

Correlates of the Register Complex in Kuay¹

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0. Overview

0.1 *Kuay*

Kuay is a Mon–Khmer language spoken in the provinces of Surin, Srisaket, Buriram, and some parts of Mahasarakham, in northeastern Thailand. Originally the Kuay people migrated from the South of Laos to Thailand about 200–300 years ago. This group of people has various names. They call themselves Kuy (Kui) or Kuay but they are called Suai by outsiders.

Van der Haak (1987) has divided the Suai language into two main dialects, which are referred to as the Kuuy and Kuay dialects. After having surveyed Surin and Srisaket, v.d. Haak claimed that there are 216.5 Kuay villages and 309.5 Kuuy villages. In her data, v.d. Haak shows the vowel correspondences between Kuuy and Kuay as:

Kuay	/ua/	corresponds to Kuuy	/u:/
Kuay	/ɔ:/ or /ɒ:/	corresponds to Kuuy	/uə/
Kuay	/a:/	corresponds to Kuuy	/iə/
Kuay	/iə/	corresponds to Kuuy	/i:/

The dialect discussed in this paper is the Kuay dialect which is spoken in Ban Samrong, Tambon Nonsanit, Amphur Chompra, Surin province. A phonological description and lexicon of this dialect, and also more details, can be found in Preecha 1988.

0.2 *Kuay registers*

Kuay has a two-way register complex. Register 1 (tense register) is characterized by clear voice quality, fewer short vowel phonemes, some allophonic vowel height, strong aspiration, voiceless unaspirated initials, a larger consonant inventory, and higher pitch.

Register 2 (lax register) is characterized by breathy voice, more short vowel phonemes, no allophonic vowel height, weak aspiration, voiced initial stops, a smaller consonant inventory, and lower pitch.

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These characteristics will be discussed in more detail in this paper. It will be noticed that these characteristics of the Kuay register complex are generally similar to those described by Henderson (1952), Gregerson (1976), Theraphan (1989) and others.

In this paper Register 2 is marked with γ , and Register 1 is left unmarked.

1. Voice Quality

1.1 Clear Voice

Clear voice, which is part of the Register 1 complex, is characterized by clear normal voice quality.

There are 21 clear monophthongs and 3 diphthongs, as shown in the chart below. Note that each of the short mid vowels /e/, /ə/, and /o/ has two allophones [e/ɛ], [ə/ʌ], [o/ɔ] respectively.

	Front			Central			Back		
Close	i	i:	iə	u	u:	uə	u	u:	uə
Half close		e:		ə	ə:		o:		
Half open	e	ɛ:		ə	ʌ:		o	ɔ:	
Open	æ	æ:		a	a:		ɒ	ɒ:	

1.2 Breathy Voice

Breathy voice, which is part of the Register 2 complex, is characterized by deep breathy sepulchral voice quality. Children's voice quality tends to be only slightly breathy, especially with /ʌ/.

There are 18 breathy monophthongs and^d breathy diphthongs, as shown in the chart below.

	Front			Central			Back		
Close	i	i:	iə	u	u:	uə	u	u:	uə
Half close	e	e:		ə	ə:		o	o:	
Half open	ɛ	ɛ:		ʌ	ʌ:		ɔ	ɔ:	
Open		–			–			–	

2. Vowel Length

Phonemically Registers 1 and 2 both have nine short vowels; but in the long vowels Register 1 has 12 vowels, and Register 2 has nine vowels.

Phonetically Register 1 has 12 vowels, both long and short, and Register 2 has nine vowels both long and short. (The three mid short Register 1 vowel phonemes each have two allophones; see Sec. 3)

So register doesn't affect phonetic vowel length but it does affect the system of phonemic long vowels.

3. Vowel Height and Gliding

a) In Register 1 the open long vowels /æ:/ and /ɔ:/ have two allophones each

[æ:] and [ɛ:^a] are the allophones of /æ:/
 [ɔ:] and [ɔ:^a] are the allophones of /ɔ:/

In long closed syllables the lower pure vowels [æ:] and [ɔ:] are used. But in long open syllables I have noticed that most children preferred to use higher offglided [ɛ:^a] and [ɔ:^a], while adults mostly use pure vowels [æ:] and [ɔ:]. These vowel positions do not occur in Register 2.

Adults	Children	Meaning
tɕɔ:	tɕɔ: ^a	'dog'
sæ:	sɛ: ^a	'rice field'

b) In Register 2 the mid central vowels /ʌ/ and /ʌ:/ have two allophones each.

[ʌ] and [ə] are the allophones of /ʌ/
 [ʌ:] and [ə:] are the allophones of /ʌ:/

Adults mostly use [ʌ] and [ʌ:], with deep breathy sepulchral voice, while children use [ə] and [ə:], with slightly breathy voice.

Adults	Children	Meaning
[bʌt]	[bət]	'to light'
[bʌ:]	[bə:]	'two'

4. Initial Consonants and Allophones

Kuay has 18 initial consonants as shown below. They are affected in several ways by the register complex.

p	t	c	k	ʔ
ph	th	ch	kh	
	s			h*
m	n	ɲ	ŋ	
	l			
w		y		

a) The phonemes /p/, /t/ and /c/ have three allophones each:

	[p]	[t]	[tʰ]
/p/	[b-β]	/t/	[d-dʰ]
		/c/	[j-dʒ]

The allophones of each pair are in complementary distribution. The voiceless stops [p] [t] [tʰ] occur only with Register 1, and the voiced allophones [b-β] [d-dʰ] [j-dʒ] occur only with Register 2.

/peʔ/	[peʔ]	'to dig'
/plɛ:ŋ/	[blɛ:ŋ ~ βlɛ:ŋ]	'arm'
/to:m/	[to:m]	'to wrap'
/ti:/	[dʒi: ~ dʒi:]	'middle'
/ca:/	[tʰca:]	'to eat'
/ncih/	[ŋjɪh ~ ɲdʒɪh]	'to sew'

b) The initial stops /k/ and /ʔ/ occur in Register 1 only,

c) The aspirated stop series /ph, th, ch, kh/ occurs in both Registers 1 and 2. But in Register 2 it sounds less aspirated, which I transcribe phonetically [ph', th', tʰh', kh'], while in Register 1 it sounds more heavily aspirated, which I transcribe as [ph th tʰh kh].

d) The fricatives /s/ and /h/ occur in Register 1 only.

e) The semivowel /w/ occurs in both Registers. In Register 1 it appears only as [w], but in Register 2 it has two allophones [w] and [ʷ]. The allophone [ʷ] occurs before [ɪ, ɪ:] while [w] occurs elsewhere.²

/wɪəʔ/	[wɪəʔ]	'work'
/wɪ:ɪʔ/	[ʷɪ:ɪʔ]	'to walk'

² In Preecha 1988 [h] with Register 2 was interpreted as /h/. But when I studied the situation more carefully, I found that in Register 2 [h] occurs only with the breathy vowels /ɪ, ɪ:/ and phonetically it is a voiceless [ʰ]. And I also noticed that in Register 2 [w] occurs with all breathy vowels except /ɪ, ɪ:/. For this reason, in this paper, I decided to interpret [h] with [ɪ, ɪ:] as an allophone of the phoneme /w/.

Initial Sounds	Occurrence with clear vowels (1st Register)	Occurrence with breathy vowels (2nd Register)
p t tc k ʔ	√	–
b ɓ d ɗ j dʒ	–	√
ph th tch kh	√	–
ph' th' tch' kh'	–	√
s h	√	–
m n n n l	√	√
w	√	√

Chart 1. The Significant Correlations of Register With Initial Consonants

5. Pitch

The pitch in Kuay is not phonemically contrastive because it is predictable from the register of the syllable and from the syllable structure.

5.1 *Pitch in Register 1*

Generally the pitch in Register 1 is high. There are two groups of pitches according to the syllable structure:

Group A: High Falling 𑀓

This pitch group varies freely between a high slightly rising–falling pitch and a mid–high falling pitch. This pitch group occurs in non–stopped syllables.

[tɕi:] 𑀓 'to go'
 [pan] 𑀓 'to shoot'

Group B: High Level 𑀔

This pitch group varies freely between a high level and a mid high level pitch. It occurs in stopped syllables.

[pli:ət] 𑀔 'banana'
 [kloi:ʔ] 𑀔 'lemon'

5.2 *Pitch in Register 2*

Generally the pitch in Register 2 is lower than the pitch in Register 1. There are again two groups:

Group C: Low Falling 𑀕

This is a low slightly rising and falling pitch which occurs in non-stopped syllables.

[dʒi:]	└	'middle'
[dʒiŋ]	└	'to know'

Group D: Low Rising └

This pitch group is a low slightly rising pitch which occurs in stopped syllables.

[bək]	└	'to be tired'
[thɔ:p]	└	'low'

6. Register in other Kuuy or Kuay descriptions

Theraphan (1989) made an acoustic measurement of Kui [kuuy] vowels. The results were reported as follows:

a) The format frequency (F_1 , F_2) of Kui registers is not systematic; each pair of vowels seems to behave differently. For example, /u:/ is more open (higher F_1) than /u/ whereas /u/ is more close (lower F_1) than /u:/.

b) For the fundamental frequency, after measuring 96 meaningful monosyllabic words which were divided into 16 sets based on different types of syllable structure, Therapan claimed that 2nd register vowels have lower F_0 than 1st register vowels in all types of syllable structures. Short vowels of both registers seem to have higher F_0 than long vowels. Vowels in CVN, CV?, CVH and CV? syllables seem to have higher F_0 than vowels in the other types of syllable structures. And in smooth 1st register syllables (CVN CV:N) the F_0 of the vowels is rather static, whereas vowels in other types of syllables have a rising F_0 contour.

c) For duration, in short vowels the breathy vowels are longer than the clear vowels, but in long vowels it seems to work in the opposite way.

d) For the overall intensity, clear vowels seem to have higher amplitude than breathy vowels.

In terms of pitch, Gainey (1985) [Kuuy], Theraphan (1989) [Kuuy], and Pailin (1980) [Kuay] claim that normal or Register 1 syllables in isolation usually have an inherent mid level pitch: breathy or Register 2 syllables in isolation have an inherent low rising pitch.

Analysis of the voiceless stop series of initial consonants with breathy voiced vowels presented some problems. Since there is no contrast between the unaspirated and aspirated stop series, Pailin (1980) decided to use unaspirated forms *p t c k*, as the representative norm, whereas Johnston (1965), Gainey (1985) and Theraphan (1989) used aspirated forms *ph th ch kh* instead.

7. Summary

To summarize, the two-way register complex in Kuay has full regular correlates of voice quality and pitch, and partial correlates of vowel length, vowel height, and initial consonants.

Register 1 always has clear voice quality and higher pitch. It alone can have initial unaspirated voiceless stop allophones, can take phonemes /k-, ʔ-, s-, h-/ and it has stronger aspiration. It has three more phonemic long vowels. It has centralizing offglides in the vowels.

Register 2 always has breathy voice quality and lower pitch. It alone can have initial voiced stops, and it has weaker aspiration. It has fewer phonemic long vowels. It has [ʌ] and [ə] in free variation.

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