CONTACT-INDUCED VOWEL VARIATION: A CASE STUDY OF THE SHORT HIGH VOWELS /i/ AND /u/ IN CVN SYLLABLES IN LUE AND KHÜN[1]

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Abstract

This paper presents the variation in the two short high vowels /i/ and /u/ occurring in live syllables ending with final nasal consonants (CVN) in two Southwestern Tai (SWT) dialects: Lue and Khün, respectively spoken in the villages of Nong Bua and Nong Muang in Pa Kha Subdistrict, Tha Wang Pha District, in Nan Province. The data were collected from Lue and Khün language resource persons (LRPs) in three age groups, an elderly group (60 years old and above), a middle-aged group (35–50 years old), and a young group (15–25 years old), with five LRPs in each age group. The data analyzed for this paper come from a total of 30 LRPs (5 LRPs × 3 age groups × 2 SWT dialects).

The findings show that the short high front unrounded vowel /i/ of both Lue and Khün has two variants: [i] and [e]. Similarly, the short high back rounded vowel /u/ of Lue has two variants, [u] and [o]; however, in Khün it has four variants, [u] and [o] together with their long counterparts, [u:] and [o:]. The young LRPs of both Lue and Khün use the variants [e] and [o] with higher frequency than the middle-aged or elderly groups. The original vowels [i] and [u] are used with higher frequency by the elderly group than the other two groups in both Lue and Khün.

Comparison of the high vowel variation in Lue with that in Khün shows that the variants [e] and [o] are used with noticeably higher frequency in Khün than in Lue. It may be hypothesized that in Khün, the two high vowels [i] and [u] occurring in CVN syllables may change to [e] and [o] in the near future. Since the two original vowels [i] and [u] are still frequently used in Lue, it may take a longer time for these two vowels to change in this dialect.

Because of the fact that Lue and Khün people are bilingual/multilingual and can speak not only their own mother tongues, but also Kam Mueang and Standard Thai, it can be said that language contact plays an important role in motivating the variation of the two high vowels in both Lue and Khün.

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Introduction

Based on comparative data from Brown's Proto-Tai (Brown, 1965), Siamese/Standard Thai, Shan, Lue[3], Lao, Black Tai, and White Tai, Sarawit (1973) reconstructed the two mid vowels **e* and **o* in Proto-Southwestern Tai (henceforth SWT). In *A Handbook of Comparative Tai*, Li (1977) reconstructed the same two Proto-SWT mid vowels **e* and **o*. The two Proto-SWT vowels have undergone divergent development in SWT dialects, as summarized below.

Proto-SWT *e: Sarawit (1973) reconstructed the Proto-SWT short vowel **e* for all three forms, i.e., *e*, *i*, *ɛ*; where **en* corresponds to *en* in Shan and *in* in White Tai, but **ɛn* corresponds to *ɛn* in both Shan and White Tai. Li (1977) reconstructed a Proto-SWT mid vowel **e* and stated that it is found only in closed syllables and is always short. In some SWT dialects, it is also raised to *i* before a nasal, as in Lü and White Tai (e.g., **m̥en > min* 'to smell bad'). It is rounded to *o* before the final consonants *-m* and *-p* in Siamese as in *lom (L)* 'to fall, topple' (see Table 1).

The development of the Proto-SWT **e* in some SWT dialects summarized from Sarawit (1973) and Li (1977) is displayed in Table 1. Note that some SWT dialects for which examples of certain lexical items are not provided in the earlier works are represented with dashes instead.[4]

[3] In Sarawit (1973), Li (1977), and some other works, the spelling of the language name of Lue is *Lü*. In this paper, it is spelled *Lue*, but when various earlier works are referred to in this paper, the spelling of the language name(s) will follow that used in each work.

[4] The capital letters: A, B, C, DL, and DS followed by numbers 1-4 represent the tones in Tai dialects. See details about the Proto-Tai tones in Li (1977) and the concept of the "tone box", reflecting the relationship between the four categories of initial consonants, the syllable types, and the tones in Gedney (1972).

Table 1: The development of Proto-SWT **e*[5]

Gloss	**Tone**	**Siamese** (S = Sarawit, 1973; L = Li, 1977)	**Lao (Nong Khai)** (Sarawit, 1973)	**Shan** (Sarawit, 1973)	**Lü** (Sarawit, 1973)	**Black Tai** (Sarawit, 1973)	**White Tai** (Sarawit, 1973)
'seven'	DS1	čet (L)	–	–	–	–	–
'fish scales'	DS1	klet (L)	–	–	–	–	–
'seed'	DS4	–	–	–	–	mit (< *mlet)	mit (< *mlet)
'louse'	A2	len (L)	–	–	–	–	–
'to play'	C1	–	–	–	–	lin (< *l̥en)	–
'to be'	A1	pen (L)	–	–	–	–	–
'to see'	A1	hen (L)	–	–	–	–	–
'to fall, topple'	C2	lom (L)	–	–	–	–	–
'to smell bad'	A1	–	–	–	min (< *m̥en)	–	min (< *m̥en)
'to see'	A1	–	hen, han	han	han	–	–
'day'	A4	wan (< *ven) (S)	wen, wan (< *ven)	wan (< *ven)	van (< *ven)	–	–
'porcupine'	C1	–	–	men	–	–	min

Proto-SWT *o: The Proto-SWT vowel **o* reconstructed by Sarawit (1973) and Li (1977) is also found only in closed syllables, remains *o* in Siamese, and becomes *u* in some SWT dialects when followed by a nasal, as in White Tai and Lü. Examples of the development of Proto-Tai **o* in selected SWT dialects are shown in Table 2.[6]

[5] Brown (1965) notes a long vowel *e:* as opposed to *ɛ:*, for example, **se:n (C1)* 'classifier for long things', **m̥e:n (C1)* 'porcupine', **ʔbe:ŋ (B3)* 'strain', **ɣɛ:ŋ (B4)* 'shin', and **khɛ:ŋ (A1)* 'hard'.

[6] Examples showing the Proto-SWT vowel **o* in Shan and Black Tai are not provided by Sarawit (1973) or Li (1977).

Table 2: The development of Proto-SWT **o*

Gloss	**Tone**	**Siamese** (S = Sarawit, 1973; L = Li, 1977)	**Lao (Nong Khai)** (Sarawit, 1973)	**Lü** (Sarawit, 1973)	**White Tai** (Sarawit, 1973)
'to descend'	A2	loŋ (L)	–	–	–
'to send'	B1	soŋ (L)	–	–	–
'to go astray'	A1	loŋ (L)	–	–	–
'hair'	A1	phom (L)	–	phum (< *phom)	–
'six'	DS1	hok (L)	–	–	–
'bird'	DS2	nok (L)	–	–	–
'paddy field'	B4	thuŋ (< *doŋ) (S)	–	–	–
'to rob'	C2	–	pun, pon (< *plon)	–	–
'heel'	C1	–	–	–	sun (< *son)

It is important to mention that the vowel raising in SWT dialects is also described in Sarawit (1973: 118). The Proto-SWT vowels **e* and **o* are raised to the vowels *i* and *u* when followed by a final nasal consonant: *e, *o > i, u /___nasal and this is shared by Lü and White Tai. For example, **men (A1)* > *min* 'to smell bad' in Lü and White Tai, **phom (A1)* > *phum* 'hair' in Lü, and **son (C1)* > *sun* 'heel' in White Tai.[7]

The vowel reflexes in modern Tai dialects are among the general linguistic characteristics which can be used to classify the Tai dialects into different groups. For example, the Proto-SWT **ia/*iə*, **ɨa/*ɨə*, and **ua/*uə* (Sarawit 1973; Li 1977) are respectively monophthongized to /e/ or /eː/, /ə/ or /əː/, and /o/ or /oː/ in some SWT dialects, such as Shan and Lue, while in other dialects, such as Standard Thai and Kam Mueang/Nyuan (henceforth, Nyuan),[8] they are /iə/ or /ia/, /ɨə/ or /ɨa/, and /uə/ or /ua/, respectively.[9]

[7] Sarawit (1973) and Li (1977) described the development of the proto-vowels **e* and **o* being raised or lowered in some SWT dialects, but there was no suggestion as to whether the vowel raising or lowering was due to language contact.

[8] 'Nyuan' refers to a Southwestern Tai language mainly spoken in northern Thailand whose speakers call themselves and their language by several names, for example, *Nyuan* [ɲuən^{35}], *Mueang*, or *Miang* [mɨəŋ^{35}/miəŋ^{35}], which literally means 'city', and *Kam Mueang* or *Kam Miang* [kam^{35} mɨəŋ^{35}/kam^{35} miəŋ^{35}], which literally means 'city language'. Some earlier works (e.g., Chamberlain, 1975) use the term *Yuan*, but, in the current research project, the Nyuan people name themselves, and are called by other groups of people, both *Nyuan* and *Mueang*,

The current research project focuses on investigating the phonological and lexical variation and change in five SWT dialects: Lue, Khün/Khoen (henceforth Khün), Nyuan, Phuan, and Lao, which are spoken in Nan Province, a linguistically diverse area in northern Thailand. The data were collected from three age groups of speakers of each SWT dialect. Part of the research findings shows that the vowel variation is an interesting phenomenon occurring in some SWT dialects. Certain vowels in Lue and Khün, i.e., /i/ (< **e*) and /u/ (< **o*) in lexical items which have a CVN[10] syllable structure, are undergoing change due to language contact.

The approach of examining the phonological and lexical variation and change in the current research project is derived from the sociolinguistic principle of "change in apparent time" originated by William Labov (1972). This approach has been used in a number of earlier works examining linguistic variation and change in the speech of different generations of speakers of Thai and Tai dialects, for example, lexical change in Kam Mueang dialects (Panthong 1979), in Phuan (Tanyong 1983), in Thai Song dialect (Buranasing 1988), and in Thai Yuan (Saraporn 1988); change in unaspirated stops in the Chiang Mai dialect (Tanwattananun, 1982); phonetic and phonological variation in Phuan (Senisrisant 1982); lexical and sound change in the Ubon dialect (Sukhawan 1994); lexical and phonological variation in Lao dialects (Liamprawat and Wattanaprasert 1996), and so on.[11]

This paper describes the variation of the two short high vowels /i/ and /u/ in lexical items with CVN structure in two SWT dialects: Lue and Khün, which are spoken in the villages of Nong Bua and Nong Muang, respectively, in Pa Kha Subdistrict, Tha Wang Pha District.[12] In these areas, Nyuan has been used as a lingua franca among people speaking different mother tongues and Standard Thai has been the official medium for teaching at schools and in some other situations, for example, when people communicate with people from government offices, with tourists or strangers, and so on. This means that Lue and Khün people in the two villages are generally bilinguals/multilinguals, i.e., they

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and their language is Nyuan and Kam Mueang. The term *Nyuan* is simply used in the paper following the term used by the people. The other name that is normally used in the Thai dialectological domain to refer to the same group of people and the same language is *Northern Thai*. However, this term is not normally used by native speakers of Nyuan or Kam Mueang.

[9] Some examples of monophthongization, called *diphthong simplification* by Sarawit (1973), follow: in Lü **ia* > *e*, *e:*, for example, **siam (A1)* > *sem* 'spade', **lia (A4)* > *le:* 'lick', **ʔyiap (DL3)* > *ye:p* 'step on'; **ɨa* > *ə*, *ə:*, for example, **lɨam (A1)* > *ləm* 'python', **lɨat (DL4)* > *lə:t* 'blood'; and **ua* > *o*, *o:*, for example, **kluay (C2)* > *koy* 'banana', **n̥uat (DL1)* > *no:t* 'beard', and **rua (C4)* > *ho:* 'fence'.

[10] CVN indicates a syllable structure composed of an initial consonant (C), a short vowel (V, i.e., /i/ or /u/ in Lue and Khün), and a final nasal consonant (N, i.e., /-m/, /-n/, or /-ŋ/). For example, /khum^{35}/ in Lue and /khum^{23}/ in Khün for 'bitter', /min^{213ʔ}/ in Lue and /min^{44ʔ}/ in Khün for 'porcupine', and /buŋ^{24}/ in Lue and /buŋ^{22}/ in Khün for 'prick off (thorn)'.

[11] The spelling of the language names referred to in these examples follow the orthography used in the individual works.

[12] The locations of the villages of Nong Bua and Nong Muang are shown in the map of Pa Kha Subdistrict, Tha Wang Pha District, in Appendix 1.

can speak not only their own mother tongues but also Nyuan and/or Standard Thai. Based on my observation during field research in the two villages, the Lue and Khün people in all three target age groups speak Nyuan very fluently. However, the people in the young age groups can normally speak Standard Thai more fluently and have more opportunities to speak Standard Thai than the people in elderly and middle-aged groups.

It is generally recognized that languages spoken by bilinguals are often altered in such a way that changes that ensue differ from the results of internal change processes within monolingual speech communities. In other words, languages spoken by bilinguals influence each other in various ways (Sankoff 2001: 638). In Lue and Khün, the high vowels /i/ and /u/ occurring in a CVN syllable structure are reflexes of the Proto-SWT vowels **e* and **o*, respectively, as mentioned above. In contrast, the mid vowels /e/ and /o/ are used in this syllable-structure context in the other Tai dialects spoken in nearby areas, i.e., Kam Mueang/Nyuan, Phuan, and Standard Thai, which is an official language. When SWT dialects that have developed different vowel reflexes from Proto-SWT vowels are spoken in language-contact situations, it is worthwhile investigating whether the different vowels are being maintained in those SWT dialects or whether they are in the process of change.

Linguistic Data and Data Analysis

The methodology used for investigating the vowel variation in this current study is based on the principle of "linguistic change in apparent time" (Labov 1972), i.e., the change is examined by comparing the linguistic behavior of speakers from different age groups in one community at a single point in time. If the linguistic behavior of the younger generation differs from that of the older generation, it can be assumed that language change is taking place within a community. Similarly, comparing the relative frequencies of variants in a language spoken by people who were born at different times can lead to predictions about future language change.

The data for this study were collected from language resource persons (henceforth, LRPs) in three different age groups: elderly (60 years old and above), middle-aged (35–50 years old), and young (15–25 years old). The results are based on data from a total of 30 LRPs (5 in each age group × 3 age groups × 2 SWT dialects). The test words for checking the variation in each vowel pair, i.e., [i] – [e] and [u] – [o], in each SWT dialect were selected from the full word list of 1,024 lexical items used in my broader research project. The number of lexical items containing the vowels /i/ and /u/ that were analyzed for this paper is shown in Table 3.

Table 3: Number of test words with short high vowels

1.	[i] – [e]	36
2.	[u] – [o]	92
	Total	128

In the 1,024-word list, which was designed for checking consonant and vowel variation in the five SWT dialects of the broader study, a total of 128 lexical items have CVN syllable structure and contain the high vowels /i/ (36 items) and /u/ (92 items). In the word list, these 128 lexical items are mixed with other lexical items

used to check the variation of other vowels and consonants. In order to keep the LRPs from predicting which vowel is being investigated, the order of the lexical items was randomized. This method of organizing the word list designed to elicit more accurate and natural data by avoiding bias in the LRPs' pronunciation. The findings presented in this paper are based on the analysis of a total of 3,840 tokens containing high vowels in Lue and Khün (128 test words × 15 LRPs × 2 SWT dialects).

The data were recorded with a Sony ICD-MX20 IC Digital Recorder. The vowels of SWT dialects studied in earlier works were also considered where available. If necessary, the vowels in those works were compared to the data gathered for this study to produce a clearer picture of the vowel variation in Lue and Khün.

Results

Comparison of the reflexes of the Proto-SWT vowels **e* and **o* in Standard Thai, Nyuan, Lue, and Khün

In order to produce a clear picture of vowel variation in Lue and Khün, it is worth comparing the target vowels as they appear in these two SWT dialects with their reflexes in Nyuan, a lingua franca used in the area studied, and Standard Thai, an official language spoken by most people in the area. Table 4 illustrates the differences among these vowels as they appear in the two SWT dialects, Nyuan, [13] and Standard Thai using the Proto-SWT vowels reconstructed by Sarawit (1973) and Li (1977) as a starting point. Examples of lexical items containing each vowel are also included. [14]

[13] Nyuan is one of the five SWT dialects investigated in my research project. The lexical and phonological data were collected from 15 Nyuan LRPs in three generations (i.e., 5 LRPs in each of the elderly, middle-aged, and young groups). The research location was Tha Kham Song, Rim Subdistrict, Tha Wang Pha District, Nan Province, which is about three kilometers away from the Lue village of Nong Bua. See Akharawatthanakun (2012) for details.

[14] It is important to note that the Proto-SWT vowels **e* and **o* developed to /i/ and /u/ occurring in CVN syllables in Lue (L) and Khün (Kh) and to /e/ in Standard Thai (S) and Nyuan (Ny). For example, */khem*^{24}*/* (S), */khem*^{23}*/* (Ny), */khim*^{35}*/* (L), */khim*^{23}*/* (Kh) 'needle' (เข็ม); */tom*^{42ʔ}*/* (S), */tom*^{44ʔ}*/* (Ny), */tum*^{213ʔ}*/* (L), */tum*^{44ʔ}*/* (Kh) 'to boil' (ต้ม). These two short high vowels /i/ (< **e*) and /u/ (< **o*) are the focus of this paper.

However, the vowels /i, u/ (< **i:*, **u:* (Sarawit 1973) or < **i*, **u* (Li 1977)) are also found to occur in CVN syllables in Lue, Khün and other Tai dialects, including Standard Thai and Nyuan. For example, */hin*^{24}*/* (S), */hin*^{23}*/* (Ny, Kh), */hin*^{35}*/* (L) 'stone' (หิน); */ʔum*^{42ʔ}*/* (S), */ʔum*^{44ʔ}*/* (Ny, Kh), */ʔum*^{213ʔ}*/* (L) 'carry in the arms' (อุ้ม). The short high vowels /i/ and /u/ which occur as reflexes of the Proto-SWT vowels **i:* and **u:* (Sarawit 1973) or **i* and **u* (Li 1977), respectively are not within the scope of this paper.

Table 4: Reflexes of the Proto-SWT vowels **e* and **o* in SWT dialects

Proto-SWT (Sarawit, 1973; Li, 1977)	**Standard Thai**	**Nyuan**	**Lue**	**Khün**	**Gloss**
*e	e [pen^{33}] [khem^{24}]	e [pen^{23}] [khem^{23}]	i [pin^{35}] [khim^{35}]	i [pin^{23}] [khim^{23}]	 'to be, become' 'needle'
*o	o [kon^{42ʔ}] [com^{33}]	o [kon^{44ʔ}] [com^{23}]	u [kun^{213ʔ}] [cum^{35}]	u [kun^{44ʔ}] [cum^{23}]	 'buttocks' 'to sink, be drowned'

Table 4 shows that the vowels in Nyuan developed in the same way as in Standard Thai, i.e., the Proto-SWT vowels **e* and **o* manifest as /e/ and /o/, respectively, while in Lue and Khün, they instead developed into /i/ and /u/. Vowel raising (**e* > *i*, **o* > *u*) occurred in both Lue and Khün.

Investigation of the usage of the high vowels /i/ and /u/ by the three generations of Lue and Khün speakers shows that, in these two SWT dialects, these two vowels are in the process of changing. Each case of vowel variation is described in the following sections.

The variation of the short high front unrounded vowel /i/

As previously mentioned, Sarawit (1973) reconstructed a vowel **e* for Proto-SWT and demonstrated that in Lü (Muong Yong, Burma), it has undergone the change: *e > i/__nasal which means the Proto-vowel **e* developed into /i/ before a nasal consonant, e.g., **m̥en (A1)* > *min* 'smell bad'. Li (1977) also reconstructed the Proto-SWT **e*, which is found only in closed syllables and is always short. In some SWT dialects, it is raised to *i* before a nasal, as in Lue and White Tai.

In the Lue and Khün dialects investigated in this study, Proto-SWT **e* is raised to /i/ in live syllables ending with final nasal consonant, /-m, -n, -ŋ/, i.e., in CVN syllables. For example, *khim^{35}* (Lue), *khim^{23}* (Khün) 'needle'; *min^{213ʔ}* (Lue), *min^{44ʔ}* (Khün) 'porcupine'; *biŋ^{24}* (Lue), *biŋ^{22}* (Khün) 'to exert force in trying to expel', and so on.

Consideration of lexical items ending with nasal consonants and pronounced with the vowel [i] in Lue and Khün reveals that the short high front unrounded vowel /i/ is in the process of change in both Lue and Khün, i.e., some lexical items in these two dialects are pronounced with either [i] or [e] and some with both [i] and [e]. Table 5 gives examples of lexical items containing the original [i] vowel and its variant [e] in Lue and Khün. To present a clearer picture of the variation of /i/ in these two dialects, examples from Standard Thai, Nyuan (Tha Kham Song) from the research project, Lue (Sipsongpanna) from Kullavanijaya et al. (1984), and Khün (Kang Muang, Burma) [15] from Petsuk (1978) are also

[15] Khün (Kang Muang), investigated in Petsuk (1978), is spoken in the Kat Htai village

included. Note that the Proto-SWT vowel **e* has developed to /ɛ/ in Khün (Kang Muang). It has changed to both /ɛ/ and /e/ in Khün (Klang Muong)[16] and Khün (Baan Veng) studied by William J. Gedney (Hudak 1994).[17] Therefore, the development of the Proto-SWT vowel **e* in the Khün dialects studied in earlier works would seem to be different from the Khün (Nong Muang) in this study.[18]

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cluster, located approximately five kilometers south of Kentung.

[16] William J. Gedney (Hudak 1994) uses the *Klang Muong* spelling, while Petsuk (1978) has *Kang Muang*. Both refer to the same place. When earlier works are referenced in this paper, the spelling of place names from those works is followed.

[17] William J. Gedney collected data from two Khuen (cf. Hudak, 1994) speakers. The first speaker was a man born in Keng Tung who spoke Klang Muong Khuen, the dialect of that city. He referred to his language as *Khuen* (*khɯn*^{35}). (Note that the tone is marked /35/ by the author based on the Khuen tones studied by Gedney.) The interviews took place in Mae Sai, Thailand, from 30 November to 1 December 1964. The Khuen (Baan Veng) speaker was a man from the village of Baan Veng, located about five miles east of Keng Tung, Burma. This speaker also referred to his language as *Khuen* (*khɯn*^{35}), although it is identified as Baan Veng Khuen to distinguish it from the first dialect. The elicitation of the data was done on 1–2 December 1964 in Mae Sai, Thailand. See Hudak (1994) for details.

[18] In Owen (2008), the Proto-SWT vowel **e* in some Khuen varieties spoken in different villages (e.g., Yang Lorh, Wan Jorhn, Wan Kahng, and Murng Jem) in Keng Tung Township, Myanmar, developed into /e/, while, in some varieties (Pa Jahm, Yang Kway, and Wan Jay), it has become /ɛ/.

Table 5: Examples showing the variation of the vowel /i/ in Lue (Nong Bua) and Khün (Nong Muang)[19]

Gloss	**Standard Thai (*e > e)**	**Nyuan (*e > e)**	**Lue**		**Khün**	
			Sipsong panna (*e > i)	**Nong Bua (*e > i > [i], [e])**	**Kang Muang/ Klang Muong, Baan Veng (*e > ɛ)**	**Nong Muang (*e > i > [i], [e])**
'to be cool'[20]	yen^{33}	yen^{35}	jin^{55}	yin^{35}, yen^{35}	jɛn^{23}/–, yɛn^{44}	yin^{35}, yen^{35}, ɲin^{35}
'to be full, filled'	tem^{33}	tem^{23}	tim^{55}	tim^{35}, tem^{35}	tɛm^{15}/tem^{35}, –	tim^{23}, tem^{23}
'line, strand'	sen^{42ʔ}	sen^{44ʔ}	sin^{13}	sin^{213ʔ}, sen^{213ʔ}	sɛn^{32}/sen^{33ʔ} [21], –	sin^{44ʔ}, sen^{44ʔ}
'needle'	khem^{24}	khem^{23}	xim^{55}	khim^{35}, khem^{35}	khɛm^{15}/khɛm^{35}, –	khim^{23}, khem^{23}
'salty, salted'	khem^{33}	kem^{35}	tsim^{51}	cim^{31}, kem^{31}	cɛm^{23}/cem^{44}, –	kem^{35}
'to be, become'	pen^{33}	pen^{23}	pin^{55}	pin^{35}, pen^{35}	pɛn^{15}/pɛn^{35}, pen^{35}	pen^{23}
'to exert force in trying to expel'	beŋ^{21}	beŋ^{22}	–	biŋ^{24}, beŋ^{24}	–	biŋ^{22}, beŋ^{22}
'to dance, to jump up and down'	ten^{42ʔ}	ten^{44ʔ}	–	tin^{213ʔ}, ten^{213ʔ}	tɛn^{32}/–, –	ten^{44ʔ}

[19] For Lue (Sipsongpanna) and Khün (Kang Muang), certain lexical items are lacking in the earlier works. They are marked by dashes (–) in Table 5. For Khün (Klang Muong) in Hudak (1994) and Khün (Kang Muang) in Petsuk (1978), the lexical items presented in Table 5 are separated by a slash. Where lexical items for one or the other are not available, dashes are used to mark them.

[20] In the transcriptions for the lexical item 'to be cool', the symbol used in this paper for the initial consonant is /y/, which is equivalent to IPA symbol /j/ used in the other works. Note that, in Khün (Nong Muang), some LRPs pronounce 'to be cool' with a voiced palatal nasal /ɲ/ instead of /y/.

[21] The lexical item /sen^{33ʔ}/ is taken from /sen^{33ʔ} lɤɤt^{22}/ 'blood vessel' since the monosyllable /sen^{33ʔ}/ is not otherwise found in Hudak (1994).

Gloss	Standard Thai (*e > e)	Nyuan (*e > e)	Lue		Khün	
			Sipsong panna (*e > i)	Nong Bua (*e > i > [i], [e])	Kang Muang/ Klang Muong, Baan Veng (*e > ɛ)	Nong Muang (*e > i > [i], [e])
'to omit, to skip, to leave (a space)'	wen^{453ʔ}	wen^{41ʔ}	–	win^{22ʔ}, wen^{22ʔ}	wɛn^{51}/–, –	win^{41ʔ}, wen^{41ʔ}
'to play'	len^{42ʔ}	len^{44ʔ}	din^{13}	lin^{213ʔ}, len^{213ʔ}	lɛn^{32}/–, –	len^{44ʔ}
'to splash, to fly off'	kra-den^{33}	sa-den^{35}	–	siʔ^{35} din^{35}/ den^{35}, sa-din^{35}/den^{35}, ka- din^{35}/ den^{35}	–	sa- din^{35}/ den^{35}, ka-din^{35}/den^{35}
'to stink, to smell bad'	men^{24}	men^{23}	min^{55}	min^{35}	mɛn^{15}/mɛn^{35}, –	min^{23}, men^{23}
'to take aim'	leŋ^{33}	leŋ^{35}	–	leŋ^{31}	–	leŋ^{35}

The lexical items consisting of live syllables ending with nasal consonants are expected to be pronounced with [i] in Lue and Khün, but some are pronounced with the variant [e], and others, with both [i] and [e] as if they were in free variation. As seen in Table 5, such variation is found in both Lue and Khün.

Examples showing the usage of the two vowel variants [i] and [e] among the three age groups of Lue and Khün are presented in Table 6.

Table 6: Examples of variation between [i] and [e] in Lue (Nong Bua) and Khün (Nong Muang)

The short high front unrounded vowel /i/ → [i], [e]				
Ref. No.	**Gloss**	**Age Group**		
		60 yrs old and above	**35–50 yrs old**	**15–25 yrs old**
Lue (Nong Bua)				
12	'(water) splash'	si?^{35} din^{35}, si?^{35} den^{35}, sa-din^{35}	sa-din^{35}, sa-den^{35}, ka-din^{35}, ka-den^{35}	sa-din^{35}, ka-den^{35}
112	'needle'	khim^{35}, khem^{35}	khim^{35}, khem^{35}	khim^{35}, khem^{35}
113	'dark (color)'	khim$^{213?}$, khem$^{213?}$	khim$^{213?}$, khem$^{213?}$	khem$^{213?}$
217	'salty'	cim^{31}, kem^{31}	cim^{31}, kem^{31}	cim^{31}, kem^{31}
410	'to overlay'	tiŋ^{35}	tiŋ^{35}	tiŋ^{35}, teŋ^{35}
411	'to dance, to jump up and down'	tin$^{213?}$	tin$^{213?}$, ten$^{213?}$	tin$^{213?}$, ten$^{213?}$
412	'to be full, filled'	tim^{35}, tem^{35}	tim^{35}, tem^{35}	tim^{35}, tem^{35}
547	'to exert force in trying to expel'	biŋ^{24}	biŋ^{24}, beŋ^{24}	biŋ^{24}, beŋ^{24}
575	'to be, become'	pin^{35}, pen^{35}	pin^{35}, pen^{35}	pin^{35}, pen^{35}
661	'waxing moon'	piŋ^{31}	piŋ^{31}, phen^{31}	piŋ^{31}, phen^{31}
695	'porcupine'	min$^{213?}$	min$^{213?}$, men$^{213?}$	min$^{213?}$, men$^{213?}$
851	'to play'	lin$^{213?}$, len$^{213?}$	lin$^{213?}$, len$^{213?}$	lin$^{213?}$, len$^{213?}$
852	'to nibble'	lim^{31}	lim^{31}, lem^{31}	lim^{31}, lem^{31}
875	'to omit, to skip, to leave (a space)'	win$^{22?}$, wen$^{22?}$	win$^{22?}$, wen$^{22?}$	win$^{22?}$, wen$^{22?}$
1,010	'cool (weather)'	yin^{35}, yen^{35}	yin^{35}, yen^{35}	yin^{35}, yen^{35}
1,013	'tendon'	ʔin^{35}	ʔin^{35}, ʔen^{35}	ʔin^{35}, ʔen^{35}

The short high front unrounded vowel /i/ → [i], [e]				
Ref. No.	**Gloss**	**Age Group**		
		60 yrs old and above	**35–50 yrs old**	**15–25 yrs old**
Khün (Nong Muang)				
16	‘(water) splash’	sa-din^{35}, sa-den^{35}	sa-den^{35}, ka-den^{35}	sa-den^{35}, ka-din^{35}, ka-den^{35}
273	‘needle’	khim^{23}, khem^{23}	khem^{23}	khem^{23}
276	‘dark (color)’	khem^{44ʔ}	khem^{44ʔ}	khem^{44ʔ}
507	‘salty’	kem^{35}	kem^{35}	kem^{35}
721	‘to overlay’	teŋ^{23}	teŋ^{23}	teŋ^{23}
495	‘to dance, to jump up and down’	ten^{44ʔ}	ten^{44ʔ}	ten^{44ʔ}
649	‘to be full, filled’	tim^{23}, tem^{23}	tim^{23}, tem^{23}	tem^{23}
831	‘to exert force in trying to expel’	biŋ^{22}, beŋ^{22}	beŋ^{22}	beŋ^{22}
861	‘to be, become’	pen^{23}	pen^{23}	pen^{23}
898	‘waxing moon’	piŋ^{35}, peŋ^{35}, phen^{35}	peŋ^{35}, phen^{35}	peŋ^{35}, phen^{35}
941	‘porcupine’	min^{44ʔ}, men^{44ʔ}	men^{44ʔ}	men^{44ʔ}
100	‘to play’	len^{44ʔ}	len^{44ʔ}	len^{44ʔ}
103	‘to nibble’	lim^{35}, lem^{35}	lem^{35}	lem^{35}
166	‘to omit, to skip, to leave (a space)’	win^{41ʔ}, wen^{41ʔ}	wen^{41ʔ}	wen^{41ʔ}
644	‘cool (weather)’	yin^{35}, yen^{35}, ɲin^{35}	yen^{35}	yen^{35}
655	‘tendon’	ʔin^{35}, ʔen^{35}	ʔen^{35}	ʔen^{35}

Table 6 illustrates that some lexical items in Lue are only pronounced with [i] by the elderly group, while the middle-aged and young groups pronounce them with both the [i] and the [e] variants. It is noteworthy that the Lue young group pronounces some lexical items only with the vowel [e]. The examples in Table 6 give clear evidence that the middle-aged and the young groups of Khün speakers use the vowel [i] only in a few lexical items; for example, lexical items no. 16 and 649 are pronounced with both [i] and [e] by the young group and the middle-aged group, respectively.

The usage frequencies and percentages for the vowel variants [i] and [e] in both Lue and Khün are presented in Table 7, divided by age group, and the corresponding chart is presented in Figure 1.

Table 7: The usage frequencies and percentages for the vowel variants [i] and [e] in Lue and Khün, divided by age group

Age Group / Variant	60 yrs old and above		35–50 yrs old		15–25 yrs old		Average	
	usage frequency	%	usage frequency	%	usage frequency	%	usage frequency	%
Lue (Nong Bua)								
[i]	106	74.1	84	57.5	66	46.2	85	59.0
[e]	23	16.1	43	29.5	42	29.4	36	25.0
[i]~[e][22]	14	9.8	19	13.0	35	24.5	23	16.0
Total	143	100.0	146	100.0	143	100.0	144	100.0
Khün (Nong Muang)								
[i]	30	20.1	5	3.3	5	3.4	13	8.8
[e]	102	68.5	140	93.4	140	95.2	127	85.8
[i]~[e]	17	11.4	5	3.3	2	1.4	8	5.4
Total	149	100.0	150	100.0	147	100.0	149	100.0

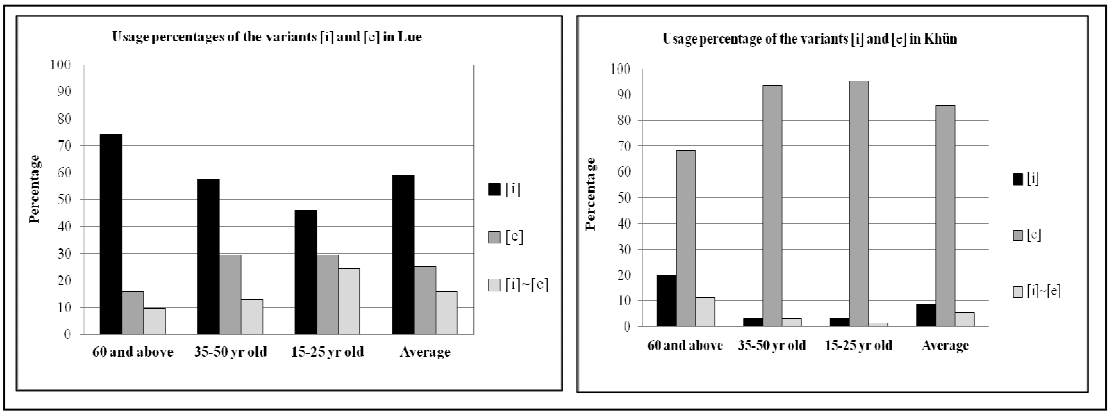

Figure 1: Usage percentages for the variants [i] and [e] in all three age groups of Lue and Khün speakers

[22] The tilde symbol (~) is used to indicate the "free variation" between the two vowels.

Table 7 and Figure 1 clearly show that the original short high front unrounded vowel [i] is used with higher frequency by the elderly group of Lue than the middle-aged or young groups. In contrast, the variant [e] is used by the middle-aged and young groups more frequently than by the elderly group. The average usage frequencies for each age group show that the lexical items which were expected to be pronounced with the [i] vowel are pronounced with [i] by the three age groups of Lue speakers at a higher frequency than the variants [e] or [i]~[e]. In other words, even though the Lue vowel [i] is in the process of change, it is still used quite frequently by all three generations of Lue LRPs.

With regard to the variation of [i] in Khün, my research findings show that all three Khün age groups use the variant [e] at a high frequency, as can be seen in Table 7 and Figure 1. As in Lue, the original variant [i] is used by Khün LRPs in the elderly group at a higher rate than by the other two groups.

Comparison of the average usage frequency for the vowel [i] in Lue and with that in Khün shows that the frequency of usage in Lue is obviously higher than it is in Khün. Specifically, the [i] is used 59.0% of the time among the Lue LRPs, but it is used only 8.8% of the time by the Khün LRPs. On the other hand, the variant [e] is used 85.8% of the time in Khün, while, it is only 25.0% in Lue. Based on the different vowel-usage frequencies in these two SWT dialects, I predict that, in Khün, the vowel /i/ will change to /e/ in CVN syllables in the near future, since the usage percentages of the vowel [e] for the middle-aged and young groups of Khün speakers are 93.4% and 95.2%, respectively. In contrast, the middle-aged and young groups of Lue speakers use the variant [e] only 29.5% and 29.4% of the time, respectively. This means that, even though variation of the vowel /i/ occurs in Lue, all three age groups still use the original vowel [i] most of the time, as previously discussed. This leads me to hypothesize that it may take longer for the Lue vowel /i/ to change to /e/ in CVN syllables.

I would note in passing that, unlike Khün (Kang Muang) as presented in Petsuk (1978), Khün (Nong Muang) has no vowel /ɛ/ deriving from Proto-SWT **e* (i.e., **e* > *ɛ*). In Sarawit (1973), /ɛ/ is presented as a reflex of Proto-SWT **a*. In Shan it has undergone the vowel change: **a* > *a*, *ɛ* as in **tam (B2)* > *tam, tɛm* 'low'.[23] In Khün (Nong Muang), /ɛ/ also occurs in CVN syllables, but it is found in only a few lexical items, e.g., /tam^{22}/, /tɛm^{22}/ 'short (in height)', /tan^{23}/, /tɛn^{23}/ 'block up', and /ma-tan^{35}/, /ma-tɛn^{35}/ 'jujube'. Therefore, it is plausible that, in Khün (Nong Muang), the vowel /ɛ/ (< **a*) is also in the process of change. However, the change of /ɛ/ is not the focus of this paper.

Considering the factors which cause vowel variation, I surmise that either Nyuan or Standard Thai, or perhaps both of them, are inducing the variation in the vowel /i/ in both Lue and Khün. Most Lue and Khün people speak Nyuan as their second language, and many of them, especially in the younger generation, speak Standard Thai very fluently, as well. Therefore, the vowel [i] cannot avoid being gradually influenced by Nyuan and/or Standard Thai.

[23] Sarawit (1973: 107–108) notes that the form *tɛm* is semantically differentiated from *tam* and means rather, 'lowly in stature'.

The variation of the short high back rounded vowel /u/

As mentioned above, Sarawit (1973) and Li (1977) reconstructed a Proto-SWT vowel **o*. Li (1977: 271) wrote that this vowel is found only in closed syllables, remains *o* in Siamese (or Standard Thai), and becomes *u* in some SWT dialects when followed by a nasal as in White Tai and Lü (see Table 2).

As with the vowel /i/ discussed previously, in Lue and Khün, the vowel /u/ occurs in live syllables ending with final nasal consonants (CVN), e.g., *khum*^{31} (Lue), *khum*^{35} (Khün) 'sharp'; *kun*^{213ʔ} (Lue), *kun*^{44ʔ} (Khün) 'buttock'; *buŋ*^{24} (Lue), *buŋ*^{22} (Khün) 'prick off (thorn)', and so on. Like /i/, the vowel /u/ is in the process of change in both Lue and Khün.

Analysis shows that, in Lue, the vowel /u/ has two variants, [u] and [o], while in Khün it has four variants, [u] and [o] and their long counterparts [u:] and [o:]. In other words, lexical items in these two SWT dialects that one expects to be pronounced with [u] may be pronounced with either [u] or [o] or sometimes with both [u] and [o]. Additionally, in Khün, some lexical items are pronounced with both [u] and [o] and their long counterparts and sometimes with either [u:] or [o:].

Table 8 provides some examples of lexical items containing the original vowel [u] and its variant [o] in both Lue and Khün and other examples showing the variants [u], [o], [u:], and [o:] in Khün. Examples of lexical items from Standard Thai, Nyuan, and Lue (Sipsongpanna) from Kullavanijaya et al. (1984), Khün (Kang Muang) from Petsuk (1978), and Khün (Klang Muong) and Khün (Baan Veng) from William J. Gedney (cited in Hudak, 1994) are also included to provide comparison with usage of [u] and [o] in those SWT dialects. It should also be noticed that Khün (Kang Muang) (Petsuk, 1978) has undergone the change of Proto-SWT **o* > *ɔ*, which differs from Khün (Nong Muang) as presented in this study.

Table 8: Variation of /u/ in Lue (Nong Bua) and Khün (Nong Muang)[24]

Gloss	**Standard Thai (*o > o)**	**Nyuan (*o > o)**	**Lue**		**Khün**	
			Sipsong panna (*o > u)	**Nong Bua (*o > u)**	**Kang Muang/ Klang Muong, Baan Veng (*o > ɔ)**	**Nong Muang (*o > u)**
'be out of danger'	phon^{453ʔ}	pon^{41ʔ}	–	pun^{22ʔ}, pon^{22ʔ}	pɔn^{51}/–, –	pun^{41ʔ}, puːn^{41ʔ}, pon^{41ʔ}, phon^{41ʔ}
'body hair, feather'	khon^{24}	khon^{23}	xun^{55}	khun^{35}, khon^{35}	khɔn^{15}/khɔn^{44}, –	khun^{23}, khon^{23}
'buttocks'	kon^{42ʔ}	kon^{44ʔ}	–	kun^{213ʔ}, kon^{213ʔ}	kɔn^{32}/kɔn^{33ʔ} naŋ^{22} (= kɔŋ^{33ʔ}), –	kun^{44ʔ}, kon^{44ʔ}
'milk'	nom^{33}	nom^{35}	nam^{11} num^{51}	num^{31}, nom^{31}	–	num^{35}, nom^{35}
'person'	khon^{33}	khon^{35}	kun^{51}	kun^{31}, khun^{31}, khon^{31}	khɔn^{23}/khɔn^{35}, khɔn^{35}	khun^{35}, khon^{35}
'shade'	rom^{42ʔ}	hom^{31}, lom^{31}	–	hum^{33}	hɔm^{21}/ –, hɔm^{22}	hum^{31}, hom^{31}, lom^{31}
'sharp'	khom^{33}	khom^{35}	–[25]	khum^{31}, khom^{31}	khɔm^{23}/khɔm^{44}, –	khum^{35}, khom^{35}
'to bend the body or head'	kom^{42ʔ}	kom^{44ʔ}	–	kum^{213ʔ}, kom^{213ʔ}	kɔm^{32}/kɔm^{33ʔ}, –	kum^{44ʔ}, kom^{44ʔ}
'to boil'	tom^{42ʔ}	tom^{44ʔ}	tum^{13}	tum^{213ʔ}	tɔm^{32}/–, tɔm^{33ʔ}	tum^{44ʔ}, tom^{44ʔ}

[24] Some lexical items are lacking for Lue (Sipsongpanna), Khün (Kang Muang), Khün (Klang Muong), and Khün (Baan Veng). They are marked by dashes in Table 8.

[25] Lue (Sipsongpanna) from Kullavanijaya et al. (1984) uses /phaːi^{55}/ 'sharp' which is not a cognate with the others.

Gloss	Standard Thai (*o > o)	Nyuan (*o > o)	Lue		Khün	
			Sipsong panna (*o > u)	Nong Bua (*o > u)	Kang Muang/ Klang Muong, Baan Veng (*o > ɔ)	Nong Muang (*o > u)
'to bump against'	chon^{33}	con^{35}	–	cun^{31}	–/–, –	cun^{35}, con^{35}, coːn^{35}
'to cover (with a blanket)'	hom^{21}	hom^{33}	hum^{35} (in phaː^{13} hum^{35} 'blanket')	hum^{24}	hɔm^{21}/ hɔm^{12} (in phaa^{33ʔ} hɔm^{12}), –	hum^{22}, hom^{22}
'to cover over'	thom^{24}	thom^{23}	–	thum^{35}, thom^{35}	thɔm^{15}/–, –	thum^{23}, thom^{23}
'to send (a piece of news)'	soŋ^{21}	soŋ^{22}	suŋ^{35}	suŋ^{24}, soŋ^{24}	sɔŋ^{21}/–, –	suŋ^{22}, soŋ^{22}
'to sink'	com^{33}	com^{23}	tsum^{55}	cum^{35}	cɔm^{15}/–, –	cum^{23}, com^{23}
'to smell'	dom^{33}	dom^{35}	dum^{55}	dum^{35}, dom^{35}	lɔm^{23} (or dɔm^{23})/lɔm^{44}, –	dum^{35}, dom^{35}
'to spit out'	thom^{21}	thom^{22}	thum^{35}	thum^{24}, thom^{24}	thɔm^{21}/thɔm^{12}, –	thum^{22}, thom^{22}
'wind'	lom^{33}	lom^{35}	lum^{51}	lum^{31}, lom^{31}	lɔm^{23}/lɔm^{44}, lɔm^{44} (in lɔm^{44} pat^{51} 'rain falls' ['wind blows'?]	lom^{35}

As can be seen in Table 8, while Proto-SWT **o* is maintained in Standard Thai and Nyuan (Tha Kham Song), it shifts to /u/ in Lue (Sipsongpanna) and Lue (Nong Bua). However, these examples also show that the Lue (Nong Bua) vowel varies: /u/ > [u], [o] i.e., the high back rounded vowel /u/ has two variants: [u] and [o]. In other

words, a number of lexical items in Lue (Nong Bua) that one would expect to be pronounced with [u] are, indeed, pronounced with [u]; however, some are pronounced with [o], as in Standard Thai and Nyuan. Furthermore, some LRPs in all three age groups pronounced certain lexical items variously with either [u] or [o].

Analysis of the vowel variation in Khün reveals that /u/ has four variants: [u], [o], [uː], and [oː]. Proto-SWT **o* lowered to the mid back rounded vowel /ɔ/ in Khün (Kang Muang) (Petsuk, 1978) and in Khün (Klang Muong) and Khün (Baan Veng) (Gedney, cited in Hudak, 1994) but shifted to /u/ in Khün (Nong Muang) as in Lue (Nong Bua). In Khün (Nong Muang), /u/ is lengthened to [uː] in some lexical items; for example, the word meaning 'be out of danger' is pronounced [pun^{41ʔ}] by some Khün LRPs and [puːn^{41ʔ}] by others.

Examples of the variation between [u] and [o] in the speech of the three age groups of Lue (Nong Bua) and Khün (Nong Muang) speakers are presented in Table 9.

Table 9: Examples of variation between [u] and [o] in Lue (Nong Bua) and Khün (Nong Muang)

The short high back rounded vowel /u/ → [u], [o]				
Ref. No.	**Gloss**	**Age Group**		
		60 yrs old and above	**35–50 yrs old**	**15–25 yrs old**
Lue (Nong Bua)				
2	'buttocks'	kun^{213ʔ}	kun^{213ʔ}, kon^{213ʔ}	kun^{213ʔ}
4	'to bend the body or head'	kum^{213ʔ}, kom^{213ʔ}	kum^{213ʔ}, kom^{213ʔ}	kum^{213ʔ}
55	'body hair, feather'	khun^{35}	khun^{35}	khun^{35}, khon^{35}
56	'thicken, condense'	khun^{213ʔ}	khun^{213ʔ}, khon^{213ʔ}	khun^{213ʔ}, khon^{213ʔ}
58	'bitter'	khum^{35}	khum^{35}	khum^{35}, khom^{35}
145	'sharp'	khum^{31}	khum^{31}, khom^{31}	khum^{31}, khom^{31}
241	'to grope, search'	ŋum^{31}	ŋum^{31}, ŋom^{31}	ŋum^{31}, ŋom^{31}
254	'to sink, be drowned'	cum^{35}	cum^{35}	cum^{35}
362	'heel'	sun^{213ʔ}, son^{213ʔ}	sun^{213ʔ}, son^{213ʔ}	sun^{213ʔ}, son^{213ʔ}
373	'to smell'	dum^{35}	dum^{35}, dom^{35}	dum^{35}, dom^{35}
395	'to boil'	tum^{213ʔ}, tom^{213ʔ}	tum^{213ʔ}, tom^{213ʔ}	tum^{213ʔ}
424	'to cover over'	thum^{35}	thum^{35}	thum^{35}, thom^{35}

The short high back rounded vowel /u/ → [u], [o]				
Ref. No.	**Gloss**	**Age Group**		
		60 yrs old and above	**35–50 yrs old**	**15–25 yrs old**
534	'prick off (thorn)'	buŋ^{24}	buŋ^{24}, boŋ^{24}	buŋ^{24}, boŋ^{24}
560	'powdered'	pun^{24}	pun^{24}	pun^{24}
590	'hair (head)'	phum^{35}	phum^{35}	phum^{35}, phom^{35}
608	'be out of danger'	pun^{22ʔ}	pun^{22ʔ}, pon^{22ʔ}	pun^{22ʔ}, pon^{22ʔ}
832	'down (from ladder)'	luŋ^{31}	luŋ^{31}, loŋ^{31}	luŋ^{31}
835	'wind' (n.)	lum^{31}, lom^{31}	lum^{31}, lom^{31}	lum^{31}, lom^{31}
881	'to send (a piece of news)'	suŋ^{24}	suŋ^{24}	suŋ^{24}, soŋ^{24}
890	'sour'	sum^{213ʔ}	sum^{213ʔ}, som^{213ʔ}	sum^{213ʔ}
946	'fall, drop'	lun^{24}	lun^{24}	lun^{24}
1003	'keep in the mouth'	ʔum^{35}	ʔum^{35}, ʔom^{35}	ʔum^{35}, ʔom^{35}
Khün (Nong Muang)				
4	'buttocks'	kun^{44ʔ}, kon^{44ʔ}	kon^{44ʔ}	kon^{44ʔ}
12	'to bend the body or head'	kum^{44ʔ}, kom^{44ʔ}	kom^{44ʔ}	kom^{44ʔ}
87	'body hair, feather'	khun^{23}, khon^{23}	khon^{23}	khon^{23}
84	'thicken, condense'	khun^{44ʔ}, khon^{44ʔ}	khun^{44ʔ}, khon^{44ʔ}	khun^{44ʔ}, khon^{44ʔ}
90	'bitter'	khum^{23}, khom^{23}	khom^{23}	khom^{23}
226	'sharp'	khum^{35}, khom^{35}	khum^{35}, khom^{35}	khum^{35}, khom^{35}

The short high back rounded vowel /u/ → [u], [o]				
Ref. No.	**Gloss**	**Age Group**		
		60 yrs old and above	**35–50 yrs old**	**15–25 yrs old**
356	'to grope, search'	ŋum^{35}, ŋom^{35}	ŋom^{35}	ŋom^{35}, ŋoːm^{35}
481	'to sink, be drowned'	cum^{23}, com^{23}	cum^{23}, com^{23}	com^{23}
623	'heel'	sun^{44ʔ} tiːn^{23}, son^{44ʔ} tiːn^{23}	sun^{44ʔ} tiːn^{23}, son^{44ʔ} tiːn^{23}	son^{44ʔ} tiːn^{23}
693	'to smell'	dum^{35}, dom^{35}	dum^{35}, dom^{35}	dom^{35}
709	'to boil'	tum^{44ʔ}, tom^{44ʔ}	tum^{44ʔ}, tom^{44ʔ}	tom^{44ʔ}
729	'to cover over'	thum^{23}, thom^{23}	thum^{23}, thom^{23}	thom^{23}
791	'prick off (thorn)'	buŋ^{22}, boŋ^{22}	buŋ^{22}, boŋ^{22}	boŋ^{22}
849	'powdered'	pun^{22}, pon^{22}	pun^{22}, pon^{22}	pon^{22}
583	'hair (head)'	phum^{23}, phom^{23}	phum^{23}, phom^{23}	phum^{23}, phom^{23}
889	'be out of danger'	pun^{41ʔ}, pon^{41ʔ}, puːn^{41ʔ}	pon^{41ʔ}, puːn^{41ʔ}	pon^{41ʔ}, phon^{41ʔ}
34	'down (from ladder)'	loŋ^{35}	loŋ^{35}	loŋ^{35}
50	'wind' (n.)	lom^{35}	lom^{35}	lom^{35}
177	'to send (a piece of news)'	suŋ^{22}, soŋ^{22}	soŋ^{22}	soŋ^{22}
207	'sour'	sum^{44ʔ}, som^{44ʔ}	som^{44ʔ}	som^{44ʔ}
39	'fall, drop'	lun^{22}, lon^{22}	lun^{22}, lon^{22}	lon^{22}
618	'keep in the mouth'	ʔum^{35}, ʔom^{35}	ʔum^{35}, ʔom^{35}	ʔom^{35}

As can be seen in Table 9, the vowel [u] is still used by all three age groups of Lue speakers. Some lexical items are pronounced with both [u] and [o], and this happens in the middle-aged and young groups more frequently than in the elderly group. Table 9 illustrates that the Khün vowel [u] is used mostly by the elderly group. Even though the middle-aged group also uses [u], it is obvious that only some LRPs in the middle-aged group use [u] and then only in certain lexical items. Similarly, the young group rarely uses [u], which means that they use [o] instead of [u] in most of the lexical items investigated in this study.

The usage frequencies and percentages for each variant of /u/ in both Lue (Nong Bua) and Khün (Nong Muang) is presented in Table 10, divided by age group, and the corresponding chart is presented in Figure 2.

Table 10: The usage frequencies and percentages for the variants of /u/ in Lue and Khün, divided by age group

Age Group / Variant	60 yrs old and above		35–50 yrs old		15–25 yrs old		Average	
	usage frequency	%	usage frequency	%	usage frequency	%	usage frequency	%
Lue (Nong Bua)								
[u]	340	88.1	263	66.4	197	49.6	267	68.0
[o]	29	7.5	96	24.3	116	29.2	80	20.4
[u]~[o]	17	4.4	37	9.3	84	21.2	46	11.6
Total	386	100.0	396	100.0	397	100.0	393	100.0
Khün (Nong Muang)								
[u]	94	24.0	12	3.0	13	3.1	40	10.0
[o]	229	58.6	355	87.4	380	92.0	321	79.3
[u]~[o]	61	15.6	35	8.6	11	2.7	36	9.0
[uː]	5	1.3	0	0.0	0	0.0	2	0.5
[oː]	2	0.5	3	0.7	4	1.0	3	0.7
[o]~[oː]	0	0.0	1	0.3	5	1.2	2	0.5
Total	391	100.0	406	100.0	413	100.0	403	100.0

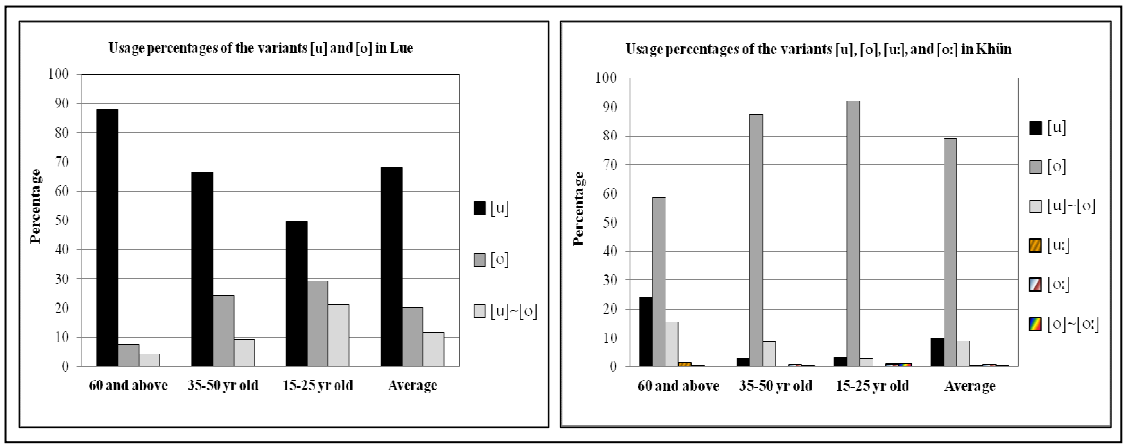

Figure 2: Usage percentages for the variants of /u/ in all three age groups of Lue and Khün speakers

Table 10 and Figure 2 show that the elderly age group of both Lue and Khün speakers uses the original vowel [u] more than the other age groups. Conversely, the young age group of both Lue and Khün speakers uses the variant [o] with greater frequency than the other age groups. Comparison of these two SWT dialects with respect to average usage of the variants of /u/ reveals that the original vowel [u] is used far less in Khün than in Lue, i.e., 10.0% and 68.0%, respectively. In contrast, the average usage of the variant [o] is 79.3% in Khün, which is much higher than the 20.4% observed for Lue.

As with Khün [e] above, the variant [o] is used most frequently (92.0%) by the young group while the middle-aged group and the elderly group used it 87.4% and 58.6% of the time, respectively. I predict that, in Khün (Nong Muang), /u/ (< **o*) will change to /o/ in CVN syllables in the very near future and that this change will take place faster than the change of /u/ in Lue (Nong Bua).

Considering the factors which motivate vowel variation, I surmise that the variation of the vowel /u/ in both Lue and Khün is being influenced by either Nyuan or Standard Thai or probably by both. I note that the range of variation for /u/ is much greater in Khün than in Lue. This is probably due to the fact that Khün people, particularly the young generation, speak not only Nyuan but also Standard Thai very fluently. The confusion of the Khün ethnonym may be used to support this conclusion. While conducting fieldwork in Nong Muang, I observed Khün people using several autoethnonyms and autoglossonyms: Khün [kʰɨːn^{23}] (in free variation with Khoen [kʰəːn^{23}]), Tai Khün [tay^{35} kʰɨːn^{23}] (in free variation with Tai Khoen [tay^{35} kʰəːn^{23}]), and Moeng [məːŋ^{35}]. Most of the elder generation referred to themselves as Moeng, while the other two generations adopted the other names. Many young people showed confusion as to whether their language was Khün or Kam Mueang, the ethnonym used for the Nyuan in that area. Some of them said that they spoke "Kam Mueang"

(i.e., Nyuan) but with a "different accent" from the Kam Mueang spoken in other areas, such as in Mueang District of Nan Province or even in the other villages of Tha Wang Pha District where their village, Nong Muang, is located. I hypothesize that part of the "different accent" they mention can be attributed to differences in vowel qualities between Khün and Nyuan (or Kam Mueang). For example, in the CVN syllable structure, Khün has the vowels /i/ and /u/, while Nyuan has /e/ and /o/, respectively. Similarly, Nyuan (e.g., in Tha Kham Song) has three diphthongs, /iə/, /ɨə/, and /uə/, which show up in Khün as the long vowels /eː/, /əː/, and /oː/, respectively.

Conclusion and Discussion

The methodology of examining "linguistic change in apparent time" proposed by Labov (1972) has been applied in investigating vowel variation in the current study. The differing usage frequencies of the variants of the two high vowels /i/ and /u/ in Lue and Khün provide evidence of change in progress in these two SWT dialects (see Tables 7 and 10 and Figures 1 and 2).

Comparison of average percentages for the usage of the variants [i] and [e] of the short high front unrounded vowel /i/ and of the variants [u] and [o] of the short high back rounded vowel /u/ reveals that both the variant [e] and the variant [o] are used with much greater frequency in Khün than in Lue. This means that usage percentages for the original vowels [i] and [u] are very high in Lue but very low in Khün. This is illustrated in Figure 3.

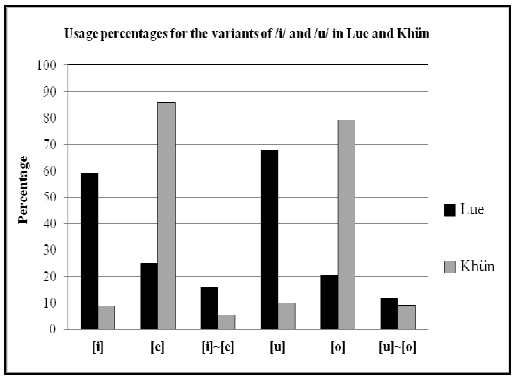

Figure 3: Average usage percentages for the variants of /i/ and /u/ in Lue and Khün[26]

During my seven weeks eliciting Khün data in Nong Muang, I observed that most young LRPs and some middle-aged LRPs showed confusion when they were asked to pronounce lexical items containing the vowels /i/ and /u/. While the elderly LRPs did not hesitate to pronounce these lexical items with the vowels [i] and [u], some LRPs in the middle-aged group pronounced them with [e] and [o] first, then switched to [i] and [u] later. Furthermore, they insisted that they used [e] and [o] more frequently than [i] and [u] in such contexts. On the other hand, most young LRPs immediately pronounced certain lexical items with [e] and [o]. Some young LRPs indicated that they also pronounced those lexical items with [i] and [u] but only rarely. Others said that they were used to hearing their grandparents or elderly people use [i] and [u] in those lexical items, but they themselves never did. Interestingly, some young people found the pronunciation [i] and [u] in such contexts old-fashioned and

[26] The average percentages for the usage of the variants [uː] and [oː] in Khün are not included in Figure 3 because they appear very infrequently.

said that [e] and [o] sounded more normal. All of this information leads me to hypothesize that in Khün, the vowels [i] and [u] will be completely lost in short live syllables with final nasal consonants (CVN) in the near future as the young generation gradually uses them less and less.

Concerning high vowel variation in Lue, it is stated in *A Comparative Dictionary of Bangkok Thai, Chiang Mai, Tai Lue, Tai Dam* (Leerawat et al. 1982) that, where Bangkok Thai (i.e., Standard Thai), Chiang Mai (i.e., Kam Mueang), and Tai Dam (i.e., Black Tai) have the vowel /e/, Lue[27] has either /e/ or /i/ but only /i/ is used in CVN syllables. Similarly, in CVN syllables where the other dialects (i.e., Bangkok Thai and Chiang Mai) have the vowel /o/, Tai Dam has /o/ or /o:/, Lue has either /u/ or /o/. There are certain Lue lexical items in which only /o/ occurs in a CVN syllable, but such cases are quite rare. This evidence supports the theory that the high vowels /i/ (< Proto-SWT **e*) and /u/ (< Proto-SWT **o*) appear not only in Lue (Nong Bua) but also in the other Lue dialects.

Even though /i/ and /u/ are undergoing change in Lue (Nong Bua) as they are in Khün (Nong Muang), it will likely take longer for these two vowels to be replaced by /e/ and /o/ because all three age groups still use the two original vowels /i/ and /u/ quite frequently in CVN syllables in Lue, i.e., more than 50% of the time (see Tables 7 and 10). An earlier linguistic description of the Lue spoken in Nong Bua (Ampornpan 1986) recorded the preservation of the original Lue high vowels /i/ and /u/. In particular, /i/ and /u/ were found to occur in CVN syllables. For example, the vowel /i/ occurred in /kim^{343}/ 'salty', /khim^{44}/ 'needle', /tim^{44}/ 'full, to be filled', /lin^{332}/ 'to play', and /pin^{44}/ 'to be, become', and the vowel /u/ showed up in /kun^{343}/ 'person, human', /phum^{44}/ 'hair (head)', /tum^{232}/ 'to boil', and /kum^{232}/ 'to bend the body or head'.[28] My present findings attest that the vowels /i/ and /u/ which were in use about 20 years ago are still being preserved in Lue (Nong Bua).

The vowel variants [e] and [o] are used among the young generation of Lue at a higher percentage than the original vowels [i] and [u] (see Tables 7 and 10 and Figures 1 and 2). If these two vowel variants are used by the young generation of Lue with increasing frequency and if the young generation as well as their descendants perceive [i] and [u] as old-fashioned in this context, as young Khün people, they may not want to use them anymore. This would result in Lue [i] and [u] being lost in CVN syllables in the future.

[27] In *A Comparative Dictionary of Bangkok Thai, Chiang Mai, Tai Lue, Tai Dam*, the data was collected for Lue from four LRPs. All four were migrants from Xayaburi, Lao PDR, two living in Chiang Kham District, Phayao Province, Thailand, and the other two in Pua District, Nan Province, Thailand.

[28] Ampornpan (1986) identified six tones in Lue (Nong Bua): Tone 1 High Level (A123, DS123), Tone 2 Mid-Rising-Falling (A4), Tone 3 Mid Level (C4), Tone 4 Mid Level-Falling (B4, DS4), Tone 5 Mid Level-Rising (B123, DL123), and Tone 6 Low-Rising-Falling (C123). Ampornpan did not use Chao numbers to represent the tones. I have adapted Ampornpan's representation of the tones in lexical items in Lue (Nong Bua) by assigning Chao numbers for each tone, i.e., /44/, /343/, /33/, /332/, /334/, and /232/, respectively.

Some Lue and Khün LRPs in this study pronounce a number of lexical items by using either [i] or [e] and either [u] or [o] very naturally and consistently. In other words, [i] and [u] sometimes occur in free variation with [e] and [o], respectively, in both Lue and Khün (see Tables 7 and 10 and Figures 1 and 2). This phenomenon also suggests that the high vowels /i/ and /u/ are undergoing change in both Lue and Khün and that the variants [i] vs. [e] and [u] vs. [o] are competing with each other. The variation of /i/ and /u/ described in this study lead me to expect that there will be vowel change in both Lue and Khün in the future.

With regard to the factors which may be inducing the variation in Lue and Khün, I suggest that language contact, an external factor, is playing an important role. The Lue and Khün people are bilingual/ multilingual, or bidialectal/multidialectal in this context. Most Lue can speak both Lue and Nyuan, while a large number of them, especially among young generation, speak not only Lue and Nyuan but also Standard Thai. Similarly, most Khün can speak both Khün and Nyuan, with most young people speaking Khün, Nyuan, and Standard Thai. It can, therefore, be safely postulated that Lue and Khün are being influenced by Nyuan and Standard Thai.

Data about language-use domains gathered as part of this research project reveal that both Lue and Khün people use Nyuan (i.e., Kam Mueang) in more domains than Standard Thai (see Appendix 2). For example, they use Standard Thai only when someone addresses them in Standard Thai, such as tourists, government officers, teachers, doctors, nurses, or strangers. Most of the Lue and Khün LRPs in this study, especially those in the elderly and middle-aged groups, confirmed that they speak Nyuan more fluently than Standard Thai because they use Nyuan more frequently. For example, they use Nyuan to talk to friends who do not share their mother tongue, and they use it in situations such as going to markets, the hospital, the post office, or the offices of the subdistrict administrative organization. Since Nyuan is the local lingua franca, Lue and Khün people confirm that even when they meet strangers, the first language they use is normally Nyuan. If the stranger uses Standard Thai, then they will switch to Standard Thai instead. This leads me to suspect that Nyuan, or Kam Mueang, is having a stronger influence on Lue and Khün than Standard Thai.

Furthermore, when some Lue and Khün LRPs in the middle-aged and young groups pronounced certain Standard Thai loanwords having a CVN syllable structure, they used [e] and [o] instead of [i] and [u], respectively. Examples of the Standard Thai loanwords in Lue and Khün are presented in Table 11.

Table 11: Examples of Standard Thai loanwords with the vowels adopted in Lue and Khün

	Original word[29]	**Loanword**	**Standard Thai**	**Gloss**
Lue:	yuː^{22ʔ}	khen^{35}	khen^{24}	'to push forward'
	cim^{31}	kem^{31}	khem^{33}	'salty'
	piŋ^{31}	phen^{31}	(dɨən^{33}) phen^{33}	'waxing moon'
	duŋ^{213ʔ}	ka-doŋ^{213ʔ}	kra-doŋ^{42ʔ}	'rice-winnowing basket'
	tuk^{33}	con^{35}	con^{33}	'to be poor'
	taːw^{33}	lom^{22ʔ}	lom^{453ʔ}	'to fell'
Khün:	kheːn^{23}	sen^{35}	sen^{33}	'to sign (name)'
	si-din^{35}	sa-/ka-den^{35}	kra-den^{33}	'(water) splash'
	piŋ^{35}	phen^{35}	(dɨən^{33}) phen^{33}	'waxing moon'
	duŋ^{44ʔ}	ka-doŋ^{44ʔ}	kra-doŋ^{42ʔ}	'rice-winnowing basket'
	tuk^{33}	con^{23}	con^{33}	'to be poor'
	kun^{31}, taːw^{31}	lom^{41ʔ}	lom^{453ʔ}	'to fell'

The assignments of vowels in the Standard Thai loanwords in Lue and Khün corresponds to Trudgill's comments on the theory of linguistic accommodation developed by Howard Giles: "In face-to-face interaction, speakers accommodate to each other linguistically by reducing the dissimilarities between their speech patterns and adopting features from each other's speech. If a speaker accommodates frequently enough to a particular accent or dialect, I would go on to argue, then the accommodation may in time become permanent, particularly if attitudinal factors are favourable" (Trudgill 1986: 39). The adoption of the vowels [e] and [o] in Lue and Khün are evidence that such linguistic accommodation is occurring in the language contact situation being studied.

This vowel variation is having an interesting impact on the phonology of the two SWT dialects: the usage of the variants [e] and [o] and the vowel integration in Standard Thai loanwords seems to be producing new phonotactic sequences in Lue and Khün, i.e., the vowels [e] and [o] can now occur in CVN syllables, where previously only [i] and [u] could occur. This is similar to the examples from English provided by Weinreich (1953: 27), where initial /v/ and /z/ and the phonemic distinction between /ʃ/ and /ʒ/ resulted from the adoption of French loanwords. The variation discussed in this study has not yet affected the vowel system of Lue and Khün as both /e/ and /o/ already existed in the system. However, this contact-induced variation is increasing their distribution as they can now appear in CVN syllables, in addition to the CVS they were previously found in, as in Lue

[29] The "original" words were identified on the basis of the words used most frequently and consistently by the elderly people. Earlier studies were checked for confirmation.

/cet^{33}/, Khün /cet^{44}/ ‘to rub, to wipe’; Lue /hok^{33}/, Khün /hok^{44}/ ‘untidy’, and so on. If the two original vowels [i] and [u] are used less and less in CVN syllables in these two SWT dialects, I hypothesize that they will be finally lost in this environment in the future.

Acknowledgement

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References

Akhawatthanakun, Phinnarat. 2012. *Lexical and Phonological Variation and Change in Tai Dialects Spoken in Nan Province* (รายงานวิจัยเรื่อง การแปรและการเปลี่ยนแปลงทางศัพท์และเสียงในภาษาไทถิ่นที่พูดในจังหวัดน่าน). Research report submitted to the Commission on Higher Education and the Thailand Research Fund.

Ampornpan, Nipa. 1986. *A Description of the Tai Lü Dialect in Tambon Pa Kha Amphoe Thawangpha, Nan Province* (ลักษณะของภาษาไทลื้อ ที่ตำบลป่าคา อำเภอท่าวังผา จังหวัดน่าน). M.A. Thesis, Silapakorn University. (in Thai)

Brown, J. Marvin. 1965. *From Ancient Thai to Modern Dialects*. Bangkok: Social Science Association Press.

Buranasing, Anchalee. 1988. *An Analysis of Lexical Change among Three Generations in Thai Song Dialect* (วิเคราะห์การเปลี่ยนแปลงการใช้คำของคนสามระดับอายุในภาษาไทยโซ่ง). M.A. Thesis, Institute of Language and Culture for Rural Development, Mahidol University. (in Thai)

Chamberlain, James R. 1975. A New Look at the History and Classification of the Tai Languages. *Studies in Tai Linguistics in Honor of William J. Gedney*, edited by Jimmy G. Harris, and James R. Chamberlain, pp. 49–66. Bangkok: Central Institute of English Language, Office of State University.

Gedney, William J. 1972. A Checklist for Determining Tones in Tai Dialects. In *Studies in Linguistics in Honor of George L. Trager*, edited by M. Estellie Smith, pp. 423–437. The Hague: Mouton.

Hudak, Thomas John. (ed.). 1994. *William J. Gedney’s Southwestern Tai Dialects: Glossary, Texts, and Translations*. USA: Center for South and Southeast Asian Studies, University of Michigan.

Kullavanijaya, Pranee et al. 1984. *The Vocabulary of Six Tai Languages* (ศัพท์ไท 6 ภาษา). Faculty of Arts, Chulalongkorn University. (in Thai)

Labov, William. 1972. *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.

Leerawat, Meewan et al. 1982. *A Comparative Dictionary of Bangkok Thai, Chiang Mai, Tai Lue, Tai Dam* (พจนานุกรมภาษาไทยเปรียบเทียบ: กรุงเทพ เชียงใหม่ ไทยลื้อ ไทยดำ). Faculty of Humanities, Chiang Mai University. (in Thai)

Li, Fang Kuei. 1977. *A Handbook of Comparative Tai*. Honolulu: The University Press of Hawaii.

Liamprawat, Suwattana and Wattanaprasert, Kantima. 1996. *An Analysis of Lexical Use and Variation among Three Generations in Lao Language Communities of Thacin River Basin* (รายงานการวิจัยเรื่อง วิเคราะห์การใช้คำและการแปรของภาษาของคนสามระดับอายุในชุมชนภาษาลาวลุ่มน้ำท่าจีน). Nakhon Pathom: Research and Development Institute, Silpakorn University. (in Thai)

Owen, Robert Wyn. 2008. *Language Use, Literacy, and Phonological Variation in Khuen*. M.A. Thesis, Department of Linguistics, Payap University.

Panthong, Gunyarat. 1979. *An Analysis of Lexical Change Among Three Generations in Kam Muang Dialects*. M.A. Thesis, Mahidol University.

Petsuk, Rasi. 1978. *General Characteristics of the Khün Language*. M.A. Thesis, Institute of Language and Culture for Rural Development, Mahidol University.

Sankoff, Gillian. 2001. Linguistic Outcome of Language Contact, in *Handbook of Sociolinguistics*, edited by Peter Trudgill, J. Chambers, and N. Schilling-Estes, pp. 638–668. Oxford: Basil Blackwell.

Saraporn, Wanida. 1988. *An Analysis of Lexical Change among Three Generations in Thai Yuan Dialects of Tambol Donrae and Kubua Amphoe Muang Ratchaburi* (วิเคราะห์การเปลี่ยนแปลงการใช้คำของคนสามระดับอายุในภาษาไทยวน ตำบลดอนแร่และตำบลคูบัว อำเภอเมือง จังหวัดราชบุรี). M.A. Thesis, Silpakorn University. (in Thai).

Sarawit, Mary E. 1973. *The Proto-Tai Vowel System*. Doctoral Dissertation, The University of Michigan.

Senisrisant, Rachanee. 1982. *A Comparative Study of Some Phonetic and Phonological Aspects in the Speech of Maapplakhao Laophuan Speakers of Different Age Groups* (การศึกษาเปรียบเทียบเสียงและระบบเสียงในภาษาลาวพวน มาบปลาเค้าของผู้พูดที่มีอายุต่างกัน). M.A. Thesis, Chulalongkorn University. (in Thai)

Sukhawan, Suphara. 1994. *A Study of Lexical and Sound Changes Between Two-Age-Group in Ubon Dialect* (การศึกษาการเปลี่ยนแปลงคำศัพท์และการออกเสียงคำศัพท์ในภาษาถิ่นอุบลของบุคคลสองระดับอายุ). M.A. Thesis, Srinakharinwirot University, Prasarnmit. (in Thai)

Tanwattananun, Penporn. 1982. *The Change of Unaspirated Stops in Chiang Mai Dialect and Some Social Variables* (การเปลี่ยนแปลงเสียงพยัญชนะต้น

กักสิถิลในภาษาถิ่นเชียงใหม่กับตัวแปรทาง
สังคมบางประการ). M.A. Thesis,
Chulalongkorn University. (in Thai)

Tanyong, Uthaiwan. 1983. *An Analysis of Lexical Change among Three Generations in Phuan Dialect* (วิเคราะห์การเปลี่ยนแปลงการใช้คำของคนสามระดับอายุในภาษาลาวพวน). M.A. Thesis, Silpakorn University. (in Thai)

Trudgill, Peter. 1986. *Dialects in Contact*. UK: Basil Blackwell.

Weinreich, Uriel. 1953. *Languages in Contact: Findings and Problems*. New York: Linguistic Circle of New York. (Reprinted 1968, The Hague: Mouton.)

Appendix 1: The Map of Pa Kha Subdistrict[30]

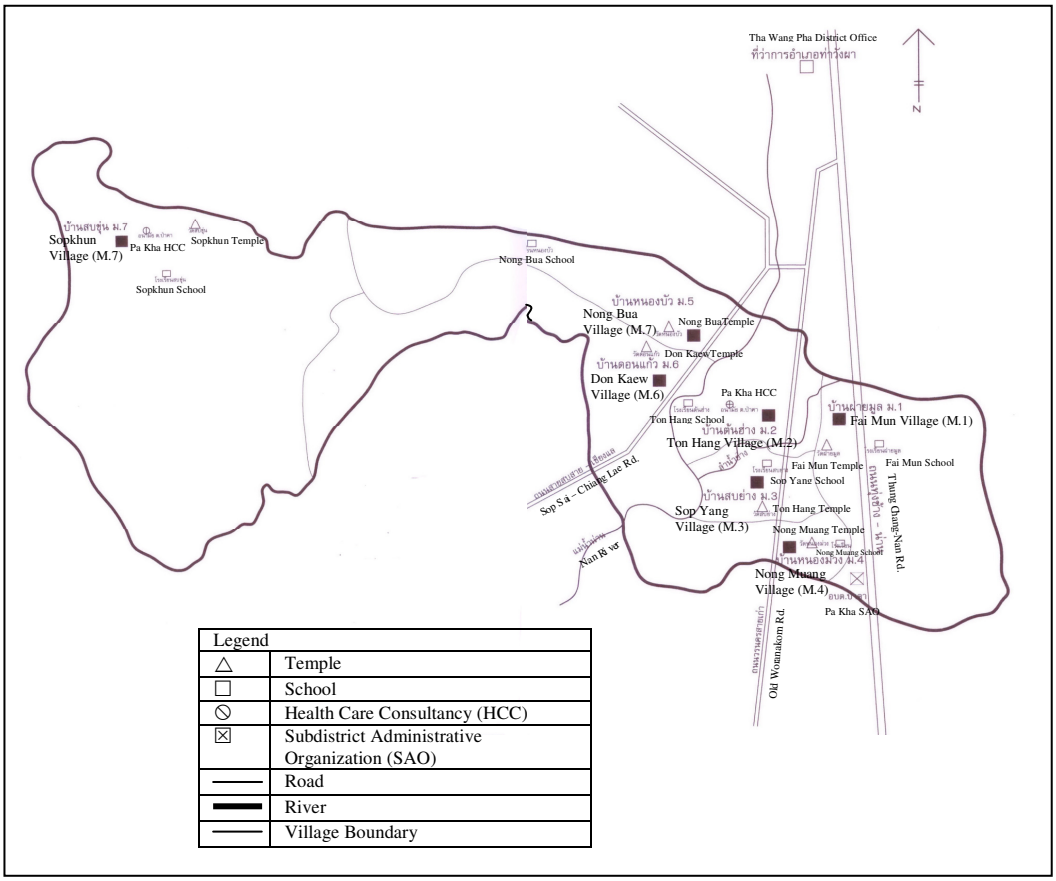

Figure 1: A map showing the locations of Nong Bua village (Lue) and Nong Muang village (Khün) in Pa Kha Subdistrict

[30] The map of Pa Kha Subdistrict displayed in Appendix 1 is adapted from a map of Pa Kha Subdistrict, provided by Pa Kha Subdistrict Administrative Organization, Tha Wang Pha District, Nan Province. All English place names are added by the author.

Appendix 2: A comparison of frequencies and percentages of domains of language use between Lue and Khün[31]

Table 1: Frequencies and percentages of domains of language use of three age groups of Lue and Khün LRPs

	Age Group / Languages used	60 yrs and above		35–50 yrs old		15–25 yrs old		**Average**	
		averaged frequencies of domains of language use	averaged percentages	averaged frequencies of domains of language use	averaged percentages	averaged frequencies of domains of language use	averaged percentages	averaged frequencies of domains of language use	averaged percentages
Lue (Nong Bua)	Lue	15.4	70.0	6.6	79.1	13.0	56.4	**11.7**	**68.5**
	Kam Mueang/ Nyuan	9.2	41.8	12.2	55.5	11.6	52.7	**11.0**	**50.0**
	Standard Thai	4.2	19.1	3.2	14.5	6.6	30.0	**4.7**	**21.2**
Khün (Nong Muang)	Khün	19.2	87.3	15.0	68.2	13.6	61.8	**15.9**	**72.4**
	Kam Mueang/ Nyuan	4.2	19.1	9.2	41.8	9.8	44.5	**7.7**	**35.2**
	Lue	0.2	0.9	0.2	0.9	0.0	0.0	**2.7**	**0.6**
	Standard Thai	0.6	2.7	2.8	12.7	5.6	25.5	**3.0**	**13.6**

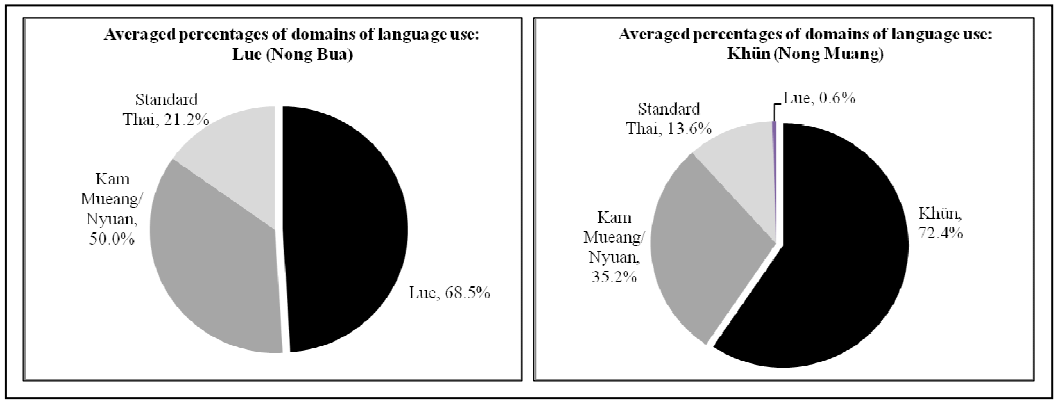

Figure 2: A comparative portions of averaged percentages of domains of language use between Lue and Khün

[31] One of the objectives of my research project is to investigate the domains of language use in five Tai dialects, Kam Mueang/Nyuan, Lue, Khün, Phuan, and Lao. A total of 22 domains of language use were included in a questionnaire and 15 LRPs of each Tai dialect (i.e. 5 LRPs from each of the three age groups) were interviewed about what language they used in each domain. See Akharawatthanakun (2012) for details.