or not, especially in the case of allophones of consonants, vowels, and tones.

In addition, it will be helpful to study the grammar of these languages, especially of the compound words.

It would also be helpful to study the phonemic distinction between clear and breathy vowels in Central Karenic languages.

Further, some consonant phonemes, vowel phonemes and tones had a low occurrence. In this study they has been assigned to residue. However, it would be a good point for other linguists to collect more data to determine if this is really the case.

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