The phonology of Samre[1]

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0. Outline

1. Introduction

Samre is a Mon-Khmer language of the Pearic subgroup spoken in Cambodia and adjacent to the border in Thailand. This paper describes Samre as spoken in Tambon Nonsi, Borai District, Trat Province of Thailand.

Other languages such as Pear, Chong, Angrak and Sa'och are in the Pearic grouping with Samre (Thomas and Headley, (1970), supported by Diffloth (1974) and Huffman (1976a). There are approximately 5,000 Pearic speakers in Cambodia (Diffloth, 1974)). According to Matisoff (1991:219), many languages in this branch are in danger of extinction because of their estimated low number of speakers: Pear, 1000; Samre, 200; Sa'och, 500; Samray, 2000; and Suoy, 200. This group represents only 0.05 percent of the total Austroasiatic speakers (6,789,000) in Cambodia during the period before the civil war.

In my research so far, the only article found on Samre in Thailand was written (in Thai) by Theraphan L.Thongkum (1984). According to Theraphan, she accidentally found people who spoke Samre while on a survey for a minority language map project in Thailand. She noted at the time that there were about 7-8 families of Samre at Ban Mamuang, Bo Rai District, Trat Province. Due to the limitation of time, the author summarized the phonology of the language based on only the 367 words which were collected within 2 days from 2 informants, so that

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the amount of data is very limited. However, this article provides us a rough sketch of the Samre language in Thailand. The most interesting thing of my findings in this description of the Samre is that tones have been used as a distinctive feature, though many Mon-Khmer languages are register languages.

My first visit to Ban Mamuang, (now in Tambon Nonsi, Bo Rai District) was in August, 1998. It was surprising that at the first time when I asked the local officials about the Samre people, they didn't know anything about them because they mistakenly considered the Samre to be the same as another group of people called the 'Chong (of Trat),'[2] who speak a different language from Thai but similar to Khmer. I asked them to take me to visit the people and talked with the people. I also took the Samre word lists of Theraphan L. Thongkum (1984), and the word lists of Chong in Chantaburi (Huffman, 1985) for a rough checking. I found that the people are intermingled with the Thai population and have become bilingual. In addition, they are likely to hide their true identity because they are afraid of discrimination by others.

The children learn Thai at school and refuse to learn the language from their parents because they want to be like the other Thai groups, namely the local Thai (which may be in the same group as the Central Thai dialect) and the Northern Thai who have come to live in the villages more recently. Some of the Samre parents say that they were advised by the former Thai teachers not to speak the language with the children otherwise they could not learn to speak and read Thai well. The Thai language is considered preferable because it has the writing system and it is a dominant language. Thus, most of the Samre use Thai more than their own ethnic language. This contributes to the minority group's assimilation to the Thai way of living and speaking, and their fluency in their mother tongue has been decreasing.

I had been informed that there are about 20-30 people who still use both the Samre language and the Thai language within their group. I have made visits to most of them and found that the degree of their Samre language ability is not the same depending on factors such as age, the frequency of chances to use the language, and their attitude toward preservation of the language. Some of them told me that they have abandoned the language for nearly 15-20 years. I think that there are not more than ten who still can speak the language "fluently" (this means that they are able to remember most Samre vocabulary, to pronounce them with confidence, to communicate with others on all topics, to tell the stories or explain events fluently). The others can be grouped by their language ability as "not fluent" (their language ability is less than the first group as they forget some words or the percentage of using the Thai loan words is greater than the first group) and "semi-speaker" (i.e., cannot use vocabulary and grammatical structures adequately enough to communicate). By the number of the speakers and the restricted domains of their usage of the language, it is likely that the language will be lost very soon.

It is clear that we need much more reliable descriptive and comparative data on specific dialects before we can clarify the language vs. dialect problem among the Pearic languages. Realizing that the Samre speakers left in Thailand are less and less-

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[2]This group of people mostly live in Tambon Dan Chumphon, Bo Rai District. According to Suwilai Premsrirat (personal community) they call their language "Kasong."

only the elder generation (60 years up) can speak fluently but not by every body anymore - I decided to do my Ph.D. dissertation on Samre grammar in order to provide useful data for any further synchronic and diachronic studies on the Pearic languages. This article is the beginning part of my dissertation: a phonological analysis of Samre, written in a preliminary way, based on a corpus of about 2,800 words which are recorded on tape and transcribed. Some problems remain unsolved. This paper is presented as an initial step toward solving one of the problems: is tonogenesis occurring or not?

2. Word and syllable structure

Samre has a typical Mon-Khmer word and syllable structure, which can be summarized as:

$$(C_1 \ V_1 \ (C_2)). \ ' C_3 \ (C_4 \ ) \ V_2 \ (C_5) \ ^{T3}$$

The above syllable structure suggests "pre-syllable and major syllable" as two syllable types in Samre.

The pre-syllables are always unstressed and the pitch level is neutral. Most of them are the first syllable of a disyllabic word, consisting of $C_1 \ V_1$. C_1 is almost always a stop, as in /pathaw^A/ 'axe'; /tanɔɔ^C/ 'worm'; /kapaaw^A/ 'buffalo', but /m/, /l/ or /s/ have been found too. It should be noted here that there are many cases of fluctuation among the phonemes which occur in this position. For example, /s/ ~ /kh/ ~ /th/ as in /sanii^C/ ~ /khanii^C/ ~ /thanii^C/ 'sun, day'; /l/ ~ /k/ as in /lahaaŋ^C/ ~ /kahaaŋ^C/ 'stiff'; /c/ ~ /ch/ as in /camɔh^B/ ~ /chamɔh^B/ 'name'; /s/ ~ /k/ ~ /t/ as in /sapaŋ^C/ ~ /kapaŋ^C/ ~ /tapaŋ^C/ 'swamp.' V_1 is a short, somewhat colourless vowel, usually [a] but often tending toward [ə]. C_2 is most often a nasal either /m/, /n /or /ŋ/ as in /sambuk^A/ 'nest'; /kantɔŋ^A/ 'rabbit'; /caɲhan^C/ 'monk's food', and sometimes /p/ or /w/ have been found too (as in /sapmɔk^B/ 'to have a cold' and /cawsuut^C/ 'bear').

The major syllable, (may be a word or a syllable), is always stressed. It consists of C_3 in which any consonant phoneme can be occur. C_4 are often the liquids /l/ or /ɹ/ occurring with the C_3 (a stop or sometimes /s/) as in /pliiw^A/ 'fire'; /pɹak^A/ 'money'; /sɹaŋ^B/ 'pole'. V_2 may be long or short of any single vowel as in /kic^A/ 'small'; /ʔuuc^C/ 'take', or may be a diphthong as in /puəm^C/ 'meat'. C_5 are the set of final consonants, which are optional.

Some words provide evidence that there is a tendency of Samre toward becoming a monosyllabic language.Many of the pre-syllables of disyllabic words may be reduced to a syllabic nasal as in /maluəŋ^B/ ~ /m̩luəŋ^B/ 'man'; /kancɯɯɹ^B/ ~ /n̩cɯɯɹ^B/ 'needle'; /tɔŋkɹaan^B/ ~ /ŋ̩kɹaan^B/ 'fire-place'. Moreover, it may be deleted in some words, such as /samaaɲ^C/ ~ /maaɲ^C/ 'caper'; /kuŋwiək^C/ ~ /wiək^C/ 'millipede'.

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[3]T stands for a tone.

3. Consonants

Samre has 21 single consonant phonemes as shown in the following chart. All of them can occur as an initial consonant of the major syllable (C$_3$); only those preceded by a hyphen occur finally (C$_5$).

-p	-t	-c	-k	-ʔ
ph	th	ch	kh	
b	d			
-m	-n	-ɲ	-ŋ	
	s			-h
	l			
	-ɹ			
-w			-j	

Consonant Formational Statements
Phonemes : Allophones Description : Occurrence : Examples :

/p/   is realized as [p] - A voiceless unaspirated bilabial stop. It may occur in initial and/or final positions of the syllable[4], e.g. /paaŋ^A/ ['paaŋ^{332}] 'flower'; /chap^A/ [c^{h}ap^{344}] 'to catch'.

/ph/   is realized as [ph] - A voiceless aspirated bilabial stop. It only occurs in the initial position of the syllable, e.g. /phic^A/ ['phic^{344}] 'to put out a fire'

/b/   is realized as [b] - A voiced bilabial stop. It only occurs in the initial position of the syllable, e.g. /bɔɔk^A / ['bɔɔk^{334}] 'to peel'.

/t/   is realized as [t] ➝A voiceless unaspirated apico-alveolar stop. It may occur in initial and/or final positions of the syllable, e.g. /tɔŋ^A/ ['tɔŋ^{332}] 'house'; /piit^A/ ['piit^{334}] 'knife'.

/th/   is realized as [th] - A voiceless aspirated apico-alveolar stop. It only occurs in the initial position of the syllable, e.g./thɯm^A/ ['thɯm^{332}] 'to cook '.

/d/   is realized as [d] - A voiced apico-alveolar stop. It only occurs in the initial position of the syllable, e.g. /duuŋ^A/ ['duuŋ^{332}] 'coconut'.

/c/   is realized as [c] - A voiceless unaspirated alveolar-prepalatal stop. It may occur in initial and/or final positions of the syllable, e.g./cam^A/ ['cam^{332}]'to wait for'; /kic^A/ ['kic^{344}] 'small, little.'

/ch/   is realized as [ch]- A voiceless aspirated alveolar-prepalatal stop.It only occurs in the initial position of the syllable, e.g. /chaaŋ^C/ ['chaaŋ^{451}] 'cool'.

/k/   is realized as [k] - A voiceless unaspirated dorso-velar stop. It may occur in initial and/or final positions of the syllable, e.g. /kuak^A/ ['kuak^{344}] 'neck'; /kuk^A/ ['kuk^{344}] 'to steal'.

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[4]All final stops are voiceless unreleased sounds.

/kh/   is realized as [kh]- A voiceless aspirated dorso-velar stop. It only occurs in the initial position of the syllable, e.g. /khɯɯn^A/ ['khɯɯn^{332}] 'insect'.

/ʔ/   is realized as [ʔ] - A voiceless glottal stop. It may occur in initial and/or final positions of the syllable, e.g. /ʔuək^C/ ['ʔuək^{342}] 'to give'. It should be noted that the final [-ʔ] is very restricted and most of them are loan words from Thai but are differently pronounced, such as /pɔʔ^A/ 'father'; /mɛʔ^A/ 'mother', while they are [phɔɔˀ] and ['mɛɛˀ] in Thai. Samre words for these meanings: /khuuɲ^A/ and /miɲ^A/ respectively. Some final particles, such as; /siʔ^B/, /thəʔ^B/ are loan words from Thai.

/m/   is realized as [m] - A voiced bilabial nasal. It may occur in initial and/or final positions of the syllable, e.g./miɲ^A/ ['miɲ^{332}] 'mother'; /nɯɯm^B/ [nɯɯm^{21}] 'year'.

/n/   is realized as [n] - A voiced apico-alveolar nasal. It may occur in initial and/or final positions of the syllable, e.g./naaŋ^A/ ['naaŋ^{332}] 'old'; /ʔan^A/ ['ʔan^{332}] 'this'.

/ɲ/   is realized as [ɲ] - A voiced fronto-palatal nasal. It may occur in initial and/or final positions of the syllable, e.g. /ɲaɹ^C/ ['ɲaɣ^{451}] 'shaken'; /meɲ^A/ ['meɲ^{332}] 'beautiful'.

/ŋ/   is realized as [ŋ] - A voiced dorso-velar nasal. It may occur in initial and/or final positions of the syllable, e.g. /ŋɯɯm^C/ ['ŋɯɯm^{451}] 'warm'; /luəŋ^A/ ['luəŋ^{332}] 'banana'.

/s/   is realized as [s] - A voiceless lamino-alveolar fricativel. It only occurs in the initial position of the syllable, e.g. /saap^C/ ['saap^{342}] 'light, clear.' This phoneme may fluctuate with [th] - a voiceless aspirated apico- alveolar stop when followed by /ɹ/ and a short vowel as in [ka'sɣah^{344}] or [ka'thɣah^{344}] 'nail'; ['sɣaŋ^{21}] or ['thɣaŋ^{21}] 'pole'; ['sɣuŋ^{21}] or ['thɣuŋ^{21}] 'pen' (for pig).

/h/   is realized as [h] - A voiceless glottal fricative. It may occur in initial and/or final positions of the syllable, e.g. /haam^C/ ['haam^{451}] 'blood'; /pih^A/ ['pih^{344}]'disappear'.

/l/   is realized as [l] - A voiced apico-alveolar lateral. It only occurs in the initial position of the syllable, e.g. /luəm^B/ ['luəm^{21}] 'liver'.

/ɹ/   is realized as [ɹ] - A voiced alveolar approximant. The allophone [ɹ] fluctuates with [ɣ] -a voiced velar fricative- in all positions except for at the final position when it follows a low central unrounded vowel either /a/ or /aa/, where is realized as [ɰ] - a central semivowel- as in /maaɹ^A/ ['maaɰ^{332}] 'field'; /thaɹ^A/ [' thaɰ^{332}] 'cloth'. Examples for other positions are /ɹaaŋ^B/ ['ɹaaŋ^{21}] ~ ['ɣaaŋ^{21}] 'to carry (a dead body)'; /tiɹ^B/ ['tiɹ^{22}] ~ ['tiɣ^{22}] 'to crow'. It should be noted that the allophone [ɣ] is a harsh accent which is most pronounced in the elder generation of the speakers whose language ability is better than the younger group. The [ɣ] seems to be closer to the original sound of Samre than the [ɹ] as I was informed that it is a unique sound of Samre. Even when the Samre people speak Thai, their pronunciation seems to echo the mother tongue, such as in the Thai word

[ʔaʔˈraj] 'what' which may be pronounced [ʔaˈɣaj⁴⁵¹] by the Samre speakers and their descendants who have been influenced by this sound even in those groups who are no longer able to speak the Samre language. On the other hand, the allophone [ɹ] is a tender accent which some of the speakers feel makes the language sound more beautiful. The younger generation tend to pronounce this one and some of them sometimes substitute this sound with a voiced trill [r] due to influence from the Thai language.

/w/   is realized as [w]-A voiced labio-velar approximant. It may occur in initial and/or final positions of the syllable, e.g. /waaᴬ/ ['waa³³²] 'monkey'; /sawᴬ/ ['saw³³²] 'to be left over.' The voiced labio-dental approximant [ʋ] is an allophone which may occur in free variation with [w] in the initial position, e.g ['wəj³³²] ~ ['ʋəj³³²] 'to beat.'

/j/   is realized as [j] - A voiced palatal approximant. It may occur in initial and/or final positions of the syllable, e.g. /jɔkᴬ/ ['jɔk³⁴⁴] 'milk'; /wəjᴬ/ ['wəj³³²] 'to beat'.

The C₃C₄ consonant clusters consist of:

C₃C₄	Examples	English Gloss	C₃C₄	Examples	English Gloss
pɹ	/pɹiiᴮ/	'forest'	tɹ	/tɹuəjᴬ/	'cow,ox'
cɹ	/cɹiəŋᴬ/	'ring'	kɹ	/kɹicᴬ/	'breast, chest'
phɹ	/phɹiiᴬ/	'fruit'	thɹ	/thɹaaᶜ/	'guava'
khɹ	/khɹaaɲᴮ/	'alcohol'	sɹ	/sɹɔkᴮ/	'pig'
pl	/pliiwᴬ/	'fire'	phl	/phliimᶜ/	'land leech'
kl	/klɔŋᴬ/	'rice'	khl	/khlaaᶜ/	'leaf'

Others are found in some Thai loan words, for instance, *kw* /kwaaŋᴮ/ 'wide': *khw* /khwaaŋᴬ/ 'to obstruct', etc.

4. Vowels

Samre has nine short vowel qualities, nine long vowels, and 3 diphthongs as shown in the chart below:

Single Vowels	Short vowels			Long vowels		
	i	ɯ	u	ii	ɯɯ	uu
	e	ə	o	ee	əə	oo
	ɛ	a	ɔ	ɛɛ	aa	ɔɔ
Diphthongs		iə		uə		ɯə

Vowel Formation Statements
Phonemes : Allophones : Description : Examples :

/i/   is realized as [i]- A high front unrounded short vowel, e.g. /tim^A/ ['tim^{332}] 'to soak a slip'

/ii/   is realized as [ii] - A high front unrounded long vowel, e.g. /tiim^A/ ['tiim^{332}] 'roof.'

/e/   is realized as [e] - A mid front unrounded short vowel, e.g. /sɹeɲ^A/ ['sɹeɲ^{332}] 'a chop'

/ee/   is ralized as [ee] - A mid front unrounded long vowel, e.g. /sɹee^A/ ['sɹee^{332}] 'a swidden forest'

/ɛ/   is realized as [ɛ] - A low front unrounded short vowel, e.g. /kɛc^A/ ['kɛc^{334}] 'broken'

/ɛɛ/   is realized as [ɛɛ] - A low front unrounded long vowel, e.g. /kɛɛŋ^A/ ['kɛɛŋ^{332}] 'kick'

/ɯ/   is realized as [ɯ]- A high central unrounded short vowel, e.g /lɯk^B/ ['lɯk^{22}] 'classifier for time'

/ɯɯ/   is realized as [ɯɯ] - A high central unrounded long vowel, e.g./lɯɯ^A/ ['lɯɯ^{332}] 'blunt.' Long /ɯɯ/ is very restricted, occuring only in open syllables or in some loan words from Thai, such as /khlɯɯn^C/ 'wave.'

/ə/   is realized as [ə] - A mid central unrounded short vowel, e.g /thən^C/ ['thən^{451}] 'just.'

/əə/   is realized as [əə] - A mid central unrounded long vowel, e.g. /təəŋ^A/ ['təəŋ^{332}] 'to throw.'

/a/   is realized as [a] - A low central unrounded short vowel, e.g. /ʔaw^A/ [ʔaw^{332}] 'shirt'

/aa/   is realized as [aa] - A low central unrounded long vowel, e.g./ʔaaw^A/ [ʔaaw^{332}] 'day'

/u/   is realized as [uu] - A high back rounded short vowel, e.g. /luj^C/ ['luj^{451}] 'point'

/uu/   is realized as [uu]- A high back rounded long vowel, e.g. /luuj^C/ ['luuj^{451}] 'earth worm'

/o/   is realized as [o] - A mid back rounded short vowel, e.g./poŋ^C/ ['poŋ^{451}] 'to rock a cradle'

/oo/   is realized as [oo] - A mid back rounded long vowel, e.g. /pooŋ^C/ ['pooŋ^{451}] 'distended, inflated'

/ɔ/   is realized as [ɔ] - A low back rounded short vowel,e.g /klɔŋ^B/ ['klɔŋ^{21}] 'to call out'

/ɔɔ/   is realized as [ɔɔ] - A low back rounded long vowel, e.g./klɔɔŋ^B/ ['klɔɔŋ^{21}]
       'half-milled rice'

Diphthongs

       There are three dipthongs: /iə, ɯə, uə/ which are high vowels /i, ɯ, u/
gliding to[ə] 'schwa'.

/iə/   is realized as [iə] e.g. /khɹiəŋ^C/ ['khɣiəŋ^{451}] 'strips of spit bamboo'

/ɯə/   is realized as [ɯə] e.g. /khɹɯəŋ^C/ ['khɣɯəŋ^{451}] 'apparatus, utensil, machine'

/uə/   is realized as [uə] e.g. /khuən^C/ ['khuən^{451}] 'rat'

5. Register complex

       Samre is in a transition stage of having a primary contrastive tone and
secondary non-contrastive voice quality

       Phonetically there is a close correlation between pitch (tone) and voice
quality.

       Ohala (1978:6)[5] gives a definition of pitch as follows:

> *I use the term "pitch" and "fundamental frequency" (F₀) interchangeably. Both*
> *will be taken to mean the rate of vibration of the vocal cords during voice*
> *production. When quantified, the units are hertz(Hz). Some cases of tonal*
> *contrasts which linguists have described apparently include the distinctive use of*
> *other phonetic parameters besides pitch, for example, duration, voice quality,*
> *manner of tone offset, and vowel quality.*

       In a process of voice production, pitch and voice quality mostly occur in
sequences that are hard to discriminate from each other at the surface level (phonetic
forms). For language description, those significant features of the language are
primary considered in terms of phonemic analysis.

       Generally phonation types or register complex are considered to be
significant features in most Mon-Khmer languages which are known as "register
languages." Many dialects of Chong in Chantaburi still have primary contrastive
register complex varying from three or four types together with the phonetic pitch
ranges (i.e., Huffman, 1985 and Suphanphaiboon, 1982). Theraphan L.Thongkum
(1988:319) indicates that most of the Mon-Khmer languages have at least the breathy
voice quality and the clear (normal, modal) voice contrast, such as Phalok,Wa,
Chong, Mon, Bru, Kui, So, Nyah Kur, Thung Kabin Khmer, and so forth. These
languages of Mon-Khmer are evidences for the conclusion that the register complex
is a heritage feature which has been acquired from their proto-language in a former
time.

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[5]John J. Ohala. "Production of Tone." Tone A Linguistic Survey. 1978.

Samre might have used a breathy voice quality as phonological contrasting with a normal voice sound for a period of time. Since the speakers of Samre have had contact with the Thai people, they have changed the feature of phonological contrasts. The result of this study shows that Samre in Thailand at present is a language which is in a transition stage of becoming a tonal language where pitch is used as the principal component of contrasts (as the pitch itself may distinguish the lexical meanings of words), though the breathy voice quality of the vowels still occurs in some situations, but its role is secondary non-contrastive.

5.1 Tone

From the data, three contrastive tones are found in Samre. Each of them has allotones which relate to the vowel length and the final consonants. Depending on the different groups of the final consonants, syllables can be grouped into two main types: smooth syllables (includes the open syllable and the syllables ending with any final consonants except for the stops) and checked syllables (those syllables ending with the final stops).

The phonetic pitch ranges of the tones and allotones are described by the attached numbers at the end of each word. The first number indicates the starting point of the tone and the last one indicates the ending point, which may be a level or a contour tone. The pitches range from 1 to 5: 1 is a low pitch, 2 is mid-low, 3 is mid, 4 is mid-high, and 5 is a high pitch.

Phonemic Tone A is a mid level tone. In any smooth syllable, the pitch pattern of this allotone starts at the middle of the pitch range, and stays at that level and slightly falls at the end [^{332}] as in /caŋ^A/ ['caŋ^{332}] 'black'; /chaa^A/ ['chaa^{332}] 'to eat (informal)'; /thaaɲ^A/ ['thaaɲ^{332}] 'to weave'. In a checked syllable with long vowel and in a long vowel syllable ending with the final [-h], the pitch pattern of this allotone starts at the middle of the pitch range and stays at that level, then slightly glides up at the end of the pitch range [^{334}] as in /huuc^A/ ['huuc^{334}] 'to be dead'; /tuuh^A/ [tuuh^{334}] 'head'. In a checked syllable with short vowel and in a syllable ending with a short vowel and the final [-h],the pitch pattern of this allotone starts at the middle of the pitch range, then glides up to a mid-high pitch range [^{344}] as in /jɔk^A/ ['jɔk^{344}] 'milk'; /chɯh^A/ ['chɯh^{344}] 'old'.

Phonemic Tone B is a mid-low tone. In a checked syllable (with long or short vowel) and in a short vowel syllable with the final [-h], the pitch patterns of this allotone starts at mid-low pitch and stays at that level [^{22}] as in /tɔk^B/ ['tɔk^{22}] 'ship'; /wiit^B/ ['wiit^{22}] 'green'; /lɔh^B/ ['lɔh^{22}] 'to climb down'. But in a smooth syllable, the pitch pattern starts at mid-low, and falls down to the bottom of the pitch range [^{21}] as in /suəŋ^B/ ['suəŋ^{21}] 'to smell'; /laa^B/ ['laa^{21}] 'evening'; /can^B/ ['can^{21}] 'to step over.' A secondary non-contrative voice quality may occur together with this tone. That is some older generation of Samre sometimes pronounce some words with the mid-low tone together with a breathy voice quality, such as ['nɯm^{21}] 'year'.

Phonemic Tone C is a high falling tone. In any smooth syllable, the pitch pattern starts at a mid-high pitch, glides up to high, then falls down to low [451] as

in /suəŋ^C/ ['suəŋ^{451}] 'to tell'; /chɔɔ^C/ ['chɔɔ^{451}] 'dog'; /luj^C/ ['luj^{451}] 'point'. In any checked syllable with long vowel and in a long vowel syllable ending with the final [-h], the pitch pattern starts at the middle of the pitch range, and glides up to a mid-high pitch, then falls down to mid-low [^{342}] as in /taak^C/ ['taak^{342}] 'water,wet'; /ciih^C/ ['ciih^{342}] 'deer'. It was noticed that this allotone never occurred in any checked syllable with a short vowel. A breathy voice quality may occur in open syllable words of the tone C ,usually with the vowel /aa/ as in [ka'maa̤^{451}] 'rain'. And in some loan words from Thai as in ['pɛɛ̤ŋ^{451}] 'expensive', etc.

Examples for the tone contrasts in open syllables:

Tone A		Tone B		Tone C	
sanaa^A	'cross bow'	sanaa^B	'friend'	sanaa^C	'squirrel'
		ɹee^B	'rattan'	ɹee^C	'in'
tii^A	'hand, arm'	tii^B	'to lance'		
chii^A	'louse'			chii^C	'how many'

in smooth syllables with a short vowel:

Tone A		Tone B		Tone C	
li^A	'on, above'	li^B	'play'		
		sɹaŋ^B	'a pole'	sɹaŋ^C	'river bank'
sanam^A	'medicine'			sanam^C	'to hear'

in smooth syllables with a long vowel:

Tone A		Tone B		Tone C	
suəŋ^A	'to dance'	suəŋ^B	'to smell'	suəŋ^C	'totell,to reply'
kluəŋ^A	'bone'	kluəŋ^B	'husband'	kluəŋ^C	'a log'
puun^A	'to scold'	puun^B	'to fill in,to carry something on one end of a pole'		
poom^A	'to pester'			poom^C	'to watch'
chiim^A	'to feed'			chiim^C	'bird'
khiin^A	'a child'			khiin^C	'bottle gourd'

in checked syllables with a long vowel:

Tone A		Tone B		Tone C	
puuc^A	'to put in'	kapuuc^B	'to overturn'	puuc^C	'to scoop up water (v.)', 'corn (n.)'
paat^A	'to lick'	paat^B	'to slice'	paat^C	'to walk pass'
		hiək^B	'torn'	hiək^C	'hurry'
		suək^B	'trace'	suək^C	'mango'
ɹuək^A	'a kind of bird'	ɹuək^B	'to hide'		
caap^A	'to wash (face)'			caap^C	'fishy smell'

in checked syllables with a short vowel:

Tone A		Tone B	
tɔk^A	'out'	tɔk^B	'boat'
pɔk^A	'wrap'	pɔk^B	'to peck'
kɯp^A	'under'	kɯp^B	'body'

in a syllable ending with -h preceded by a short vowel:

Tone A		Tone B	
pɔh^A	'ashes'	pɔh^B	'dry out of water'
tih^A	'at'	tih^B	'there'

in a syllable ending with -*h* preceded by a long vowel:

Tone A		Tone B	
ɹuuh^A	'high'	ɹiih^C	'root'

Theraphan L. Thongkum referred to the suprasegmental distinctive features in the Samre language as "tone". Her conclusion is slightly different from this study in that she suggests four contrastive tones while my analysis reveals only three. A comparison of the two analyses of phonemic pitch range are presented in the Table 1 below.

Thongkum's analysis (1984)	The result from this study
tone 1 (a mid level tone)	tone A (a mid level tone)
tone 2 (a high falling tone)	tone C (a high falling tone)
tone 3 (a mid-low tone)	tone B (a mid-low tone)
tone 4 (a mid falling tone)	tone C (a high falling tone)

Table 1. Comparison of two tone analyses

From Table 1, we see that the tone 2 and 4 of Thongkum's analysis are merged into one (tone C) in this study. If we considered the phonetic pitch patterns of the tones in questions, the tone 2 and 4 of Thongkum's analysis seem to have very similar shapes : in a smooth syllable tone 2 is [452] and tone 4 is [342]. From the data, I can find three-ways of the minimal pair contrasts as in the examples mentioned above. So I suggest three contrastive tone in Samre : mid level tone (tone A), mid-low tone (tone B) and high falling tone (tone C).

5.2 *Voice quality*

There is a secondary non contrastive voice quality in Samre. The occurrence of breathy voice is optional and predictable. So the status of the breathy voice quality in this study is non-phonemic because it fluctuates with the normal voice in any syllable structure except for checked syllables with short vowels in which it cannot occur. Some syllable structures are more commonly found with breathy voice, especially in smooth syllables of the mid-low tone, such as ['kiɣ²¹] 'malabar

ironwood'; ['jaaw^{21}] 'scorpion'; [m'puɯɯ^{21}] 'to wear'; ['puəh^{21}] 'a kind of insect.' In some groups of words, the initial clusters of a stop and the voiced alveolar approximant /ɹ/ tend to preserve this voice quality, for example; ['pɣɪ̯i^{21}] 'forest'; ['sɣɪ̯i^{21}] 'banyan tree'; ['pɣaaj^{21}] 'thread; [ŋ'ɣɔɔp^{22}] 'a lid'; ['pɣiəŋ^{451}] 'shoulder'. Moreover, it is often noted in open syllable words of the tone C with the vowel /aa/, for example; [sa'naa^{451}] 'squirrel'; [sa'laa^{451}] 'thorn'; [la'waa^{451}] 'a kind of banana.' Some of the Tone C group are loan words from Thai, such as ['pɔɔ^{451}] 'enough'; ['caj^{451}] 'to return'; ['taa^{451}] 'to challenge'; ['kɛɛp^{342}] 'narrow', which are pronounced differently from the original Thai manner by using the unaspirated initial stops instead of the aspirated stops and adding the breathy voice quality which can either occur or not.

However, I found that not all speakers produce the phonological contrasts in exactly the same way. The younger generation (50-60years) tends to lose the breathy voiced quality, while the older generation(over 60 years) tends to retain it. The information in this study have been collected from the older generation. However, some of the older people also pronounce this feature inconsistently, even by the same person. For instance, Mrs. Saengchan Rattanamun pronounces the word /kamaaŋ^{C}/ 'chin' as [ka'maaŋ^{451}] but sometimes she pronounces it as [ka'maaŋ^{451}]. I have checked the case with the other Samre, they prefer to accept both ways of the pronunciation and some can not differentiate the difference. So I consider that the voice quality in the Samre now is a secondary non-contrastive feature.

6. Conclusions

The phonemic tonal contrasts in Samre language in Thailand is most likely due to language contact with Thai. There are two main sub- groups of the Thai speakers living in the same villages with the Samre: the North-East Thai and the Central Thai. Central Thai seems to have more influence on the Samre than the North-East Thai because Central Thai are the dominant group in that region of Thailand. As a result, most of the Samre speakers practise speaking the Central Thai with the local people and some of them learn the dominant language at school. Besides, the Thai loan words in Samre show that they are the Central Thai words, such as /pon^{C}/ 'mix -together' ; /cɔɔp^{B}/ 'to like, love.' Moreover, each tone has the allotones of which the pitch ranges seem to be impacted, as well, by the syllable structures of Central Thai and, as a result, the tone shapes of the allotones in both languages are quite similar.

Due to language contact with the Central Thai, Samre also changes other phonological features, such as the unique sound [ɣ] becomes more like a [r] of Thai. A final glottal stop is added to the consonant inventory though it was not found in Thongkum (1984). The three way contrasts of the diphthongs /iə, ɯə, uə/ is very similar to Central Thai.

The most outstanding phonological transition in Samre, attributable to the influence of Central Thai, is that of contrastive tone. Conversely, the distinctive breathy voice quality (a heritage feature of Samre) has become less significant.

The previous papers about the Pearic branch are very few and details about subgrouping among this branch are not clear enough. For classifying and subgrouping the languages, there are many questions: 'Which groups of the Pear in Cambodia are more closely relate to Samre in Thailand?,' or 'What are the differences between the Samre and the Chong of Trat, who are referred by the Samre and by the people themselves as 'Kasong'?' The data on Samre in Thailand presented here are one of the limited resources for beginning a comparative study which could lead to a more precise language classification.

REFERENCES

Diffloth, Gerald. 1974 . "Austroasiatic languages." *EB* II:480-484.

Headley, Robert K., Jr. 1977. "A Pearic vocabulary." *MKS* VI:69-150.

Headley, Robert K., Jr. 1978. "An English-Pearic vocabulary." *MKS* VII:61-94.

Huffman , Franklin E . 1976a. "The relevance of lexicostatistics to Mon-Khmer languages." *AS* I:539-574.

Huffman , Franklin E . 1985. "The phonology of Chong, a Mon-Khmer language of Thailand." In Suriya Ratanakul et al. eds., *Southeast Asian Language and Linguistics in honor of André G.Haudricourt*. Bangkok: Mahidol University.

Isarangura, N. 1935. "Vocabulary of Chawng words collected in Krat province." *JSS* 28(2):173-180.

Matisoff, James A. 1991. "Endangered languages of mainland Southeast Asia." 189-228. New York.

Ohala, John. 1978. "Production of tone." In Victoria A. Fromkin ed., *Tone A Linguistic Survey*. New York: Academic Press; Inc. pp. 5-39.

Pornsawan Ploykaew. (research in progress). "Samre grammar." Ph.D. dissertation. Institute of Language and Culture for Rural Development, Mahidol University.

Surekha Suphanphaiboon.1982. "The phonology of Chong (Takianthong, Makham District Chantaburi)." M.A. Thesis, Srinakharintha Wirot Prasarnmit University. (in Thai)

Theraphan L-Thongkum.1984. "Samre language." *JTU* 15(1):16-128. (in Thai).

Theraphan L-Thongkum. 1988. "Phonation types in Mon-Khmer languages." In Osama Fujimura ed., *Vocal Physiology: Voice Production, Mechanisms and Functions* 319-333.

Thomas, David D. and Robert K. Headley. 1970. "More on Mon-Khmer subgroupings." *Lingua* 25(4):398-418.

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