

Phonology of Khamniungan¹

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Abstract

Khamniungan is a hitherto undocumented language spoken in the State of Nagaland in North East India. This paper examines the segmental phonology of the language as well as tone, and the syllabic structure of the language. The language attests 20 consonants, 8 monophthongs, and 9 diphthongs. The language does not exhibit voiced plosives. Khamniungan is a tonal language and attests 3 level tones and 2 contour tones. The language permits the given syllable structures: V, CV, VC, and CVC.

Keywords: consonants, vowels, monophthongs, diphthongs, tone, syllable structure.

1. Introduction

Khamniungan (ISO 639-3:kix; Glottolog khia1236) belongs to the Tibeto-Burman language family under the Bodo-Konyak-Jingphaw > Konyak group of the Central area in the North East of India (Burling, 2003:175) [source: Dattamajumdar, 2017:434].

Khamniungan is a Naga tribe located in Noklak district in the State of Nagaland. It is bounded in the North by the Konyak tribe, South by Yimkhiung, West by Chang, and East by the Khamniungan speech community in Myanmar. The language spoken by the tribe is known as Khamniungan. 'Khamniungan' means the 'source of mighty water'. It is a major language spoken in the State of Nagaland and is a State recognized language. There are four ranges in the Khamniungan area: Thang, Wolam, Patsho, and Nokhu. Khamniungan is the standardized language of the variety spoken in the Thang range.

According to the 2011 census there are 61,983 speakers of Khamniungan which constitutes 3.13 % of the total population of Nagaland. Roman script is used in writing. At present, Khamniungan language is taught up to Class VIII in all Government Schools within the Khamniungan area. This study is on the Thang variety. The language is hitherto an undocumented language and hence this work is a seminal paper which examines the segmental phonology of the language including tone. As the language exhibits tone sandhi, the tonal marking used for the purpose of this paper is the citation tone. The data presented in this paper includes the orthography in parenthesis keeping in mind the graphization stage of the language.

2. Consonants of Khamniungan

	Bilabial	Labial-velar	Alveolar	Post alveolar	Palatal	Velar	Glottal
Plosive	p		t			k	ʔ
Plosive Aspirate	p ^h		t ^h			k ^h	
Nasal	m		n		ɲ	ŋ	
Fricative			s	ʃ			h
Affricates			ts	tʃ			
Affricate Aspirates			ts ^h				
Approximant		w			j		
Lateral Approximant			l				

Table 1: Consonants of Khamniungan

¹ This paper is a unit of a TRI sponsored project report under the Department of Art & Culture, Government of Nagaland.

Khiamniungan has 20 consonants. It has 7 plosives which includes 3 plosive aspirates; 4 nasals; 3 fricatives; 3 affricates including 1 affricate aspirate; 2 approximants and 1 lateral approximant.

Plosives / Stops

There are 7 plosives: /p/, /p^h/, /t/, /t^h/, /k/, /k^h/ and /ʔ/. The language does not exhibit voiced plosives. The contrast between voiceless unaspirated and aspirated plosives are:

/p/ - /p^h/

/p/ /pēm/ (bem) ‘body’
 /p^h/ /p^hēm/ (phem) ‘arm’

/t/ - /t^h/

/t/ /tá/ (ta) ‘good portion’
 /t^h/ /t^há/ (that) ‘to fit’

/k/ - /k^h/

/k/ /kán/ (kan) ‘basket’
 /k^h/ /k^hán/ (khan) ‘grave’

/ʔ/ - /k/

/ʔ/ /tsǎʔ/ (tsah) ‘flesh’
 /k/ /tsǎk/ (tsak) ‘one’

The distribution of plosives in word-initial, word-medial, and word-final positions is given in Table 2.

	Word-initial		Word-medial		Word-final	
/p/	/pō/ (po)	‘father’	/ápō/ (apo)	‘your father’	/ūp/ (op)	‘to beat’
/p ^h /	/p ^h áʔ/ (pha)	‘hand’	/áp ^h í/ (aphi)	‘last’	---	---
/t/	/tán/ (tan)	‘to tire’	/átáu/ (atao)	‘time’	/t ^h át/ (that)	‘to measure’
/t ^h /	/t ^h ēn/ (then)	‘bed’	/át ^h áŋ/ (athang)	‘place’	---	---
/k/	/kín/ (kin)	‘stick’	/ákōp/ (akop)	‘to shoot’	/tsǎk/ (tsak)	‘one’
/k ^h /	/k ^h íam/ (khiam)	‘water/to melt’	/ák ^h ím/ (akhim)	‘to finish’	---	---
/ʔ/	---	---	/tǎiʔtǎi/ (tseiji)	‘biting’	/tǎiʔ/ (tsei)	‘to bite’

Table 2: Distribution of plosives in Khiamniungan

It is observed that:

- 1) the plosive aspirates do not occur in the final position.
- 2) the glottal stop does not occur in the initial position.

Nasals

Khiamniungan has 4 nasals: 1 bilabial, 1 alveolar, 1 palatal, and 1 velar.

/m/ - /ɲ/

/m/ /míam/ (miam) ‘shy’
 /ɲ/ /ɲíam/ (niam) ‘smell’

/n/ - /ɲ/

/n/ /nát/ (nat) ‘to rub eyes’
 /ɲ/ /ɲát/ (nyat) ‘needle’

/ŋ/ - /m/

/ŋ/ /ŋát/ (ngat) ‘to pluck’
 /m/ /mát/ (mat) ‘to blow’

Table 3 gives the distribution of nasals in word-initial, word-medial, and word-final positions. The palatal nasal /ɲ/ does not occur in the final position.

	Word-initial		Word-medial		Word-final	
/m/	/mâu/ (mao)	‘ant’	/âmāi/ (amai)	‘price/rate’	/mîam/ (miam)	‘shy’
/n/	/nê/ (ne)	‘cloth’	/ânūi/ (anoi)	‘sit’ (IMP)	/ûn/ (on)	‘spirit’
/ɲ/	/ɲîn/ (nin)	‘snow’	/âɲiam/ (aniam)	‘scent/odour’	---	---
/ŋ/	/ŋât/ (ngat)	‘to pluck’	/âŋân/ (angan)	‘your nose’	/jâŋ/ (yang)	‘craft’

Table 3: Distribution of nasals in Khamniungan

Fricatives

Khamniungan has alveolar, postalveolar and glottal fricatives. The fricatives are illustrated here with their minimal pairs. The alveolar, post-alveolar fricatives do not have the voiced contrast.

/s/ - /h/

/s/ /sât/ (sat) ‘to write’
 /h/ /hât/ (hat) ‘fear’

/ʃ/ - /s/

/ʃ/ /ʃâm/ (sham) ‘mat’/ ‘to halt’
 /s/ /sâm/ (sam) ‘tasty’

The distribution of fricatives within the word is given in Table 4. The alveolar and post alveolar fricatives do not occur in the final position, and the glottal fricative occurs only in the initial position.

	Word-initial		Word-medial		Word-final	
/s/	/sân/ (san)	‘backbone’	/âsōu/ (asou)	‘your slave’	---	---
/ʃ/	/ʃêp/ (shep)	‘fruit’	/âʃi/ (ashi)	‘to come’	---	---
/h/	/hât/ (hat)	‘fear’	---	---	---	---

Table 4: Distribution of fricatives in Khamniungan

Affricates

The language has one post alveolar affricate /tʃ/, and two alveolar affricates, i.e. unaspirated /ts/ and aspirated /tsʰ/.

/ts/ - /tsʰ/

/ts/ /tsât/ (tsad) ‘to adopt’
 /tsʰ/ /tsʰât/ (tshat) ‘to bark’

/tʃ/ - /t/

/tʃ/ /tʃât/ (jat) ‘to spray’
 /t/ /tât/ (tat) ‘left side’

The distribution of affricates within the word is given in Table 5. Affricates do occur in the final position in Khamniungan.

	Word-initial		Word-medial		Word-final	
/ts/	/tsʌt/ (tsad)	‘to adopt’	/ʌtsʌm/ (atsam)	‘your house’	---	---
/tsʰ/	/tsʰʌt/ (tsat)	‘to bark’	/ʌtsʰʌt/ (athsat)	‘gravy’	---	---
/tʃ/	/tʃʌŋ/ (jang)	‘cow’	/ʌtʃiu/ (ajio)	‘your pipe’	---	---

Table 5: Distribution of affricates in Khamniungan

Approximants

Khamniungan has 2 approximants: a bilabial /w/ and a palatal approximant /j/, and 1 lateral approximant /l/.

/w/ - /l/

/w/	/wi:ʃʌn/ (vi-an)	‘accident’
/l/	/li:ʃʌn/ (li-an)	‘getting late’

/j/ - /l/

/j/	/jʌm/ (yam)	‘way’
/l/	/lʌm/ (lam)	‘warm’

The distribution of approximants within the word is given in Table 6. Approximants do occur in the final position in Khamniungan.

	Word-initial		Word-medial		Word-final	
/w/	/wau/ (wao)	‘walnut’	/ʌwau/ (awao)	‘your walnut’	---	---
/j/	/jʌŋ/ (yang)	‘craft’	/ʌjʌʔ/ (ayah)	‘your pig’	---	---
/l/	/lʌt/ (lat)	‘a type of leech’	/ʌlʃʌn/ (alesan)	‘interest’	---	---

Table 6: Distribution of approximants in Khamniungan

3. Vowels of Khamniungan

There are 8 pure vowels in Khamniungan. They are close, front unrounded /i/, close back rounded /u/, close-mid front unrounded /e/, close-mid back rounded /o/, open-mid back rounded /ɔ/, open-mid back unrounded /ʌ/, open front unrounded /a:/. The vowel chart below illustrates the monophthongs of the language.

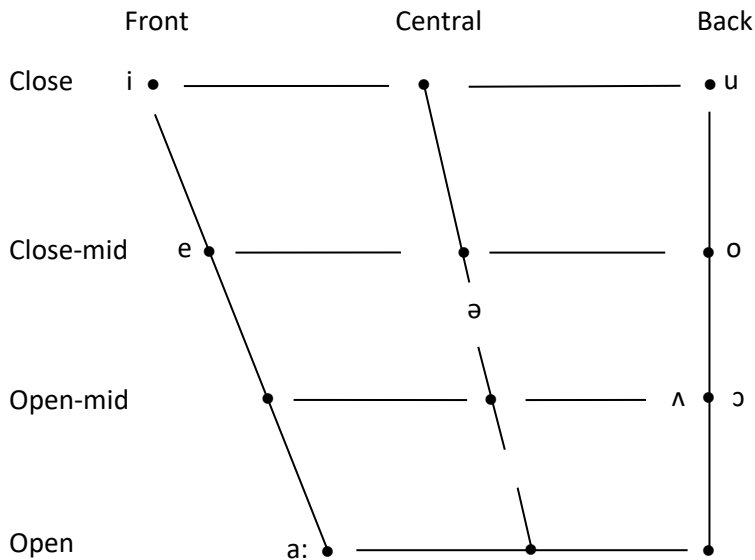


Figure 1: Monophthongs of Khamniungan

Monophthongs

/i/ - /u/

/i/ /ĩn/ (in) ‘fire’

/u/ /ũn/ (on) ‘spirit’

/e/ - /u/

/e/ /ēp/ (ep) ‘to see’

/u/ /ūp/ (op) ‘to beat’

/o/ - /i/

/o/ /pō/ (po) ‘father’

/i/ /pĩ/ (pi) ‘a type of hut’

/ʌ/ /sān/ (san) ‘top’ (spinning)

/u/ /sūn/ (son) ‘iron’/ ‘mouth’

/ɔ/ - /e/

/ɔ/ /kǒŋ/ (kong) ‘strong’

/e/ /kěŋ/ (keng) ‘free’

/a:/ - /u:/

/a:/ /á:/ (ah) ‘weather’

/u:/ /ú:/ (u) ‘bone’/ ‘rib’

/ə/ - /o/

/ə/ /tsǎn/ (tsün) ‘RELATIVE MARKER’(-er AGENTIVE)

/o/ /tsǒn/ (tson) ‘to invite’

The long vowel /u:/ as found in /ú:/ ‘bone’/‘rib’ is an allophone of /u/. Its occurrence is restricted to a V syllable. There is another long vowel /e:/ which is an allophone of /e/, and similar to /u:/ its occurrence is restricted to a V syllable. For example: /é:/ which means ‘enemy’.

The distribution of the monophthongs within the word is given in Table 7. The back, close-mid, rounded vowel /o/ does not occur in the initial position. The back, open-mid, rounded /ɔ/ occurs only in the medial position. The front, open, unrounded vowel /a:/, does not occur in the medial position.

	Word-initial		Word-medial		Word-final	
/i/	/ĩn/ (in)	‘fire’	/kĩm/ (kim)	‘basket’	/tʃĩ/ (tsi)	‘fly’
/u/	/ũn/ (on)	‘spirit’	/sún/ (son)	‘iron’/ ‘mouth’	/ʌlũ/ (alu)	‘to look’
/e/	/ēp/ (ep)	‘to see’	/ʃēp/ (shep)	‘fruit’	/ne/ (ne)	‘cloth’
/o/	---	---	/nôŋ/ (nong)	‘this’	/pō/ (po)	‘father’
/ʌ/	/ʌtʰʌŋ/ (athang)	‘place’	/pān/ (pan)	‘to depend’	/ŋā/ (nga)	‘to wonder’
/ɔ/	---	---	/kǒŋ/ (kong)	‘strong’	---	---
/a:/	/á:/ (ah)	‘weather’	---	---	/sǎ:/ (sah)	‘machete’
/ə/	/ə-úŋ/ (ü-ung)	‘horn’	/tsǎn/ (tsün)	‘RELATIVE MARKER’ (-er AGENTIVE)	/-nǎ/ (-nü)	‘PRED POSS’

Table 7: Distribution of monophthongs in Khamniungan

In addition, the language exhibits 9 diphthongs /ou/, /ɔi/, /iɔ/, /iu/, /au/, /oi/, /ai/, /ɔi/, /əi/. The diphthong chart is illustrated in the next page.

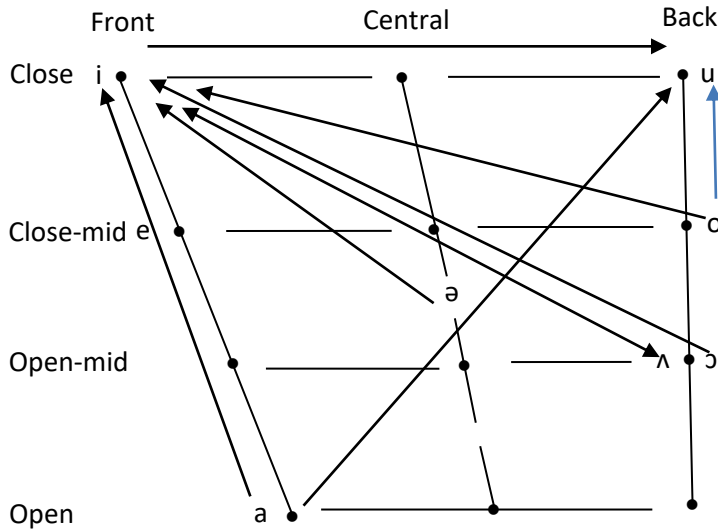


Figure 2: Diphthongs of Khamniungan

Diphthongs

/ou/ - /e/

/ou/ /nòu/ (nou) ‘sister’
 /e/ /nè/ (ne) ‘cloth’

/ɔi/ - /iʔ/

/ɔi/ /ʔiʔkō/ (aihko) ‘together’
 /i/ /iʔkō/ (ihko) ‘to suspect’

/iu/ - /au/

/au/ /pīu/ (piu) ‘farming’
 /au/ /pāu/ (pao) ‘snake’

/oi/ - /ai/

/ai/ /hōi/ (hoi) ‘group’
 /ai/ /hāi/ (hai) ‘friend’

/iɔ/ - /ɔi/

/iɔ/ /mīɔm/ (miam) ‘shy’
 /ɔi/ /mōim/ (moim) ‘to massage’

/əi/ - /u/

/əi/ /phəi/ (phei) ‘rash from caterpillar, stinging nettle etc.’
 /u/ /phū/ (phu) ‘to go’ (horizontal)

The distribution of the diphthongs within the word is given in Table 8. It is observed that /ou/ does not occur in the medial position, /iʌ/ does not occur in the initial position, /ɔi/ occurs only in the medial position, and /əi/ occurs only in the final position.

	Word-initial		Word-medial		Word-final		
/ou/	/óu/ (ou)	‘to be bright’	---	---	/nòu/ (nou)	‘sister’	
/ai/	/âiʔkō/ (aihko)	‘together’	/pʌiko/ (paiko)	‘often’	/ʌmāi/ (amai)	‘price’	
/iu/	/íuʔ/ (eiu)	‘field’	/ʌkʰɪpō/ (akhiupo)	‘your floor’	/pīu/ (piu)	‘farming’	
/au/	/āuʃēp/ (aoshep)	‘passion fruit’	/háuwé/ (haove)	‘number’	/pāu/ (pau)	‘snake’	
/oi/					/hói/ (hoi)	‘group’	
/ai/	/ái/ (ai)	‘garden’	/hāimōŋ/ (haimong)	‘river’	/hái/ (hai)	‘friend’	
/iʌ/	---	---	/mīʌm/ (miam)	‘shy’	/mīʌ/ (mia)	‘dream’	
/ɔi/	---	---	/mōim/ (moim)	‘to massage’	---	---	
/əi/	---	---	---	---	/phêi/ (phei)	‘rash from caterpillar, stinging nettle etc.’	

Table 8: Distribution of diphthongs in Khamniungan

Vowel sequence /aiu/

There is a vowel sequence /aiu/ in the language and it occurs in the final position. Whether the vowel sequence is a triphthong or not needs to be further investigated.

/aiu/ - /ai/

/aiu/ /kʰáiu/ (khaiu) ‘head’
 /ai/ /kʰái/ (khai) ‘to organise’

/aiu/ - /ai/

/áiu/ /tʰáiu/ (thaiu) ‘somebody’s share’
 /ai/ /tʰái/ (thai) ‘to follow’

4. Tone

Khamniungan is a tonal language and attests 3 level tones: high, mid and low, and 2 contour tones: rising and falling. Due to the complicated tonal patterns, pure minimal pair contrast for the 3 level tones was not found. Hence, two sets of minimal pairs are being used to demonstrate the 3 level tones. In the /sʌŋ/ (sang) series, the mid tone contrast is not present, while in the /sai/ (sai) series, the low tone contrast is not present. Both the sets however, attest the high, rising, and falling tones. A detailed study on the tones in Khamniungan (Wolam) dialect is in preparation (van Dam and Thaam, personal communication).

/sɑŋ/ (sang) series

Level tones

High:	/sáŋ/ (sang)	‘to kill by piercing repeatedly’ / ‘to administer’
Mid:	-	
Low:	/sàŋ/ (sang)	‘to grass’

Contour tones

Rising:	/sǎŋ/ (sang)	‘to ask’
Falling:	/sâŋ/ (sang)	‘to sink’

/sai/ (sai) series

Level tones

High:	/sái/ (sai)	‘to create’
Mid:	/sāi/ (sai)	‘to shake’
Low:	-	

Contour tones

Rising:	/sǎi/ (sai)	‘intestine’
Falling:	/sâi/ (sai)	‘to console’/ ‘to sleep’

5. Syllable Structure

Khiamniungan has 20 consonants out of which 6 consonants, unaspirated plosives /p/, /t/, /k/, and nasals /m/, /n/, /ŋ/ can occur in both onset and coda positions. The glottal stop occurs only as a coda. Aspirated plosives, fricatives and approximants do not occur in the coda positions.

The different types of syllables possible in Khiamniungan are as follows:

	Syllable Type	Example 1		Example 2	
1.	V	/û:/ (u)	‘bone’	/ã/ (a)	‘NOZ’/ ‘2 POSS’/ NEG
2.	CV	/ʃĩ/ (chhi)	‘work’	/pĩu/ (piu)	‘farming’
3.	VC	/in/ (in)	‘fire’	/ép/ (ep)	‘to see’
4.	CVC	/lũŋ/ (lung)	‘stone’	/lãk/ (lak)	‘necklace’

Disyllabic words

A large number of Khiamniungan words contain two syllables with different structures. Examples are:

V.CV	/ɔ.p ^h á:u/ (aphao)	‘your neighbour’
V.CVC	/ɔ.t ^h áŋ/ (athang)	‘place’
VC.CV	/áĩʔ.kõ/ (aihko)	‘together’
CV.CV	/wê.kã/ (wekü)	‘slope’
CV.CVC	/mè.sãŋ/ (mesan)	‘guest’
CVC.CVC	/t ^h áŋ.máŋ/ (thangmang)	‘to suppress’

Trisyllabic words

V.CV.CV	/ɔ.k ^h íu.põ/ (akhiupo)	‘your floor’
V.CV.CVC	/ɔ.k ^h ú.tsám/ (akhutsam)	‘prison’
V.CVC.CV	/ɔ.há ^t .sú/ (ahathsou)	‘helping hand’
V.CVC.CVC	/ɔ.náŋ.jám/ (anapyam)	‘entry point’
VC.CVC.CV	/in.mãt.káŋ/ (inmatkai)	‘blower’
CV.CV.CVC	/pái.ʃĩ.k ^h íam/ (paishikhiam)	‘plants’
CVC.CVC.CV	/hõk.t ^h èŋ.p ^h ú/ (hokthengphu)	‘steps’

6. Conclusion

This paper presents the phonological system of Khamniungan with focus on the segmental features covering consonants, vowels, and syllabic structure. The language being a tonal one, the paper further presents the 5 tones which the language exhibits. The language does not attest voiced plosives. The absence of the voiced plosive is a feature which marks the Northern languages of Nagaland (Author 2023). However, similar to the majority of the languages in the region, the language exhibits voiceless stop aspirates (Author 2023). This seminal paper is by no means exhaustive and requires further intensive research.

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