Monosyllabization in Kiengiang Khmer

THACH Ngoc Minh
University of HCM city

1. Introduction

Besides Cambodia, the country which uses Khmer as its national language, Khmer is spoken by a large population in Thailand and Vietnam. In Vietnam, Khmer is the language of more than six hundred thousand native Khmer people living in provinces in the Mekong delta such as Travinh, Vinhlong, Soctrang, Angiang, Kiengiang, Minhhai and along the Vietnam-Cambodia border (see appendix 1). After a long process of interaction with various ethno-linguistic groups, especially the Kinh people and Chinese, the Khmer in this area of Vietnam has undergone a number of changes in pronunciation. One of the clearest changes is, especially in the Kiengiang dialect, the phenomenon of monosyllabization. This is also a common phenomenon for other polysyllabic languages in South East Asia. It is suggested that the phenomenon of monosyllabization in the Kiengiang dialect of Khmer came about as the result of the following conditions:

1.1 After a long ongoing process of interaction with the Kinh people, the majority ethnic group in Vietnam, and Chinese, various inevitable contacts occurred. One of these contacts was linguistic contact with tonal languages such as Vietnamese. This contact is an important factor in the phenomenon of monosyllabization in the Kiengiang dialect. This phenomenon occurred more quickly in Kiengiang than in other Khmer dialects.

1.2 The second condition is the principle of "least effort" in pronunciation. We assume that this principle has strongly influenced the phenomenon of mono-syllabization of Kiengiang dialect. It speeds up the occurrence of phonetic changes.

1.3 The third condition was the necessity of improving the means of communication in order to adapt to the social development.

These conditions have led to a number of results. One of them is the gradual phasing out of polysyllabic words which are being replaced by monosyllabic words. Now the word and the morpheme have become the same. A contrast in pitch in the Khmer dialect of Kiengiang is also a result. There are more and more words which contrast by pitch in the Kiengiang dialect. The Kiengiang dialect has been chosen for this study because it displays these changes more clearly than other dialects such as Travinh, Angiang.... For example, in the Travinh dialect, there are many more initial consonant clusters. Of these clusters, the nasal cluster is pronounced more clearly than in the Kiengiang dialect. There are not many words which contrast by pitch.

But in the Kiengiang dialect, the initial consonant clusters are decreasing. Nasal consonants in the initial consonant clusters are pronounced lightly; and there are more and more words that contrast in pitch. The reason why the Kiengiang dialect has a lot of changes is because of the following distinct conditions: Kiengiang is an area where the Khmer people and the Kinh have interacted for a long time. They have many close relations with each other. Moreover, Kiengiang is also an area where transportation is very difficult. Therefore, the Khmer people in Kiengiang have less relationship with the other Khmer groups. These difficulties probably create a number of changes in the Kiengiang dialect. In this paper, we will consider the following changes:

A. Monosyllabization
B. The reduction of trill initial consonant clusters of the main syllable in the pattern C1C2VC3. In this pattern, C2 is a trilled /r/.
C. The shift from trill consonant /r/ to fricative glottal /h/ (R > H)
D. The occurrence of pitch

1.4 The consonants system consists of 21 initial consonants, including four aspirate consonants. All can occur as initial consonants and 12 as final consonants. The final consonants will be indicated by the bold and italic characters in the table below.

		Bilabial	Alveolar	Palatal	Velar	Glottal
Stop	vl	*p*	*t*	*c*	*k*	ʔ
	asp	ph	th	ch	kh	
	vd	b	d			
Fricatives			s			*h*
Nasals		*m*	*n*	*ɲ*	*ŋ*	
Lateral			*l*			
Trill			r			
Semi-vowels		*w*		*y*		

Among these initial consonants, initial aspirative consonants are different from Khmer in Cambodia. In Cambodian Khmer, there are no initial aspirated consonants. In areas such as Travinh, Minhhai, and Vinhlong they contrast with the unaspirated stops. But in Kiengiang and Soctrang dialects these consonants are pronounced lightly. It is suggested that aspirated consonants are changing to unaspirated consonants.

1.5 Data collection. In order to prepare this study, we have had to collect from the field. A list of 1360 words has been used for this research. However, not all of the words have been used in this study. The subjects were from Kiengiang province. We also have collected data in other provinces such as Travinh, Vinhlong, and Minhhai in order to compare with the Kiengiang dialect. The subjects vary in age, sex and education. They have lived in the area since they were born, and they use Khmer in their daily life. All of them are fluent native speakers in these dialects, while only some are literate in Khmer. The subjects were asked to pronounce each word in the wordlist. The data that we collected shows that the phenomenon of mono-syllabization has taken place for young people. It seems that the phonetic

changes have taken place more significantly in the language of people who are under 30 years old.

1.6 The dialect of Khmer in Vietnam has not been studied by many linguists. This research contains only the first steps in studying this dialect. Therefore, it is probable that there are some instances of mis-analysis. There are still many interesting matters that have not been researched. We hope that these matters will be studied in the future. The term "standard" that is used in this paper refers to modern Khmer orthography which is generally considered the basis for standard pronunciation of Khmer. The standard pronunciation here refers to the variety of Khmer that is taught in school and spoken by educated Khmer, especially in their careful speech. Comparison is made between modern Khmer orthography and standard Khmer pronunciation as presented in the Khmer-Viet dictionary of Hoang Hoc (1979).

2. Phenomenon of monosyllabization

2.1 Syllable pattern: There are two kinds of syllables: presyllable and main syllable. In the dialect of Khmer in Vietnam, the main syllable consists of four elements: initial consonant-medial-vowel-final consonant. The full syllable pattern will be C (C1C2) SVC3. A Presyllable consists of three factors: initial consonants-vowel-final consonant. The full syllabic pattern will be: C' (C'1C'2) V'C3. There are two kinds of presyllables. These are open presyllables and closed presyllables. The final consonant of a closed presyllable is one of four nasal consonants /m/, /n/, /ɲ/, /ŋ/. The presyllable usually does not display the complete pattern. Nowadays there are only a few people who pronounce the full presyllable. Most of the presyllables now only contain one or two elements. Therefore, monosyllabization is an active and common phenomenon in the Khmer dialect in Vietnam, especially for young people. There are a number of initial consonant clusters as the result of this process. The phonemes of consonant clusters combine with each other according to the following rules:

2.1a. In the pattern C1C2SVC3, the voiced consonants do not occur in the C1 position; a fricative voiced consonant in the C1 position, does not combine with other consonants.

2.1b. In the C1 position, nasal consonants combine only with other consonants that have the same place of articulation.

2.1c. There are usually not more than two elements in an initial consonant cluster of a main syllable. There are some consonant clusters which consist of three elements. These are the nasal consonant clusters. Nowadays, the nasal consonants have been reduced and it probably will be reduced completely in the syllable, but the meaning will not change. This phenomenon can be seen very clearly in the Kiengiang dialect.

The process of monosyllabization takes place according to the following three main following tendencies:

2.2 The first tendency: Reduction of initial nasal consonant clusters in the main syllable. This is the result of monosyllabization. In the Khmer language, there are a

number of presyllables having final nasal consonants. In the process of monosyllabization, presyllable initial consonants and main vowels are reduced. The presyllable final nasal consonants combine with the initial consonants of the main syllable that have the same place of articulation. It creates initial nasal consonant clusters. This phenomenon takes place in the dialects. The data that we collected showed that this phenomenon took place according to the following three main tendencies:

2.2.1 The nasal consonant clusters consist of three elements. Appearance of these consonant clusters has broken the rule that a consonant cluster can only have two elements. The syllable pattern must be C (C1C2C3) SVC4. In this pattern, C1 is a nasal consonant, and C3 is a trill consonant. However, the nasal consonants are only recognized when they are pronounced very clearly, slowly and carefully. We assume that reduction of nasal consonants is a phenomenon more suited to the pronunciation of Khmer dialect in Vietnam, especially in the Kiengiang dialect. Therefore, the full pattern of a main syllable will be C1C2SVC3. We hypothesize a three-stage change as follows :

Standard	Kiengiang Dialect			Gloss
	stage 1	stage 2	stage 3	
ciɲcraːm	ɲcraːm	ʔcraːm	craːm	'to chop'
caŋgkraːm	nkraːm	ʔkraːm	kraːm	'kitchen'

2.2.2 The nasal consonant clusters consist of two elements. In the pattern C1C2SVC3, C1 is a nasal consonant and C2 are consonants which have the same place of articulation. This process takes place according to the two following tendencies:

2.2.2.1 The final nasal of the presyllable combined with the initial consonant of the main syllable which has the same place of articulation. This process takes place as in the following examples (for more examples, see appendix 3).

Standard	KG Dialect	Gloss
thumphia	mphia	'to sew'
banthup	nthup	'room'
aɲcheːɲ	ɲcheːɲ	'to invite'

Nasal consonants are reduced and may not be pronounced at all, especially by young people and the people who are illiterate.

2.2.2.2 Nasal consonants are reduced completely. In this case, the syllable and the phoneme are the same. We hypothesized a three stage change as follows:

Standard	KG Dialect			Gloss
	stage 1	stage 2	stage 3	
aŋkhi	ŋkhi	ʔkhi	khi	'to sit'
bancok	ncok	ʔcok	cok	'rice noodle'
ciɲchuːm	ɲcuːm	ʔcuːm	cuːm	'to feed'

This phenomenon can be seen very clearly in the Kiengiang dialect, but it is not clear in the other dialects such as Travinh, and Vinhlong. We assume that these dialects are in the second stage of this process.

2.2.3   There are some common rules of change for the nasal consonant clusters in the polysyllabic language of the area. Among them, the most common rule is the phenomenon of simplification of nasal consonant clusters. The complex nasal consonant clusters will change to more simple nasal consonants. For example, changes from nasal consonant clusters of Proto Viet-Muong to nasal consonants having the same place of articulation (N.K Xokolovxkaia 1979) (*). This rule has an influence on the Khmer dialect in Vietnam. This phenomenon took place in the dialect of Khmer in Vietnam in the following way. In the pattern C1C2VC3, C1 can be a labial nasal /m/ or an alveolar nasal /n/; C2 is voiced stop consonants having the same place of articulation as C1. In the process of monosyllabization, C2 was reduced, and the initial consonant of the syllable now is a nasal consonant. This phenomenon is very common in the Kiengiang and Soctrang dialects, but not common in the other dialects. This is a reasonable thing because whether a nasal exists or not in these dialects, reflects a different stage of the process of monosyllabization. The data that we collected showed that the Travinh dialect has changed noticeably and in the future will probably be the same as the Kiengiang dialect. There are three stages in this process (see appendix 4).

2.2.3.1   First stage: the final consonant of the presyllable combines with the initial consonant of the main syllable. The result of this process is an initial nasal consonant cluster in the pattern C1C2VC3. In this pattern, C1 can be labial or alveolar nasal consonants, and C2 is voiced stop consonants.

2.2.3.2   Second stage: Voiced stop consonants are reduced. Glottal stop occurs before labial and alveolar nasal. At this stage, C1 is a glottal stop, C2 can be labial or alveolar nasal.

2.2.3.3   Third stage: The glottal stop is reduced. The initial consonant of the syllable is a nasal consonant plus falling pitch. At this stage the syllable and phoneme are the same. This process takes place as follows:

Standard	KG Dialect			Gloss
	stage 1	stage 2	stage 3	
ɑndɛːt	ndɛːt	ʔnɛːt	nɛːt	'float'
ɑndia	ndia	ʔnia	nia	'white ant'
kɑmbit	mbit	ʔbit	mit	'knife'
ɑmbil	mbil	ʔbil	mil	'salt'

Monosyllabization will take place as in 2.2.2.1 if the initial consonant of the main syllable is not a voiced stop consonant.

2.3   The second tendency: The reduction of the trill in the consonant clusters of the main syllable. In the Khmer language, there are a number of open presyllable patterns that consist of a consonant or consonant cluster, and a vowel nucleus. The full pattern will be C'1C'2V. C'1 includes most of the initial consonants; C'2 is a trill consonant. In the process of monosyllabization, C'2 and V' are reduced. C'1 combines with initial consonants of the main syllable. This is a phenomenon that is

very common in all Khmer dialects in Vietnam. This is also a difference in pronunciation between the Khmer in Vietnam and the Khmer in Cambodia (In the dialect of Khmer in Cambodia, this kind of presyllable is still pronounced clearly). This process will take place as follows: C'1C''2CVC1 C'1CVC1 (for more examples see appendix 5)

Standard	KG Dialect	Gloss
krodao	kdao	'hot'
srabɑk	sbɑk	'a little time'
pralaːŋ	plaːŋ	'to take an exam'

In this case, the aspirated consonants have changed into unaspirated consonants. Nowadays it is difficult to find consonant clusters in presyllables such as *pr, kr, cr, sr, khr,* ... in the dialect of Khmer in Vietnam. This phenomenon has increased the number of possible consonant clusters in the main syllable. We hypothesize that this process in Khmer in Vietnam took place faster than the Khmer in Cambodia because of contact with the Vietnamese language, a monosyllabic and tonal language.

2.4 The third tendency: Presyllables are reduced completely. A vowel /a/ occurs before the main syllable as a new presyllable. This new presyllable is usually /l/ or a vowel /a/). This phenomenon takes place only when the initial consonant of the presyllable is trill /r/ or aspirated velar stop /kh/, (For more examples, see appendix 8).

Standard	KG Dialect	Gloss
khokhiː	akhiː	'one kind of tree'
roloːk	aloːk	'waves'
rolaːt	alaːt	'to scratch'
roboːt	ləboːt	'to slip'

3. Phenomenon of reduced trill consonant

In the Khmer language there are a number of consonant clusters of the main syllable type where the second element is a trill. Through a long process of contact with a monosyllabic and tonal language such as Kinh, the trill has been reduced. There is only the first element plus falling pitch. This phenomenon has created pairs of words which have the same segmental phonemes. These words only contrast with each other in pitch. The words with falling pitch are a result of a reduced trill in the consonant cluster. It is suggested that language contact has influenced this phenomenon strongly in the Khmer dialects in Vietnam. This phenomenon can be found in most dialects of Khmer in Vietnam. In this paper the symbol (`) is used to show syllables with falling pitch (For more examples see appendix 2).

Standard	KG Dialect	Gloss
kraː	kɑ̀ː	'poor'
krao	kào	'out of'
sreː	sɛ̀ː	'paddy field'
craːt	cɑ̀ːt	'stick'

4. The R > H shift in Kiengiang Khmer

This is a characteristic in the Kiengiang dialect. It also occurs in the neighboring dialects such as Soctrang dialect and Minhhai dialect. This shift happens when the initial consonant of the main syllable is a trill. This phenomenon does not happen in consonant clusters. This also creates a number of pairs of words which contrast in pitch. Some examples below show this phenomenon (For more examples, see appendix 6).

Standard	KG Dialect	Gloss
riən	hiən	'to learn'
rɑːp	hɑːp	'to count'
riːk	hiːk	'to blossom'
rɑːm	hɑːm	'to dance'

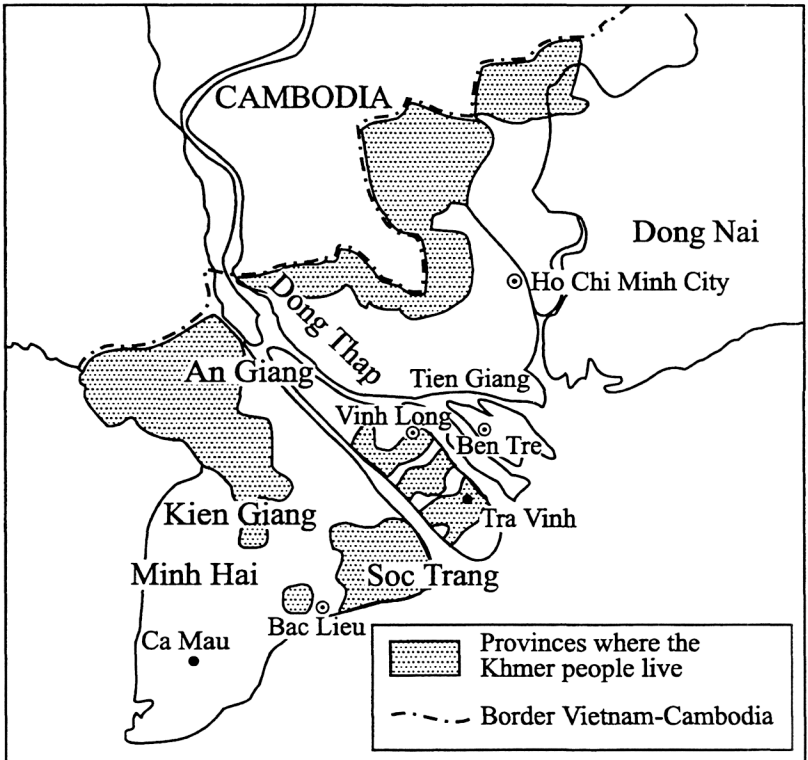## 5. Pitch in dialects of Khmer in Vietnam

This is a new matter in Khmer phonology and it has not been studied very much. In this paper, we aim to bring these matters to the attention of other linguists. Further study is needed. However, the data that we collected proves that the monosyllabization process, reduction of trilled of initial consonant clusters and the R>H shift have influenced the occurrence of pitch in dialects of Khmer in Vietnam. This has been proved by pairs of words having the same segments which only contrast by pitch, as in the examples below. In this paper, the symbol (ˋ) has been used for the word having falling pitch (For more examples, see appendix 7).

1st group	Gloss	2nd group	Gloss
kɑː	'neck'	krɑː> kàː	'poor'
kao	'earring'	krao > kào	'outside'
hian	'dare'	riən> hìən	'to learn'

6. Conclusion

This study reflects major phonetic changes in the Kiengiang dialect of Khmer when compared to standard orthography. These changes are a common phenomenon in the Khmer language in Vietnam, especially in the Kiengiang dialect. Monosyllabization is a common occurrence in all of the dialects of Khmer in Vietnam. This phenomenon creates a number of initial consonant clusters and more and more monosyllabic words. The words which have the same segmental phonemes are increasingly contrasted by pitch. It is suggested that language contact has strongly influenced these phonetic changes in the dialect of Khmer in Vietnam. The principle of "least effort" speeds up these changes. The study of this phenomenon has yet to be concluded. Therefore further study is needed.

Appendix 1. Map of Khmer speakers in Vietnam

CAMBODIA

Dong Nai

⊙ Ho Chi Minh City

An Giang   *Dong Thap*   Tien Giang

Vinh Long
⊙ Ben Tre

Kien Giang   Tra Vinh

Minh Hai   Soc Trang

Ca Mau   Bac Lieu

Provinces where the
Khmer people live

–·–·– Border Vietnam-Cambodia

Appendix 2: Loss of /r/, acquisition of tone

Standard	KG Dialect	Gloss
krɑː	kàː	'poor'
krɑːp	kàːp	'cover'
craːn	càːn	'to push'
kraːl	kàːl	'to spread out'
krah	kàh	'comb'
kruːm	kùːm	'micropodus'
kruːng	kùːng	'city'
kruːm	kùːm	'group'
kroːc	kòːc	'orange'
kruac	kùac	'one kind of bird'
kruah	kùah	'gravel'
kriəːp	kìəːp	'rice paper'
kriəm	kìəm	'dry'
kriəw	kìəw	'to castrate'
krɛːŋ	kèːŋ	'thought'
kroːk	kòːk	'stand up, get up'
kroːm	kòːm	'under'
kroːy	kòːy	'behind'
khroːp	khòːp	'to cover'
khruːp	khùːp	'enough'
khrɑːn	khràːn	'to be well off'
khrɑːp	khàːp	'seed'
khruː	khùː	'teacher'
crɑːk	càːk	'gate'
crɑːt	càːt	'stick'
crah	càh	'brush'
craːn	càːn	'push'
croːt	còːt	'to harvest'
crəːn	càːn	'much, many'
craːm	càːm	'to chop up'
criəŋ	cìəŋ	'to sting'
chroːk	chòːk	'to hide'
chruɯ	chtùɯ	'bat'
chruːŋ	chùːŋ	'corner'
chruːk	chùːk	'peak'
chreː	chèː	'afternoon'
chrah	chàh	'clean'
trɑŋ	tàŋ	'straight ahead'
trɑːp	tàːp	'tomato'
traːm	tàːm	'to pickle'
thruːŋ	thùːŋ	'chest'
threːt	thèːt	'to lean'
thrɑːm	thàːm	'to stand'
prak	pàk	'silver'
praːc	pàːc	'intelligent'
praːm	pàːm	'five'
praːp	pàːp	'talk to'

praːy	pàːy	'salted'
prəː	pə̀ː	'to use'
proh	pòh	'boy, male'
preːŋ	pèːŋ	'oil'
priəp	pìəp	'to compare'
prɛː	pɛ̀ː	'to translate'
praŋ	pàŋ	'dry season'
phrɯk	phɯ̀k	'morning'
phriəp	phìəp	'pigeon'
phruh	phùh	'bake'
phreːŋ	phèːŋ	'fortune'
phrec	phèc	'to touch'
phrɛk	phɛ̀k	'river'
phrah	phàh	'Buddha'
phrɯːm	phɯ̀ːm	'border'
phroːm	phòːm	'to agree'
srɑk	sɑ̀k	'to drop'
srɑŋ	sɑ̀ŋ	'to pick up'
sreːk	sèːk	'to shout'
sraŋ	sàŋ	'bee'
sraːt	sàːt	'bird'
sraː	sàː	'alcohol'
sraːl	sàːl	'light'
srʌːy	sʌ̀ːy	'girl'
srok	sòk	'district'

Appendix 3[1]: Reduction of presyllable

Standard	KG Dialect	Gloss
kɑmthec	mthec	'ash'
bɑmbɛːk	mbɛːk	'to divide'
kɑmpoːy	mpoːy	'top tuft of hair'
kɑmphɯh	mphɯh	'small shrimp'
kɑmphuːŋ	mphuːŋ	'present tense'
kɑmphuːl	mphuːl	'top'
kɑmpheːm	mpheːm	'one kind of insect'
kambiːt	mbiːt	'knife'
cɑŋkaː	ŋkaː	'chin'
cɑŋkʌh	ŋkʌh	'chopstick'
cɑŋkoːt	ŋkoːt	'wheel'
cɑŋkiəŋ	ŋkiəŋ	'light'
cɑŋrit	ŋrit	'cricket'
ciːɲcɯːm	ɲcɯːm	'to feed'
ciːɲcəːm	ɲcəːm	'eyebrows'
ciːɲciən	ɲciən	'ring'
bɑnchuːm	nchuːm	'to take sb. to'
ciːɲcraːm	ɲcraːm	'to chop up'

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[1]Nasal consonants are pronounced very lightly.

chɔɲchaŋ	ɲchaŋ	'wall'
ʔanleːn	nleːn	'earthworm'
damnəːp	mnəːp	'sticky rice'
thomphok	mphok	'hook'
baɲhaːn	ŋhaːɲ	'to guide'
baɲʔaːp	ŋʔaːp	'to flirt'
bancok	ncok	'rice noodle'
bantic	ntic	'a little'
banthup	nthup	'room'
banthaːt	nthaːt	'rules'
banthaːp	nthaːp	'continuity'
banthoː	nthoː	'to blow off steam'
banleː	nlɛː	'vegetable'
bamphoŋ	nphoŋ	'pile'
bamphil	mphil	'to spoil'
bampheː	mpheː	'to rock'
bankəːt	nkəːt	'to establish'
saŋkiə	ŋkiə	'to feel one's teeth on edge'
sansəːm	nsəːm	'fog'
sansaːm	nsaːm	'to save money'
ʔaŋkaː	ŋkaː	'rice'
ʔaŋkaːm	ŋkaːm	'rice husk'
ʔancheːn	ncheːn	'to invite'
banlaː	nlaː	'thorn'
ramluɯk	nluɯk	'to remind'
kanlɛːn	nlɛːn	'place'
thomlaːk	mlaːk	'to drop'
thomphaŋ	mphaŋ	'bamboo shoot'
thomphiə	mphiə	'to chew'
samphah	mphah	'to prostrate'
kansɛːŋ	nsɛːŋ	'handkerchief'
bankaːŋ	nkaːŋ	'shrimp'
thonthuɯŋ	nthuɯŋ	'to look forward'
phnoːmpheːɲ	mpheːɲ	'capital of Cambodia'
ʔanruɯŋ	nruɯŋ	'hammock'

Appendix 4: Reduction to simple nasal

Standard	KG Dialect			Gloss
	1st stage	2nd stage	3rd stage	
sandɛːk	ndɛːk	ʔnèːk	nèːk	'bean'
ʔandəːk	ndəːk	ʔnɔ̀ːk	nɔ̀ːk	'for'
danduɯŋ	nduɯŋ	ʔnùɯŋ	nùɯŋ	'to propose marriage'
dandəːm	ndəːm	ʔnɔ̀ːm	nɔ̀ːm	'to dispute'
ʔandɛːt	ndɛːt	ʔnèːt	nèːt	'float'
sandoːk	ndoːk	ʔnòːk	nòːk	'to stretch'
bandəː	ndəː	ʔnɔ̀ː	nɔ̀ː	'to lead'
sandaːp	ndaːp	ʔnàːp	nàːp	'young rice plants'
andaːt	ndaːt	ʔnàːt	nàːt	'tongue'

ɑndoːn	ndoːn	ʔnòːŋ	nòːŋ	'well'
ɑndɛːŋ	ndɛːŋ	ʔnɛ̀ːŋ	nɛ̀ːŋ	'one kind of fish'
kɑndiə	ndiə	ʔnìə	nìə	'white ant'
kɑndaːl	ndaːl	ʔnàːl	nàːl	'in the middle'
dɑndaːm	ndaːm	ʔnàːm	nàːm	'to cook'
ʔɑmbiːl	mbiːl	ʔmìːl	mìːl	'salt'
sɑmbəːŋ	mbəːŋ	ʔmə̀ːŋ	mə̀ːŋ	'straw'
prɑːmbuan	mbuan	ʔmùan	mùan	'nine'
sɑmbok	mbok	ʔmòk	mòk	'bird nest'

Appendix 5: Loss of /r/

Standard	KG Dialect	Gloss
krɑdah	kdah	'paper'
krɑbʌy	kbʌy	'buffalo'
krɑphəː	kphəː	'crocodile'
krɑmuːm	kmuːm	'young girl'
krɑdao	kdao	'hot'
krɑlɑː	klɑː	'jar'
krɑlaːp	klaːp	'overturn'
kraʔoːp	kʔoːp	'sweet smell'
crakeːŋ crɑkaːŋ	ckeːŋ ckaːŋ	'bulky'
crɑneːn	cneːn	'envy'
crɑbɑːl	cbɑːl	'to mix'
crɑbaːc	cbaːc	'massage'
crɑmoh	cmoh	'nose'
crɑlɑːm	clɑːm	'mistake'
trɑbak	tbak	'to snap'
prɑkah	pkah	'to inform'
prɑkaːn	pkaːn	'to forbear'
prɑlɑːŋ	plɑːŋ	'to take exam'
prɑchan	pchan	'to struggle'
prɑchuːm	pchuːm	'meeting'
prɑɲap	pɲap	'in a hurry'
prɑdaːw	pdaːw	'to teach'
prɑmaːt	pmaːt	'bile'
prɑsaː	psaː	'in-law'
prɑlak	plak	'dirty'
phrɑluːŋ	phluːŋ	'spirit'
srɑɲaːt	sɲaːt	'quiet'
srɑbɑk	sbɑk	'a moment'
srɑmok	smok	'to snore'
srɑmoːc	smoːc	'ant'
prɑcaːn	pɑcaːn	'be jealous'

Appendix 6: /r/ > /h/.

Standard	KG Dialect	Gloss
roːk	hòːk	'to look for'
riən	hìən	'to learn'
raːm	hàːm	'to dance'
ruːŋ	hùːŋ	'cave'
ran	hàn	'to stop sb.'
rah	hàh	'to shine'
ruŋ	hùŋ	'to push'
rat	hàt	'to run'
raːp	hàːp	'to count'
rɛːk	hèːk	'to shoulder'
riən	hìən	'shape'
riəp	hìəp	'to tidy up'
riəw	hìəw	'to grope for'
riːk	hìːk	'to blossom'
riːŋ	hìːŋ	'shallow'
ruːŋ	hùːŋ	'hard'
rit	hìt	'to tighten'
ruac	hùac	'to be able to'
roːy	hòːy	'hundred'
roːk	hòːk	'bacteria'
roːm	hòːm	'to gather together'
roh	hòh	'to live'
ruːm	hùːm	'to cover'

Appendix 7[2]: Tone contrast

Standard	Gloss	KG Dialect	Gloss
kaː	'neck'	kraː > kàː	'poor'
taːm	'to follow'	traːm > tàːm	'to'
kah	'money'	krah > kàh	'thick'
saːt	'bird	sraːt > sàːt	'to take off'
kaːw	'earring'	kraːw > kàːw	'out, outside'
kaːl	'when'	kraːl > kàːl	'to spread out'
kaːp	'to bury'	kaːp > kàːp	'cover'
khuː	'a pair'	khruː > khùː	'teacher'
khoh	'wrong'	khroh > khòh	'accident'
hiən	'dare'	riən > hìən	'to learn'
huac	'whistle'	ruac > hùac	'to be able to'
hɛːk	'lo tear off'	rɛːk > hèːk	'to shoulder'
hiːŋ	'bull frog'	riːŋ > hìːŋ	'shallow'
kaːm	'to hold'	conkraːm > kàːm	'kitchen'
kuac	'to curl'	kruac > kùac	'kind of bird
khua	'brain'	khrua > khùa	'family'

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[2]Falling pitch in this paper is marked by ˋ.

caːn	'bowl'	craːn > càːn	'to push'
caːm	'wait for'	craːm > càːm	'to chop up'
sɑk	'hair'	srɑk > sɑ̀k	'to drop'
pak	'party'	prak > pàk	'silver'
sok	'to be fine'	srok > sòk	'district'

Appendix 8: Reduction of presyllable /r/

Standard	KG Dialect	Gloss
ronaː	anaː	'saw'
ronaŋ	anaŋ	'curtains'
roniəp	aniəp	'piece of wood'
rolaːt	alɑːt	'to scratch'
roliək	aliək	'to burn'
rliːŋ	aliːŋ	'smooth and shiny '
roliːw	aliːw	'to sleep slightly'
rolok	alok	'waves'
roluːm	aluːm	'to drizzle'
roluh	aluh	'to hold'
roluːŋ	aluːŋ	'wide'
roluːm	aluːm	'fall'
rothɛh	athɛh	'vehicle'
roŋeːroŋəː	ləŋeːlŋəː	'foolish'
roŋia	lənia	'cold'
ronəːk	lənəːk	'ash'
roweːŋ	ləweːŋ	'row of houses'
rowəːk	ləwəːk	'to stir'
robam	ləbam	'dance'
robaːŋ	ləbaːŋ	'fence'
robiəp	ləbiəp	'way, method, process'
roboːt	ləboːt	'to slip'
robaːp	ləbaːp	'regime'
rohoːt	ləhoːt	'forever'
rohah	ləhah	'fast, quickly'
roʔuː	ləʔuː	'to grumble'
roʔəːm	ləʔəːm	'disgusting'
khokhruːk	ʔakhruːk	'dense, busy'
khokhiː	ʔakhiː	'one kind of tree'
khokhrih khokhruh	ʔakhrih ʔakhruh	'to budge'

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