PHONEMES OF THE ALU DIALECT OF AKHA[*]

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This paper is a portion of the result obtained from one year's investigation of Akha in Northern Thailand.

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The purpose of the investigation was to describe the grammatical structure of Akha; however, this paper deals with the phonemic system only. The morphemes and the syntax and other subjects will be treated on other occasions. This paper is just an interim report and many rectifications and insertions will be added afterwards. For the place

names appearing in the paper, please refer to the map. [Map not in-
cluded in the translation.]

0. THE AKHA TRIBE AND THE AKHA LANGUAGE

0.1. In addition to the tribes of Thai, various tribes inhabit Thailand;
they are 1) Thai, 2) Tibeto-Burmese, 3) Mon-Khmer, 4) Karen, 5) Meo-Yao;
plus the Chinese and Indians.

Among the languages belonging to the group of Tibeto-Burmese men-
tioned above, Akha, Lahu Na, Lahu Shi, Lahu Ni, Lisu and Bisu are spoken
in Thailand. According to the classification by Robert Shafer, all of
them are considered to be closely related to the Burmish-Loloish group.
Speakers of these languages live mainly in mountainous regions of
Northern Thailand and practise slash and burn agricultural techniques.

Besides Thailand, the Akha live in Yünnan Province in China, the Shan
States in Burma, and in northern Laos. It is believed that the Akha
tribe moved to Thailand from Burma not very long ago; the area of Thai-
land inhabited by the tribe is very limited. At the present it includes
only four districts in the northernmost part of Chiengrai province,
namely: Maesai, Maechan, Chiengsaen and Maesurai. A small number of
them moved to Maesurai district from Maesai only recently, during the
period of the investigation, and it seems that this district is the
southern boundary of the distribution of the Akha tribe. According to
Gordon Young, the number of Akha people in Thailand is about 25,200, but
it seems that some villages were not included in his statistics, and
therefore, the actual number must be slightly larger.

It is said that the number of Akha people in the Shan States in Burma,
with Kengtung at its centre, is over 40,000; in Yünnan Province in China
there are about 48,700, and in northern Laos about 4500. But I think
that the exact number remains unknown, since the Akha prefer to live in
very inaccessible, remote areas. They say that the Akha tribe came to
Thailand about twenty years ago. But the movement continues even now,
and quite a few of my acquaintances said to me that they came from Burma
only recently. It was not unusual during my stay to meet small groups
of Akha people who had just come over the border. Even when they settle
down in Thailand, they cross the border to visit their relations, and
their relations do the same.

It is hard to say whether this tendency is the specific reason why
they do not move southward from the border area in Northern Thailand; at
least there is no sign of such a movement now.

0.2. The Akha language is not subdivided; it has no subclassifications

like the Lahu has, which is divided into Lahu Ni and Lahu Na. Akha is just called Akha everywhere. Because of this, it is apt to be considered as a unitary language. But when you do field work or read the available reports (though there are very few of them), you find that it is not always true. Considering that the Akha live in vast areas and very inaccessible places, it is likely that there are various Akha languages, though they are all just called Akha. But actual classification of groups of dialects would necessitate collection of data in a much wider area. Even if we limit the area to Thailand, it is not too much to say that the language varies a little from one village to another. I collected some samples from several villages, in addition to the two villages where I did my main investigation.

The samples show that the languages spoken in two villages only 10-20 kilometres apart are slightly different. It is impossible to say, at present, what relation exists between them. That is why in this paper the Akha language discussed is only the dialect spoken in Alu village in Northern Thailand.

Alu village is situated in a mountainous area 55 kilometres northwest of Chiengrai City. There are about 400 people in this village, and it must be among the very largest villages of the hill tribes.

I also investigated the Akha dialect of Saenchai village which lies 5 kilometres south of Alu village. The differences between these two dialects will be dealt with briefly in the final part of this paper.

The Akha people can scarcely speak Thai. Even in Saenchai village which is the only village that has a primary school run by the Border Police, few villagers speak Thai. Generally speaking, when they contact Thai people, they speak Shan or the dialect of Northern Thai which is modified to Shan. Among the hill tribes, Lahu Na is the most popular [lingua franca], followed by Shan and the Chinese dialect spoken in Yünnan. Among those who have come from Burma lately, quite a few can speak Burmese.

In Alu village, no Thai, not even the Northern dialect, is spoken, and I had to make my investigation with the help of a young Shan who came from Burma and could speak Akha, Lahu Na, Burmese and English, besides Shan. I was assisted mainly by a nineteen year old informant whose name was Apa. However, I checked the data with other villagers at every opportunity and tried to speak the Akha language myself in order to get natural data.

The Akha language is unwritten as are the languages of the other hill tribe minorities. In Burma, it is reported that Christian missionaries have made an orthography for Akha using Roman letters, and that the Bible has been published. But it seems that very few Akha people, in

limited areas, can use this orthography. Of course, there is no
orthography of the Akha language in use in Thailand, and an analysis of
Akha has never been done in Thailand. For the Akha in Burma and Laos,
several reports have been issued. For the Akha in Yünnan it is supposed
that Chinese linguists have carried out investigations, but there is no
available data here; therefore this paper is based on the data obtained
in my spot survey and does not refer to any other data or articles.

1. PHONEMES OF THE ALU DIALECT OF AKHA

1.1. A RÉSUMÉ

The maximum unit treated in this paper is the syllable. The treat-
ment of the relation of one syllable to another, or of linguistic units
bigger than the syllable, will be deferred to other occasions.

I think the most fundamental problem in the process of consolidating
data obtained from on-the-spot-investigations is to deduce, firstly,
the minimum linguistic unit. A syllable of Akha is a solid form, the
same as a syllable of some other familiar languages, and it is also a
morpheme. Therefore, it is reasonable that the syllable should be
treated as the minimum unit in the explanation of the phonemes of Akha.
A syllable of Akha consists of phonemes, which can be subdivided into
consonants, vowels and tones. I will explain these in the context of
syllables.

1.2. SYLLABIC STRUCTURE

The maximum syllabic structure of Akha is expressed by the following
formula:

$$Sy = \overbrace{C_1 \; (C_2) \; V \; (C_3)}^{T}$$

In this formula, Sy means syllable, T means tone, C means consonant,
and V means vowel. Letters in parentheses express "the element which
is not indispensable" and letters without parentheses express "in-
dispensable elements".

When each of these [syllabic positions] is filled by an element we
have a syllable of Akha.

For example, C_1 = /m/; (C_2) = /j/; V = /o/; T = Falling tone (this
is shown by the symbol /ˋ/). Sy = /mjòֿ/ 'monkey'.

I will describe the syllabic structures of the Alu dialect of Akha
according to this formula and give examples for each.

$$Sy = \begin{cases} \text{i.} & C_1VT & /s\grave{\imath}/ & blood \\ \text{ii.} & C_1C_2VT & /bj\grave{a}/ & honeybee \\ \text{iii.} & C_1VC_3T & /m\grave{\jmath}\eta/ & horse \\ \text{iv.} & C_1C_2VC_3T & /(\text{'}a)\text{-}bj\grave{\jmath}\eta/ & colleague \end{cases}$$

In the next part, I will describe each element which constructs syllables.

1.3. SYLLABLE-INITIAL CONSONANTS

In this paper, syllable-initial consonants are shown as C_1, or $C_1(C_2)$- in the formula in 1.2. The elements which can occur as C_1- or $C_1(C_2)$- (e.g. /j/) are those shown in the following table.

The table shows that there is not only a contrast of voiced and voiceless qualities, but also, in the case of the voiceless feature, there is contrast of the aspirated and unaspirated features for stop consonants.

For nasals, all are voiced, and there is no contrast between aspirated and unaspirated; the contrast between nasals is shown only by the point of articulation. The same is true for oral continuants. For fricatives, there is no contrast between aspirated and unaspirated, but there is a contrast between voiced and voiceless.

All of the consonants can fill the position of C_1; however, only /-j-/ mentioned above can fill the position of $-(C_2)$-.

In fact, only /pj-; phj-; bj; mj/ ever occur as $C_1(C_2)$-. That is to say, when $-(C_2)$- is filled in $C_1(C_2)$-, C_1 must be one of the bilabials.

			Labial	Dental	Palatal	Velar	Etc.
Stop	voiceless	unaspirated	p	t	c	k	
	"	aspirated	ph	th	ch	kh	
	voiced	unaspirated	b	d	ɟ	g	'
Nasal	voiced	unaspirated	m	n	ɲ	ŋ	
Frica-tive	voiceless	unaspirated		s		x	h
	voiced	unaspirated				ɣ	
Oral contin-uant	voiced	unaspirated		l	j		

Syllable-initial consonants

Some examples of the contrasts between consonants in the positions $C_1(C_2)$- are as follows:

/pà-tɛ/	*rain coat*	/phá-'ɯ́/	*to borrow money*
/bà-ba/	*cheek*	/ma-sà/	*bamboo*
/pjà-'ɯ́/	*to scratch*	/phjà-'ɯ́/	*feverish*
/bjà/	*honeybee*	/mjà-'ɯ́/	*much*
/ta-'ɯ́/	*salty*	/thà-'ɯ́/	*put on*
/da-ɟum/	*a flight of steps*	/nà-ja/	*earring*
/ba-la/	*moon*	/ca-thɔ̀ŋ/	*navel*
/chá-chà/	*little finger*	/ɟà-ɲì/	*firefly*
/ɲà-'ɯ́/	*wise*	/jà/	*child*
/ka/	*crossbow*	/kha-'ɯ́/	*to drop off*
/ga-ma/	*way*	/ŋà/	*five*
/xà-mɛ/	*mouth*	/ɣà/	*power*
/sà-ɟí/	*meat*	/jɔ-'à/	*wet*
/ha-khá/	*bamboo basket*		

1.4. SYLLABLE-MEDIAL VOWELS

These are elements which can fill the slot V in the formula in 1.2.

Eleven vowel contrasts can be observed in the Alu dialect, which are classified by position of the tongue ([longitudinal position] and height) and shape of the lips (see the following table).

The special vowel /m̩/ in this table is not a vowel but a consonant in terms of phonemics; however when we regard it in terms of the distributional criteria of syllables, it is reasonable to put it with the vowels. Vowels and consonants in this paper are not classified by the character of the phoneme itself, but are classified by their distribution and function in syllables.

		High	Mid	Low	Etc.
Front vowel	unrounded	i	e	ɛ	
	rounded		ø		
Back vowel	unrounded	ɯ	ə	a	
	rounded	u	o	ɔ	
Special vowel					m̩

/m̩/ always occurs as the form of ['m̩] or [m̥ m̩], and never as the form /m̩V/. When we regard ['] in ['m̩] and [m̥] in [m̥ m̩] as /'/, /h/, it is possible to describe ['m̩] as /'m̩/, and [m̥ m̩] as /hm̩/.

And when we regard /'/ and /h/ in these forms as syllable-initial consonants C_1, it is seen that /m/ fills the position of V.

In the Alu dialect, phonemic combinations of vowels are not present nor the contrast of long and short vowels. Examples of vowel contrasts are as follows:

/'à-li/   *boy*   /'ɔ-lø-ñi/   *plump man*

/le-'ɯ́/   *go (upward)*   /lɛ/   *market*

/lu-dù/   *well*   /lo/   *vehicle*

/lɔ-bà/   *river, stream*   /lá-'ɯ́/   *come*

/jɔ-là/   *brown*   /'m̩/   *heaven, sky*

1.5. SYLLABLE-FINAL CONSONANTS

These are elements which fill the slot -(C_3). In Akha, elements which fill this position are extremely limited. In the Alu dialect, only /m,ŋ,j/ occur in the position -(C_3) so far as I have found. Syllable-medial vowels and syllable-final consonants in this language are phonetically bound so that it is impossible to divide them. Therefore it is very important to consider the distribution of their combinations.

The following table gives the occurrences of /-V (C_3)/ observed in the Alu dialect of Akha.

One of the elements mentioned above, /j/, is observed in only two cases, /mɛ-saj/ 'Maesai' and /thàj/ 'Thai'; however /mè-saŋ/ is also used side by side [with /mɛ-saj/]. /-aŋ/ has been recorded only in /mè-saŋ/ and /jǐ-haŋ/, 'Chiengrai'; therefore it is possible to say that /-aj, -aŋ/ occur only in proper nouns, and it seems that their origin is not Akha. They are parenthesised in the following table.

-#	-m	-ŋ	-j
-i			
-e			
-ɛ			
-u	-um		
-o			
-ɔ		-ɔŋ	
-a		(-aŋ)	(-aj)
-ø			
-ɯ	-ɯm		
-ə			
-m̩			

Syllable-final consonants

As is clear from the table, the elements which occur as $-(C_3)$ are /-m,-ŋ/ only.

The distribution of nasals is also quite limited. It will be treated later.

The following examples are of the syllable-final consonant contrasts:

/súm/   *three*   /sɔ̀ŋ/   *nail*
/mɛ̀-saj/ *Maesai*   /ʄì-haŋ/   *Chiengrai*

1.6. TONES

These are elements which are shown as T in the formula in 1.2. The difference between T, and C or V is described in the following manner. The latter have a role in determining the temporal length of syllables; on the other hand, the former is connected with the whole of syllables and does not play a role in determining syllable length like C and V.

For example, /mɔ̀ŋ/ *'horse'*,

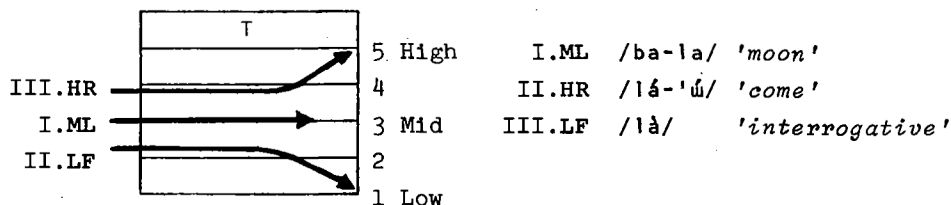$$(C_1 = /m/, \; V = /ɔ/, \; C_3 = /ŋ/, \; T = /`/).$$

In this context, C precedes V, V precedes C_3, while T has a duration extending over the whole of the elements /mɔŋ/. In comparison with the contexts of the initial, medial and final positions of syllables C_1, V, C_3, T covers the whole of /C_1 V C_3/.

As the tonemes of Akha, three patterns are observed:

   I.   Mid level type (**ML**)   no toneme symbol
  II. Low falling type (**LF**)   shown by `
 III. High rising type (**HR**)   shown by ʼ

In **LF** and **HR**, vowels are lengthened, and there is a tendency for the whole syllable to be lengthened, more than in **ML**.

The tones may be diagrammed as follows:

III.HR ——— 5 High	I.ML /ba-la/ *'moon'*
I.ML ——— 4	II.HR /lá-ʼú/ *'come'*
II.LF ——— 3 Mid	III.LF /là/ *'interrogative'*
2	
1 Low	

1.7. LIMITATION OF DISTRIBUTIONS OF PHONEMES

The syllables recorded in the Alu dialect are shown in the following table. Of course, since all of them are based on samples obtained from my field notes it is reasonable to assume that there are many other syllables in the Alu dialect.

In this table, only the combinations $C_1 (C_2)$ and $V(C_3)$ are shown;

tones are excluded. Therefore, there are in fact other possible shapes. For example, /'m̩/ can be in two forms: /'ḿ̩/ *do, make* and /'m̩̀/ *'heaven, sky'*; however, in this table, only the form of /'m̩/ is shown and the tone marking is omitted.

Within the sphere of $\overbrace{C_1(C_2) \; V \; (C_3)}^{T}$ in 1.2. any type of syllables can exist in theory. Nevertheless, the actual combinations and distributions of each element are limited to some measure in practice.

$$C_1(C_2) \; V \; (C_3)$$

-V(C₃) \ C₁(C₂)-	-i	-e	-ε	-u	-o	-ɔ	-a	-ø	-ɯ	-ə	-m̩	-um	-ɯm	-ɔŋ	-aŋ	-aj
p-			o	o	o	o	o									
ph-	o		o	o	o	o	o	o	o	o		o				
b-	o		o	o	o	o	o	o	o	o		o				
m-	o	o	o	o		o	o		o	o		o				
pj-							o									
phj-			o		o	o										
bj-		o			o	o									o	
mj-		o			o	o	o								o	
t-	o		o		o	o	o			o						
th-	o		o	o	o	o	o	o							o	o
d-	o	o	o	o	o	o	o	o	o	o		o	o	o		
n-		o	o			o	o	o	o			o			o	
l-	o	o	o	o	o	o	o	o	o		o		o	o		
c-	o		o	o	o		o	o	o	o						
ch-	o	o	o	o	o	o	o	o		o						
ɟ-	o	o	o	o	o	o	o	o	o			o			o	
ɲ-	o		o	o	o	o	o	o				o				
j-			o	o	o	o	o	o	o	o		o			o	
k-	o				o	o	o									
kh-			o			o	o		o			o			o	
g-			o	o	o	o		o							o	
ŋ-		o	o				o	o								
x-			o		o	o	o	o				o			o	
ɣ-					o	o	o	o	o						o	
s-	o		o	o		o	o		o	o		o		o	o	o
h-			o	o	o	o	o	o	o		o			o	o	
'-	o		o	o	o	o	o	o	o		o			o		

As is obvious from the table and the comments above, the limitation of distributions of phonemes can be expressed by the following.

In the formula $\overbrace{C_1 (C_2) \ V \ (C_3)}^{T}$:

(1) When -(C_2) is filled by /j/, C_1 must be one of the bilabial consonants /p, ph, b, m/. /mjɔ̀/ 'monkey'.

(2) When -(C_2)- is filled by /j/, -V- is one of /u, o, ɔ, e, a/. /bjà/ 'honeybee', /a-bjɔ́ŋ/ 'colleague'.

(3) When -V- is /m̩/, C_1 must be either of /', h/. /cà-hm̩/ 'hair', /'m̩̀/ 'heaven, sky'.

(4) When -V- is /m̩/, -(C_3) is never filled. /'m̩-'ɯ́/ 'do, make', /'à-hm̩/ 'hair'.

(5) When -(C_3) is filled by /m/, -V- must be either of /u,ɯ/. /súm/ 'three', /'m̩̀-dúm-'ɯ́/ 'cloudy'.

(6) When -(C_3) is filled by /ŋ/, -V- must be either of /a,ɔ/. /gɔ̀ŋ/ 'spear', /jǐ-haŋ/ 'Chiengrai', /mɛ̀-saŋ/ 'Maesai'.

(7) -(C_2)- must always be /j/. /mjɔ̀/ 'thing'.

(8) -(C_3)- must always be one of /m, ŋ, j/. /súm/ 'three', /mɔ̀ŋ/ 'horse', /mɛ̀-saŋ/ 'Maesai'.

(9) When -V- is /i/, C_1 is never filled by /n/. We find /ɲi/ 'two', but the form /ni/ is not observed. According to examples such as /ɲɛ-'ɯ́/ 'catch' and /nɛ̀/ 'spirit, soul', /ɲ/ and /n/ are not distributed contrastively, so these should be regarded as different phonemes.

1.8. PHONETIC ANALYSIS OF EACH PHONEME

In parts 1.1. to 1.7. I have described the distribution of each element in the structure of syllables. Here, I will discuss how these elements are realised in actual speech. That is to say, I have explained elements which construct syllables, in other word, phonemes, and here I treat states of the phonemes in terms of the phonemic system, i.e. each phoneme is named, its environment described (that is to say its position) and definitions of phonemes are provided. I will give examples lastly.

1.8.1. Bilabial consonants

(1) /p/: This is a voiceless unaspirated bilabial stop [p] in syllable-initial position. In the contexts /-jɔ, -ja/, this is palatalised [pʲ]. /pà-jo/ 'tobacco', /pja-'ɯ́/ 'scratch'.

(2) /ph/: This is a bilabial stop [p'] which is voiceless and aspirated in syllable-initial position. In the contexts /-jɔ, -ja/, this is a palatalised [p'ʲ] which is always strongly aspirated. /phá-ɯ́/ 'to borrow money', /phjà-'ɯ́/ 'feverish'.

(3) /b/: This is a bilabial stop [b] which is voiced and unaspirated in syllable-initial position. In the contexts /-jɔ, -ja/, this is a palatalised [bʲ]. /bɔ̀-'ɯ́/ 'suck', /bjɔ-'ɯ́/ 'feel enjoyable'.

(4) /m/: This is a bilabial nasal [m] which is voiced and unaspirated in syllable-initial position. In cases of /-jɔ, -ja/, this is a palatalised [mʲ] and in syllable-final position this is apt to be voiceless [m̥ᵐ]; but at the same time, the closure is incomplete. /mù-'ɯ́/ 'good', /mjà-'ɯ́/ 'many', /jɯ́m/ 'house'.

1.8.2. Dental consonants

(1) /t/: This occurs in syllable-initial position only. This is a stop [t] which is voiceless and unaspirated. /ta-'ɯ́/ 'salty'.

(2) /th/: This occurs in syllable-initial position only. This is a stop [t'] which is voiceless and aspirated, and has strong aspiration. /thɔ̀-'ɯ́/ 'to indicate'.

(3) /d/: This occurs in syllable-initial position only. This is a stop [d] which is voiced and unaspirated. /dɔ́-'ɯ́/ 'suck, drink'.

(4) /n/ This occurs in syllable-initial position only. This is a nasal [n] which is voiced and unaspirated. /ná-'ɯ́/ 'feel a pain'.

(5) /s/ This occurs in syllable-initial position only. This is a fricative [s] which is voiceless and unaspirated. In the contexts /-i, -ø/, this is palatalised [ç]. /sà-ʃí/ 'meat', /sí-'ɯ́/ 'to die'.

(6) /l/: This occurs in syllable-initial position only. This is a lateral [l] which is voiced and unaspirated. In the contexts /-i, -ø/, this is palatalised to some extent. /lá-'ɯ́/ 'come', /'à-li/ 'boy'.

1.8.3. Palatal consonants (hard palate)

(1) /c/: This occurs in syllable-initial position only. This is [an affricate] [č] which is voiceless and unaspirated. /cà-hm̩/ 'hair'.

(2) /ch/: This occurs in syllable-initial position only. This is [an affricate] [č'] which is voiceless and aspirated; however the degree of the closure is more incomplete than in the case of /c/. /'ù-chɔ̌/ 'head-dress'.

(3) /ʄ/: This occurs in syllable-initial position only. This is

[an affricate] [J] which is voiced and unaspirated. It has incomplete closure the same as in the case of /ch/. It could be said that /ch, J/ are fricatives in terms of phonetics; however, considering relations expressed by /p, ph, b, m/ : /k, kh, g, ŋ/ : /c, -, -, ň/, it is reasonable to think that /ch, J/ are the elements which can fill the positions of the dashes. /Jà-'ɯ́/ *'to eat'.*

(4) /ň/: This occurs in syllable-initial position only. This is nasal [ɲ]. /ňi/ *'two'*, /ňa-'ɯ́/ *'wise'*.

(5) /J/: In syllable-initial position, this becomes the semi-vowel [j] which is voiced and unaspirated, and in syllable-final position, this becomes [ĕ]. /jà/ *'child'*, /mĕ-saj/ *'Maesai'*.

1.8.4. Palatal consonants

(1) /k/: This occurs in syllable-initial position only. This is a stop [k] which is voiceless and unaspirated. /ka/ *'cross-bow'*.

(2) /kh/: This occurs in syllable-initial position only. This is a stop [k'] and always has strong aspiration. /kha-'ɯ́/ *'drop off'*.

(3) /g/: This occurs in syllable-initial position only. This is a stop [g] which is voiced and unaspirated. /ga-ma/ *'road'*.

(4) /ŋ/: In syllable-initial position, this becomes nasal [ŋ]; in syllable-final position, it is so incompletely closed that it makes the preceding vowel nasalised. For example, /sɔ̀ŋ/ *'nail'* is pronounced like [sɔ̃:$^{ŋ}_{21}$]. /ŋà/ *'fish'*, /mɔ̀ŋ/ *'horse'*, /Ji-haŋ/ *'Chiengrai'*.

(5) /x/: This occurs in syllable-initial position only. This is fricative [x] which is voiceless and unaspirated. /xà-là/ *'tiger'*, /ba-xo/ *'leather'*.

(6) /ɣ/: This occurs in syllable-initial position only. This is fricative [ɣ] which is voiced and unaspirated. /ɣà/ *'power'*, /ɣɔ̌/ *'nine'*.

1.8.5. Other consonants

(1) /'/: This occurs in syllable-initial position only. This is very much weaker than a glottal stop; therefore this should be called glottal tension. /'ɔ̌/ *'four'*.

(2) /h/: This occurs in syllable-initial position. This is glottal fricative [h] which is voiceless and unaspirated. /hɯ̀-'ɯ́/ *'big, large'*.

1.8.6. Vowels

(1) /i/: This is an unrounded [i] which is high front. In the

context /x-/, this is apt to be voiceless. /'í-'ш́/ 'go (downward)'.

(2) /e/: This is an unrounded [e] which is mid front. In the contexts /c-, ch-, ʝ-, ň-, j/, it is narrowed to some extent. /le-'ш́/ 'go upward', /che-xùm/ 'lamp'.

(3) /ɛ/: This is an unrounded [ɛ] which is low front. /lɛ/ 'market', /ňɛ-'ш́/ 'catch'.

(4) /ø/: This is a rounded [ø]. In the contexts /x-, ɣ-/, it becomes [oø]. /jɜ̀-chǿ/ 'sweet', /xɜ̀-'ш́/ 'steal', /ɣǿ/ 'nine'.

(5) /u/: This is a rounded [u] which is high back. In the context /-m/, this becomes [ŭ]. /phu/ 'village', /súm/ 'three'.

(6) /o/: This is a rounded [o] which is mid back. /do-mi/ 'tail', /'ù-xo/ 'hat'.

(7) /ɔ/: This is a rounded [ɔ] which is low back. In the context /-ŋ/, it is nasalised and becomes [ɔ̃]. The lips are incompletely rounded. /hɔ-'ш́/ 'see', /mɔ̃ŋ/ 'horse'.

(8) /a/: This is an unrounded [a] which is low back. In the context /-ŋ/, it nasalised and becomes [ã]. /xà-là-na/ 'black panther', /mɛ̀-saŋ/ 'Maesai'.

(9) /ɯ/: This is an unrounded [ɯ] which is high. In the context /-m/, it is nasalised and becomes [ɯ̃]. /jɔ-sù/ 'new', /dùm/ 'classifier, used for counting flat things'.

(10) /ə/: This is an unrounded [ə] which is mid back. /sɜ̀/ 'teeth', /hɔ-jɜ́/ 'pile'.

(11) /m̩/: In terms of phonetics, this should be classified as a consonant; however, considering its distribution in syllables in terms of phonemics, we can regard it as a vowel. To be precise, this /m̩/ always occurs in the environments ['m̩] or [m̥ m̩], and when ['] and [m̥] in the above mentioned forms are expressed as /'/ and /h/ it is possible to regard [m̥] as /m̩/, and when we analyse /'/ and /h/ as syllable-initial consonants, it is clear that /m̩/ is V, i.e. syllable-medial vowel. For example, the syllable /'ḿ̩/ 'heaven, sky' is analysed as follows: C_1 = /'/, V = /m̩/, T = /'/. /cà-hm̩/ 'hair', /ju-'ḿ̩/ 'now'.

1.8.7. Tones

(1) /no tonal sign/: Mid level tone [33]. In the case of /C_1 (C_2)ɔŋ/, the vowel is slightly lengthened. But in other syllables, the vowel is not lengthened. /ba-la/ 'moon', /hɔŋ/ 'chest'.

(2) /`/: Low falling tone [21]. In syllables with this tone, the

vowel is lengthened, and in syllables of the form /C_1 (C_2)ɔŋ/, the vowel
is lengthened so much that the tone becomes almost like [₂₂₁]. /sə̀/
'teeth', /mjə̀/ 'monkey', /gɔ̀ŋ/ 'spear'.

(3) /'/: High rising tone [₄₅]. The vowel is lengthened as in (2).
In the syllable /C_1 (C_2)ɔŋ/, the vowel is remarkably lengthened. But in
/C_1 (C_2)um/, the vowel is not lengthened. /jɔ-phǔ/ 'blue', /jɔ-ɣɔ́ŋ/
'hard', /jɔ-ň úm/ 'short'.

2. THE ALU DIALECT AND THE SENCHAI DIALECT

2.1. Senchai village was selected as the main investigatory spot along
with Alu village. The dialects spoken in these two villages only
10 kilometres apart have some differences. The following is a rough
sketch of the differences between them.

I have already described the phonemes of the Alu dialect; therefore,
I will refer only to the outline of the structure of syllables in the
Senchai dialect. And then, I will point out some of the differences be-
tween them. This is not a report in which to make comparative studies
of the languages. This paper only points out the differences between
the two dialects.

The structure of syllables in the Senchai dialect can be described
by the formula Sy = $\overbrace{C_1 \ (C_2) \ V \ (C_3)}^{T}$ the same as the Alu dialect.

2.2. *PHONEMES OF THE SENCHAI DIALECT*

(1) In conformity with the formula, the phonemes are as in the follow-
ing table.

			Labial	*Dental*	*Palatal*	*Velar*	*Etc.*
Stop	voiceless	unaspirated	p	t	c	k	
	"	aspirated	ph	th	ch	kh	
	voiced	unaspirated	b	d	ɟ	g	
Nasal	voiced	unaspirated	m	n	ň	ŋ	
Frica-tive	voiceless	unaspirated		s	š	x	h
	voiced	unaspirated		z		ɣ	
Affri-cate	voiceless	unaspirated		ts			
	"	aspirated		tsh			
	voiced	unaspirated		dz			
Oral con-tinuant	voiced	unaspirated		l			

/pj-, phj-, bj-, mj-/ are the possibilities for $C_1(C_2)$, the same as in the Alu dialect. Only /j/ can fill -(C_2), and when -(C_2) is filled, C_1 must be one of the bilabial consonants.

(2) V (syllable-medial vowel):

		High	Mid	Low	Etc.
Front vowel {	unrounded	i	e	ɛ	
	rounded		ø		
Back vowel {	unrounded	ɯ	ə	a	
	rounded	u	o	ɔ	
Special vowel					m̩

(3) -(C_3) (syllable-final consonants): there are only /-j, -ŋ, -m/ in the Senchai dialect. When -(C_3) is filled by /m/, -V- must always be either /u, ɯ/, and when -(C_3) is filled by /ŋ/, -V- must always be either /a, ɔ/, and when /-j/ fills -(C_3), -V- must always be /a/.

(4) T (tones): The Senchai dialect has the following three tones which are the same as in Alu.
    I. Mid level type (ML)   no tonal sign
   II. Low falling type (LF)   `
 III. High rising type (HR)   ´

2.3. *THE DIFFERENCES BETWEEN THE ALU AND SENCHAI DIALECTS*

The two dialects are remarkably different in syllable-initial consonants. On the other hand, there are no conspicuous differences in syllable-medial vowels and syllable-final consonants. Hence I will refer only to the syllable-initial consonants which fill C_1-.

The Alu dialect has 23 consonants, and Senchai has 28, which include all the consonants of the Alu dialect. The other five consonants of the Senchai dialect are /ts, tsh, dz, z, š/, which are not observed in Alu.

In what way do these five consonants occur in the Alu dialect? The following table represents the differences in syllable-initial consonants of the two dialects. A large number of samples was obtained; this is a part of them.

(See table overleaf.)

ALU DIALECT   SENCHAI DIALECT

/c-/	/ts-/ i.
	/c-/ ii.
	/tsh-/ iii.
/ch-/	/ch-/ iv.
	/dz-/ v.
/ʝ-/	/ʝ-/ vi.
	/z-/ vii.
/j-/	/j-/ viii.
	/s-/ ix.
/s-/	/š-/ x.

i. ALU /c-/:   SENCHAI /ts-/

ALU	SENCHAI	
/co-'ɯ́/	/tso-'ɯ́/	build
/cέ-'ɯ́/	/tsέ-'ɯ́/	go across
/cὲ-'ɯ́/	/tsὲ-'ɯ́/	bark
/cὺ-jέ/	/tsὺ-jέ/	friend
/cὺ-nɯ-xồ/	/tsὺ-nɯ-xồ/	this year
/ʝa-cə/	/ʝa-tsə/	sparrow
/mὲ-cǿ/	/mὲ-tsǿ/	clothes

ii. ALU /c-/:   SENCHAI /c-/

ALU	SENCHAI	
/jo-cὺ/	/jo-cὺ/	bud
/mᶖ-cᶖ/	/mᶖ-cᶖ/	match
/ma-cὰ/	/ma-cὰ/	bottle
/'ᶖ-cὺ/	/'ᶖ-cὺ/	water
/cὰ-'ɯ́/	/cὰ-'ɯ́/	cook
/cὰ-hm/	/cὰ-hm/	hair
/cᶖ-hὰ/	/cᶖ-xὰ/	deer

iii. ALU /ch-/:   SENCHAI /tsh-/

ALU	SENCHAI	
/dὺ-chᶖ/	/dὺ-tshᶖ/	root
/chɔ-hὰ/	/tshɔ-xὰ/	man
/jo-chᶖ/	/jo-tshᶖ/	belt
/bɔ́-chɔŋ/	/bɔ́-tshɔŋ/	forest
/lὲ-chᶖ-'ɯ́/	/lὲ-tshᶖ-'ɯ́/	wash
/chồ-ɣo/	/tshồ-ɣo/	fireplace
/chồ-bᶖ/	/tshồ-bᶖ/	place to draw water

iv. ALU /ch-/:   SENCHAI /ch-/

ALU	SENCHAI	
/mᶖ-chέ/	/mᶖ-chέ/	knife, sword
/'a-chǿ/	/'a-chǿ/	milk, sweet

iv. (continued)

/'ù-chǿ/	/'ù-chǿ/	*head-dress*
/chɛ́/	/chɛ́/	*rice*
/chá-chà/	/chá-chà/	*little finger*

v. ALU /ʃ-/:   SENCHAI /dz-/

/ʃɔ-'ɯ́/	/dzɔ-'ɯ́/	*to learn*
/hà-ʃɛ-'ɯ́/	/xà-dzɛ-'ɯ́/	*to expectorate*
/ʃù-'ɯ́/	/dzù-'ɯ́/	*bathing*
/ʃɯ́-'ɯ́/	/dzɯ́-'ɯ́/	*to buy*
/mɨ̀-ʃà/	/mɨ̀-dzà/	*fire*

vi. ALU /ʃ-/:   SENCHAI /ʃ-/

/'ù-ʃè-ʃè-'ɯ́/	/'ù-ʃè-ʃè-'ɯ́/	*the thunder rolls*
/ʃɔ́-'ɯ́/	/ʃɔ́-'ɯ́/	*stay*
/ʃa-lɛ́/	/ʃa-lɛ́/	*wind*
/ʃi-bà/	/ʃi-bà/	*wine*
/ʃa-cə/	/ʃa-tsə/	*sparrow*

vii. ALU /ʝ-/:   SENCHAI /z-/

/'a-ʝa/	/'a-za/	*pig*
/ʝà/	/zà/	*child*
/hɔ-ʝɔ́/	/hɔ-zɔ́/	*pillar*
/ʝà-mi-ʝà/	/zà-mi-zà/	*woman, wife*
/hà-ʝɯ́-ʝà/	/xà-dzɯ́-zà/	*man, husband*

viii. ALU /ʝ-/:   SENCHAI /ʝ-/

/ʝè-'ɯ́/	/ʝè-'ɯ́/	*be drunk*
/ʝɯ́-'ɯ́/	/ʝɯ́-'ɯ́/	*take up*
/ʝù-'ɯ́/	/ʝù-'ɯ́/	*sleep*
/sà-ʝǿ/	/šà-ʝǿ/	*born*
/ʝǒ/	/ʝǒ/	*waist*
/ʝa-ma/	/ʝa-ma/	*elephant*

ix. ALU /s-/:   SENCHAI /s-/

/sɯ́m/	/sɯ́m/	*three*
/sà-phɨ́/	/sà-phɨ́/	*pepper*
/'a-sɨ̀/	/'a-sɨ̀/	*seed*
/sè/	/sè/	*teeth*
/sɔ̌ŋ/	/sɔ̌ŋ/	*nail*
/ma-sà/	/ma-sà/	*bamboo*

x.   ALU /s-/:   SENCHAI /š-/
        /sà-ʃʃ/   /šà-ʃʃ/   *meat*
        /sʃ-'ú/   /šʃ-'ú/   *to die*
        /jɔ-sú/   /jɔ-šú/   *yellow*
        /jɔ-sú/   /jɔ-šù/   *new*
        /súm/   /šúm/   *iron*
        /mi-sù/   /mi-šù/   *pine*

2.4. OTHER POINTS OF DIFFERENCE

The following were observed in addition to the samples mentioned above:

i.   ALU /h-/:   SENCHAI /x-/
        /ho-cà/   /xo-cà/   *rat*
        /chɔ-hà/   /tshɔ-xà/   *people*
        /hà-ʃú-jà/   /xà-dzú-zà/   *man, husband*
        /hà-hḿ/   /zà-hḿ/   *bear*
        /hà-ʃe-ʃɔ/   /xà-ʃe-ʃɔ/   *parakeet*

ii.   ALU /h-/:   SENCHAI /h-/
        /hɔ-'ú/   /hɔ-'ú/   *to see*
        /hɔ/   /hɔ/   *boiled rice*
        /jɔ-hù/   /jɔ-hù/   *big*

iii.   ALU /'-/:   SENCHAI /ɣ-/
        /'ɔ-pà/   /ɣɔ-pà/   *vegetable (leaves)*
        /'ɔ-ɲɔ́/   /ɣɔ-ɲɔ́/   *vegetable*

All of these are samples of syllable-initial consonants only.

There is only one case of a difference in vowels between the two dialects, namely /sà-nɔ/ (Alu) : /sɛ̀-nɔ/ (Senchai) which means *'sandals'*.

Differences in syllable-final consonants and in tones were not observed.

CONCLUSION

I have described the system of phonemes; still, this report is only the first stage in the process of consolidating my field notes. I have treated phonemes in the context of syllables. Next I must consider the correlation of syllables, the structure of morphemes and sentences. I will report the results of each further stage in the future. Therefore, this report will become chapter one, paragraph one of the final report.

While I was analysing my data it was seen that the Akha language

corresponds with Burmese systematically, and that there are many dif-
ferences with the Lahu and Lisu languages, though they look like very
close languages. Of course, my work is not finished. I plan to go back
to the village again before my final report is issued.

When the grammatical structure, glossaries and texts are analysed,
the structure of the Akha language will be apparent. I think the com-
parative study of Akha with closely related languages must wait until
after that time, and complete analyses of Lahu, Lisu and Bisu will be
needed at that time, too.

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