



THE SOUND SYSTEMS OF LAMPANGLAMET AND WIANCPAPAO LUA

BY

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ABSTRACT

This thesis is a study of the sound systems of Lampang Lamet and Miang Pa Pao Lua. The objective is to present the sound system of each language and to compare the differences and similarities between these two languages.

The phonological description consists of the Intonation group, the stress group, the Syllable, the Phoneme and the Suprasegmental phoneme. The comparison compares the phonological descriptions of the two languages. And the final chapter presents sound correspondences between the two languages.

The study shows that the two languages are fairly closely related languages.

INTRODUCTION

1.1 Objective of the thesis

This thesis is a synchronic comparison of the sound systems of Lampang Lamet and Wiang Pa Pao Lua. The reason why Wiang Pa Pao Lua is compared with Lampang Lamet is because some linguists have said that Wiang Pa Pao Lua is a dialect of Lamet. My only wish is to present the facts of these two languages to the linguistic world, especially for Non - Khmer specialists. This thesis is not the solution of any problems but it presents evidence which can be taken as a clue in the problem. I do not attempt to solve the problems of the detailed linguistic affiliations of these languages.

1.2 Lampang Lamet (LL)1.2.1 Language Affiliations

Lamet is an Austroasiatic language of the Non - Khmer group. It belongs to the Palaungic branch. Some call this language "Lamet", while others call it "Khamet".

Acharn Kraisri Himmanahaeminda who is interested in anthropology, thinks that this language was originally called "Khaà Lamet", as it is a language in the "Kh à" group e.g., Kh à hoak, Khaà phaj. Then "Khaà Lamet" became shortened to "Khamet".¹

Dr. Gerard Diffloth, a specialist in Non - Khmer languages, has informed me that "Lamet" and "Khamet" are two variants of the

¹ In a personal interview on November 1979.

same word. The language has many dialects but most of them pronounce the name [xəmeet] ([x] is a back - velar voiceless fricative); this word goes back to a reconstructed Proto - Lamet form : * rmeet. Because of the [x] some people have written Khamet as if the beginning of the word was the prefix khaa (ਖਾ) which was unfortunately common in Laos to refer to minority peoples. Apparently some Lamet dialects have changed the *r- of * rmeet to an l -, and this would explain the spelling Lamet, which is the one normally used in French and in the linguistic literature in general ²

✗ Ferlus sets up three subgroups of Lamet : Lamet A, Khamet, and Lamet B. Lamet A is Lamet of Nam Tha (in Laos). Khamet is Khamet in Wiang Pa Pao.³ But it is not mentioned where Lamet B is spoken.

The relationships between Lamet and its sister languages in the Palaungic branch are not yet clear at present. Dr. Yasuyuki Mitani thinks that Lamet and Angku - Puman are close together (see figure 1.) But Diffloth thinks that Lamet and Wa - Lawa - Fulang are close together (see figure 2.)

² Personal letter dated 30th December 1979.

³ Yasuki Mitani, "Problems in the Classification of Palaungic", paper to be presented at Second International Conference on Austroasiatic Linguistics (December 19 - 21, 1978). pp. 10 - 11.

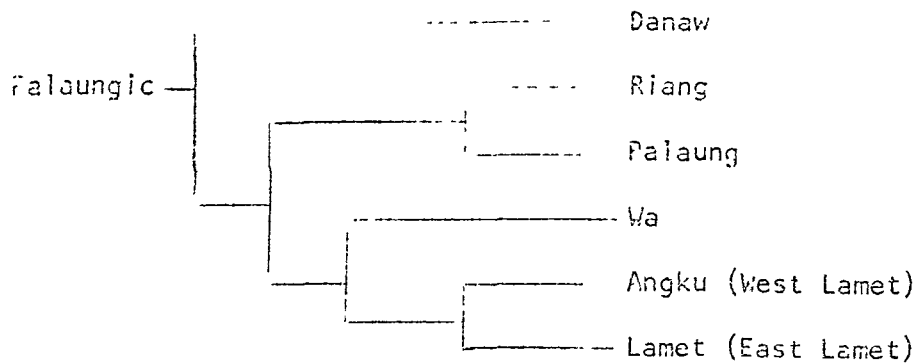


Figure 1

Mitani's tree diagram shows the relationship of Palaungic sub - branches from cognate percentage calculations.⁴

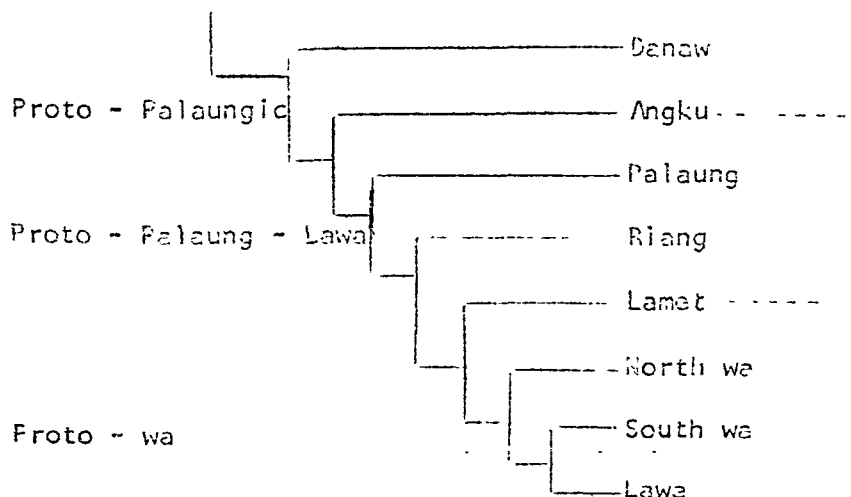


Figure 2

The historical diagram which Diffloth proposed here is based

⁴ Yasuyuki Mitani, *Ibid.*,

on the early phonological innovations.⁵-----The dash line shows that the relationship between Angku and Lamet is further than the relationship between Lamet and Wa.

The difference between the two diagrams is interesting. And I hope this thesis will be of some help in giving data on Lamet for any further study.

1.2.2 Location

The Lamet people whom I met in Lampang do not form a village. Most of the Thailand Lamet came from Laos and are scattered in Chiang Mai, Chiang Rai⁶ and Lampang. It is common to find these Lamet working in sawmills, in tobacco drying houses and in the forest. Because they are immigrants, though they came here a long time ago, they have to avoid staying together in a big group in town. They don't want to be in a refugee camp, so many of them often don't want to tell who they are.

My informant immigrated from Laos at the time of the 1939 Indo - China war. His birth place was Takluh village north of Nam Tha (see figure 3). His father and mother were born there also. He

⁵ Gerard Diffloth, *Mon - Khmer Initial Palatals and "Substratumized" Austro - Thai*; *Mon - Khmer Studies VI* (1977), p.41

⁶ Flatz mentions in "The Khalo or Mae Rim Lawa A Remnant of the Lawa population of Northern Thailand" that: "There are small groups of Khamed (Lamet) in Chiang Rai province who are part of the large Khamed population in the Hua Khong province of Laos." *Journal of Siam Society* 53.2 (1963), p. 87.

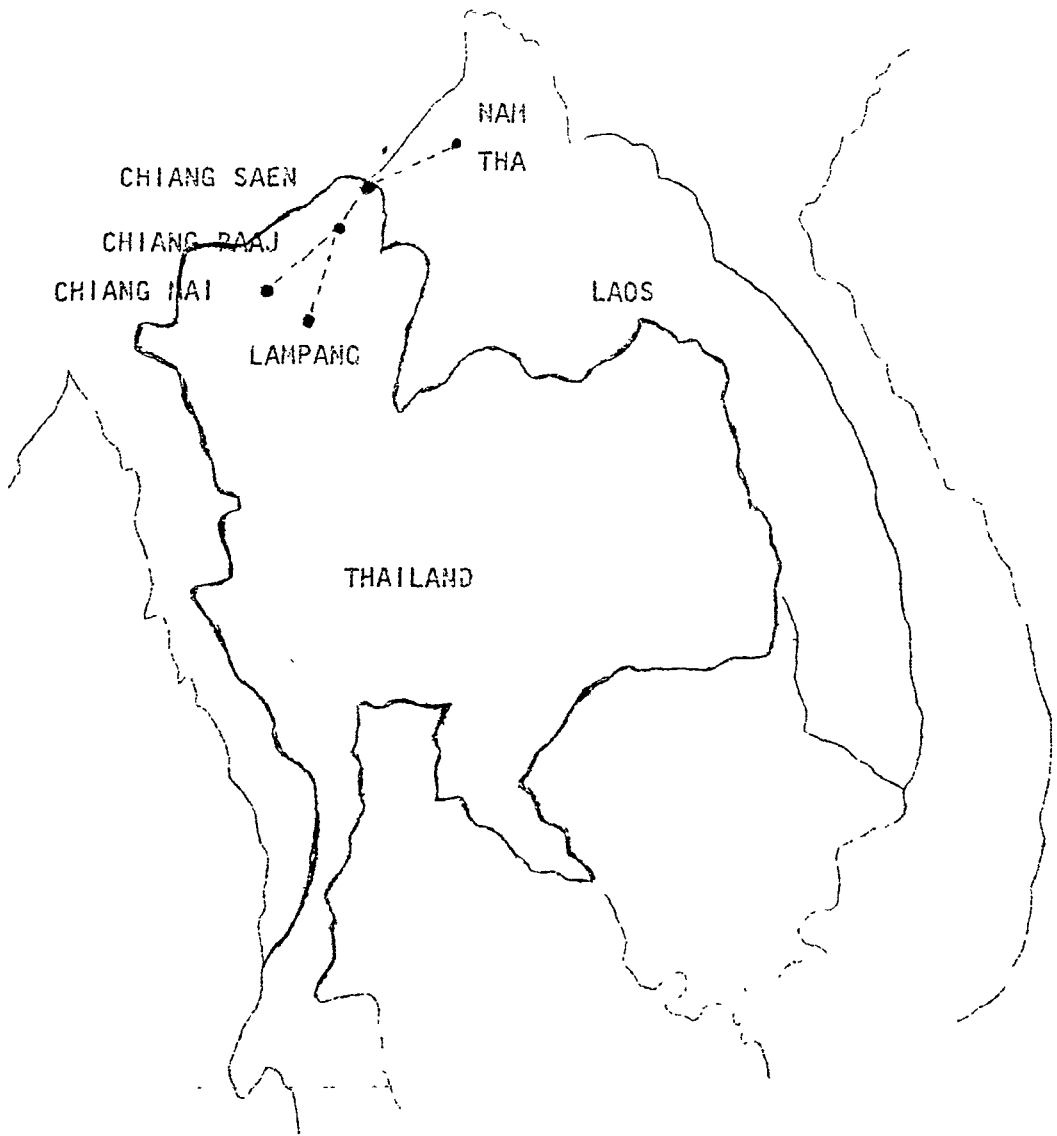


Figure 3 Map showing Lamet immigration route.

immigrated from Nam Tha with about sixty people together at that time. They passed Huaj Saaj and Sobjaab and entered Thailand at Chiang Raaj province (see figure 3). After that some of them went on moving southward, some settled in Chiang Raaj and some moved to other places. My informant stayed in Chiang Saen for a while and then moved to southward. He lived in Bangkok four years and then back to the north and has lived in Lampang town until now. His house is at Ban Saaj Lom Coj, Tambon Sobtuj.

1.2.3 Field Methods

Kaew Wiwansaj is the name of my main informant. He is 57 years old. He came from Laos when he was sixteen years old, spent 4 years in Bangkok and has lived in the north for 37 years. He has spoken Northern Thai for many years, but he still remembers Lamet because it is his mother tongue and there are a few cousins nearby with whom he can speak Lamet. He does not work because his leg is injured. He did not attend any school in Laos, but he knows the Lao language a little. And because he can speak Northern Thai a few Thai words are mixed up in the Lamet data, especially those words that do not belong to Lamet culture, such as from Northern Thai:

tu ² caw	'monk'
kaat	'market'
from Lao:	
phaa chakkhatoo	'padding'
phaakhoom	'a skirt - like dress for the rich'
hu ² ecak	'a steamer'

I started collecting data on Lampang Lamet from the 10th of December to the 28th of December 1979. All data was checked again in April 1980. Kaeu and his cousin were helpful in collecting data.

1.3 Wiang Pa Pao Lua (WL)

1.3.1 Language Affiliations

Flatz says, "In northern Thailand there are several populations who are linguistically affiliated with the Mon - Khmer or Austroasiatic group of languages. The most important of these groups are the Lawa, called Lua in northern Thai, a group of several thousand people settling on the high plateau west of Hcud (Chiang Mai province),In addition to the main group southwest of Chiang Mai there are a few Lawa villages in the district of Wiang Pa Pao. During a recent visit (1968) by the author no speakers of the Lawa language were found in these villages although they are still called Lawa villages (Ban Lua) by the Thai population. It seems that their assimilation to the Thai community has been completed in the present generation." ⁷

At present, I have found in Wiang Pa Pao about ten families in San Pang Chok or Ban Lua speaking a language which they call Lua. In the **same** village there are also many families of northern Thai people. Yet, Flatz could not find any speakers of Lawa in this area.

⁷ Gebhard Flatz "The Khalo or Mae Rim Lawa A Remnant of the Lawa population of Northern Thailand"; Journal of Siam Society 58, 2 (1963), p. 67

And Mitani and Ferlus agree that the language spoken in Wiang Pa Pao is Khamet.

The following information from Diffloth will help in understanding the word "Lwa". "Regarding the term Lwa or Lwa, there is some confusion; it is often used by non - linguists to refer to minority people who have been settled in Thailand for a very long time and speak a non - Tai language..... But as a technical linguistic term, Lwa properly refers (or should refer) to the Lavta⁶ or yavta⁷ who live in the area between Mae Sariang and Hod in Chiang Mai province, and Mae Hong Son province, This is a Palaungic language which belongs to the Wa - Lwa - Pulang Sub - branch of Palaungic"⁸

I found only one Mon - Khmer language spoken in Ban Lwa (Ban Pang Chok), So this is presumably the same language Mitani found in Ban Lwa, which he calls Khamet.⁹ Ferlus' Wiang Papao Khamet is based on Mitani's data.¹⁰ Schlatter also investigated this Wiang Pa Pao language and called it Lwa,¹¹ but considered it a different language from Mae Sariang Lwa.¹¹ And my present study shows it to be

⁶ Diffloth, letter, op.cit.

⁹ Yasuyuki Mitani, A descriptive and comparative Study of the Khamet Phonology (1965), p. 23

¹⁰ Michel Ferlus, Formation des registres et mutation consonantiques dans les langues Mon - Khmer; Mon Khmer Studies VIII(1979), p.17

¹¹ Don Schlatter, personal interviews January 1980

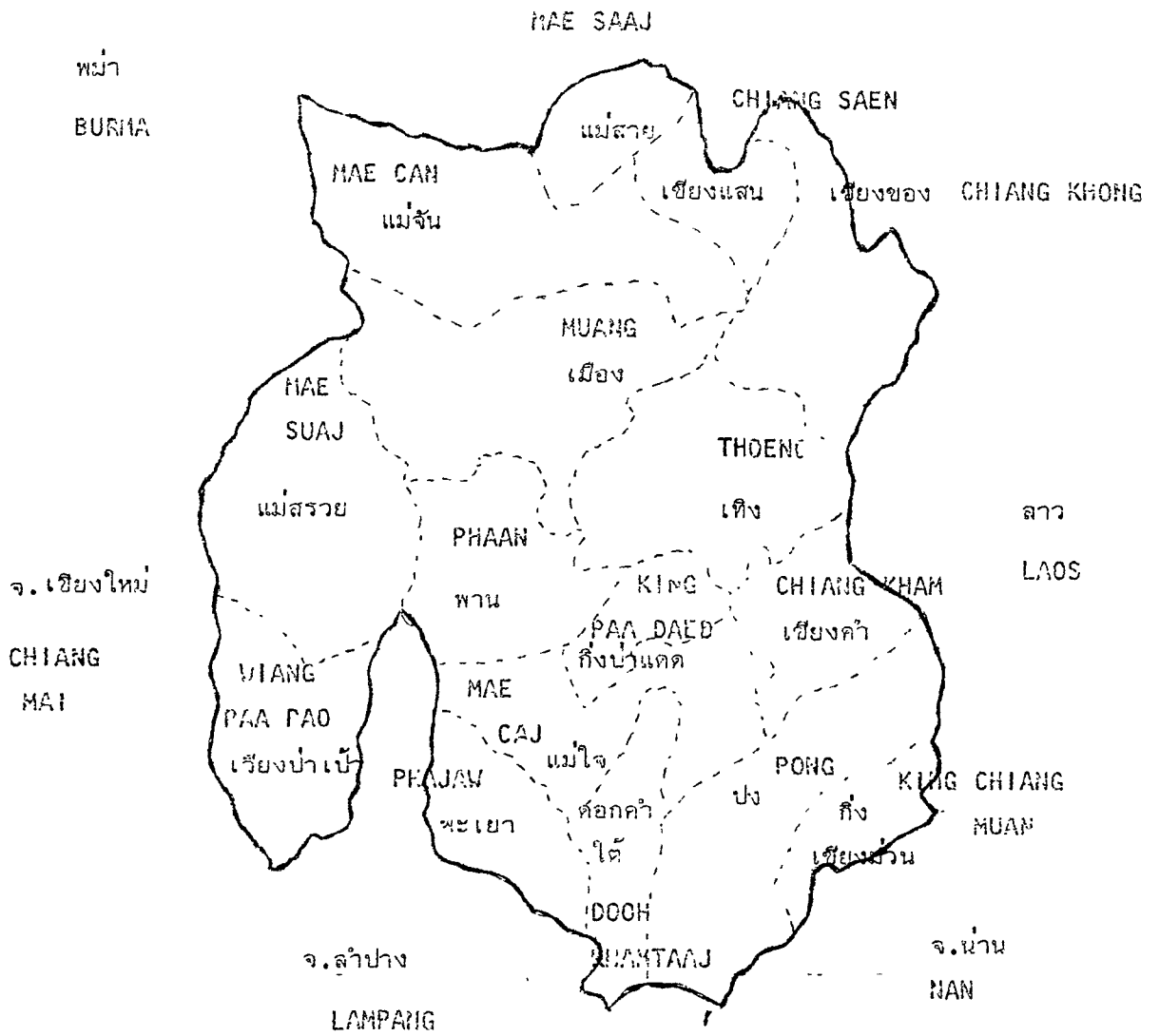


Figure 4 Map of Chiang Raaj province shows the district of Wiang Pa Pao

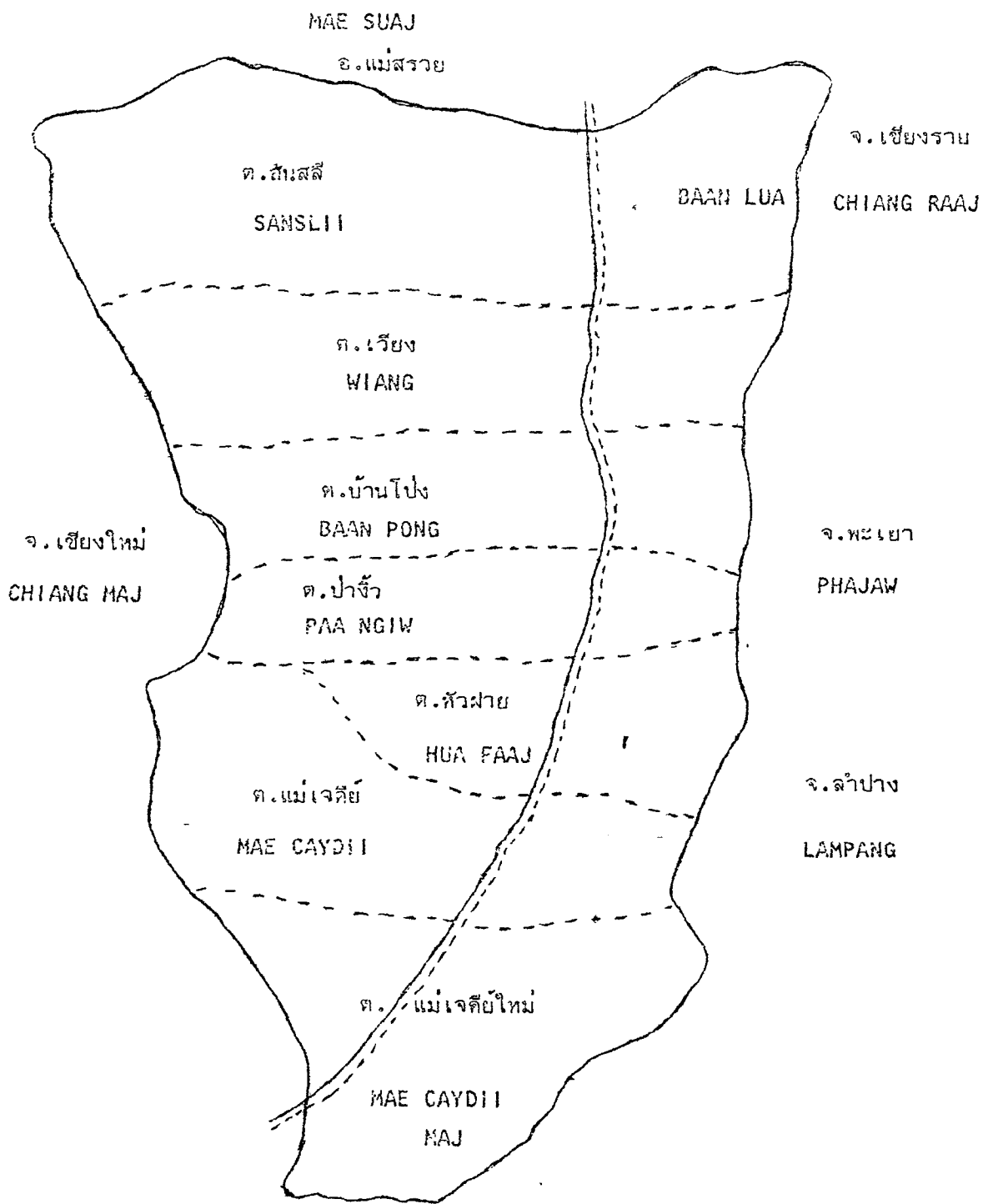
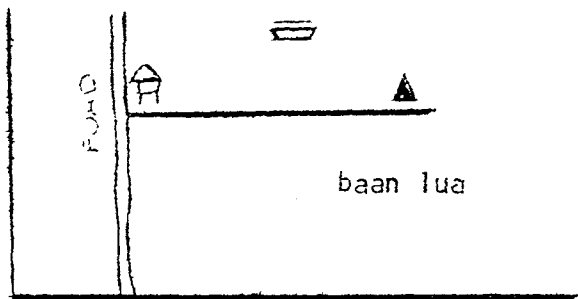


Figure 5 Map showing Baan Pang Chok or Baan Lua in

some different from Lamang Lamet. The people themselves told me they call themselves Lua, so this is the name I am using for them in this thesis.

1.3.2 Location

Wiang Pa Pao is the name of a district in southwestern of Chiangraaj province (see figure 4). Ban Pang Chok is in Tambon Sanslii, north of Wiang Papao (see figure 5), and is popularly known as Ban Lua by the Thai people.

These Lua people have lived in Ban Pang Chok for at least two hundred years, because the present generation knows that they were born there and also their parents, their grandparents, and their great grand parents. There is no story of an immigration from some other place.

1.3.3 Field Methods

The Lua people use mostly Northern Thai in their daily life, but use their own "Lua" language among themselves. Many "Lua" people have married Thai people, and their descendants speak Northern Thai because one of their parents is Thai, in school they have to speak Thai and when playing with other children they speak Thai. Then, Lua is not used by these new generations. And this language seems to be used only by a small group of people. As the members of this group die, their language apparently dies with them.

Saw Khammut has been my main informant. He is forty - six years old, with no education. He was born in Ban Pang Chok and never moved to any other place. He works in a field. He can speak Northern

Thai as well as Lua. Besides him, Mr. Tan Kacwphaa was helpful in checking data. And because their families lived there for many generations, they have borrowed many vocabulary items from Northern Thai.

For example:

keq	'to be good at'
	'to go about'
lun	'to scald (by steam)'

I started collecting data on Wiang Pa Pao Lua from the 5th of January to the 14th of January 1980. All data was checked again in April 1980.

1.4 Cognate Percentages

After collecting data, I roughly divided the words into five categories.

1. Those words that are exactly the same in both languages. (about 180 words)
2. Those words that are different by only a few sound changes (about 470 words)
3. Those words that are different in both sound and meaning (about 720 words)
4. Those words for which I have only Lampang Lamet forms (about 72 words)
5. Those words for which I have only Wiang Pa Pao Lua forms (about 56 words)

In calculating cognate percentages. I used the words in groups 1, 2 and 3. The total number of these words was 1,370 words, and the cognate percentage was 47.44 %

There are some words that are pronounced alike but their meanings have changed. For example:

	LL	WL	
a.	khəmaam.	pəəl	'to float'
	ŋkoóc	khəmaàm	'to flow'
b.	plw? tii?	kəənkaaŋ	'top of the arm'
	thoo tii?	ple? tii?	'inside part of the arm'
c.	law..	nləə	'to speak'
	khəjaak	law	'to scold'
d.	puł?uuł	te?	'steam'
	?əəmpuk Eyi	? mpul ?ul	'sweat'

----- The dash line shows the words that are pronounced alike but their meanings are different. These words are put in the third set because although the words are clearly related their meanings are no longer the same.

1.5 Vocabulary Differences

The fourth and fifth of the above sets, are largely culture bound words, which I found in one language only and not in the other.

For example:

LL		WL
lənóo	'canal'	No canals
khəlwc	'a brook in forest for wild animals'	No wild animals
naaŋ	'a ring net'	No big river to use this fishing net

LL

UL

The way of counting years by names

ø

tawsii

keaswa

kaap saŋaa

kat mot

rəwaaj san

məeŋ raw

plək sət

kat cwa

kot swa

ruuŋ paw

taw nii

kaa maw

The way of counting days by names

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kaa

kaap

xap

rəwaaj

məeŋ

plək

kat

kot

ruuŋ

taw

LL

WL

The system of counting opium

ø

1 caaj = 10 puŋ
 1 puŋ = 10 naaŋ
 1 haaŋ = 10 thee
 1 thee = 10 fin

The difference in geography and agriculture makes the way of their living different. That is, in Laos LL lived on the mountain where there is no way to use any kind of cart. So, there is no word for cart. In planting rice; Lamet in Laos did not plough or harrow the field. He told me that the soil is so good that there is no need of ploughing it. And when harvest time came, the Lamet in Laos did not use any tools but only their two hands in pulling grain into the basket. So, there are no words for ploughing, harrowing or tools used in harvesting. On the contrary, the WL use carts, tools, in harvesting and have to plough and harrow the field before planting, so they have words for these things.

Some vocabularies items can show us the process of semantic change and borrowing. For example:

	LL		WL	
a.	lak	'good at, nice'	lak	'nice'
			keŋ	'good at' (Thai)
b.	suu	'to pour (water)	súul	'to pour (water)'
		to scald (by steam)'	lun	'to scald (by steam)
				(Thai)

LL	WL
taan 'to weave (basket, cloth)'	taan 'to weave (basket)'
	taa 'to weave (cloth)(Thai)'
nal 'a lumn, a niece'	nal 'a niece'
	pon 'a lumn' (Thai)
khəmuul 'money, silver'	khəmuul 'silver'
	sətaan 'money' (Thai)

In Lampang Lamet, these words can convey two meanings. But in Wiang Pa Pao Lua, the word which is pronounced the same in Lampang Lamet, maintains only one meaning and a Thai borrowing carries the other meaning. So, I would like to assume that when WL borrowed a Thai word which has part of the meaning of their own word, that word in WL would have a tendency to drop the meaning which is the same as that Thai word. And WL accepted that Thai word as their own word.

1.6 Some Cultural Observations

From sec 1.5, vocabulary differences show that some geographical and cultural backgrounds of the two languages are not the same. But there is an interesting cognate word which shows the two languages belong or relate to the same original cultural system. That word is /taənleew/. This word represents a kind of woven instrument which is used as a sign in a superstitious way. The Lua people who live in Wiang Pa Pao, like the Lamet who immigrated from Laos, have no formal religion. There are four main kinds of /taən leew/ for Lampang Lamet. And there are three kinds for Wiang Pa Pao Lua (see figures)

Figure 6 taan læw maa? .

This kind of taan læw is called taan læw maa??. It means a wind - wheel. In Wiang Pa Pao, this kind of taan læw has no specific use but only for pleasure. My Lampang Lamet information told me that in Laos this kind of taan læw can be used as a charm. If a man ties a woman's hairs to the wind wheel with some magic words, when the wind blows that woman will become crazy about that man. So, there is a warning to women to spit on the hairs that fall out in order to prevent this kind of charm.

Figure 7 taan leew

This is a common type of taan leew. In both cultures, this type is used when there is a ceremony for the house spirit. They will weave many pieces of taan leew and plant them on the meat and on the other things which are offered to the house spirit. The purpose of this taan leew is to tell other people that those things are forbidden.

Figure 8 taan leew mee maai

This kind of taan leew belongs to Wiang Pa Pao Lua. Its name means widow's taan leew. This type of taan leew will be planted in front of the house, while there is a ceremony for a dead person, especially the husband. So, this type of taan leew can signal that that house is a widow's house.

Figure 9 taan leew tii? sa?

This type of taan leew is called taan leew tii? sa?
 It means dog's legs taan leew This type is used in Laos when
 people go out to work in a field and have to stay overnight there.
 They will weave this kind of taan leew and pin a chili and plai¹²
 on the three hands of taan leew and plant them around the hut.
 The purpose of this type of taan leew is to frighten away ghosts.

¹²From Thai - English Dictionary by George Bradley McFarland (M.D.), พระตำหนักเอก พระราชวิทยาคม Stanford University Press (1972), plai is described: "casumunay (Zingiberaceae) an herb with stems 1 to 6 feet high, rising from a thick rhizome which a pale yellow inside, and which, when fresh, possesses a strong camphoraceous odour, and a warm, spicy, bitterish taste. etc."

A ghost will be puzzled and frightened when it sees this
because there are only three hands and all are the same.

Figure 10 taan leew tahn

This type of taan leew is a big one. Its name means big taan leew. This type is planted at the entrance of the village. It will be painted with ox or buffalo blood. When people see this kind of taan leew, they will not enter the village. If they enter, they will be chased away for doing wrong to the spirit. This kind of taan leew is used when there is a ceremony for spirit house. It will be tied on a standing lance with a crossing knife. In Wiang Pa Pao Lua, people use common taan leew. (see figure 7) instead of this big taan leew.

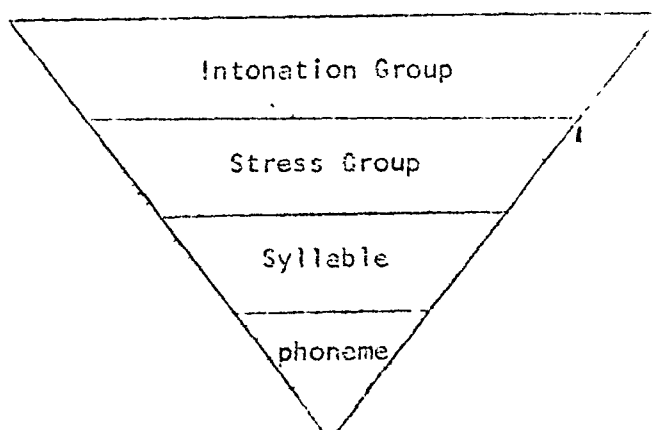
/

These kinds of *taan læw* which have some relation with superstition, show the interesting culture of these two groups of people. Not only the *taan læw* evidence that shows the cultural relationship of the two language groups, but there is also a kind of holiday in these two culture. In *Wiang Pa Pao*, it is forbidden for anyone to bring wood into the villages on a holy day (holy days in *Wiang Pa Pao* are the same days as the Buddhist holy days). That means they will not work or go into the forest on that day. This is the same for *Lampang Lamet*, in a period of ten day, there are two holidays, on the /*kaa*/ and /*plæk*/ day. On these two days they will not go into the forest.

The cultural similarities between these two languages are interesting, and can be referred to as supporting evidence for the two languages' relationship (see also sec. 4, 5, 6 on linguistic relationship).

1.7 Phonemic Analysis Approach

The procedure of analysis has followed the phonological hierarchy of the Tagmemic school. In the hierarchy of ranks, we set up four ranks: - The Intonation Group, the Stress Group, the Syllable and the Phoneme (see figure 11)



／
The units of each rank have a structure stated in terms of units of the rank below (except for the lowest, the phoneme), and they function in structures of the rank above (except the intonation group). That means each unit will be described in terms of its function, its structure and its distribution classes. We start with the intonation group and work down to the phoneme.

The phonetic symbols which are used in this thesis are applied IPA.

CHAPTER 11
LAMPANG LAIET
PHONEMIC SYSTEM

2.1 Introduction

The examples in the following sections will be written in phonemic transcription, except when the phonetic description of phonemes will be discussed, square brackets [] will be used for the phonetic description. And when phonemic transcription needs to be distinguished, slash marks / / will be used.

This language has two registers, i.e. lax and tense registers (see sec. 2.5.4.2) So, if the words carry tense register, // this mark will be put on the vowel of such words. The words without the mark are said with a lax register.

2.2 The Intonation Group

2.2.1 The intonation group is defined as the unit of the highest rank of the phonology as here presented (see figure 11); its function cannot therefore be discussed. The structure of the intonation group is stated in terms of stress groups.

2.2.2 There are two contrasting types of intonation contour in this language, the statement contour and the question contour.

Each contour covers at least one stress group. In both there is a precontour: the stressed syllables are¹ on a level pitch, while unstressed or weakly stressed syllables are slightly lower. The point at which the contrastive contour begins is the beginning of the final stress group.



2.2.2.1 The statement contour

This is used for ordinary statements and imperatives. For an imperative contour, loudness is an important quality. The statement contour can be subdivided into three varying subtypes according to the structure of final stressed syllable.

a. If the syllable ends in a stop or fricative after a short vowel, the intonation contour will glide up slightly. For example:

taa? chanlooŋ ?éh khəpən má?
 villagers leader get wife new
 səŋəh ?aa? khəmɨh
 today I catch a cold
 həl hók
 go away

b. If the syllable ends in a stop or fricative after a long vowel, the intonation contour will fall after gliding up. For example:

?úun kooj ɲoot
 father not stay
 ?aa? thəm yíi
 I saw a bear

c. And if the syllable is open or if the syllable ends in voiced continuant, the contour will glide down very slightly. For example:

2.3.2 The stress group may have one or two syllables. Each stress group has as its nucleus one stressed syllable, which is always the last syllable in the group, and as its periphery it may have an unstressed syllable or a weakly stressed syllable.

For example:

['púk]	'hot'
['phup]	'to meet'
√ [m'pók]	'to be broken'
[n' dóoŋ]	'bridge'
√ [pǎl'kuul]	'finder'
[pǔt' pumŋ]	'long drum'

The structure of the stress group is :

$$\pm \left\{ \begin{array}{l} \text{unstressed} \\ \text{weakly stressed} \end{array} \right\} + \text{strongly stressed}$$

or written algebraically :

$$\pm \left\{ \begin{array}{l} \sigma \\ \dots \end{array} \right\} +$$

2.3.3 There is no class of stress groups in terms of their function in the intonation group, because any type of stress group can function in the pre - contour or the contour point.

2.4 Syllable

2.4.1 A syllable is defined as the rank whose units have a structure in terms of phonemes, and which functions in the stress group.

2.4.2 The structure of a syllable is described in terms of a nucleus formed by a vowel (v) and a periphery formed by one or two or more consonants (c). There are two types of syllable : an open syllable and a closed syllable.

2.4.2.1 Open syllable type

The structure of this syllable type is c(c)v.

For example :

ˈrʊe	'root'
ˌmɛə	'to fly'

2.4.2.2 Closed syllable type

The structure of this syllable type is c(c)(c)vc

For example :

ˈpuːl	'seven'
ˌbrɒk	'to be broken'
ˌæpl̩	'an apple snail'

2.4.3 A syllable functions in stress groups. There are two main classes of syllables in terms of their function in the stress group : a nuclear syllable, and a peripheral syllable.

2.4.3.1 Nuclear syllable

This is stressed, and functions as the nucleus of the stress group. This syllable type always occupies the final position. Syllables in this type can be either open or closed. This syllable type may be called the "major syllable"

For example :

[<u>'phoo</u>]	'soft'
[m' <u>puŋ</u>]	'door'
[pə' <u>?eem</u>]	'cloud'

2.4.3.2 Peripheral syllable

This functions as the periphery in the stress group, always occupying the first place. The peripheral syllable can be subdivided into two sub classes : a weakly stressed peripheral syllable and an unstressed peripheral syllable.

2.4.3.2.1 Weakly stressed peripheral syllable

Syllables in this sub class are always of the closed type. This type may be called "minor syllable"

For example :

[pūt' <u>puwŋ</u>]	'long drum'
[phĩŋ' <u>nóoŋ</u>]	'log'
[kǎŋ' <u>keeŋ</u>]	'elbow'

2.4.3.2.2 Unstressed peripheral syllable

Syllables in this sub class are always of the open type. This type may be called "pre syllable". This sub class may be further divided into unstressed syllabic nasal, and unstressed open transitional syllable

2.4.3.2.2.1 Unstressed syllabic nasal

Phonemically, syllabic nasals

[m̩, n̩, ŋ̩] are allophones of the nasal phonemes /m, n, ŋ/ (see sec.

2.5.3.2.1). These occur initially before other homorganic consonants.

For example :

[m'ɥɯŋ]	'cock-mite'
[n'laŋ]	'bald'
[ŋ'ɥuŋ]	'to shake'

A syllabic nasal does not have the structure of a normal syllable (i.e. composed of a consonant and a vowel) but only a consonant before another consonant.

2.4.3.2.2.2 Unstressed open transitional syllable

Syllables of this type are

always of the open type with vowel /ə/.

For example :

[pə'huum]	'nest'
[tə'pʰəŋ]	'bamboo shoot'
[kə'taam]	'crab'

The vowel /ə/ which always occurs in this syllable type, can not be deleted because there are contrastive pairs between words with an unstressed open transitional syllable and words with only a stressed syllable.

For example :

pohuum	'nest'
phuum	'to keep something in the mouth'

So the structure of syllables with their functions in stress group can be shown in the following patterns:

'c (c)(c)v(c)

c(c)vc'c(c)v(c)

c(c)v 'c(c)v(c)

c 'c(c)v(c)

/

2.5 Phoneme

2.5.1 The phoneme is defined as the rank at which the units function in the syllable : as the lowest rank of the hierarchy. It has no stable structure, but its phonetic form in various contexts may be described.

2.5.2 The major functional classes of phonemes in the syllable are the vowel and the consonant.

2.5.2.1 Vowels

These function as the syllable nucleus, and in this language the vowel phonemes are /i, ii, ɪ, ɪɪ, e, ee, ɛ, ɛɛ, ʊ, ʊʊ, ə, əə, ʌ, ʌʌ, a, aa, u, uu, ɔ, ɔɔ, ɒ, ɒɒ, ɔ, ɔɔ, ɔ, aa/. There are also three complex vowels /ia, ua, ua /, but they are marginal to the phonemic system, with only one or two occurrences of each in our data (see sec 2.5.2.1.3). There are contrasts between short and long vowels in this language (see sec. 2.5.2.2). Vowels can occur in open syllable, and in closed syllable.

2.5.2.1.1 Vowels in open syllables

These function in both stressed and unstressed syllables.

2.5.2.1.1.1 Vowels in open stressed syllables

Only the long vowels function

in this type without final consonants. They are /ii, ɪɪ, ee, ɛɛ, ʊʊ, əə

aa, uu, oo, 'aa'

For example :

míi	'you'
mi	'to climb'
ʔe	'root'
lee	'to tattoo'
púu	'to greet, ask'
phəə	'soft'
nɛə	'side wall'
maa	'field'
puu	'to push'
phəə	'night'
phoo	'before'
jaə	'cock spur'

2.5.2.1.1.2 Vowels in open unstressed syllables

Only the short vowel /ə/

functions in this type. It is an open transitional syllable.

For example :

pəsiʔ	'string'
təkəp	'sunlight'

2.5.2.1.2 Vowels in closed syllables

These function in stressed syllables, both strongly stressed and weakly stressed syllables

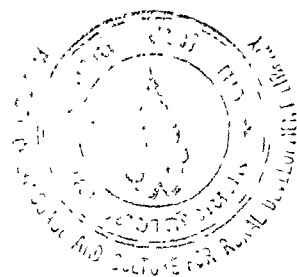
2.5.2.1.2.1 Vowels in closed strongly stressed syllables.

Long and short vowels

function in this type. All vowels can occur in this syllable type.

for example :

ʃi'li:p	'to cover'
?i:it	'to sleep'
w:t	'long'
ɔ:l i:	'to open one's eyes'
h:ɔ?	'that'
?e:ek	'elder brother'
?e:em	'to hear'
p'e:et	'to rub'
ntám	'egg'
náam	'blood'
ru:ŋ	'to look'
klúwŋ	'to prise (a box)'
pɔt	'to pinch'
h'óŋ	'acid (smell)'
khat	'burn'
ʒhazɔ	'to scratch'
nun	'nipple'
túun	'a kind of rat'
l'i'h	'to leak'
ŋɔt	'to stay'
pok	'to dig'
jook	'ear'
ʒe:	'good, nice'
l'ae:	'to hide'



2.5.2.1.2.2 Vowels in closed weakly stressed syllables

They are

/i, u, e, w, ɯ, ə, a, aa, u, o, a, aa/

for example :

pilpool	'to fist'
thuŋkhún	/'to kick'
phenlah	'to show off'
phungphur?	'a musical instrument'
klumŋkhám	'fö tilt'
phenmaa	'smooth'
sampó?	'foolish'
taantaaj	'shrimp'
phujla?	'bat'
chontuu	'nearby'
pyawŋám	'to blink'
kaapkeesŋ	'elbow'

2.5.2.1.3 Complex Vowels

The only complex vowels that have been

found are in the following words :

kot swa	'the name of a year'
kat cwa	' " " '
lua?	'the name of a race'
?uun lian	'person who own a concession to work a forest, or a rich person in the north of Thailand'

This rarity of occurrence would seem to indicate that they are not part of the regular phonemic system of the language

2.5.2.2 Consonants

These function as syllable periphery. The consonant phonemes are / p, t, c, k, ʔ, f, s, h, m, n, ŋ, ŋ, l, ɹ, w, j, ɣ/.

Consonants can be divided into three sub - classes in terms of their distribution : single initial consonants, final consonants and consonant clusters.

2.5.2.2.1 Single initial consonants

These function in weakly stressed, strongly stressed, and unstressed syllables. The consonants in each group are compared in the chart below.

<u>strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
p	p	p
t	t	t
c x		
k	k	k
ʔ	ʔ	ʔ
x f ɣ		
s	s	s
x h	h	h
m	m	m
n	n	n
x ŋ ɣ		
x ɹ	ɹ	
l	l	l
x r ɣ		

strongly stressedx w ~~ɹ~~

ɹ j ɹ

x ɹ ɹ

weakly stressed

w

unstressed

All consonants can be a single consonant in the initial position of a strongly stressed syllable.

/č, f, ɹ, r, j, ɹ/ do not occur in the initial position of a weakly stressed syllable.

/f, h, ɹ, ɹ, r, w, j, ɹ/ do not occur in the initial position of an unstressed syllable.

The occurrences of initial single consonants and vowels are shown in figure 12. Both voiceless and voiced consonants can precede both lax and tense vowels. So, the consonants do not affect the register of vowels. The only possibly significant observations are (1) after /ɹ/ there are no environments that take only lax register ; (2) after /ɹ/ or with /jɹ/ there are no environments that take only tense register.

v \ c	p	t	c	k	ʔ	f	s	h	m	n	ŋ	ŋ	l	r	w	j	ɹ
i	T	L	/	/	T	L	/	---	L	L	---	---	/		L		T
ɪ	---	/	L	□	---		T	---	L	T	---	---			L	L	□
e	L	□	L	T	L		T	---	/	/	---	---	/		L	L	/
ɛ	---	T	---	T	/		---	L	T	---	---	---			---	---	T
æ	L	L	T	L	L		/	---	/	/	/	L	/		---	L	/
ɛ	/	/	□	/	/		T	/	L	---	---	/	L		L	L	/
ʌ	T	L	□	T	/		/T	---	L	---	---	T	L		T	L	T
a	/	/	/	/	/	L	/	/	/	/	/	/	/	/	/	/	T
u	/	/	L	L	T	□	/	/	/	L	---	---	/	---	L	L	/
ɔ	---	---	---	L	□	□	---	---	---	---	---	T	---	---	---	---	---
o	L	/	L	L	/		L	T	/	T	---	---	/		L	L	/
ɔ	/	/	L	/	/	□	/	/	/	/	L	T	/		/	/	/
ii	T	/	•	T	/	•	L	/	/	T	L	T	/		/		T
ii	T	/	•	□	T	□	•	/	/	/	---	L	/		/	/	□
cc	T	□	•	/	T		/	T	/	L	---	T	/		L	L	/
ee	/	T	/	/	L		T	T	L	L	---	T	/		/	T	T
uu	/	/	/	T	•		T	L	T	•	•	•	/		---	L	T
ee	L	L	□	L	•		L	T	•	---	---	•	L		L	•	•
ʌʌ	L	/	---	L	•	---	/	L	L	---	---	•	T		•	L	•
aa	/	/	/	/	/	L	/	/	/	/	/	/	/	•	/	/	/
uu	/	/	L	L	/	□	L	/	/	T	/	T	/	L	•	/	/
oo	L	/	L	L	□	---	---	---	/	/	---	L	/	---	---	/	/
oo	/	/	L	/	L		•	L	/	/	---	/	/		T	/	/
aa	/	/	T	/	/	---	/	/	/	L	•	T	T	---	L	L	T

Figure 12 The correlation between initial consonants and vowels in strongly stressed syllable.

- /, both tense and lax can occur
- T only tense
- L only lax
- long vowel only
- short vowel only
- non-occurring

The correlation between initial consonants and vowels will be discussed in five groups according to the place of articulation. But /f/ and /r/ occur rarely. /f/ occurs only before /a,aa / and /r/ occurs only before /a,uu /. So, /f/ and /r/ will not be discussed again in the groups.

Labial group : /p, m, w/

/p/ does not occur before /u, ε, ω/

/m/ " " " /əə, ɔ /

/w/ /ε, u, ʊ, ɪ, ʌ, ʊ, ɔ, ɔ, ɔ/

in general :

/p, w/ do not occur before /ε/

/p, m, w/ " " " " /ω/

Alveolar group : /t, s, n, l/

/t/ does not occur before /e, əə, ɔ/

/s/ " " " " /u, ε, ω, ɔ, ɔ/

/n/ /ε, ʊ, ə, əə, ʌ, ʌ, ɔ, ɔ/

/l/ /u, ε/

in general :

/t, n, l/ do not occur before /ɔ/

/s, n, l/ " " " " /ε/

Palatal group : /ç, ʃ, j/

/ç/ does not occur before /ii, u, əə, ε, ə, əə, ʌ, ʌ, ɔ, ɔ/

/ʃ/ /i, u, u, e, əə, ε, ε, ʊ, ə, əə, ʌ, ʌ, u,

ɔ, ɔ, ɔ, ɔ, ɔ, ɔ/

/j/ does not occur before /i, ii, e, əə, ɔ/

in general :

/ŋ/ occurs only before high vowels /ii, u, u/ and low vowels

/a, aə, ɔ/

/c, ɲ, j/ do not occur before /ɛ, əə, ɔ/

/c, j/ " " / /ii/

/c, ɲ/ " " / /u, ee, ə, ʌ, ʌʌ/

/ɲ, j/ " " " / /i/

velar group : /k, ŋ, ɣ/

/k/ does not occur before /ɛ, u /

/ŋ/ " " / /i, ɛ, e, ɛ, u, əə, ʌʌ, u, ɔ, o/

/ɣ/ / /ɛ, u, əə, ʌʌ, ɔ/

in general :

/k, ŋ, ɣ/ do not occur with /ɛ/

/k, ɣ/ " " / /u /

/ŋ, ɣ/ " " / /ɔ, ʌʌ, ɔ/

Note : /ŋ/ occurs with short central vowels /u, ə, ʌ / but not long central vowels. Yet, /ŋ/ does not occur with short front and back vowels (except /ɔ/), but long front and back vowels /ii, u, ee, ɛɛ, uu, ɔɔ, oo, ɔɔ/

glottal group : /ʔ, h/

/ʔ/ does not occur before /ɛ, ɛ, ɔ, ɔ/

/h/ " " " " / /i, ɛ, e, ɛ, ʌ, ʌ, ɔ, ɔ/

in general :

/ʔ, h/ does not occur before /ɛ, ɔ, ɔ/

in general :

/ʔ, h/ do not occur with /ɿ, ɔ, ɔɔ/

2.5.2.2.2 Final Consonants

These function in the closed syllable type.

They are /p, t, c, k, ʔ, s, h, m, n, ɲ, ŋ, w, ɿ, ɿ/. The correlation between final consonants and vowels (see figure 13) can be discussed in five groups as follow :

Labial group : /p, m, w, /

/p/ does not occur after /ɿ, ee, ɔə, ʌʌ, ɔ/

/m/ " " " " /əə, ʌʌ, ɔ/

/w/ " " /iɿ, ɿ, e, c, ɯ, ə, əə, ʌʌ, u, uu, ɔ, ɔɔ, o, oo, a, aa/

in general :

/p, m, w/ do not occur after /əə, ʌʌ, ɔ/

/p, w/ " " " " /ɿ/

Note : /w/ does not occur after both short and long back vowels

Alveolar group : /t, n, l/

/t/ does not occur after /ɛ, ɛɛ, əə, a/

/n/ /ɿ, ɿ, ɛ, ʌ, ʌʌ, ɔ, a/

/l/ /i, ɿ, əə, ʌʌ, ɔ/

in general

/t, n/ do not occur after /c, a/

/t, l/ /əə/

/n, l/ /ɿ, ʌʌ, ɔ/

	c	p	t	c	k	ʔ	s	h	m	n	ɲ	ŋ	l	w	j
i	/	/	---	/	/			/	/	/	/	/	---	•	
ɪ	---	/		---	/			•	/			/	---	---	
e	•	/		/	/			/	/	/	---	/	/	---	•
ɛ	/	---	/	---	/			/	/	---		---	/	---	
ɛ̄	/	•		/	•	/			/	/	/	/	/	---	---
ə	•	•	/	•	•	•	•	•	•	/	•	/	•		/
ʌ	•	/	---	•	•			•	•				•	•	
a	/	/	/	/	/	---	•	/	/	/	/	/	/	/	/
u	/	/	---	/	/	/	•	/	/	/	/	/	/		/
ʊ	---	/	---	/	---		•	---	---			---	---		---
o	/	/	---	/	/	---	•	/	/	---	/	/			---
ɑ	/	---	/	/	/		•	/	---	/	/	/			/

Figure 13 The correlation between final consonants and vowels

/ both long and short vowels

--- long vowel only

• short vowel only

□ non - occurring

Palatal group : /c,¹³s,ʃ,j/

/c/	does not occur after	/ii,ɪ,ʊ, e, ee, w, ʊw, ʌ, u, ɔ, o/
/s/	" " " "	/i, ii, ɪ, ʊ, e, ee, ε, ce, əə, ʌ, ʌʌ, ə, ɔ, ɔ, ɔ, a, aa/
/ʃ/	" " " "	/ɪ, ʊ, e, ε, ee, əə, ʌ, ʌʌ, ɔ, ɔ, ɔ, o/
/j/	" " " "	/i, ii, ɪ, ʊ, ee, ε, εε, w, ʌ, ʌʌ, ɔ, o/

in general :

/c, s, ʃ, j/	do not occur after	/ɪ, ʊ, ʌ, ɔ/
/c, s, ʃ, j/	" " " "	/e/
/c, s, j/	" " " "	/ii, ee/
/c, ʃ, j/	" " " "	/o/
/s, ʃ, j/	" " " "	/ε, εε, ʌʌ/
/s, ʃ/	" " " "	/əə, ɔ, ɔ/
/s, j/	" " " "	/i/
/c, j/	" " " "	/w/

Note : the palatal group does not occur after high - mid front vowels /ɪ, ʊ/ and short mid central and back vowels /ʌ, ɔ/

Velar group : /k,ŋ/

/k/	does not occur after	/ɪ, ε, əə, ʌʌ/
/ŋ/	" " " "	/ε, ʌʌ, ɔ/

in general :

/k, ŋ/	do not occur after	/ε, ʌʌ/
--------	--------------------	---------

¹³ /s/ can function like alveolar and palatal because of its allophones (see sec. 2.5, 3.2.1)

glottal group : /ʔ, h/

/ʔ/ does not occur after /ɯɯ, ɐɐ, ʌʌ, ɔ/

/h/ " " " " /u, u, ɯɯ, ɐɐ, ʌʌ, aa, uu.oo, oo, aa, ' /

in general :

/ʔ, h/ do not occur after /ɯɯ, ɐɐ, ʌʌ / long central vowels

/h/ does not occur after long back vowels

2.5.2.2.3 Consonant clusters

These function in initial position of strongly stressed, weakly stressed and unstressed syllables. There are two consonant clusters in all syllable types. But three consonant clusters occur only in strongly stressed syllables.

2.5.2.2.3.1 Two consonant clusters.

<u>strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
ph	ph	ph
th	th	th
ch	ch	ch
kʰ	kʰ	kʰ
pʰ		
kl	kl	
kw		
pɣ	pɣ	ɬ
mp		
mt		
mc		
ml		

strongly stressedweakly stressedunstressed

mj

mʏ

nt

nc

nh

ni

ŋk

ŋʏ

For examples :strongly stressedweakly stressedunstressed

phəə	'soft'	ˈphɪŋnóŋ	'log'	phənúm	'ant hill'
thət	'short'	thɪŋmáa?	'to borrow'	thəŋaən	'sweet'
chək	'wet'	chumlúnŋ	'to marry'	chólúu?	'thigh'
khət	'to cut'	kholmál	'hammer'	khəmuul	'silver, money'
plɪ?	'fruit'	kləŋŋkhám	'totilt'		
kləŋ	'fat'				
kwáal	'to bay'				
pyíim	'ancient'				
mpék	'to be broken'				
ntah	'to clap'				
mcaən	'a musical instrument'				
nlúw	'an uncle'				
mjəm	'to open one's eye'				
mjɪŋ	'cock - mite'				

nta?	'there'
ncáaŋ	'a shackle'
nhooŋ	'a kind of rice steaming kettie'
nlaŋ	'bald'
ŋkée	'porcupine'
ŋywn	'to shake'

2.5.2.5.3.2 Three consonant clusters

<u>strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
phl	-	-
khl		
nch		
ŋkl		

For examples:

strongly stressed	
phlúŋ	'spout'
khlooŋ	'to tell a lie'
nche?	'to sway'
ŋkla?	'an apple snail'

In a cluster of two consonants, the first consonant must be a plosive or a nasal. If the first consonant of the cluster is a plosive, the second must be /h, l, w, ɣ/. If the first consonant is a nasal, the second consonant can be /p, t, c, k/ and /h, l, ɣ/.

In a cluster of three consonants, the first consonant must be a plosive /p, k/ or a nasal /n, ŋ/. If the first consonant of the cluster is a plosive, the second must be /h/ and the third must be /l/. If the first consonant of the cluster is a nasal, the second must be a stop and the third must be /h/ or /l/.

The following figures show the correlation of consonant clusters.

c ₁	c ₂	c ₃
p	h, l, γ	l (follow /h/)
t	h	
c	h	-
k	h, l, w	l (follow /h/)

Figure 14.1 Consonant clusters with the initial plosive consonants

c ₁	c ₂	c ₃
m	p, t, c	
n	t, c, h	h (follows /c/)
ŋ	k, γ	l (follows /k/)

Figure 14.2 Consonant clusters with the initial nasal consonants

These two charts can be combined into one simple chart.

set	s_1	s_2	s_3	s_4
position	c_1	c_2	$\left. \begin{array}{l} c_2 \\ c_3 \end{array} \right\}$	$\left. \begin{array}{l} c_2 \\ c_3 \end{array} \right\}$
inclusters		c_1	c_2	$\left. \begin{array}{l} c_2 \\ c_3 \end{array} \right\}$
	m n	p t c k	h	l w j

Figure 14.3 Combined chart from figures 14.1 and 14.2

Phonetically, some consonant clusters have variations,

For example :

In stressed syllables /k/ may vary between

[k] or [kx]

[khood] ~ [kxhood] 'to wash'

[kham] ~ [kxhám] 'needle'

[kh'án] ~ [kxhám] 'lazy'

In unstressed syllables /kh/ may vary between

or

[khotám] ~ [kətám] 'crab'

[khəchum] ~ [kəchum] 'soft'

In stressed syllables /pɣ/ is phonetically [pɣ]. Because /ɣ/ is a fricative consonant, it causes /p/ to be aspirated [pʰ]

For example :

[pɣiín] ~ /pɣiín/ 'ancient'

[pɣéɛl] ~ /pɣéɛl/ 'hall'

This sound [pɣ] is sometimes pronounced just [pʰ]

For example :

[pɣúúⁱn] ~ [pʰúúⁱn] 'termite'

[pɣéɛl] ~ [pʰéɛl] 'hall'

2.5.3 Phoneme Charts

2.5.3.1 the vowel chart

Position of tongue	Front		Central		Back	
	short	long	short	long	short	long
high	i	ii	ɨ	ɨɨ	u	uu
high - mid	ɛ	ɛɛ	ə	əə	ɔ	ɔɔ
low - mid	e	ee	ʌ	ʌʌ	o	oo
low	ɔ	ɔɔ	a	aa	ɑ	ɑɑ

/ɛ/ a short low front spread vowel

ʔem	'to hear'
ʔec	'all'
γéʔ	'be able to catch animal by a trap'

/ɛɛ/ a long low front spread vowel

péet	'to rub'
eʔek	'to tear'
ʔeeŋ	'a kind of mortar'

/u/ a short high central - back vowel.

ʔun	'moist'
phup	'to meet'
num	'year'

ʔu / a long high central - back vowel

múik	'greedy'
phuuŋ	'to be dented'
thuum	'easy'

/ə/ a short high - mid central vowel

ʔot	'to pinch'
kəc	'sunlight'
mək	'ink'

/əə/ [əə] a long high - mid central vowel.

həoŋ	'acid (smell)'
------	----------------

[ɤɤ] a long high mid back unrounded vowel

[kɤɤj]	/kəəj/	'buttock'
--------	--------	-----------

/ʌ/ a short mid central vowel. This sound is pronounced like /ɛ/ + /a/.

ntʌ? 'near'

kʌt 'cold'

/ʌʌ/ a long mid central vowel

ntʌʌ 'side wall'

pʌʌ 'to roll'

/ə/ a short low central vowel

tá? 'eight'

ɳít 'dry'

ɳan 'to hold'

/aa/ a long low central vowel

wáa? 'monkey'

kháan 'lazy'

γáaŋ 'thorn'

/u/ a short high back rounded vowel

nur 'urine'

mut 'to smell'

túk 'to tie'

/uu/ a long high back rounded vowel.

luuc 'to become sour'

?úup 'cooked rice'

túu? 'meat'

/ɔ/ [ɔ] a short high - mid back rounded vowel.

lɔh 'to leak'

[ɤ] a short high - mid back unrounded vowel

[phɤk] /phɤk/ 'to ride'

[səkyk] /səhɤk/ 'Adam's apple'

/ɔɔ/ a long high - mid back rounded vowel.

ɲɔɔt 'to stay'

móɔc 'mountain'

ɲɔɔk 'stump'

/o/ a short mid back rounded vowel

thop 'to fold'

mon 'round'

pok 'to dig'

/oo/ a long mid back rounded vowel

loot 'to thread'

jook 'ear'

móoŋ 'swallow'

/ɔ/ a short low back unrounded vowel

sáŋ 'to know'

lɔm 'to carry on one's shoulder'

sa? 'dog'

/ɑɑ/ a long low back unrounded vowel.

naaŋ 'to be left'

saam 'to eat'

ɲáa? 'rice'

All vowels, except /i/, have an [i] off glide when they occur before the palatals [ʔc,ɲ,ç]

For example :

vowels with [i] off glide before [ʔc]

[ʔe ⁱ ʔc]	/ʔéç/	'all'
[tə ⁱ ʔc]	/tóç/	'to sell'
[mɔə ⁱ ʔc]	/m'ç/	'mountain'

vowels with [i] off glide before [ɲ]

[mɲ ⁱ ɲ]	/mɲɲ/	'cock mite'
[pə ⁱ ɲ]	/páɲ/	'worm'
[ʔə ⁱ ɲ]	/ʔəɲ/	'dry'

vowels with [i] off glide before [ç]

[khu ⁱ ç]	/khuç/	'to count'
[tə ⁱ ç]	/tos/	'thunder'
[ʔuu ⁱ ç]	/ʔuus/	'bad smell'

2.5.3.1.2 The vowel contrasts

All vowels described above are phonemically contrastive in this language. The suspect pair¹⁴ of vowels are shown below with examples of their contrastive pairs.

IE means Identical Environment

AE means Analogous Environment

¹⁴ Suspect pairs is a technical term which means the pairs of sounds which slightly differ in the point of articulation, and are thus a priori suspect of being the same phoneme.

Suspect pairs	Contrast in		Examples
i - ɪ	AE	naŋniʔ	'gibbon'
		niʔ	'over there'
e - ɛ	AE'	neh	'of'
		khemuh	'to catch cold'
i - e	lE	pih	'to pound (rice)'
		peh	'to open'
	lE	ci:k	'astringent'
		cek	'chinese'
e - ɛ	lE	neh	'of'
		méh	'who'
u - ə	lE	ʔum	'moist'
		ʔón	'to place'
	lE	γúŋ	'horn'
		γəŋ	'a bamboo rail'
ə - ʌ	lE	khət	'to cut'
		khət	'to be burn'
	lE	pók	'to break'
		pák	'to carry (by oneself)'
u - ʌ	lE	khút	'thick'
		khət	'to be burn'

suspect pairs		contrast in	Examples
ʌ - a	IE	chətháʔ	'to break'
		chətháʔ	'a span'
	IE	phəh	'to spit'
		phəh	'bright'
u - ɔ	AE	púh	'to launder'
		lúh	'to leak'
		/u/	can occur after /l/ in
		luk	'grass'
o - ɔ	IE	phok	'a bit'
		phok	'to ride'
u - o	IE	tuh	'to hit'
		toh	'to pull'
	IE	nun	'pimple'
		mon	'round'
o - a	IE	chok	'table'
		chak	'wet'
	IE	rón	'empty vacant'
		maq	'some'
i - u	IE	ʔín	'raw'
		ʔum	'tree (classifier)'
	IE	sin	'a skirt like cloth'
		sún	'to thread across an ox's nose'
ɪ - ə	AE	plɪʔ	'fruit'
		lɛʔ	'time (classifier)'
e - ə	IE	ʔen	'it'

suspect pairs	contrast in	Examples
		ʔən 'to place'
	IE	pet 'duck'
		pət 'to pinch'
ə - a	IE	rəl 'lump (classifier)'
		ŋal 'fire'
	IE	téc 'to sell'
		tác 'to bite'
ɛ - a	IE	γέʔ 'beable to catch (animal by trap)'
		γáʔ 'rough'
u - u	IF	num 'urine'
		num 'year'
ɔ - ə	AE	pək 'to ride'
		pək 'to break'
o - ə	IE	pok 'to extract'
		pək 'to break'
ɑ - ʌ	AE	pəʔáh 'to be still'
		ʔʌh 'swell'
ɑ - a	AE	lɔk 'good, nice'
		lák 'to split'
	AE	sáj 'to know'
		saj 'a joint'
i - ii	IE	sin 'a skirtlike cloth'
		siin 'to be cooked'

suspect pairs		contrast in	Examples
ɿ - ʉ	IE	jɿŋ	'to be light'
		jʉŋ	'village'
	IE	nʉʔ	'over there'
		nʉʉʔ	'mother'
e - ee	IE	phem	'to hand-feed'
		pheem	'heart'
	IE	γέν	'a cover'
		γéen	'the opposite bank (river)'
ɛ - ɛɛ	AE	ʔɛŋ	'to hear'
		hɛɛŋ	'you (female lover)'
/ɛɛ/ can occur after /ʔ/ in ʔɛɛŋ 'a kind of mortar'			
ɯ - ɯɯ	IE	pɯŋ	'to meet'
		pɯɯŋ	'to be dented'
	IE	thɯɿ	'to prop up'
		thʉɿ	'difficult'
o - ɔɔ	IE	hɔŋ	'to sift'
		hɔɔŋ	'acrid (smell)'
ʌ - ʌʌ	AE	kʌʔ	'cold'
		klʌʌʔ	'to slip (and fall)'
a - aa	IE	jam	'Laos (people)'
		jaam	'to cry'
	IE	sáʔ	'morning'
		séaʔ	'to chop'

Suspect pairs	Contrast in	Examples
u - uu	IE	khəmu? 'moustache' khəmuú? 'Khamu'
ɔ - ɔɔ	IF	phək 'to ride' phəək 'to powder'
o - oo	IE	phok 'a kit' phook 'stripes'
	IE	món 'empty, vacant' móon 'to swallow'
a - aa	IE	hal 'to go' haal 'to draw, write'
	IE	mak 'a dash' máak 'a tobacco pipe'
ii - ɪɪ	IE	míi 'you' mɪɪ 'to climb'
ee - ɛɛ	IE	léu 'to repair' lee 'squint'
ii - ee	IE	wíiɪ 'a mat' weel 'to singe'
	IE	lii 'thin' lée 'squint'
ee - ɛɛ	IE	lée 'squint' lee 'to tattoo'
uuu - əə	AE	phəo 'soft' phuuŋ 'a group'

Suspect pairs	Contrast in	Examples
		/əə/ can occur before /ŋ/ in
		hə́əŋ 'acrid (smell)'
əə - əə	AE	phəə 'soft'
		əəə 'to roll'
əə - əə	IE	kláət 'to slip (and fall)'
		klaət 'to boast'
	IE	ntəə 'side wall'
		ntəə 'a moment'
uu - uu	IE	ʔúup 'cooked rice'
		ʔəup 'daughter-in-law'
oo - oo	IE	looc 'to forget'
		l'ic 'to finish'
	IE	upoo 'face'
		mp'p 'ox'
uu - oo	IE	phúut 'to lead by the hand'
		phóot 'to serape'
	IE	luuc 'to become sour'
		looc 'to forget'
oo - aa	IE	móon 'to swallow'
		máan 'a kind of insect'
ii - uu	IE	lii 'thin'
		luu 'old maid'
.. - əə	AE	səkh' ŋ 'to listen'
		hə́əŋ 'acrid (smell)'
ee - əə	IE	phēe 'raft'
		phəə 'soft'

suspect pairs	Contrast in	Examples
əə - aa	AE	ʂaŋseec 'a kind of rat'
		pəsaáw 'son-in-law'
		/aa/ can occur before /c/ in
		laac 'to lose'
eɛ - aa	IE	ʔeɛŋ 'a kind of mortar'
		ʔaaŋ 'to open (mouth)'
uu - uu	IE	thuun 'to embrace'
		thuum 'easy'
	AE	phuun 'navel'
		phúun 'classifier of cloth, shirt'
ɔɔ - əə	IE	phɔɔ 'night'
		phəə 'soft'
oo - əə	IE	hoon 'to steam'
		həəŋ 'acid (smell)'
aa - aa	IE	laa 'to found (a pot)'
		láa 'to cut (finger)'
aa - aa	IE	káap 'a kind of insect'
		káap 'chin'

2.5.3.2 The Consonant Chart

Manner of articulation \ Point of articulation		Point of articulation				
		Labial	Alveolar	Palatal	Velar	Glottal
plosive	voiceless	p	t	c	k	ʔ
fricative	voiceless	f	s			h
nasal	voiced	m	n	ɲ	ŋ	
lateral	voiced		l			
thrill	voiced		r			
semi-vowels	voiced	w		j	ɣ	

2.5.3.2.1 Formational Statements of Consonants

/p/ [p] a voiceless unaspirated bilabial plosive occurs initially

pu:k 'hot'

pa:Δ 'to roll'

[ʔp] a voiceless unaspirated bilabial glottalized plosive occurs in final position.

[j + ʔp] /jʔɔ/ 'to fall'

[b] a voiced unaspirated bilabial stop occurs after syllabic nasal [m]

[mbɛʔk] /mpɛk/ 'to be broken'

/t/ [t] a voiceless unaspirated alveolar plosive occurs initially

táŋ		'to burn'
túk		'to tie'

[ʔt] a voiceless unaspirated alveolar glottalized plosive occurs in final position.

[ʔiiʔt]	/ʔiit/	'to sleep'
---------	--------	------------

[d] a voiced unaspirated alveolar plosive occurs after syllabic nasal [m̩, n̩]

[m̩dah]	/mtah/	'to clap'
[n̩daʔ]	/ntaʔ/	'that'

/c/ [tʃ] a voiceless alveo - palatal affricate occurs initially

[tʃaŋ]	/cáŋ/	'bitter'
[tʃik]	/cík/	'astringent'

[ʔc] a voiceless unaspirated alveo - palatal glottalized plosive occurs in final position

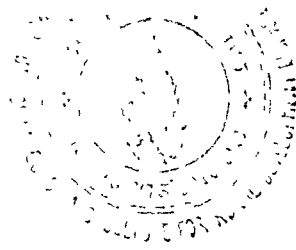
[liʔc]	/líc/	'to enter'
--------	-------	------------

[dz] a voiced alveo - palatal affricate occurs after syllabic nasal [m̩, n̩]

[m̩dzaaŋ]	/mcaŋ/	'a musical instrument'
[n̩dzaaŋ]	/ncaŋ/	'a shackle'

/k/ [k̟] a voiceless unaspirated post - palatal plosive occurs before [h̟]

[k̟h̟at]	/k̟h̟at/	'to be burn'
[k̟h̟al]	/k̟h̟al/	'blind'



[ʔk] a voiceless unaspirated dorso - velar glottalized plosive occurs in final position

[liʔk] /liʔk/ 'pig'

[g] a voiced unaspirated dorso - velar plosive occurs after syllabic nasal [ŋ]

[ŋgee] /ŋkée/ 'porcupine'

[k] a voiceless unaspirated dorso - velar plosive occurs elsewhere

kúuʔ 'seed'

kúul 'chair'

/ʔ/ a glottal plosive

ʔiit 'to sleep'

ʔom 'water'

máaʔ 'wind'

pluʔ 'to do'

/f/ [f] a voiceless labio dental fricative this sound occurs with loan words

faaj 'cotton'

fin 'opium'

[ɸ] a voiceless bilabial fricative

[ɸan] /fan/ 'to teach'

/s/ [s] a voiceless lamino pre - palatal fricative

[ç] a voiceless alvoo - palatal fricative

These two sounds can occur in free variation with each other and both of them can occur only in the initial position.

[saan] ~ [çaan] /saan/ 'to cross'

[súʔ] ~ [çúʔ] /súʔ/ 'to be painful, want'

[səloop] ~ [çəloop] /səloop/ 'woman's shirt'

[ç] a voiceless palatal fricative occurs in final position

e.g. [khúʔç] 'to count'

Phonemically, this can be written as /khúʔç/. . But [ç] occurs only finally, so, it is treated as an allophone of /s/ because :

1. [ç] occurs only in final position, while [s] occurs only initially.
2. [s] is the only sibilant in the phoneme system which has the same manner as [ç]. And in the initial position, [s] can vary with [ʃ] which has nearly the same point of articulation as [ç]
3. Historically, there is an *-s in proto waic¹⁵ which closely relates to Lamet (see sec 1.2.1) and this *-s can become [-ç] in some languages.

Sometimes my informant dropped final [ç]. So, the [i] off glide before palatal consonant, then become [ɨ] in final position. This is a kind of phone losing. In the future, words ending with [ç]

¹⁵ Gerard Diffloth mentions in "Proto Waic And The Effects of Register on Vowel Gliding" p.16 that "In Drage's Wa and Kawa, *-s has evolved phonetically to a [-ʃ] which creates notation problems, as usual in Mon - Khmer languages"

will probably move to the set of [j] endings.

/h/ [h] a voiceless glottal fricative

háəŋ	'acid (smell)'
haak	'to hide'
píh	'to pound (rice)'

[ɦ] a voiced glottal fricative occurs after syllabic

nasal [ŋ]

[₁ŋɦooŋ]

'a kind of rice steaming kettle'.

/m/ [m] a voiced bilabial nasal

máaʔ	'wind'
ʔom	'water'

[m̩] a voiced bilabial syllabic nasal occurs before

[b, d, dz, l, ɣ]

[₁mbók] /mpók/ 'to be broken'

/n/ [n] a voiced apico - alveolar nasal

nák	'many'
ŋan	'to hold'

[n̩] a voiced apico - alveolar syllabic nasal occurs

before [d, dz, ɦ, l]

[₁nlaŋ] /nlaŋ/ 'bald'

/ɲ/ a voiced alveolo - palatal nasal

ɲáʔ	'shell'
kíɲ	'hair'
ɲuu	'to push'

/ŋ/ [ŋ] a voiced dorso - velar nasal

ŋan 'to hold'

ʔaaŋ 'to open (mouth)'

[ŋ] a voiced dorso - velar syllabic nasal occurs

before [g,ɣ]

[ŋgóo̯c] /ŋkóoc/ 'to flow'

[ŋyaaŋ] /ŋyaaŋ/ 'mosquito'

/l/ [l] a voiced apico - alveolar lateral

lǎŋ 'black'

ŋǎl 'fire'

[l̥] a voiceless apico - alveolar lateral occurs after

/p, k, h/ in consonant clusters

[p̥l̥ʔ] /p̥l̥ʔ/ 'fruit'

[k̥l̥əŋ] /k̥l̥əŋ/ 'fat'

[p̥hl̥úŋ] /p̥hl̥úŋ/ 'spout'

[kh̥looŋ] /kh̥looŋ/ 'to tell a lie'

[ɾ] a voiced apico - alveolar flap occurs in final position and varies with [l̥]

[khóoɾ] ~ [khóol] /khóol/ 'a barn'

[thúuɾ] ~ [thúul] /thúul/ 'sin'

/r/ [r] a voiced apico - alveolar thrill. This phone occurs only with the words for calling days and years. It seems not to belong to the phonemic system of this language. It may be a borrowing so it is possible to assume that this phone came with the borrowed system of calling days and years, M. Sribusara mentions in "ไทยดำรำพัน" p.160 that the Black Thai have ten days : /kat, khot, huəŋ, taw, kaa, kaap, hap, haaj, məəŋ, bəək/. And these are the same in Lampang Lamet, but some words are pronounced with sound changes : /kat, kot, ruəŋ, taw, kaa, kaap, rap, rəwəaj , məəŋ, plək/

/w/ a voiced labio velar semi vowels

wák	'to go'
wát	'to hit'
Yee ^w	'to feed'

/j/	a voiced fronto - palatal semi vowel								
	<table> <tr> <td>jiŋ</td> <td>'be light'</td> </tr> <tr> <td>juŋ</td> <td>'village'</td> </tr> <tr> <td>sáaj</td> <td>'provable'</td> </tr> <tr> <td>múj</td> <td>'axe'</td> </tr> </table>	jiŋ	'be light'	juŋ	'village'	sáaj	'provable'	múj	'axe'
jiŋ	'be light'								
juŋ	'village'								
sáaj	'provable'								
múj	'axe'								

/ɣ/	a voiced dorso - velar fricative				
	<table> <tr> <td>ɣok</td> <td>'frog'</td> </tr> <tr> <td>ɣeeŋ</td> <td>'to feed'</td> </tr> </table>	ɣok	'frog'	ɣeeŋ	'to feed'
ɣok	'frog'				
ɣeeŋ	'to feed'				

All stop consonants have voiceless and voiced allophones. Voiced stop consonants always occur after syllabic nasal. All nasal consonants, except /ŋ/ have their syllabic nasal allophones occur initially before another consonant.

2.5.3.2.2 The Consonant Contrasts

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>				
p - f	IE	<table> <tr> <td>pen</td> <td>'to mold'</td> </tr> <tr> <td>fan</td> <td>'to teach'</td> </tr> </table>	pen	'to mold'	fan	'to teach'
pen	'to mold'					
fan	'to teach'					
ph-f	IE	<table> <tr> <td>phán</td> <td>'five'</td> </tr> <tr> <td>fán</td> <td>'to teach'</td> </tr> </table>	phán	'five'	fán	'to teach'
phán	'five'					
fán	'to teach'					
p-ph	IE	<table> <tr> <td>púk</td> <td>'hot'</td> </tr> <tr> <td>phuk</td> <td>'to crush'</td> </tr> </table>	púk	'hot'	phuk	'to crush'
púk	'hot'					
phuk	'to crush'					
	IE	<table> <tr> <td>péj</td> <td>'to shoot'</td> </tr> <tr> <td>phéj</td> <td>'snake'</td> </tr> </table>	péj	'to shoot'	phéj	'snake'
péj	'to shoot'					
phéj	'snake'					
t-th	IE	<table> <tr> <td>taap</td> <td>'cold'</td> </tr> </table>	taap	'cold'		
taap	'cold'					

<u>Suspect pairs</u>		<u>Contrast in</u>	<u>Examples</u>
t-th	IE	taḥ	'to hew (wood)'
		thaḥ	'a kind of bamboo basket'
c-ch	IE	caḥ	'bitter'
		chaḥ	'to weigh'
	IE	caá	'to tell'
k-kh		chaa	'be distant'
	IE	kín	'hair'
		khín	'work'
	IE	kuum	'to cover up'
k-ʔ		khuum	'to winnow'
	IE	kaḥ	'to hang on one's shoulder'
		ʔaḥ	'excrete'
	IE	kén	'thumb'
k-γ		ʔén	'to place'
	IE	kán	'teeth'
		γán	'hemp'
k-γ	IE	kéḥ	'half'
		γéḥ	'a bamboo rail'
ʔ-h	IE	ʔiit	'to sleep'
		hiit	'box'
	IE	ʔal	'to scold'
		hal	'to go'
n-ŋ	IE	nák	'many'
		ŋák	'giant'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>
n-r	AE	phuun 'navel'
		phúun 'termite'
n-ŋ	IE	?un 'moist'
		?unŋ 'to become rotten'
	IE	nək 'to be fill'
		ŋək 'a stump'
n-ŋ	IE	nát 'to stuff'
		ḡát 'dry'
	IE	kán 'tooth'
n-j	IE	kan 'to hang on one's shoulder'
		nuu 'to push'
		juu 'orphan'
	AE	taan 'to weave'
		taantaaj 'shrimp'
c-j	IE	cáa 'to tell'
		jaa 'tobacco'
	IE	m'ic̄ 'mountain'
		moj 'one'
c-s	IE	cán 'bitter'
		san 'joint'
c-s	IE	téc 'to sell'
		tés 'to cut'
h-s[ɣ]	AE	ɣuh 'to be gauzy'
		khus 'to loosen the ground'
ch-s[ɣ]	IE	chuu 'down'
		cuu 'to enter'

2.5.4 Suprasegmental Features

Suprasegmental features are phonetic features that are associated with segmental speech sounds. The syllable nucleus (vowel) always carries the suprasegmental features.

2.5.4.1 Length

Length is a phonetic feature concerned with the duration of sound. In this language, there are contrasts of short and long vowels (see sec 2.5.3.1.2)

For example :

hal	'to go'
haal	'to draw, write'
thwl	'to prop up'
th'wl	'difficult'

Length can change the meanings of words. So Length is phonemic in this language.

2.5.4.2 Register

Register can be defined as a different mode of vibration of the vocal cord which provides almost all the range of frequency available to the normal voice. ¹⁶

In this language, registers which occur in the sound system produce a contrast between what is termed tenseness and laxness in vowels. Tense and lax articulations can be linguistically described as:

¹⁶ L. F Brosnahan, Bertil Haimberg, The production of sound, Introduction to phonetics (1970), p.36.

...Tense articulations are characterized by higher air - stream pressure, a consequence of larger energy expenditure in the air - stream initiating mechanism, and by higher muscular tension in the organs articulating in the supraglottal tract. Associated with these features are normally also a greater precision of articulation, and a greater duration of the sound articulated.

Lax articulations are characterized by lower air - stream pressure, and less muscular tension in the organs articulating, together with less precision and a shorter duration. Lax vowels are characterized by a somewhat centralized articulation, i.e. one in which the highest point of the tongue is represented as close to the central area....¹⁷

When producing lax or tense vowels, my informant could feel the differences in his tongue. With tense vowels, he described his tongue as feeling strong, and with lax vowels, he described his tongue as feeling "soft". The kinaesthetic feeling of the informant indicates that it is probably a matter of contrast of muscular tension in the tongue, rather than a contrast of laryngeal activity.

There are many minimal pairs which contrast in register.
For example :

¹⁷ L.F. Brosnahan, Bertil Malmberg, *ibid* 13

Lax		Tense	
koŋ	'a half'	keŋ	'be tight'
nləŋ	'bald'	nlán	'wooden nail'
khaaŋ	'fruit peel'	kháaŋ	'be jealous'
phəjɔ	'visitors'	phəjɔ́	'to cock one's gun'
khaaj	'to dig'	kháaj	'be strong'
ŋkaal	'to hate'	ŋkáal	'surface'
kaap	'a day'	káap	'chin'
laac	'be lost'	láac	'to untie'
ɣuh	'be gauzy'	ɣúh	'to pull'
maak	'to hang'	máak	'classifier of knife'
ɣam	'to borrow'	ɣám	'testis'

That means that registers are distinctive in this language. the meanings of words can be changed by lax or tense vowels. Every stressed syllable is pronounced with the accompaniment of a register. Every short and long vowel can carry both types of register.

2.5.4.3 Tone

In this language, there seem to be three varying pitches according to the structure of the syllable.

A closed syllable with final stop or fricative consonant /p, t, c, k, s, h/ after short vowels, is frequently pronounced with low rising pitch.

For example :

ʔap	.	'dark'
cít	↘	'to scrub (the floor)'
phíc	↘	'smell'
cík	↘	'astringent'
tás	↘	'thunder bolt'
kah	↘	'to untie'

This pitch is not constantly attached to this syllable type. These words can be pronounced with other pitches and be clearly understood.

A closed syllable with final stop or fricative consonant after long vowels, has a tendency to be pronounced with mid level pitch and glide down at the end.

For example :

ʔacp	┌	'daughter-in-law'
ɲawt	┌	'to stay'
ʔéek	┌	'elder brother'
múus	┌	'nose'
túuʔ	┌	'neat'

But, these words can be pronounced with other pitches without any effects on their meanings.

A closed syllable with the other final consonants after short and long vowels, and open syllable, has a tendency to be pronounced with mid level pitch.

For example :

ʔím	'raw'
siim	'bird'
phán	'five'
káan	'child'
taap	'to weave'
yeew	'to feed'
kóoj	'to have'
maa	'field'

And these words can also be pronounced with other pitches. The three types of pitches mentioned above, usually occur with each mentioned syllable type. Tone is not distinctive because it can be predictable and different tones do not give different meanings to a word.

2.5.4.4 Nasalization

From my data, I found only three words with nasalization. They are

[máʔ]	'yesterday'
[khəməʔ]	'to sneeze'
[ʔɔʔ]	'!'

Two of these three have contrastive non-nasal counterparts - a minimal pair and a nearly minimal pair.

1. [máʔ] 'yesterday' [máʔ] 'new, again'
2. [khəməʔ] 'to sneeze' [khəmaʔ] 'be sly'

The first pair contrasts only in nasalization. But the second pair contrasts in both nasalization and register. So, nasalization seems to be distinctive in this language. But because the occurrences of nasalization are so rare, it should not be considered a feature of the main phonemic system of this language.

2.5.4.5 Stress

A syllable is said to be stressed if it sticks out or is more prominent than surrounding syllables. Stress in this language is treated as predictable (see sec 2.3). Stress will occur on every monosyllable word. In words with open - transition, or in two syllable words, stress will occur on the last syllable.

2.5.4.6 Clarity

In words which have an open transitional syllable, the transition vowel will be very short and unclear. In a pre-syllable or minor syllable, the vowel is clearer than in an open transitional syllable but not as clear as in a major syllable. And they have the same length. Long vowels will be clearer than short vowels.

✕ In conclusion, stress, clarity and pitch are not distinctive in this language. They are predictable and can not distinguish the meaning of a word. Length and register are phonemic features, because they can give new meaning to a word. Nasalization is distinctive but very rare, so it could not be included in the main phonemic system.

2.6 Resegmentation

2.6.1 Non - ambiguous syllable

A non ambiguous syllable is a syllable pattern which has no suspect sound or sequence of sounds. Those are

cvc	túk	'to tie'
	pət	'to pinch'
ccvc	plém	'a kind of insects'glue'
	kləp	'fat'

Every syllable must begin with one or two consonants. If the vowel is short and is in a stressed syllable, there must be a final consonant. The consonant in final position can be only a single consonant.

2.6.2 Ambiguous parts with resegmentation

2.6.2.1 Long vowel problems

In this language, length is contrastive. The problem of long vowels is that they could be treated phonemically as either two vowels or as one vowel with prosodic length. As for the non ambiguous syllable pattern, there is only one vowel in each syllable. So a long vowel should be treated as one vowel with prosodic length. Long vowels are written as sequences for this thesis for orthographic convenience.

2.6.2.2 J and W problems

J and W are sometimes semi - vowels and sometimes vowels. For example, the word 'flower' can be analyzed as /plaaɟ/ or /plaaɪ/. In this language j and w are treated as consonants. Because the non - suspect syllable pattern is CVC, the type with final consonant fits the syllable pattern. Similarly, the word "to be light" can

be considered /jʊŋ/ or /iʊŋ/. But the non supect syllable pattern does not allow any occurrences of vowel in initial position. So, /jʊŋ/ fits the syllable pattern /j/ is a consonant phoneme which can occur initially and finally. The arguments are the same for /w/ For example:

/w <u>ó</u> ol/	'to call'
/ye <u>e</u> w/	'to feed'

2.6.2.3 H problem in aspiration

[h] following consonants /p, t, c, k/ may be part of a single aspirated phoneme /p^h, t^h, c^h, k^h/ or may be part of a two consonant cluster /ph, th, ch, kh/. The following examples show /h/ as a phoneme :

húuc	'to sting'
həl	'to go'
peh	'to open'
kéh	'to wake up'

/h/ occurs initially and finally as a consonant phoneme. So for reasons of economy there is no need to invent new phonemes /p^h, t^h, c^h, k^h/ while two - consonant clusters /ph, th, ch, kh/ are available and allowed by the syllable pattern of ccvc (consonant clusters in initial position.)

On the other hand, from sec 2.5.2.2.3.1 there are consonant clusters of /ph, th, ch, kh/ in stressed, weakly stressed and unstressed syllables. These might be an evidence to think that /ph, th, ch, kh/ are not consonant clusters, but complex phonemes. However, /h/ can

also occur in the C_2 position after /n/. It is inevitable to have /h/ in consonant clusters besides in the initial and final position. So, it is economical to write only an /n/ in set 3 (see figure 14.3), and we can have many consonant clusters e.g. /ph, th, ch, kh, nh/. I prefer to treat /h/ as a phoneme, and when it occurs with a plosive consonant, it is a consonant phoneme in cluster.

CHAPTER III
 WIANG PA PAO LUA
 PHONEMIC SYSTEM

3.1 see sec 2.1

This language has two contrastive tones. An interesting tone is the falling tone, which is gradually changing from breathy register (see sec 3.5.4.3) Then if words in examples carry this tone, the mark /' will be used. Those without tone marks can be said on a rising or level tone.

3.2 Intonation Group

3.2.1 see sec 2.2.1

3.2.2 There are two contrasting types of Intonation contour in this language : the statement contour and the question contour.

Each contour covers at least one stress group. In both there is a pre contour. In both pre contour types, the stressed syllable of each stress group is on a level pitch, while the unstressed or weakly stressed syllable is slightly lower. The point at which the contrastive contour begins is the beginning of the final stress group

Charateristics of each contour type

3.2.2.1 The statement contour

This is used for ordinary statements and imperatives. The stressed syllable of the final word has a little glide - up. For an imperative contour, loudness is an important quality for each stress group.

ʔoo kyʔ maŋ soŋ

I also don't know

ʔeen ɣvʔ ɲòoʔ lon

It makes rice fall

In the case that the final word has a falling tone, the contour will glide down after rising

pòo ʔeen maŋ ɲòot

father his doesn't stay

pʋvʔ salnùm hek sowaàj

eat medicine already will become better

3.2.2.2 The question contour

This is used for questions, and the stressed syllable of the final word has a rising pitch which is higher than a statement or imperative contour.

pʋvʔ salnùm hek kaʔ

eat medicine already ?

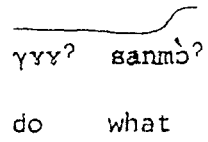
mii tám ʔaj

you see ?

lùuŋ ɲòot nàŋ ʔeen

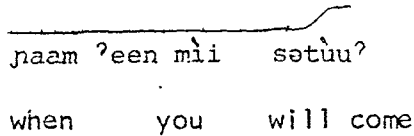
uncle stay where ?

In the case that the final word has a falling tone the contour will be high level.



 ɣɣɣ? sanmɔ?

 do what



 naam ʔeen mi sətɯu?

 when you will come

3.3 Stress Group

3.3.1 see sec 2.3.1

3.3.2 The stress group may have one or two syllables. Each stress group has as its nucleus one stressed syllable which is always the last syllable in the group, and as periphery it may have an unstressed syllable or weakly stressed syllable.

For example :

['pʰɣɣ?]	'to eat'
['pʰeɛl]	'bee'
[m'pòo]	'ox'
[n'leek]	'thunder'
	'right'
	'moon'

The structure of the stress group is :

±	{ unstressed	}	+	strongly stressed
	{ weakly stressed	}		

or written algebraically :

±	{	∅	}	+	'
---	---	---	---	---	---

3.3.3 There are no contrastive classes of stress groups in terms of their function in the intonation group because all types of stress groups can occur in all positions in the intonation group.

3.4 Syllable

3.4.1 see sec 2.4.1

3.4.2 The structure of a syllable is described in terms of a nucleus formed by a vowel (v) and a periphery formed by one or two or more consonants. (c) There are two types of syllable: an open syllable and a closed syllable.

3.4.2.1 Open syllable type

The structure of this syllable type is c(c)v

For example :

sàa	'basket'
nìòò	'to say'
ntyàa	'mantel, a shelf'

3.4.2.2 Closed syllable type

The structure of this syllable type is c(c)(c)v

For example :

pìk	'small'
mpɫ.k	'to break'
khwaaɟ	'late'

3.4.3 A syllable functions in stress groups. There are two main classes of syllables in terms of their function in the stress group : a nuclear syllable, and a peripheral syllable.

3.4.3.1 Nuclear syllable

This is a strongly stressed syllable and functions as the nucleus of the stress group. This syllable type always occupies final position. The structures of syllables in this type can be either open or closed. This syllable type may be called 'major syllable'.

For example :

['pòu]	'milk'
[n 'tyàa]	'mantle, shelf'
[kə 'cən]	'heavy'

~~X~~ 4.3.2 Peripheral syllable

This functions as the periphery in the stress group, always occupying the first place. The peripheral syllable can be sub divided into two sub classes : a weakly stressed syllable and unstressed syllable.

3.4.3.2.1 Weakly stressed syllable.

Syllables in this sub-class are always closed. This type may be called 'minor syllable'

For example :

[pök 'pòn]	'moon'
[tām 'yaan]	'mosquito'
[khāl 'saat]	'reed'

3.4.3.2.2 Unstressed syllable

Syllables in this sub class are always open. This type may be called 'pre-syllable'. This sub class may be

further divided into unstressed syllabic nasal, unstressed open transitional syllable and unstressed pre syllable.

3.4.3.2.2.1 Unstressed syllabic nasal

A syllabic nasal does not show the structure of a normal syllable, i.e. composed of a consonant and a vowel, but only a consonant before another consonant. Phonemically, syllabic nasals [m̥, n̥, ŋ̥] are allophones of the nasal phonemes /m, n, ŋ/ (see sec 3.5.3.2.1)

For example :

[m̥'pòo]	'ox'
[n̥'tam]	'egg'
[ŋ̥'yeel]	'buttock'

3.4.3.2.2.2 Unstressed open transitional syllable

Syllables of this type are always open, with vowel /ə/.

-For-example :

[t̥ə'ham]	'right'
[k̥ə'cɛn]	'heavy'
[kh̥ə'mùul]	'silver'

The vowel /ə/ can not be deleted, because there are contrastive pairs with and without /ə/

/toham/ 'right' /tham/ 'cave'

3.4.3.2.2.3 Unstressed pre syllable

Syllables of this type are

always open, with vowels /i, o/.

For example :

[?i' ?ii?]	'people'
[si'nàat]	'gun'
[bo'toom]	'button'

So, syllables may occur in stress groups in the following patterns :

'c(c)(c)v(c)

c(c)vc'c(c)(c)v(c)

c(c)v'c(c)v(c)

c'c(c)v(c)

3.5 Phoneme

3.5.1 see sec 2.5.1

3.5.2 The major functional classes of phonemes in the syllable are the vowel and the consonant.

3.5.2.1 Vowels

These function as the syllable nucleus, and in this language the vowel phonemes are /i, ii, e, ee, e, eé, i, ii, v, vv, a, aa, u, uu, o, oo, o, oo / with three diphthongs /ia, aa, ua/. There are contrasts between short and long vowels in this language (see sec 3.5.2.2). Vowels can occur in two syllable types : vowels in open syllables and vowels in closed syllables.

3.5.2.1.1 Vowels in open syllable

These function in both stressed and unstressed syllable.

3.5.2.1.1.1 Vowels in open stressed syllable

Only the long vowels and the three diphthongs function in this type, without final consonant.

They are /ii, ee, ee, ^{ɛɛ}, oo, aa, uu, oo, oo, ia, ^{ɪa}, ua /

For example :

cii	'young bud'
nee	'horn'
kee	'loud'
nɛpɛɛ	'a fin'
nəə	'to stand on end'
naà	'house'
nùu	'to push'
moò	'one'
?oo	'I'
pia	'to grab'
lua	'more'
lua	'spade'

3.5.2.1.1.2 Vowels in open unstressed syllable

Only the short vowels /i, ə, ə / function in this type.

/ə/ occurs only in open transitional syllables

For example :

<u>kh</u> om <u>i</u> ul	'silver'
<u>tə</u> rək	'to sit'

/i, ə/ occur in unstressed pre syllables. Vowels in this syllable type are not as short as /ə/ in open transitional syllables.

For example :

<u>ʔ</u> iʔiiʔ	'people'
<u>s</u> inàat	'gun'
<u>b</u> otoom	'button'

There are only these three words which have vowels /i, ə/ in pre syllables.

3.5.2.1.2 Vowels in closed syllables.

These function in stressed syllables, whether strongly stressed or weakly stressed.

3.5.2.1.2.1 Vowels in closed strongly stressed syllables.

All long and short vowels, and three diphthongs can function in this type.

For example :

cik	'astringent'
ci <u>l</u> ŋ	'to stand'
ien	'to be light'
keen	'to dig'
meʔ	'to be close to'

læŋ	'rattan'
ʔim	'tree (classifical)'
plɪt	'to swallow'
kəŋ	'a half'
pəp	'to lie or sit on something'
tʰaʔ	'to hew (wood)'
plàaj	'flower'
tuk	'to tie'
jùt	'to put out'
lòk	'a pen'
pool	'night'
təŋ	cloth'
ʔoom	'small pot'
piat	'winnowing basket'
fiaŋ	'straw'
buam	'to be dented'

3.5.2.1.2.2 Vowels in closed weakly stressed syllables

Only short vowels can function in

this type. They are /i, e, ɛ, ɨ, ʌ, ɔ, ɒ/. /a/ occurs very often but /i, e, ɛ, ɨ, ʌ/ occur only rarely.

For example :

<u>d</u> incii	'brick'
<u>c</u> entaaj	'shrimp'
<u>k</u> hetyeɪ	'big trap'
<u>k</u> ɨlmɨl	'roll'

<u>t</u> əppəp	'flat'
s <u>a</u> ln̩m	'medicine'
ʔ <u>u</u> nthul	'to be slack'
p <u>ə</u> clɔ̃ɔ̃c	'heel'
p <u>ə</u> ŋn̩ɔ̃ŋ	'corpse'

The vowels in the minor syllable often matches the vowel in the major syllable.

3.5.2.2 Consonants

These function as syllable periphery. The consonant phonemes are /p, t, c, k, ʔ, b, d, γ, f, s, h, m, n, ŋ, v, l, j/. Consonants can be divided into three sub classes : single initial consonants, consonant clusters, and final consonants.

3.5.2.2.1 Single initial consonants

These function in weakly stressed, strongly stressed and unstressed syllables. The consonants in each group are compared in the chart below

<u>Strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
p	p	p
t	t	t
c	c	c
k	k	k
ʔ	ʔ	ʔ
b		
d	d	

<u>strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
ɣ	ɣ	ɣ
f	-	-
s	s	s
h	h	-
m	m	m
n	n	-
ɲ	-	
ŋ	ŋ	
l	l	l
w	-	w
j	j	-

All consonants can be a single consonant in the initial position of a strongly stressed syllable

/b, f, ɲ, w/ do not occur in the initial position of weakly stressed syllable.

/b, d, f, h, n, ɲ, ŋ, ʃ/ do not occur in the initial position of an unstressed syllable.

The occurrences of initial single consonants and vowels are shown in figure 15. both voiceless and voiced consonants can precede both tone types. So the consonants do not affect the tones.

The vowels which occur after /p, t, k, ʔ, b, d, s/ can be with both tone types or only normal tone, but not with only register tone (cf. sec 3.5.4.2)

C \ V	p	t	c	k	ʔ	b	d	ɣ	f	s	h	m	n	ɲ	ŋ	w	l	j
i	/	/	/	ll	ll	ll	ll	/	R	N	-----	ll	ll	R	R	/	/	/
a	N	/	R	/	N	N	N	/	□	N	N	ll	-----	-----	R	R	ll	ll
ε	/	/	R	/	ll	ll	□	ll	-----	ll	ll	/	N	/	/	/	/	/
u	/	/	/	/	ll	ll	□	R	-----	/	N	/	R	□	R	□	N	R
y	ll	ll	□	ll	/	□	ll	ll	□	R	/	ll	R	□	-----	□	-----	□
a	/	/	/	/	ll	ll	ll	/	/	/	/	/	/	/	/	R	/	/
u	/	/	ll	/	/	/	N	/	□	/	/	N	/	-----	□	□	/	N
o	/	/	/	/	ll	ll	N	/	□	N	N	N	/	□	/	R	/	-----
ɔ	/	/	R	/	ll	ll	□	/	-----	/	N	/	N	N	/	R	R	ll
ii	/	/	/	/	ll	ll	ll	/	•	ll	/	/	ll	•	R	R	/	ll
ee	ll	/	R	/	ll	•	•	R	□	ll	ll	ll	ll	R	R	ll	/	/
ee	/	/	/	/	ll	ll	□	/	ll	/	/	/	/	•	•	/	/	/
uu	ll	ll	•	•	ll	ll	□	•	N	ll	ll	ll	•	□	R	□	•	R
yy	/	/	□	/	N	□	•	ll	□	•	R	R	•	□	ll	□	/	□
aa	/	/	/	/	/	/	ll	/	ll	/	/	/	/	R	/	/	/	/
uu	/	/	ll	/	/	ll	•	/	□	ll	ll	/	R	R	□	□	/	/
oo	/	/	R	/	ll	ll	•	/	□	•	ll	R	R	□	ll	•	R	/
oo	/	/	/	/	ll	ll	□	/	R	/	ll	/	/	R	R	R	/	/
ia	/			ll	ll			R		/	ll		ll		R	ll	R	ll
ua	ll	R	R			ll					ll	/	ll	ll			/	
ua	R	ll			ll	ll		R		ll	ll	ll	R		R		/	

Figure 15 Initial single consonants and vowels in strongly stressed syllable

/ both register tone and normal tone

R only register Tone

----- long vowel only

ll only normal tone

• short vowel only

□ non - occurring



The occurrences of initial consonants with long and short vowels will be discussed in five groups according to the place of articulation.

Labial group : /p, b, m, w/

/p/	၂၃၂၂၂၂၂၂၂၂	can occur with all vowels
/b/	" " " "	/ee, ʌ, ʌʌ, ia/
/m/	" " " "	/ia/
/w/	" " " "	/ɸ, ɸɸ, ʌ, ʌʌ, u, uu, oo, ɸa, ɸa/

Note : Vowels /e, ʌ, ɸ/ occur after /p, m/ with only normal tone

Alveolar group : /t, d, s, n, l/

/t/	၂၃၂၂၂၂၂၂၂၂	does not occur with /ia/
/d/	" " " "	/ee, e, ee, ɸ, ɸɸ, ʌʌ, uu, oo, o, oo, ia, ɸa, ɸa/
/s/	" " " "	/ʌʌ, oo, ɸa/
/n/	" " " "	/e, ɸɸ, ʌʌ/
/l/	" " " "	/ɸɸ, ʌ/

၂၀၁၅

In general :

^{၂၀၁၅}
 /d, s, n/ do not occur with /vɜ/
 /d, n, l/ " " " " /uɜ/
 /d, s/ " " " " /oo/

Palatal group : /c, ɲ, j/

^{၂၀၁၅}
 /c/ does not occur with /uɜ, v, vɜ, ia, ua/
 /ɲ/ " " " " /ii, e, ee, u, uɜ, v, vɜ, u, o, oo, ia, ua/
 /j/ " " " " /v, vɜ, ua, ua/

၂၀၁၅

In general :

/c, ɲ, j/ do not occur with /v, vɜ, ua/
 /c, ɲ/ " " " " /uɜ, ia/

Note : /c, ɲ, j/ do not occur with both short and Pong mid central vowels.

Velar group : /k, ɣ, ŋ/

^{၂၀၁၅}
 /k/ does not occur with /uɜ, ua, ua/
 /ɣ/ " " " " /uɜ, ua/
 /ŋ/ " " " " /ee, v, u, uu, ua/

၂၀၁၅

In general :

/k, ɣ, ŋ/ do not occur with /ua/
 /k, ɣ/ " " " " /uɜ/

Glottal group : /ʔ, h/

/ʔ/ does not occur with /ua/
 /h/ " " " " /i/

2.5.2.2.2 Final consonants

These function in closed syllables.

They are /p, t, c, k, ʔ, s, h, m, n, ɲ, ŋ, w, l, j/. Final consonants can be sub divided by their place of articulation into five groups. (see figure 16)

Labial group : /p, m, w/

- /p/ ^{၂၃၂၃၂၃၂၃၂၃၂၃} does not occur after /wa/
- /m/ " " " " /ɣ, ʏɣ, wa/
- /w/ " " " " /ii, e, u, uu, u, uu, o, oo, ɔ, ɔɔ, wa, ua/

In general :

- /p, m, w/ do not occur after /wa/
- /w/ does not occur after /ɰ, ʏ, u, o, ɔ short or long

Alvcolar group : /t, n, l/

- /t/ ^{၂၃၂၃၂၃၂၃၂၃၂၃} does not occur after /wa/
- /n/ " " " " /ʏɣ/
- /l/ " " " " /e, uu, ɣ, ia, wa, ua/

Palatal group : /c, s, ɲ, j/

- /c/ does not occur after /i, ii, e, ee, εε, uu, ʏɣ, a, ia, ua, ua/
- /s/ " " " " /i, ii, e, ee, ε, uu, ɣ, ʏɣ, o, oo, ɔ, ɔɔ, ia, wa, ua/
- /ɲ/ " " " " /i, ii, e, ee, εε, ɣ, ʏɣ, a u, o, oo, ɔ, ia, wa, ua/
- /j/ " " " " /i, ii, e, ee, ε, εε, uu, o, ia/

v \ c	p	t	c	k	ʔ	s	h	m	n	ɲ	ŋ	w	l	j
i	/	/	□	/	/	□	/	/	/	□	/	•	/	□
e	/	/	□	/	/	□	/	/	/	□	/	---	---	□
ɛ	/	/	•	/	•	---	•	/	/	•	/	/	/	□
ɨ	/	/	•	/	•	•	□	/	/	/	/	□	•	•
ɤ	/	/	•	/	/	□	□	□	•	□	/	□	---	/
a	/	/	---	/	/	/	•	/	/	---	/	/	/	/
u	/	/	/	/	/	/	•	/	/	---	/	□	/	/
o	/	/	/	/	/	□	•	/	/	□	/	□	/	---
ɔ	/	/	/	/	/	□	•	/	/	---	/	□	/	/

Figure 16.1 The correlation between final consonants and simple vowels

/ both long and short vowels ---- long vowel only
 • short vowel only □ non - occurring

v \ c	p	t	c	k	ʔ	s	h	m	n	ɲ	ŋ	w	l	j
ia	/	/	□	/	/	□	□	/	/	□	/	/	□	□
ua	□	□	□	/	□	□	□	/	/	□	/	□	□	/
ua	/	/	□	/	/	□	□	/	/	□	/	□	□	/

Figure 16.2 The correlation between final consonants and diphthongs

/ diphthong occurrences
 □ no occurrence

^{ᠮᠠᠨᠠᠨ}
In general :

/c, s, ʃ, j/	do not occur after	/i, ii, e, ee, ia/
/c, s, ʃ/	" " " "	/ʏʏ, ua, ua/
/c, s, j/	" " " "	/εε, uu, o/
/s, ʃ/	" " " "	/o/
/s, j/	" " " "	/ε, o/

Note : /e, s, ʃ, j/ do not occur after high or mid short and long vowels and /ia/ diphthong /k, ŋ/

Velar group : /k, ŋ/

/k/ can occur after all vowels
/ŋ/ " " " "

Glottal group : /ʔ, n/

/ʔ/ does not occur after /εε, uu, ua/
/n/ " " " " /u, uu, y, ʏʏ, aa, uu, oo, oo,
ia, wa, ua/

^{ᠮᠠᠨᠠᠨ}
In general :

/ʔ, h/ do not occur after /uu/

3.5.2.2.3 Consonant Clusters

These function in initial position of strongly stressed, weakly stressed and unstressed syllable. There are two - consonant clusters in all syllable types. But three - consonant clusters occur only in strongly stressed syllables.

3.5.2.2.3.1 Two - consonant clusters.

<u>Strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
ph	ph	ph
th	th	-
kh	kh	kh
ɸʏ		
tɻ		
ɕɻ		
pl		
kl		
pj		
kw /		
mp		
nt		
nl		
ŋk		
ŋj		
ŋl		
ŋj		

For examples :

<u>Strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
phɻɻ 'snake'	phanlãɻ 'cowbell'	phənɻ an embankment'
thoðk 'to pour'	thotthet 'to inch nearer'	
khe? 'wood, month'	khaɻkhaak 'toad'	khəmuəl 'silver'

<u>strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
pʏɛɛŋ	'fats'	
tʏaàj	'sword'	
cʏuʔ	'deep'	
pʏeʔ	'fruit'	
kʏɪŋ	'fat'	
pʏiap	'to blink'	
kwaal	'to bay'	
mʏpò	'ox'	
ntam	'egg'	
nʏeèk	'lightening'	
ŋkaàŋ	'rat'	
ŋʏɛɛl	'buttock'	
ŋʏòɔj	'the bottle gourd'	
ŋʏɛ̀sɪ	'tosift'	

3.5.2.2.3.2 Three -_consonant clusters.

<u>strongly stressed</u>	<u>weakly stressed</u>	<u>unstressed</u>
khw		
ntɣ		
ŋtɣ		
ŋkh		

For examples :

strongly stressed

khwaaj	'late'
ntyaà	'shackle'
ntyaàc	'end of arrow'
ŋkhoʔ	'lung'

In a cluster of two consonants, the first consonant must be a plosive or a nasal. If the first consonant of the cluster is a plosive, the second must be /h, γ, l, j, w/. If the first consonant of the cluster is a nasal, the second consonant can be /p, t/ and /γ, l, j/.

In a cluster of three consonants, the first consonant of the cluster is plosive, the second must be /h/ and the third must be /w/. If the first consonant of the cluster is a nasal, the second must be a stop and the third must be /h/ or /γ/.

The following figures show the correlation of the consonant clusters.

C ₁	C ₂	C ₃
p	h, γ, l, j	
t	h, γ	
c	γ	
k	h, l, w	w (follows/h/)

Figure 17.1 The consonant clusters with the initial plosive consonants.

C ₁	C ₂	C ₃
m	p	
n	t, l	ɹ (follows /t/)
ŋ	k, ɹ, l, j	h (follows /k/)
	± t	± ɹ
	-----	-----
		j

Figure 17.2 Consonant clusters with the initial nasal consonants

These two charts can be combined into one simple chart.

Set	S ₁	S ₂	S ₃	S ₄
Position in clusters	C ₁ -	C ₂ C ₁	{C ₂ } {C ₃ } C ₂	{C ₂ } {C ₃ } {C ₂ } {C ₃ }
consonants	m n ŋ	p t k	h	ɹ l w j

Figure 17.3 Combined chart from figures 17.1 and 17.2

3.5.3 Phoneme Charts

3.5.3.1 The vowel chart

Position of tongue / \ Level of tongue	Front		Central		Back	
	short	long	short	long	short	long
high	i	ii	ɯ	uɯ	u	uu
mid	e	ee	(ə) ɤ	ɤɤ	o	oo
low	ɛ	ɛɛ	a	aa	ɔ	ɔɔ

diphthongs : ia, wa, ua

3.5.3.1.1 Formational statements of vowels :

/i/ a short high front spread vowel

pìk 'small'

cìŋ 'to sew'

wìt 'jump'

/ii/ a long high front spread vowel

cii 'young bud'

siim 'bird'

ɣiil 'thin'

/e/ a short mid front spread vowel

tek 'to press'

khe? 'month'

jeŋ 'to be light'

/ee/ a long mid front spread vowel

pièek	'eel'
?een	'it'
ɲèe	'certain'

/ɛ/ [ɛ] a short low front spread vowel

kep	'to nip off'
set	'to pierce'
jel	'good'

[ɛ̄] a short mid front open vowel occurs before
/ʔ, k, h/

[ntɛ̄ʔ]	/ntsʔ/	'near'
[sətɛ̄ʔ]	/sətsʔ/	'break'
[hɛ̄k]	/hsk/	'already'
[pɛ̄h]	/pɛ̄h/	'to pluck (flower)'

/ɛɛ/ [ɛɛ] a long low front spread vowel

peet	'to embrace'
pyɛɛl	'hail'

[ɛ̄ɛ̄] a long low front open vowel occurs before /k, h/

[ʔɛ̄ɛ̄k]	/ʔɛ̄ɛ̄k/	'elder sibling'
[ɣɛ̄ɛ̄h]	/ɣɛ̄ɛ̄h/	'root'

/w/ a short high central - back vowel

pùp	'to meet'
khwt	'thick'
pwl	'to fly'

/uu/	a long high central - back vowel	
	plh̄ut	'to swallow'
	bun̄ŋ	'bat'
	ŋup̄ŋuu	'fin'
/y/ [ɤ]	a short high - mid central vowel	
	?ʋc	'all'
	dʋ?	'piece (classifier)'
	thv̄ŋ	'easy'
[ə]	a short mid central vowel occurs only in open transitional syllable type. In writing phonemically, I prefer using this symbol /ə/ in open transitional syllable	
	phən̄əŋ	'a/embankment'
/yv/	a long mid central vowel	
	p̄yv?	'to eat'
	pl̄yv̄j	'to blow (wind)'
	t̄yv̄l	'to send'
/a/	a short low central vowel	
	?ap	'dark'
	khak	'diligent'
	phan	'five'
/aa/	a long low central vowel	
	ŋaan	'a bump'
	γáak	'buffalo'
	laat	'fear'

/u/	a short high back rounded vowel	
	suŋ	'to wear (hat , shoes)'
	sul	'trousers'
	puŋ	'to blow'
/uu/	a long high back rounded vowel	
	ŋuu	'to push'
	miiuj	'axe'
	ɣuuŋ	'to cook'
/o/	a short mid back rounded vowel	
	hok	'to escape'
	poŋ	'a lump (classifier)'
	koŋ	'arrow'
/oo/	a long mid back rounded vowel	
	moo	'one'
	ʃook	'ear'
	ŋoot	'to stay'
/ɔ/	a short low back rounded vowel	
	poɔ	'short'
	hok	'to wear (ornaments)'
	ŋoɔ	'a piece (meat)'
/ɔɔ/	a long low back rounded vowel	
	ɔɔ	'a cluster (classifier)'
	pyɔɔk	'squirrel'
	noɔm	'to look'

All vowels, except /i, ii/, have an [i] off glide when they occur before the palatals [ʔc, ɲ, ɕ]

For example :

vowels with [i] off glide before [ʔc]

[tɕ ⁱ c]	/tɕic/	'to sell'
[palhu ⁱ c]	/palhuc/	'naked'
[lãa ⁱ c]	/lãac/	'to lose something'

vowels with [i] off glide before

[pɯ ⁱ ɲ]	/pɯɲ/	'to shoot'
[taa ⁱ ɲ]	/taaɲ/	'to weave'
[koo ⁱ ɲ]	/kooɲ/	'meat'

vowels with [i] off glide before

[pɛɛ ⁱ ɕ]	/pɛɛs/	'to peel'
[ʔa ⁱ ɕ]	/ʔas/	'swell'
[ʔu ⁱ ɕ]	/ʔus/	'loud'

Diphthongs

Most of words that have diphthong vowels are Thai loan words. But some examples shown here are WL

/ia/ a front - central off glided vowel

ex.	pjiap	'to blink'
	kiak	'deer'
	sakkiaʔ	'ghost, spirit'

/ua/ a mid - low central off - glided vowel

	fwan	'straw'
	mɯraj	'fog'
	lãa	'a saw'

/ua/ a back - central off glided vowel

γua	'things'
?uaj	'greedily'
khuaŋ	'cage'

3.5.3.1.2 The vowel contrasts

All vowels described above are phonemically contrastive in this language. The suspect pairs of vowels are shown below with examples of their contrastive pairs

IE means Identical Environment

AE means Analogous Environment

<u>Suspect pairs</u>		<u>Contrast in</u>	<u>Examples</u>
i - ii	IE	cìŋ	'to sew'
		ciìŋ	'to stand'
	IE	ti?	'to take'
		tii?	'hand'
i - e	IE	cik	'astringent'
		cèk	'Chinese'
	IE	pih	'to pound'
		peh	'to open'
ii - ee	IE	ciìŋ	'to stand'
		ceèŋ	'foot'
	IE	tiì	'piece, place (classifier)'
		teè	'to demolish, untie'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>	
e - ee	IE	keŋ	'to be good at'
		keɛŋ	'to dig'
	IE	jeŋ	'to be light'
		jeɛŋ	'village'
e - ɛ	IE	pɛh	'to open'
		pɛh	'to pluck (flower)'
	IE	mɛ?	'yesterday'
		mɛ?	'to be close to'
ee - ɛɛ	IE	wɛɛl	'to singe'
		wɛɛl	'to go by a round about way'
	IE	leɛŋ	'long'
		leɛŋ	'rattan'
ɛ - ɛɛ	IE	jɛŋ	'to lead by hand'
		jeɛŋ	'reed'
	AE	tɛl	'to run'
		ntɛɛl	'fever'
i - u	IE	?im	'raw'
		?um	'tree (classifier)'
	IE	pik	'small'
		puk	'to dip up'
ii - uu	AE	pliin	'leech'
		puun	'a kind of basket'
		/uu/ can follow /pl/ in	
		plunt	'to swallow'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>	
vā-uvu	IE	plut	'to plug (a hole)'
		plūat	'to swallow'
	IE	tuk	'to pull out'
		wak tūak	'intestinal worm'
ur-y	IE	kuŋ	'be tight'
		kyŋ	'a half'
	IE	hut	'to wear (skirt)'
		hyt	'to visit'
vāh-yv	IE	waak tūak	'intestinal worm'
		khii tū ^h ak	'phlegm'
	IE	?uayŋ	'bull frog'
		tal ^h vayŋ	'to turn up one's face'
y-yv	IE	kyt	'to obstruct'
		kyvt	'to bear a child'
	AE	tappyp	'flat'
y-a		py ^h yp --	'to lie or sit on something'
	IE	n ^h yj	'to be tired'
		n ^h aj	'in'
	AE	nthv ^h ?	'to be scratched'
yv-aa		tha ^h ?	'to hew (wood)'
	IE	nyy	'to stand on end (rice)'
		ḡaa	'to itch'
	IE	plyvj	'to blow'
	pl ^h aa ^h j	'flower'	

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>	
a-aa	IE	kàk	'to bite'
		kàak	'banana'
	IE	jàm	'to die'
		jaàm	'to cry'
u-u	IE	sum	'to order'
		sum	'coop'
	IE	tuk	'to pull out'
		tuk	'to tie'
uu-uu	IE	juut	'to extend'
		juut	'to put out'
u-uu	IE	?uj	'to become rotten'
		?uuj	'mother'
	IE	sul	'trousers'
		suul	'to water'
u-o	IE	lùk	'grass'
		lòk	'a pen'
	IE	puh	'to launder'
		poh	'to remove (hat)'
uu-oo	IE	?oompuù	'milk'
		mpoò	'cow'
	IE	muuc	'shady'
		mòoc	'mountain'
o-oo	IE	khot	'to slide'
		khòot	'be angry'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>
	IE	ɲaaɟ pol 'blind' pool 'night'
o - ɔ	IE	tòŋ 'winnowing basket' • toŋ 'cloth'
	IE	boʔ 'to chop' boʔ 'to come off'
oo-ɔɔ	IE	jòoŋ 'bamboo basket' jɔoŋ 'hill myna'
	IE	?oom 'water' ?oom 'small pot'
ɔ-ɔɔ	IE	?ɔl 'to scold' ?ɔɔl 'to conduct'
	IE	kòp 'a saddle' koòp 'to cover'
e - ɣ	IE	ket 'scale' kɣt 'to obstruct'
	IE	keŋ 'to begood at' kɣŋ 'half'
ee-ɣɣ	IE	meel 'to climb' m'vɩ 'to play'
	AE	kalpeeʔ 'to consign' p'ɣɣʔ 'to eat'
ɣ - o	IE	kɣŋ 'half' koŋ 'arrow'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>
	IE	pɣɣʔ 'untidy, dirty'
		pɣoʔ 'fragile'
vɣ-oo	IE	ŋaajlvɣʔ 'cross eyes'
		laɟlooʔ 'butterfly'
	IE	pʋvl 'float'
		poo 'night'
ɛ - a	IE	wək 'knife'
		wək 'go'
	IE	pəl 'to roll (cigarette)'
		pal 'large mortar'
ɛɛ-aa	IE	lɛɛŋ 'ratten'
		laaŋ 'piece (classifier of fishing tool)'
	IE	ʔɛɛk 'elder sibling'
		ʔaaɛk 'crossbow'
a - o	IE	mək 'to cut (tree)'
		mok 'vagina'
	IE	taŋ 'to burn'
		toŋ 'cloth'
aa-oo	IE	laat 'be fear'
		loot 'to abort'
	IE	tään 'branch'
		toon 'to tie'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>
ia-wa	iE	ɣian 'to study'
		ɣian 'ailment'
wa-ua	iE	lwa 'move'
		lua 'spade'

3.5.3.2 The Consonant Chart

Place of articulation		Bilabial	Apical	Alveo Palatal	Velar	Glottal
manner of articulation						
Plosive	voiceless	p	t	c	k	ʔ
	voiced	b	d		ɣ	
Fricative		f	s			h
Nasal		m	n	ɲ	ŋ	
Liquid		w	l	j		

3.5.3.2.1 Formational statements of Consonants

/p/ [p] a voiceless unaspirated bilabial plosive

puk 'hot'

pɔɔl 'white'

noon 'four'

[ʔp] a voiceless unaspirated bilabial glottalized plosive
occurs only in final position

[piʔp]	/piʔp/	'to meet'
[kaaʔp]	/kaap/	'chin'

/t/ [t] a voiceless unaspirated apical plosive

tol	'six'
taŋ	'to burn'
tàm	'to see'

[ʔt] a voiceless unaspirated apical glottalized plosive
occurs only in final position

[wiʔt]	/wiʔt/	'to jump'
[keʔt]	/ket/	'cold'

/c/ [tc] a voiceless unaspirated alveo - palatal affricate.

[tsiŋ]	/ciŋ/	'to sew'
[təʔk]	/còk/	'wet'
[tpeŋ]	/cèŋ/	'foot'

[ʔc] a voiceless unaspirated alveo - palatal glottalized
plosive occurs in final position

final position

[ku ⁱ ʔc]	/kɛc/	'sunlight'
[lò ⁱ ʔc]	/lòc/	'to forget'

/k/ [k] a voiceless unaspirated velar plosive

kàak 'banana'

keŋ 'tooth'

koðm 'thin'

[ʔk] a voiceless unaspirated velar glottalized plosive

occurs only in final position

[puʔk] /puk/ 'hot'

[tɛʔk] /tɛk/ 'bite'

/ʔ/ a glottal plosive

ʔuup 'rice'

ʔum 'tree (classifier)'

nɛʔ 'that'

mòʔ 'true'

/b/ a voiced unaspirated bilabial plosive

boʔ 'to break open'

buuŋ 'bat'

bɔc 'rice brokens'

/d/ a voiced unaspirated apical plosive

dik 'to sink'

dəʔ 'piece'

/ɣ/ [ɣ] a voiced velar fricative

ɣaaŋ 'red'

ɣòc 'intestine'

[kxh] a voiceless velar affricate occurs in minor syllables and presyllables

[kxhambook] /ɣamhook/ 'to cough'

[kxhəmuuc] /ɣəmuuc/ 'ant'

/f/ a voiceless labio - dental fricative

fàn 'to press (cocount milk)'

fàw 'a sheaf (of paddy)'

/s/ [s] a voiceless apical fricative

[ç] a voiceless alveo - palatal fricative

These two sounds vary freely in the old generation (Mr. Tan).

But in the middle generation (Mr. Saw) and the young generation (Miss Taa), only [s] occurs in the initial position without another variant

old generation

middle, new generation

[ɕet] ~ [set] [set] /set/ 'to pierce'

[ɕul] ~ [sul] [sul] /sul/ 'trousers'

[çak] ~ [sak] [sak] /sak/ 'seed'

[ç] a voiceless palatal fricative occurs only in final position

This sound [ç] is put as an allophone of /s/, for the same reasons as in LL (see sec 2.5.3.2). In addition, in the old generation [s] also occurs in the final position. Mr. Tan pronounced the words with very clear final [s] not [ç]. But in the new generation these two sounds seem to disappear, an off glide [i] becomes [j] as final consonant with sometimes [h] in addition.

old generation	middle generation	new generation
[ʔa ⁱ s]	[ʔa ⁱ ɕ]	[ʔaj ~ jh] 'swell'
[poo ⁱ s]	[poo ⁱ ɕ]	[pooj~jh] 'barking deer'

/h/ [h]	a voiceless glottal fricative	
	hok	'to go away'
	hum	'to fart'
	ɣiih	'to bear'
	puh	'to launder'
[ɦ]	a voiced glottal fricative occurs between vowels.	
	[mœɦiɕk]	/mœhck/ 'last year'
/m/ [m]	a voiced bilabial nasal	
	maap	'to ask'
	muk	'hair'
	noom	'to look'
	mòom	'mouth'
[m̥]	a syllabic bilabial nasal occurs in the initial position preceding /p/	
	[mpum]	/mpum/ 'be sore'
	[mpoo]	/mpòo/ 'cow'
/n/	a voiced apical nasal	
	nook	'be fill with'
	niʔ	'a little'
	ʔeen	'it'
	poon	'four'

[ŋ] a syllabic apical nasal occurs in the initial position preceding /t, l/

[ŋtam]	/ntam/	'egg'
[ŋlòɔ]	/nlòɔ/	'to say'

/ɾ/ a voiced palatal nasal

nèem	'delicious'
nùu	'to push'
koɔŋ	'meat'
puŋ	'to shoot'

/ŋ/ [ŋ] a voiced velar nasal

ŋòot	'to live'
ŋàl	'fire'
jeŋ	'to be light'
ɣəŋàŋ	'iron'

[ŋ] a syllabic velar nasal occurs in the initial position preceding /t, k, ɣ/

[ŋɣɛɛl]	/ŋɣɛɛl/	'buttock'
[ŋtɣaɛ ⁱ ɔ]	/ŋtɣaàc/	'end of arrow'

/w/ a voiced rounded labial liquid

wàaj	'to be cured of'
wàk	'to go'
ɣɛ̀w	'to feed'
tiw	'to carry (suspended from hand)'

/l/ [l] a voiced apical lateral

lɛ̃p	'sharp'
lòoc	'forget'
laat	'be, fear'

[l̥] a voiceless apical lateral occurs in consonant cluster

[pl̥eʔ]	/pleʔ/	'fruit (classifier)'
[kl̥wɛn]	/klwɛn/	'fat'

[ɾ] a voiced apical flap occurs in final position, and varies with [l]. In the old generation [ɾ] is pronounced clearly in final position. But in the new and middle generations [ɾ] varies with [l], but there are no contrastive pairs between words ending with [l] and words ending with [l] ~ [ɾ].

[ʔaar] ~ [ʔaal]	/ʔaal/	'two'
[muur] ~ [muul]	/muul/	'to kiss'

/j/ a voiced velar liquid.

jeèn	'village'
jel	'good'
plàaj	'flower'
ʔooj	'three'

3.5.3.2.2 The consonant contrasts :

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>	
p - b	IE	put	'to pluck (flower)'
		burt	'a moment'
	IE	po?	'before'
		bo?	'to break open'
p - f	IE	paaj	'to part (the hair)'
		faaj	'cotton'
	IE	təpàŋ	'bamboo shoot'
		təfaŋ	'bank'
p - ph	IE	puŋ	'to shoot'
		phuŋ	'snake'
	IE	pòk	'pocket'
		phok	'to peer'
t - d	AE	ti?	'to take'
		dik	'to sink'
t - th	IE	ta?	'eight'
		tha?	'to hew' (wood)'
	IE	too	'body (classifier)'
		thòo	'to rub'
d - n	AE	dik	'to sink'
		ni?	'a little'
d - l	IE	də?	'piece (classifier)'
		lə?	'time (classifier)'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>	
k - kh	IE	koon	'offspring'
		khoon	'side (classifier)'
	IE	kòt	'to cut'
		khot	'to slide'
k - ?	IE	kεε	'loud'
		?εε	'we'
	IE	cik	'astringent'
		ci?	'to light'
k - γ	IE	kwc	'sunlight'
		γtc	'a kind of bird'
	IE	kòom	'thin'
		γoom	'to chase'
kh - γ	IE	khooj	'envy'
		γooj	'hundred'
	AE	khoc	'to puncture'
		γoc	'to sharpen'
? - h	IE	?um	'tree (classifier)'
		hum	'to fart'
	IE	po?	'before'
		pch	'to remove (hac)'
b - m	IE	buk	'mortar'
		muk	'ink'
n - ɲ	IE	nee	'horn'
		ɲée	'certain'

<u>Suspect pairs</u>	<u>Contrast in</u>	<u>Examples</u>
	IE	koon 'an' offspring' kooŋ 'meat'
n - ŋ	IE	naam 'blood' ŋaam 'fork (of tree)'
	IE	kun 'old' kuŋ 'be tight'
n - ŋ	IE	naa 'house' ŋaa 'to itch'
n - ŋ	IE	tuŋ 'to cut down (a tree)' tuŋ 'whirlpool'
n - j	IE	naa 'house' jaa 'tobacco'
	IE	kooŋ 'meat' kooj 'chipmunk'
c - j	IE	ceèŋ 'foot' jeèŋ 'village'
	IE	γòoc 'intestine' γòòj 'hundred'

3.5.4 Suprasegmental Features

see sec 2.5.4

3.5.4.1 Length

Length is a phonetic feature concerned with the duration of sound. In this language, Length can distinguish the meanings of words. There are contrasts between short and long vowels (see sec 3.5.3.1.2)

For example :

jeŋ	'oo be light'
jẽeŋ	'village'
kàk	'oo site'
kàak	'o'one'
ti?	'oo tele'
tii?	'oo'

So, Length is phonemic in this language.

3.5.4.4 Tone

"Linguists have traditionally classified Mon - Khmer languages as tonal-less..... Yet this does not preclude the possibility of a Mon - Khmer language developing a tonal system by means of some independent innovation or by means of contact with a tonal language (such as Thai)." ¹⁶

These two processes also have occurred in Khmer. Ya fao Lua. Nitani says that there is a register called quasi - tonal register ¹⁷ in VL. That means the register in this language is developing into a tonal system. In my study, I found minimal pairs contrasting in tone. And tones in this language can be classified into two groups : register tone type and normal tone type.

¹⁶ David N. Burdick, "Tone in a dialect of Khmer", *Anthropological Linguistics* (April 1962), p.111

¹⁷ Yasuyuki Nitani, "A Descriptive and Comparative Study of the Khmer Phonology" (1967), p.20

3.5.4.2.1 Register tone

There is a falling pitch starting from mid level. And sometimes, breathiness can be perceptible. But tone seems to be the distinctive feature instead of breathiness.

3.5.4.2.2 Normal tone

There is a low rising or mid level pitch. These two pitches occur in variation with each other. This tone type occurs in contrast with the first one.

For example :

<u>register tone type</u>		<u>normal type</u>	
pùk	'become rotten'	puk	'hot'
?ùk	'to rise'	?uk	'dense'
pìk	'small'	pik	'to return'
pyè?	'sand'	pye?	'scurf'
tùm	'ripe'	tum	'a fishing tool'
teèm	'short'	teem	'to scrape'
tùk	'to arrive'	tuk	'to pull out'
γòc	'intestine'	γoc	'to sharpen'

So, in this language tone is a phonemic feature. In the stress group, these two tones always occur with the strongly stressed syllables. In weakly stressed syllables (minor syllable), the tone is usually a level pitch. In unstressed syllables one is usually a slightly low pitch. Only in strongly stressed syllables are tones distinctive.

3.5.4.3 Nasalization

Nasalization is the addition of the nasal pharynx and passages to the resonating cavities of the vocal tract. In this language, there are some words which have this nasal quality.

For example :

[ʔōo]	'I, Arundo'
[ʔōot]	'to scrub'
[ʔōom]	'small pot'
[ʔēew]	'to go about'
[ʔēe]	'we'
[hōo]	'a hill tribe'
[hāaw]	'to draw (a tow)'
[hāʔ]	'to rail'
[hēew]	'an abyss'
[yemāʔ]	'to be shy'
[semāʔ]	'cheeks'

A possible assumption might be that Northern Thai has influenced this language. /h/ and /ʔ/ in Northern Thai are nasalizing consonants. Then when some words in Thai were borrowed, this feature also came along. No minimal pairs contrasting nasalization have been found. Yet, it is not predictable, because in other words vowels following /ʔ, h, m/ are not nasalized. But we can find a nasalization contrast in analogous environment.

For example :

[ʔōm]	'smell pot'	[ʔoŋ]	'the skull of crab'
[hēew]	'an abyss'	[heŋ]	'to cover in fishing tool'
[yəmāʔ]	'to be shy'	[mŋ]	'net'

So, perhaps nasalization is becoming distinctive in this language.

3.5.4.4 Stress

see sec 2.5.4.5

Stress in this language is predictable. (see sec. 3.3). Stress will occur on every non-syllabic word. In words with open transition, or in two syllable words stress will occur on the last syllable.

3.5.4.5 Clarity

see sec 2.5.4.6

In conclusion, stress and clarity are not phonemic features in this language. They are predictable. Length is certainly a phonemic feature, because length can give new meaning to any morphological word. Tone has become a phonemic feature after its gradual development from register. And as for nasalization, I prefer saying that this feature has just been adopted into this language and is developing.

3.5.4.3 Nasalization

Nasalization is the addition of the nasal pharynx and passages to the resonating cavities of the vocal tract. In this language, there are some words which have this nasal quality.

For example :

[ʔõo]	'I, Arundo'
[ʔõot]	'to scrub'
[ʔõom]	'small pot'
[ʔẽew]	'to go about'
[ʔẽe]	'we'
[hõo]	'a hill tribe'
[hãaw]	'to draw (a tow)'
[hãʔ]	'to rail'
[hẽew]	'an abyss'
[ɣəmãʔ]	'to be shy'
[səmãʔ]	'cheeks'

A possible assumption might be that Northern Thai has influenced this language. /n/ and /ʔ/ in Northern Thai are nasalizing consonants. Then when some Northern Thai words were borrowed, this feature also came along. No minimal pairs contrasting nasalization have been found. Yet, it is not predictable, because in other words vowels following /ʔ, h, m/ are not nasalized. But we can find a nasalization contrast in analogous environment.

for example :

[ʔōm]	'smell pot'	[ʔooŋ]	'the skull of crab'
[hēew]	'an abyss'	[heer]	'to cover in fishing tool'
[yəməʔ]	'to be sky'	[maŋ]	'net'

So, perhaps nasalization is becoming a phonemic feature in this language.

3.5.4.4 Stress

see sec 2.5.4.3

Stress in this language is treated as predictable. (see sec. 3.5). Stress will occur on every monosyllabic word. In words with open transition, or in two syllable words stress will occur on the last syllable.

3.5.4.5 Clarity

see sec 2.5.4.6

In conclusion, stress and clarity are not phonemic features in this language. They are predictable. Length is certainly a phonemic feature, because length can give new meaning to any morphological word. Tone has become a phonemic feature after its gradual development from register. And as for nasalization, I prefer saying that this feature has just been adopted into this language and is developing.

3.4 Resegmentation

A non - ambiguous syllable is a syllable pattern which has no suspect sound or sequence of sounds. These are :

CVC	sak	'səkət'
	pul	'pʊlə'
CCVC	plən	'plən'
	klɔn	'klɔn'

Every syllable must begin with one or more consonants. If the vowel is short and is in a stressed syllable, there must be a final consonant. The consonant in final position can be only a single consonant.

3.6.2 Ambiguous parts with resegmentation

3.6.2.1 Long vowel and offglide problems

In this language, the problem of long vowels is treated the same as in LL (see sec 2.6.2.1)

And as for off glides /ie,wa ,ua /, the argument will be the same as with length. Each off glide is treated as one phoneme because the non - suspect syllable patterns allowed only one vowel in one syllable. In transcribing phonemically, both length and off glide vowels are written in sequence.

3.6.2.2 j and ɥ problems

j and ɥ are sometimes semi vowels and sometimes vowels. For example, the word 'flower' can be analyzed as /plaaʃ/ or

/plaai /. The non - suspect syllable pattern is CVC, so the type with final consonant fits the syllable pattern. Similarly the word 'to be light' can be considered /jeŋ/ or /iəŋ/. But the non - suspect syllable pattern does not allow any occurrence of vowel in initial position. So, /jeŋ/ fits the syllable pattern. /j/ is a consonant phone which can occur initially and finally. The arguments are the same for /w/. For example :

<u>w</u> eel	'to sting'
ye <u>s</u> t	'to feed'

3.6.2.3 It problems in aspiration

In this language, /h/ is treated as a consonant phoneme for the same arguments as in LL (see sec 2.6.2.4). When occurring with a voiceless plosive /ph, th, kh/, /h/ and the voiceless plosive are treated as two - consonant clusters.

For example :

phan	'five'
tho ^h ok	'to pour'
khwt	'thick'

CHAPTER IV

COMPARISON OF THE TWO PHONEMIC SYSTEMS

4.1 The sound systems of Lampang Lamet and Wiang Pa Pao Lua were discussed separately in chapters two and three. Now, it is easy to see what is similar and what is different in these two phoneme systems. In this chapter, I will point out the similarities and differences between Lampang Lamet (LL) and Wiang Pa Pao Lua (WL) by comparing each section of both chapters together, and going from the intonation group to suprasegmental phonemes.

4.2 Comparison of intonation groups

In both languages, there are two contrasting types of intonation contour : the statement contour and the question contour. And the characteristics of both contour types are alike in both languages. In the Wiang Pa Pao Lua statement contour, the stressed syllable of the final word has a little up - glide, and will glide down after rising when the final stressed syllable has a falling tone. In the Lampang Lamet statement contour there are three variants of contour pitches (see figures 18, 18.1 18.2)

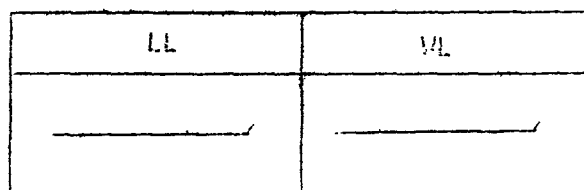


Figure 18 The statement contour type with a little glide up pitch when the final stressed syllable has a rising pitch

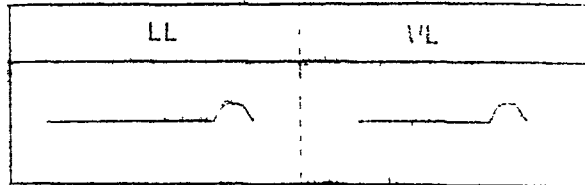


Figure 18.1 The statement contour type with a falling pitch after gliding up when the final stressed syllable has a falling pitch

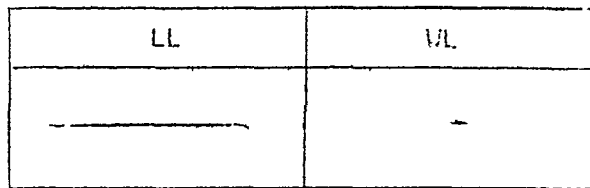


Figure 18.2 The Lampang Lomel statement contour type with a slightly glide down when the final stressed syllable has a mid level pitch.

Figures 18.0 and 18.1 show similarities of statement contour point. But in figure 18.2 there is no this statement contour type in Niang Pa Pao Lua. Imperatives of the two languages have the same contour types as statements.

In question contour, the stressed syllable of the final word has a high pitch in both languages. But when the final stressed syllable has a falling tone in VL, the contour will be high level. (see figures 19, 19.1)

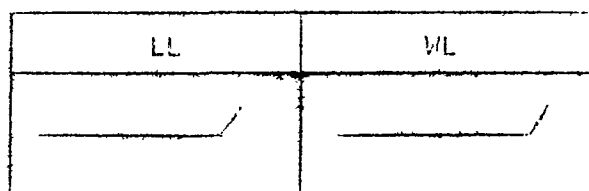


Figure 19 The question contour type of LL, and the type with rising pitch on the final stressed syllable in VL

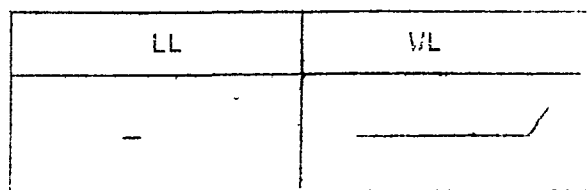


Figure 19.1 The VL question contour type with falling tone on final stressed syllable

It is interesting to note that there are two statement contour types and two question contour types in VL. But there are three statement contour types and only one question contour type in LL. And the contour types of the two languages are the same.

4.3 Comparison of stress groups

பொருள் அல்லது சொல்புள்ளி

The stress group in both languages may have one or two syllables, and has as its nucleus one stressed syllable and as its periphery an unstressed syllable or a weakly stressed syllable. The stressed syllable is always on the last syllable in stress group.

The structures of stress groups are the same in both languages.

That is

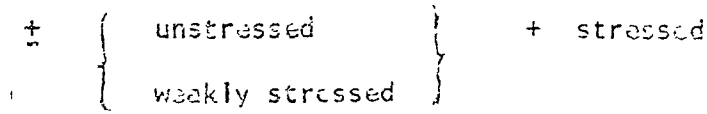


Figure 20 Stress group

4.1. Comparison of syllables

The structure of syllables is divided into two types: open - syllable type and closed syllable type in both languages. The structure of each syllable type is the same in WL and LL.

Syllable functions in stress group. There are two main classes of syllables in terms of their function. In both languages, there are nuclear syllables which function as strongly stressed syllable in stress - group and peripheral syllables which are divided by their function into weakly stressed syllables and unstressed syllables. The unstressed syllable of the two languages has the same two sub classes: unstressed syllabic nasal and unstressed open transitional syllable. But in WL, there is another sub class, the unstressed pre syllable.

Syllable patterns in both languages are the same except that in the second row in figure 21 WL allows an additional consonant.

LL	WL
'c(c)(c)v(c)	'c(c)(c)v(c)
c(c)vc'(c)v(c)	√c(c)vc'(c)(c)v(c)
c(c)v'(c)v(c)	c(c)v'(c)v(c)
c'(c)v(c)	c'(c)v(c)

Figure 21 Syllable patterns in stress groups

4.5 Comparison of Phonemes

4.5.1 Comparison of Vowels

Vowels function as the syllable nucleus. There are ^{WL 18} eighteen vowel phonemes in WL, but ^{LL 24} twenty four vowel phonemes in LL. These include both short and long vowels (see figure 22) In WL there are three diphthongs /ia, ua, ua/ which are vowel phonemes. Though some words with diphthongs are Thai loan words, they have been assimilated into WL. The three diphthongs in LL are marginal to the phoneme system. The vowels which are in LL but not in WL are high mid vowels ɪ, ɪɪ, ɔ, ɔɔ and mid vowels ʌ, ʌʌ.

LL					WL						
i	ii	ɪ	ɪɪ	u	uu	i	ii	ɪ	ɪɪ	u	uu
	ɛ	ə	əə	ɔ	ɔɔ	e	ee	ɻ	ɻɻ	o	oo
e	ee	ʌ	ʌʌ	o	oo	ɛ	ɛɛ	a	aa	ɔ	ɔɔ
ɛ	ɛɛ	a	aa	ɑ	ɑɑ						
-					ia	ua	ua				

Figure 22 Vowel charts

High - mid central vowel /ə, əə/ in LL has the same quality as /ɻ, ɻɻ/ in WL. Because /əə/ in LL has an allophone [ɻɻ], and /ɻ/ in WL has an [ə] allophone.

In both languages all long vowels can occur in open stressed syllables; and /ə/ in LL, /i, e, o/ in VL can also occur in open unstressed syllable. All vowels can occur in closed strongly stressed syllables. Vowels in closed weakly stressed syllables are not the same in both languages; in VL only short vowels can occur but in LL there are short and long vowels occur (see figure 23). In VL the vowels in weakly stressed syllables form a neat system, but in LL there is no apparent system.

LL				VL		
i	u	uu	u	i	u	u
	w	ə		e	ɣ	o
e			o	ɛ	a	ɔ
	a	aa	ɔ	ɑ		

Figure 23 Vowels in weakly stressed syllables

Vowels and allophones

In both languages all vowels except /i/ have an [i]off glide, when they occur before the palatals /c,n/.

In LL /e/ has two allophones [e] and [ẽ] the later is centralized and open when occurs before /j/

/ɔ/ has two allophones [ɔ] and [v]

/ə/ has two allophones [ɣ] and [ə]

In VL /ɣ/ has two allophones [ɣ] and [e]

4.5.2 Comparison of Consonants

4.5.2.1 Consonant phoneme chart

Consonants function as the periphery of a syllable. There are ^{WL 18} eighteen consonant phonemes in WL and ^{LL 17} seventeen consonant phonemes in LL. (see figure 24). Consonants can be divided in both languages into three sub classes : single initial consonants (see figure 25 sec. 4.5.2.2), final consonants and cluster consonants (figures 26, 27)

LL	WL
p t c k ?	p t c k ?
	b d y
f s h	f s h
m n ŋ ŋ	m n ŋ ŋ
l	l
r	
w j y	w j

Figure 24 Consonant phonemes

The consonant phonemes which are the same in both languages are :

< voiceless plosives	/p t c k ʔ/
< fricatives	/f s h/
< liquids	/w l j/
and < nasals	/m n ŋ ɳ/

But /ɣ/, the voiced velar fricative which occurs in both languages, is put into different sets. That is, in WL /ɣ/ is in the voiced stop set because it can vary with a voiceless stop in the pre-syllable. And there are already two voiced stops /b, d/ in the set, while in fricative set of WL there is no voiced fricative at all. So, /ɣ/ is put in voiced plosive set. In LL /ɣ/ is put in the liquid set because there are no voiced stop phonemes in LL, and there are no voiced fricatives in the fricative set either. And because sometimes /ɣ/ functions like /w/ and /l/ in consonant clusters (see figure 14 sec. 2.5.2.2.3.2), /ɣ/ is put in the liquid set.

The consonant phonemes that are different in the two languages are :

✓/voiced stops /b, d/ in WL, but no voiced stop in LL

✓/and /r/ in LL, but there is no /r/ in WL. But the LL /r/, however, is assumed not to belong originally to the phoneme system of LL (see sec 2.5.3.2.1)

Consonants and allophones

Plosives : In both languages, the voiceless plosives, except /ʔ/ have their glottalized stop in final position. But

especially in LL, voiceless plosives, except /ʔ/, have voiced allophones after syllabic nasals.

Fricatives : In both languages, /s/ has the [ç] allophone which occur in final position and [ç] allophone which varies [s] in the initial position.

/h/ has two allophones [h] and [R].

[R] occurs only between vowels in WL, but occurs after syllabic nasal in LL.

Nasals : In both languages nasals have syllabic allophones [m̩, n̩, ŋ̩] in the initial position before another consonant.

Liquids : In both languages /l/ has three allophones [l], [l̥] and [ɾ]. [l̥] occurs only in consonant clusters and [ɾ] varies with [l̥] in final position.

4.5.2.2 Comparison of single initial consonants

Single consonants in the initial position can occur in strongly stressed, weakly stressed and unstressed syllables in both languages. All consonants in the phoneme chart (see figure 24.) can occur initially in strongly stressed syllable. But in weakly stressed and unstressed syllable some consonants can occur initially (see figure 25). 17uuuuu

LL		WL	
weakly stressed	unstressed	weakly stressed	unstressed
p	ɸ	p	p
t	t	t	t
*	c	c	c
k	k	k	k
ʔ	ʔ	ʔ	ʔ
		d	
		ɣ	ɣ
s	s	s	s
h		h	-
m	m	m	m
n	n	n	
ŋ		ŋ	
l	l	l	l
w		w	w
		j	-

Figure 25 Single initial consonants in weakly stressed syllable and unstressed syllable.

* suspected disappearance

In weakly stressed syllables, the occurrences of initial consonants in both languages are much alike.

- Plosives : Voiceless stops /p, t, c, k, ? / can occur in both languages but weakly stressed /c/ suspectedly has disappeared in LL.
voiced stops /d, γ / occur in WL.
- Fricatives : /s/ and /h/ occur in both languages.
- Nasals : /m, n, ŋ / in both languages.
- Liquids : /l, w/ occur in both languages, but in WL there is also /j/ in this position.

In unstressed syllables, the initial consonants in both languages are alike :

- Plosives : voiceless stop /p, t, c, k, ? / occur in both languages; but in WL the voiced stop /γ/ can also occur.
- Fricatives : Only /s/ occurs in both languages
- Nasals : /m/ occurs in both languages, but /n/ also occurs in LL
- Liquids : /w/ occurs in both languages, but /l/ also occurs in WL

4.5.2.3 Comparison of final consonants

Final consonants function in the closed syllable type. Final consonants in both languages are /p, t, c, k, ? , s, h, m, n, ŋ, ŋ, l, w, j/

The occurrences of each final consonant with vowels are not the same in both languages, because the number of vowels in both languages, are not the same.

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In LL there are more vowels than in WL, so final consonants in LL can occur with more vowels than in WL.

But some similarities which can be drawn out are :

1. /w/ usually occurs with long and short front vowels and low central vowels /a, æ/ but never with back vowels.

2. The palatal group /ç, ʝ, j/ usually occurs with long and short back vowels.

4.5.2.4 Comparison of consonant clusters

Consonant clusters function in the initial position of strongly stressed, weakly stressed and unstressed syllables in both languages. There are two - consonant clusters in all syllabic classes, but three - consonant clusters only in strongly stressed syllables.

4.5.2.4.1 Two - consonant clusters in strongly stressed syllables are not absolutely the same in both languages.
(see figure 2c)

LL	WL
ph th ch kn	ph th kh
pl kl	pl kl
ɸɣ	ɸɣ tɣ cɣ
kw	kw
mp nt mc mɣ	pj
mj	mp
nt mc nl nh	nt nl
ŋk ŋɣ	ŋl ŋj ŋk

Figure 26 Two - consonant clusters in strongly stressed syllables.

In both languages /h, l, ɣ, w/ can occur as second consonant in a cluster after a voiceless stop.

In WL there is another consonant /j/ which can occur in this position, but it does not occur in LL.

In both languages /p, t, k, ɸ, l, j/ can occur as second consonant in cluster after nasals. In LL there are two other consonants /c, h/ which can occur in this position.

The two - consonant clusters in weakly stressed syllable are similar in the two languages. /ch/ does not occur in WL at all. In both languages, there are two - consonant clusters with /h/ in weakly stressed syllables. In LL there is also /k/ in this syllable type.

LL	WL
ph	ph
th	th
ch	
kh	kh
kl	

Figure 26.1 Two - consonant clusters in weakly stressed syllables

The two - consonant clusters in unstressed syllables are like those in weakly stressed syllables. In both languages, the two-consonant clusters in unstressed syllables are the same. That is, the first consonants are /p, t, c, k/ except /c/ in WL, and the second consonant is /h/

LL	WL
ph	ph
th	th
ch	
kh	kh

Figure 26.2 Two - consonant clusters in unstressed syllable

4.5.2.4.2 Three - consonant clusters.

Three - consonant clusters function only in stressed syllables. The three - consonant clusters in both languages are not the same. The first consonants in both languages are /k, n, ŋ/, but in LL there is also another consonant /p/.

The second consonants in both languages are /k, h/. In WL there is another consonant /t/, but in LL there is another consonant /c/

The third consonant in both languages is /h/. In WL there are two other consonants /γ / and /w/, but in LL there is another consonant /l/

LL	WL
phl	
khI	khw
nch	nty
	ŋty
ŋkl	ŋkh

Figure 20.3 Three consonant clusters

The general patterns of both two - and three - consonant clusters in both languages are much alike

	LL				WL			
Set	S ₁	S ₂	S ₃	S ₄	S ₁	S ₂	S ₃	S ₄
position	c ₁	c ₂	{c ₂ c ₃ }	{c ₂ c ₃ }	c ₁	c ₂	{c ₂ c ₃ }	{c ₂ c ₃ }
in clusters		c ₁	c ₂	{c ₂ c ₃ }	-	c ₁	c ₂	{c ₂ c ₃ }
Consonants	m	p	h	l	m	p	h	l
	n	t		w	n	t		w
	ŋ	c		l	ŋ	c		j
		k				k		

Figure 26.4 General consonant clusters in LL and WL

The two charts are absolutely the same. That means the consonants which can function in consonant clusters are the same groups. But the correlations of consonant in one slot with another slot are not absolutely the same (see figure 14.1, 14.2 and 17.1, 17.2)

4.6 Comparison of suprasegmental features

In both languages length is a phonemic feature, while clarity and stress are not. Nasalization occurs in both languages, and seems to be a distinctive feature. But their occurrences seem not to be in the main phonemic systems of the two languages.

Lindell, Svantesson and Tayanin mention that. It seems reasonable to assume that both dialects should have tones, or at least contrastive registers, as do other Non - Khmer languages in the area. However, the material does not allow any investigation of this problem. In the Rameet dialect described by Mitani there are two tones.²⁰ I am not sure whether the two dialects mentioned there are the same as the two languages in my thesis. But I am sure that Lampang Lamet, a dialect from Takluh village, has two contrastive registers. And Wiang Pa Pao Luu which was mentioned in sec. 1.2.1 as a dialect of Lamet, has two contrastive tones. There is also three pitches in LL, but they are not distinctive.

²⁰ Kristina Lindell, Jan - olof Svantesson, Dnrong Tayanin, "Two dialects of the Rameet (Lamet) language", Cahiers de Linguistique No. 4 1978 : p. 10.

CHAPTER V

SOUND CORRESPONDENCES

5.1 The comparison of these two languages is based on their being members of the same language family. Their precise relationship must be deduced from observation of systematic differences as well as systematic similarities. The last chapter was concerned with the comparison of the two phoneme systems, so the systematic differences and similarities have been discussed in detail. This chapter will deal with sound correspondences between these two languages. The sound correspondences will be separated into vowel correspondences, initial consonant correspondences, final consonant correspondences, and syllable correspondences. This study is intended to be suggestive, not exhaustive, to help point the way to a later detailed placement of both languages.

5.2 Vowel Correspondences

Vowel Correspondences will be discussed in three sub - classes :
front vowels, central vowels and back vowels.

5.2.1 Front vowel correspondences

Regular correspondences between different front vowels in these two languages are :

<u>Correspondences</u>		<u>Examples</u>
i : e	ll	'll
'fruit (classifier)'	plɯ?	plɛ?
'smoke'	tí?	te?
'to be light'	juŋ	jeŋ
ll : oe		
'village'	juŋ	jèeŋ
'leech'	plɯm	pleem
'fall'	júɯp	jèep
ll : e, ee		
'to lie on one side'	səkhɯŋ	səŋkèeŋ
'left (hand)'	thəwɯ?	təwè?
'hen'	?ú	?eɪ
e : a		
'arrow'	théj	tàj
'to buy'	wəj	wàj
'parrot'	léj	làj

This set of sound correspondences seems to be conditioned by /j/ in final position

ee : ee

'root'	γée	γeèh
'brother'	?éek	?eek
'liquor'	?əmpéet	?oompeet

LL	WL
ɪ	e
ʌ	ea,
e	a (before /j/)
ɛ	es

Figure 27 Front vowel correspondences

5.2.2 Central vowel correspondences

Central vowel correspondences in these two languages are:

<u>Correspondences</u>		<u>Examples</u>
<u>e : u</u>	LL	WL
'snake'	phɛŋ	phɯŋ
'sunlight'	kɛc	kɯc
'to be broken'	mpɔk	mpɯk
<u>ʌ : ɛ</u>		
'cold'	kʌt	ket
'near'	ntɛʔ	nteʔ
'goat'	pɛʔ	pɛʔ
<u>ɛ : a</u>		
'to bite'	khɛk	kʌk
'swell'	ʔɛh	ʔas

Correspondences

Examples

<u>ΔΔ : ε</u>	LL	VL
'palm civet'	sΔΔ	sei
'side wall'	ntΔΔ	ntei

This set of sound correspondence seems to be conditioned by

/l/ : /ø/ final consonants.

<u>a : ε</u>		
'tooth'	káŋ	kεŋ
'heavy'	khechan	kocεn
<u>aa : a</u>		
'tail'	ntaa?	nta?
'cheeks'	somáa?	səmá?

LL	VL
ə	ɛ
Δ	ε, ε̃
ΔΔ before /a/ :	ε before /l/
a	ε
aa	ā

Figure 27.1 Central vowel correspondences

5.2.3 Back Vowel Correspondences

Back Vowel Correspondences in these two languages are :

<u>Correspondences</u>	<u>Examples</u>	
uu : u	LL	li
'an edible in florescence'	juul	ʒul
'thigh'	chəlúu?	ʒəlù?
'take a bath'	húum	húm
oo : oo		
'water'	ʒo:m	ʒoom
'to stay'	ŋaot	ʒòot
'to swim'	leəj	lòoj
oo : oo		
'to forget'	looc	lòoc
'to send'	tóoi	təəl
'thin'	khoom	xòom
o : a		
'dark'	ʒap	ʒap'
'to go'	wók	wàk
'to die'	ʒám	ʒàn

LL		VL
uu	:	u
oo	:	o
oo	:	o
ɔ	:	a

Chart 27.2 Back vowel correspondences.

These vowel correspondences show differences in height, fronting and length. There is a tendency for a high vowel in LL to correspond to a lower vowel in VL, for example $u:e$ $u:ee$ ee , $\Delta:a$, $oo:oo$, $oo:oo$.

Vowels in VL will be one step lower than vowels in LL. That is, if a vowel in LL is a high - mid, a vowel in VL will be mid. And if a vowel in LL is mid, a vowel in VL will be low.

Vowels in VL will be fronter than vowels in LL. That is, if a vowel in LL is low back vowel /ɔ/, the vowel in VL will be low central vowel /ə/. If a vowel in LL is low or mid central /Δ/ or /a/ the vowel in VL will be low front vowel /e/

Vowels in VL tend to be short while in LL is long. That is, if a vowel in LL is a long /uu/, the vowel in VL will be a short /u/. If a vowel in LL is long /aa/, the vowel in VL will be short /a/.

5.3 Consonant Correspondences

5.3.1 Initial Consonant Correspondences

Initial consonant correspondences include.

<u>Correspondences</u>		<u>Examples</u>
m : b	LL	WL
'a well'	moo	boo
'broken rice'	moc	pik
'fish hook'	mét	bet
ph : p		
'to meet'	phup	pup
'small'	phíc	pik
'to pound'	phæk	pook
th : t		
'branch'	thaan	tään
'stomach'	khethul	kətùl
'to hold (a baby)'	thuum	tuum
ch : c		
'down'	chuu	cuul
'wet'	chøk	còk
'Chinese'	chek	cèk
kh : k		
'to pick with a beak'	khoh	kòh
'an outer covering'		
'a kind of tree'		

LL	WL
m	b
ph	p
th	t
ch	c
kh	k

Figure 28 Initial consonant correspondences

The most obvious thing in the initial consonant correspondences is that aspirates in LL correspond with unaspirates in WL.

The m : b correspondence is a correspondence between nasal and stop consonants with the same voicing and place of articulation.

In addition, it should be noted that phonemic LL /mp, nt/ are phonetically [mb, nd] , but phonemic WL /mp, nt/ are phonetically [mp, nt] .

5.3.2 Final Consonant Correspondences

Final consonant correspondences include :

<u>Correspondences</u>		<u>Examples</u>
'? : ø	LL	WL
'to wait'	kóó?	ŋkoo
'to dream'	khəmí?	khəmèè
'spicy'	pyí?	pyii

<u>Correspondences</u>		<u>Examples</u>
$\emptyset : l$	LL	WL
'to water'	suu	suul
'to climb'	mu	meel
'field'	maa	màal
'side wall'	ntaa	ntel

There are only two correspondences of different final consonants. From the first pair of correspondences, it seems that WL drops [ʔ] in final position. [ʔ] is dropped out when it follows long vowels, but there also are long vowels with final [ʔ] in WL. From the second correspondence set, it seems that LL drops [l] in final position when following long vowels.

LL	WL
ʔ	\emptyset
\emptyset	l

Figure 20.1 Final consonant correspondence.

5.4 Pre - syllable Correspondences

Pre - syllable correspondences include :

<u>Correspondences</u>		<u>Examples</u>	
phə, pə : pal	LL	WL	
'a kind of tree'	pləjʊu?	paljʊu	
'to grow'	pəeəm	palstɪm	
'lizard'	pətaaŋ	paltaaŋ	
'sugar cane'	phənɪt	palnɛət	
sə : sal-saŋ, cal, caŋ			
'a hand of bananas'	səkáh	salka?~saŋka?	
'to lie on one side'	səkhɪŋ	saŋkɛɪŋ	
'a herb with offensive odor'	səwaaŋ	calwáaŋ	
'bone'	səŋáaŋ	caŋ?aaŋ	✓
'to sweep'	sə?ɔk	cal?ɔk	✓
'green'	səŋaal	caŋŋaal	✓
m : kam			
'face'	mpóo	kampòh	✓
'owner'	mja?	kamja?	
kho, kə : tal			
'vegetable'	kə?aw	tal?aw	✓
'a sting'	khənúuc	talnúuc	
'bee'	khəhaŋj	talhaaŋj	
khə : kal, kham			
'way'	khəthíŋ	kaltiŋ	
'gold'	khəchóo?	kalcòo	✓
'armpit'	khəthoo?	kalto?	✓
'to cough'	khənook	khambook	
'to catch a cold'	khəməh	khambih	

In khə : kal, kham correspondences, WL seems to take /kham/ before /b/, and /ka/ elsewhere.

LL	WL
phə-, pə-	: pal -
sə-	sal - ~ saŋ -, cal -, caŋ -
m-	kam -
khə-, kə-	tal -
khə-	kaɪ - kham - before /b/

Figure 29 Pre - syllable correspondences.

The pre - syllable correspondences can be described as open transitional syllables in LL corresponding with weakly stressed syllables in WL. The /ə/ in LL open transition becomes /a/ in WL with /l/ or /ŋ/, or with /m/ when it occurs as the final consonant of the syllable before /b/. The initial consonants are the same, but those with aspiration mostly lose their aspiration except in khə- : kham -. The syllabic nasal [m̩] in LL also corresponds with weakly stressed syllables in WL. /m/ in LL corresponds with /kam - / in WL.

5.5 Tone Correspondences

There are no tone correspondences between the two languages. But someone may want to know whether register tone in WL corresponds with tense, or lax register in LL. The answer is that the words with register tone in WL can correspond with both registers in LL. So,

there are no systematic correspondences between tone in WL and register in LL.

For example :

	LL	WL
'hot'	púk	puk
'mountain'	móòc	moòc
'dry'	γááj	yaáj
'year'	nun	nam
'buy'	wéj	wàj

CHAPTER VI

CONCLUSION

From all the data and information given above, the similarities between these two languages are too weak to call them dialects of a single language because :

1. They share only fifty percent cognates, which is too low to be languages of very close relationship.
2. The vowel phonemes of the two languages are not the same.
3. The suprasegmental phonemes especially tone and register are absolutely different from each other.

But at the same time, these two languages show many things in common.

1. They share fifty percent cognates.
2. The intonation - group structure, the functions and structures of the stress group, the syllable and the consonant phonemes are nearly the same.
3. Some of the same things happen in both cultures (see sec 1.6).

✓ These things confirm that the two languages are related, and thus are descended from some common parent language and culture, presumably in Laos. Later some of them migrated to Thailand.

Regarding language changes, "As people move from one region to another, they carry with them their original dialect. Encountering a new dialect, they may then lose some of their old features while at the same time acquiring new ones. In this way a new dialect is created."²² This is assumed to have occurred in Wiang Pa Pao Lua.²³ So, when compared with Lamet from Laos (Lampang Lamet), the relationship of both languages, at present, is not seen as two dialects of the same language but as two related languages.

²² Julia S. Falk, "Dialects", *Linguistics and Language* (1973) p. 209.

²³ A Lamet informant in Lampang told me that to the north of the village he lived in, there was another group of Lamet. This group of people spoke in a little different way.

For example, they used

koon	instead of	tuuh	'meat'
lɔʔpaɪ	" "	ʔaa	'two'
lɔʔsoj	" "	ʔsoj	'three'

The words in the left column are like those used in WL. And the words in the right column are like those used in LL.

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APPENDIX

Word list

The words in both languages are listed by using the orders of vowels and final consonants.

For Lampang Lamet, the order of final consonants is: p, t, c, k, ʔ, s, h, m, n, ɲ, ŋ, l, w, j, ø.

the order of vowels is: i, ii, 'i, e, ee, ε, εε, u, uu, ə, əə, ʌ, ʌʌ, a, aa, u, uu, o, oo, ɔ, ɔɔ.

' represents tense register; its absence indicates lax register

Lampang Lamet word list

	- P	ip		ep
pyip	'to cover'		nép	'to carry under one's arm, to sandwich (under aš armpit)'
waaksəʔip	'a centipede'	iip		eep
phipklíip	'to hide'			ep
		ɔp	tép	'flat'
				eep
		ɛp	lɛɛp	'to fold'
phəjɔp	'to drop, a drop'	ʔəwəkɛɛp		'an earthen water pot'
ʃɔp	'to fall'	khəlooj kɛɛp		'a bottle gourd'
phəemjɔp	'to be frightened'	səkɛɛp		'to grip'
kɔp	'to dip up'	kaɔ pɛɛp		'a goiter'
pəkɔp	'a spoon'	khəloʔhɛɛp		'to whisper'
ʃamseʔɔp	'to die aviolent death'	thɛɛp		'money unit (5 cuk = 1 thɛɛp; 2 thɛɛp = 1 maɔ)
lɔp	'a bolt of cloth'			

		up	náp	'a round casket'	
thwp	'to bash'				aa
lúp	'sharp, a wound'		taap	'to be cold'	
phwp	'to meet, to give birth to (phwp kaan phic).'		káap	'chin, an outer layer, a scrap'	
			náap	'to yawn'	
lúp	'to catch, to sew'		khəpkhaap	'a knife sheath'	
chəlwp	'a kind of bamboo basket 2 feet high, 1 feet wide'		kaap	'a day in the ten day period'	
khwp	'to grab'		thaap	'to patch up'	
chúp	'to scald'				up
khəpkhwp	'a chicken coop'		phəkup	'to lie prone'	
		uwp	ŋkup	'ceiling'	uu
khəsuáp	'to join'		ʔúup	'cooked rice'	
phuwwp	'to be dented'		túup	'hut'	
		əp	mpuup	'bubble'	
həp	'a crevice (in teeth)'		ntuup	'an eave'	
khəpkép	'a lid'		ɣuup	'a dummy'	
kəp	'to close, to plaster'				əp
		əəp	kəp	'shoes'	
					əə
		əp	ʔəp	'a daughter in-law'	
káp	'a kind of trap'				əp
kapkáp	'shoes'		thəp	'to fold'	
		əəp	ɣóp	'to fight'	
			ʔəp	'to shut (one's month)'	
		əp			əə
rap	'a day in the ten day period'		poəp	'to sit'	

chəloop	'a blouse'	o siit	'to slice'	
coop	'a span (from thumb to index finger)'	o miit	'a knife'	
	ap	hiit	'a box'	
?ap	'dark'	niit	'to press (with thumb)'	
khəjap(ɣaaʃ)	'to knit (one's brows)'	khə?iit	'sheets for baby'	
ncháp	'to make a fist'	pətiit	'a kind of bark chewed with areca'	
pháp	'to bite (dog)'	wajwiit	'to cast'	
γáp	'to receive, a kind of insect that bites oxen and buffaloes'	wit	'long (time)'	ut
tap	'to extend both arms, a linear measure'	phənit	'sugar cane'	v
háp	'a round bamboo basket used like a bag'	pət	'duck'	et
tah khungháp	'a kind of dance with two colliding bamboos'	mét	'a fishhook'	
khap	'narrow'	khəjet	'a bat'	ee
thap	'to roof'	jeet	'to be mad'	
	acp	?əmpéet	'liquor'	
kaap	'a kind of insect'	ləmeet	'Lamet'	
	- t			et
	it			
cit	'to scrub (floor)'			ee
cawchiiwit	'a king'	péet	'to rub'	
	iit	səwéet	'to twist'	
?iit	'to sleep'			wt
phe?iit	'to cause someone to sleep'	phut	'to scatter (seeds)'	
khəwiit	'to be in a whirl'	?ut	'to refrain from something'	
		khut	'thick'	

ø	khúut	'to pluck(flowers)'	plv? kónát	'pineapple'	
	mpuut	'dirty'	mát	'a flea'	
			uuut	'to stuff'	
			nát	'to whip'	
			wát	'frog'	
			ot	'frog'	
	yoongpət	'the uvula'	sə?át	'to choke'	
	thət	'short'			aa
	pət	'to pinch'	laat	'brass'	
	ntət	'to be torn'	láat	'to fear, to be coward'	
	khət	'to cut'	kláat	'to tell a lie'	
	chət	'to take'	jaat	'to lead(animal)by the	
	phət	'to eat with the fingers'	sənáat	'gun'	
			əət	'to be gone'	
			khəmaát	'to ferment'	
			at		u
	chəthát	'to fall down'	kaansut	'the little finger'	
	kát	'to be cold, a day in the ten day-period'	mut	'to smell'	u
	khat	'to be burned'	pə?uut	'fog'	
	luk pəthət	'lichen'	yoكلuut	'a toad'	
	?uup khat	'crisp rice sheets'	laanjluut	'a firefly'	
			ant	'deaf'	
	kláat	'to slip(and fall)'	khúut	'to shave, to erase'	
			at	'to perforate'	
	yát	'to bail (water)'	phúut	'to pull, to stretch'	
	?át	'a money unit (1 lot = ½ ?at, 10 ?at= 1 mii)'	chətúut	'to join'	
v	nát	'dry out (water)'	phəjúut	'to extinguish (a fire)'	

		ot	phíc	'small, to spit'	
			khelíc	'to breed'	
		oat	kaan phíc	'a child'	
x	noat				ii
	maknoat				
	'the castor-oil plant'				
	yoat				uc
	'chicken pox'				
	phutnoat				
	'to put up, to erect'				
		ot			li
	kot				
	'a day in the ten day period'				
	lot				ec
	'a money unit (1 lot = 1/2 ?at)				
		oot			ee
	loot				
	'to tell a lie'				
	phóot				ec
	'to slit'				
	magnóot		?éc	'all, to have no more'	
	'a scorpion'				ee
	loot				
	'to thread'				
		at	kééc	'to shout'	uc
		aat	kheluc	'a reservoir for wild animals'	umr
	haat				
	'to pull out (rice)'				
	?uuplaat				
	'glutinous rice baked in a bamboo cylinder'				ec
	taat		kéc	'sunlight'	
	'to suck'				
			péc	'to throw away'	
	líc		qkéc	'nearly dawn around 2,3	
	'to enter'	ic			
	luq naajpyíi? líc		téc	'to sell'	
	'west'				

tələc	'a river sea weed'	ηkuuc	'to fall out'	
		əc	muuc	'shady'
saŋsəc	'a kind of rat with sharp mouth'	luuc	'to go sour'	
		Δc	phuúc	'to spit, to rinse (one's mouth)'
			puuc	'to take off'
		ΔΔc	khúúc	'to light(fire)'
γΔΔc	'to scratch'			ω
ηγΔΔc	'the tail of an arrow'			ωε
		ac		
plac	'to insert'	lúúc	'finish, already'	
ηkəc	'wax of a kind of insect'	múúc	'mountain top'	
tác	'to bite'	phiclúúc	'heel'	
		aac	phəndúúc	'a pile(of rice, sand)'
maac	'sand, to run by passing in front'			o
γαác	'to claw'			o
waac	'don't...!, stop'	əkúúc	'to flow'	
laac	'to be lost'	?aŋyoóc	'intestine'	
laác	'to undo(a package)'	chəlooc	'to abort'	
		uc	thooc	'to milk, to squeeze'
			khoooc	'to wash'
		uuc	looc	'to forget'
γuuc	'to flow(something)away'	?ə?ii? chəlooc	'dwarf'	
khətuuc	'muddy'	əothooc	'betel'	
huúc	'to sting'			a
khənúúc	'a sting'	wác	'sharp (point)'	
khəmuúc	'venereal diseases'	khə?ác	'to press, to squeeze'	

ʔac	'a kind of bird'		pyéek	'beside'
mac	'broken rice'		səŋaəŋ pyéek	'rib'
mác	'a small kind of rat'			—
pác	'to chip'			
		aac	céek	'to tear'
háac	'to whistle'		héek	'to choke (with rice or stuff)'
γác	'to sharpen'		wéek	'to be nicked'
	- k			
		ik	njéek	'to be torn (in a plumb line)'
cák	'astringent'			
lík	'pig'			
		iik	khəluk	'to froth'
mpíik	'cloth'		khəchuk	'to be sleepy, to drowse'
phikliik	'to lift (the eyebrows)'		c juuk	'sticky'
phiík	'to choke (with water)'		phəwuk	'a crossbeam running parallel to the base of'
		uk	səkuuk	'to stammer'
			nuk	'to be stucked'
		uk		
phiklúuk	'lightning'		khiicruk	'ringworm'
phlúuk	'oel'		luuk	'to sob'
mluuk	'to open (one's eyes)'		mluuk	'to be greedy'
phik wuuk	'the spleen'			
		ek	pók	'to break'
oek	'Chinese'		wpók	'to be broken'
		eek	plək	'a day in the ten day period'
ʔéek	'older brother'			
phéek	'to clear (of grass) to make a field'		tók	'to pull out'

mək	'ink'		ntzək	'palm, sole'	
		əək	mpaək	'to be scratched'	
	-		maək	'to hook'	
		ək	khəkmaək	'a hook'	
pák	'to carry (by oneself)'		tshák	'to scale (fish)'	
khək	'to eat, to bite (meal)'		ʔák	'a crossbow'	
		ək	vák	'to peel'	
			sák	'to have enough (food)'	
		ək	maək	'classifier for axe, knife, a digging tool'	
nak	'many, much'				
lák	'to split'				
lɔŋmuj ták	'a kind of mango'		ɣok kaək	'a tree frog'	
ɣokták	'a small toad'		ɣok səwaaŋ	'a big toad with sticky skin'	
ták	'to stick'				
hák	'to dry'				uk
nák	'giant'		púk	'hot'	
ɣák	'love'		phuk	'to become soft'	
mjak	'a sword'		túk	'to tie'	
kheʔsək	'the teak tree'		cuk	'a money unit (20 mii = icuk, 5 cuk = 1 theep)	
		aək			
khəják	'deer, to blame'		mək cuk	'a variety of orange'	
khəjaək	'brave'		muk	'a cricket'	
khák	'buffalo'		núk	'hair'	
waək	'intestinal worm'		mul muk	'dust'	
lukʔaək	'a crew'		luk	'grass'	
potaək	'tongue'		ɣuuk	'to pound rice'	uuk
phothaək	'to turn up (one's face)'		phək	'to ride'	ək
			khək phək	'a saddle'	
			səkək	'Adam's apple'	

		oak	walwók	'a big knife used in mowing grass'	
phoak	'to pound'				
khæk phoak	'a pestle'		khəlók	'a cylinder made of bamboo used for signaling'	
noak	'full'				
ɣoak	'the bole of a tree'				oo
joak	'to lift'		ɣhook	'stripes, (hand, (finger) print'	
		ok			
pok	'to dig, to dig out'		phik phook	'to make a stripe'	
khæk pok	'a digging tool with a broad blade'		khəwəaj phook	'a leopard'	
			təkók	'to trip over'	
phok	'sock'		ʔamkook	'the hog plum'	
pyok	'a dhole'		khóok	'a pen, a prison'	
tok	'cloth'		səlhook	'to be arm in arm'	
chətók	'a knot a hitch'		ɣoək	'mire'	
khətok	'to divide'		khəmook	'to cough'	
phəthók	'to splash'		səŋook	'to protrude'	
chok	'table'		jook	'ear, to pull down'	
kok	'to limp'		ɳpak	'the state of rice which is going to develop ears'	ak
ʔók	'chest, a linear measure equivalent to the length of an arm with a half chest'		chak	'wet'	
ɣok	'frog'		təŋkók	'a wooden cowbell'	
ɣyok	'a vessel made of banana leaves'		mak	'a dash'	
			ləmai	'a big gun'	
hók	'to escape, to go away'		chənak	'a manger'	
mok	'to bovel'		wák	'to go' a big knife sheath'	
nak nók	'very much'				

lak	'good, nice'	sekiŋ pyíi?	'galingale'
phiklak	'to make amends, to make something good'	tíi?	'arm, hand'
mlak	'a variety of cricket'	plak tíi?	'a bracelet'
tukjak	'a rag'	ʔeʔíi?	'person'
	aak	kch yíi?	'to get up'
pyáak	'squirrel'	nti? yíi?	'forest'
cáak	'a bottle'	míi?	'money unit (1C ʔat = 1 míi? 20 míi? = 1 cuk)
səʔaak	'to sweep'	səŋíi?	'daytime'
sáak	'a linear measurement from an elbow upto finger'		u?
haak	'to hide'	plu?	'arocanut, classifier for fruit and house'
máak	'a pipe'	ʔumplu?	'aroca (tree)'
laaʔmáak	'tobacco'	tí?	'smoke'
	-?	pəti?	'half ripe'
	i?	plu? pəti?	'banana'
nti?	'in, just right'	ru?	'a mark, a trace'
phunthi?	'in the middle'	luŋ ru?	'behind'
sí?	'louse'	phoo ní?	'in the previous time'
posí?	'a string, a cord'		ii?
ʔumpəsí?	'general name for a climber or a vine'	pú?	to keep a hard seed in the mouth until it is soft, husband's father'
naŋni?	'a gibbon'	khəpú?	'to consign'
	ii?	ntú?	'to have a night mare'
pyíi?	'chili, spicy'	plu? khotí?	'palm'
pukpyii?	'to sweat'	kaunsu?	'great grand son, great grand daughter'
ŋaaj pyíi?	'sun'		

khəməu?	'to dream'	pəe?	'he, she'	ε?
níu?	'mother'			u?
khənu?	'food'	phurŋphur?	'an instrument'	
?ənu?	'woman, female'	plu?	'to cure, to do'	
phəŋu?	'fun'	tu?	'a particle (like <i>lənə</i> or <i>zə</i> in Thai)'	
wíu?	'to be bored'			
luŋ thəwu?	'left side'	nu?	'a tale'	
khəwu?	'a tree of genus Sesbania'			uu
chəlu?	'rain'			ə?
ju?	'we'	siŋpə?	'the horned owl'	
		e?	cəmpə?	'foolish, stupid'
ne?	'that'	khəpə?	'other'	
ntəhə?	'penis'	nəhə?	'to wave, to sway'	
		ee?	swiŋpə?	'to turn up (one's face)'
kheé?	'moon'	lə?	'time (classifier)'	
?umkheé?	'tree'	knələ?	'new bud'	
səkheé?	'crocodile'	lajlə?	'butterfly'	
		e?		əə
səké?	'to warn, to forbid'			
kaan səké?	'middle finger'			ʌ?
khəlo? səké?	'rude (speech)'	pə?	'goat'	
γé?	'(a trap) work, shoot'	kətə?	'soil'	
ŋγé?	'a baby who looks like the one whom that baby's mother reproached'	ntə?	'near'	
		phəthá?	'to splash'	
khəhə?	'ligament'	chəthá?	'to break (from falling)'	
		mə?ʌ?	'be careful'	

mya?	'paddy stubbles'	mja?	'owner'	
khəma?	'husband'			aa
ja?	'friend'	phuupya?	'turtle'	
		ΛΛ?	'tail'	
		kaa?	'fish'	
		a?	phəkhāa?	'to dam (water)'
tá?	'eight'	ꠘꠘꠘꠘ kwaangkwa?	'a whirl pool'	
thá?	'to wave (one's hand)'	gyáa?	'to steal, to peep'	
chəthá?	'a span (from the thumb to middle finger)'	sáa?	'to chop'	
phiiká?	'spirit'	máa?	'wind'	
kha?	'to give'	maa?	'husband's mother'	
khaangkhá?	'to totter, to toddle'	thəy máa?	'to borrow'	
yá?	'rough'	khəpkəp náa?	'part of a house called a windshield'	
sá?	'morning'	ꠘꠘꠘꠘ maa?	'phlegm'	
má?	'again, now'	səwáa?	'chook, the gill of a fish'	
khəma?	'to be shy'	chənaa?	'between'	
khəna?	'the edge of a cutting implement'	ɲaa?	'house'	
ntihna?	'a moment ago'	ɲaa?	'to itch'	
ɲá?	'shell'	plɪ? ɲaa?	'skin diseases'	
kaan kəná?	'a ceremony for begging rain'	thooɲaa?	'a kind of art'	
səɲii? má?	'yesterday'	wáa?	'monkey'	
ꠘꠘꠘꠘ səɲá?	'all'	khəwáa?	'a kind of plant used as yeast'	
phujla?	'bat'	laa?	'leaf'	
chola?	'to lose one's way'	khəɲláa?	'a wedge'	
kaan pəja?	'daughter, lady'	jaa?	'grandmother'	
		njaa?	'to chew'	

kaɲɲjaaʔ	'the molars'			ᵛ?
		uʔ		
puʔ	'to step, to step on'			ᵛᵛ?
khəpɦuʔ	'soul, the crown of the head'	ɣᵛᵛᵛʔ	'to build'	
súʔ	'pain'	ɲɣᵛᵛᵛʔ	'pestle'	
kaansuʔ	'niece, nephew'	ɰᵛᵛᵛʔ	'younger sibling'	oʔ
ᵛᵛᵛᵛᵛkɦúʔ	'a pail'	phloʔ	'mute, idiot'	
thwɲɣyúʔ	'the place where water is deep'	toʔ	'to stab'	
khəmuʔ	'a moustache'	khəchóʔ	'not beautiful, fortune'	
pyiiʔʔaɲkhənuʔ	'a kind of chili'	kloʔ	'copper gong'	
		ɣóʔ	'taro'	
	uuʔ	pəhóʔ	'lung'	
mpuuʔ	'milk'	noʔ	'a little, few'	
ɰl l' mpúuʔ	'papaya'	loʔ	'to stab'	
túuʔ	'meat'	khólóʔ	'sneech'	
ntuuʔ	'hole'	ʔum səwaanloʔ	'a kind of plant'	
kúuʔ	'seed, pregnant'			oo
ɲyúuʔ	'skin'	ntooʔ	'a handle, a shaft'	
ɦuuʔ	'to put on (shirt)'	thooʔ (tiiʔ)	'inside part of an arm'	
phəɦuuʔ	'a kind of stove made of three stones'	pətoʔ	'leech'	
khəmuúʔ	'Khmu'	khəthooʔ	'arm pit'	
khəɲúuʔ	'a kind of bee'	kaaʔ khəthooʔ	'goiter'	
chəluuʔ	'thigh'	ɲaaʔ khəthooʔ	'a state of rice which is going to have an ǰə	
khəluuʔ	'stop'	ləthooʔ	'banana tree'	
júuʔ	'playful'	khəchóoʔ	'gold'	
plɰʔ phəjuuʔ	'a tree of the family Euphorbiaceae'			

loo?	'mud'			ls
joo?	'brother-in-law, friend'			us
		a?		
pla?	'to make'			es
nta?	'over'			
taqna?	'a kind of grasshopper'			ees
kaan soka?	'a name of a village'			
poop jaqkha?	'to sit on the heels'			es
nkla?	'the apple snail'			
sa?	'dog'			es
kansa?	'a fang'			
luqna?	'this side'			us
plaaí thəwa?	'orchid'	khú's	'to count'	
la?	'a fish trap'	khənú's	'a cock's spur'	
		ca?		
		phú's	'to carry on the back'	
káa?	'nock, to wait'	lənú's	'flooring made of split bamboos'	
?aa?	'I' - - - - -			
təhaa?	'to plug(a hole)'	thú's	'congestion of the nose'	
nda?	'rice'			un
pli? njaq nda?	'a kind of egg plant'	prú's	'swollen'	a
		kas	'soup'	
		is	tə's	'to split'
			tə's (mliiq)	'thunder bolt, a stroke of lightning'
		is		

		as			a
				- h	
		aas			i
khəlaas	'a graveyard'		píh	'to pound'	
chaás	'to pierce'		phih	'to eviscerate'	
		us	plaaʒ pyíh	'a flower of the sashania group'	
khus	'to break up (the ground)'		plíh	'to emerge, out, to discharge'	
ʔaakpus	'arrow'		líh	'to rise (moon, sun)'	
		uus	luŋ ɲaajpyíiʔ líh	'east'	
chəluŋɟuus	'a kind of a hat, tied on the back used as an umbrella'		ɣíih	'bear'	ii
ʔuus	'loud'		tíih	'mushroom'	
nuús	'to shove away with the foot'				wh
muús	'nose'		ɟuh	'to do'	
		ʊs	khemuh	'to catch cold'	
		ʊʊs			ul
khəjʊʊs	'a pole for picking fruits from a tree'				eh
		os	peh	'to open'	
			kéh	'to wake, to stand up, from'	
		oos	pəkéh	'to wake someone'	
póos	'barking deer'		ɣéh	'to go up (upstair), up'	
		as	ɲɣeh	'to go up (mountain)'	
			meh	'of (mine)'	

		eeh	kÁh	'come out of, (chicken) hatch'
		eh	khah	'to gore'
pyéh	'to stretch out, asthma, to look up'		?Áh	'swell'
			γÁh	'to choose, to collect'
?éh	'to take, agree, to put on (trousers)'		khosÁh	'charcoal'
			sÁh (khaak)	'to castrate'
su??éh	'want'		waakwÁh	'butterfly grub'
méh	'who, what; a chameleon'		lah	'big huge'
manméh	'how much, how many'		khəlc? pəlah	'flattery'
			thwŋ lah	'a large swamp'
		eeh		
γéh	'to pop, to roast'			
		wh		
		urh	pah	'to peel'
			phəŋ kəpah	'a kind of snake'
			məÁh	'to overturn, to capsized'
		əh		
səŋəh	'today'		plə	'bright'
num?əh	'this year'		khəphÁh	'a string of beads'
ŋéh	'to place'		plah	'to wash (face)'
pəcsəŋəh	'from now on'		mplah	'to lay down, (one) side'
		əəh		
			tah	'to chip'
		Δh	khee?tah	'timber'
phah	'to spit'		mtah	'to clan'
tah	'inflammation, to cut down small tree'		thah	'a kind of bamboo basket smaller than /chuun/'

khethah	'to turn upside down (meat)'	kaantokluh	'name of a village'	
kah	'to untie'	yuh	'to be clear of, to be transparent'	
səkáh	'comb, to comb, a hand of bananas'	yúh	'to pull, to drag'	
svəkáh	'to divorce'	húh	'to pour'	
əkáh	'a byroad, a crossroad'			
yáh	'an abyss, old(tree)'			5
khəsáh	'a kind of bark eaten with areca nut'	lòh	'to leak'	6
nah	'right, correct'			c
váh	'wide, to split in two'	toh	'to pull (a finger)'	
jàh	'to demolish'	ntóh	'to come off'	
khəjáh	'the period of time between afternoon and evening'	naaj ntóh	'to gloat, protruding eyes'	
njah	'to bloom'	coh	'to bark'	
	aah	ɲkoh	'outside'	
	uh	juu ɲkoh	'up country'	
púh	'to launder'	taɲkaam ɲkoh	'an outside shirt'	
laa? phluh	'the betel pepper'	khoh	'to strike (of a snake)'	
tuh	'to beat (a drum)'	naa? yóh	'rice sets ear'	
thúh	'to come'	naa? pə?oh	'shredded rice grain'	
khəthuh	'the bowels'	chəloh	'to run'	
naajthúh	'to think of'	mloh	'to jump'	
nchuh	'an iron furnace'			o

ah

khə ² aal pháh	'a soup pot'			er
ntáh	'head, classifier of knife'	phem	'to hand-feed'	
tháh	'to hit (with a fist), to hammer'	lem	'classifier for logs, needles'	er
kan ɣkáh	'to have a broken tooth'	pheem	'heart'	
myáh	'floor'	kheem	'bank of river'	
pə ² áh	'only this, freely'	pə ² eém	'cloud, dew'	
miah	'a knot'	seen	'night'	
kaan ² ənɬ ² chəlah	'prostitute'			ε
	aah	?em	'to hear'	
	m	?ak ² em	'to be well'	
	im	haaj ² em	'to feel pity of'	
?ím	'green, unripe'			ε
	iim	peém	'(a child)ride on one's back'	
pyíim	'ancient, old'	heen	'you (female·used by a lover)'	ε
kaan sopyíim	'the name of a village'			
tiim	'nine'	ɣpɬɬɬ	'bruised'	
siim	'bird'	khəchum	'soft, weak,crippled'	
məhiim	'nail'	?un	'classifier of tree'	
	um	pə ² un	'to boil'	
khum	'needle'	myum	'to growl'	
	um	sun	'every-'	
plum	'land leech'	nun	'year'	
thúm	'below'	phənúm	'an anthill'	
?umyɬum	'reed'	khənum	'thunder; to hatch (egg)'	
?núm	'delicious'	khejum	'to massage'	

		uum	ʔəʔiiʔ jam	'a word for calling laotions'	
thuum	'easy'				
γuum	'smart, nice'				aam
		əm	phaam	'to chew (betel); to hand-feed'	
pyəm	'the thing which is done'		kotaám	'crab'	
plóm	'wax from a kind of insect'		ɲaaj ketaám	'the edge of finger nail'	
təm	'to cling, to arrest(of animal)'		ɲkaám	'husk'	
			khəmaam	'to float'	
luŋtəm	'south'		naám	'blood'	
kóm	'to tattoo'		ɲklaʔ naám	'the garden snail'	
ɲəsém	'to plant'		chəlaam	'a lance, a pike'	
həm	'to fart'		jaám	'to cry'	
mjəm	'to close(one's eyes)'		waak jaam	'a kind of centipede'	
		əəm			um
			ntum	'ripe'	
		am	khənum	'to bend down'	
kham	'needle (see/khum/)'		num	'a younger brother or sister of one's mother, to urinate'	
		lam			
			suʔnum	'to feel a necessity to urinate'	
		am			
ntám	'egg'		laawlum	'Lao people in Wiang, C. n and Luang Phra Baang are called laawlum'	
ɲklám	'kidney'				
pyɲɲám	'to blink'				
thəham	'right (side)'				uum
nam	'some-'		puum	'tadpole'	
hajlam	'Hainanese'		phuum	'to dissolve in one's mouth'	

khəphúum	'fence(of a field)'	thoom	'flood'	
thuum	'to embrace'	kóom	'lamp'	
kuum	'to cover up(a ditch)'	khoom	'thin'	
khuum	'to winnow(grain)'	lumjoom	'color'	
yuum	'to total up, to add up'			am
húum	'to take a bath'	phar	'to hold in the mouth'	
pəhuum	'nest'	thám	'to see'	
lúum	'to be inflated, lymph'	chám	'poison, sacred'	
		kam	'pair'	
	om	khám	'remaining'	
		khəjam	'young (tree,fruit); fine'	
	om			
ʔom	'water'	klumjkhám	'to tilt'	
ʔom	'to roast over an open fire'	ʔám	'testis'	
maʔm	'mouth'	ʔam	'to borrow'	
ʔom	'ground'	soʔám	'clear (water)'	
		mlam	'shoulder, pole'	
		lam	'to carry on one's shoulder'	
tiiʔ plóm	'hammer'	ʔám	'to die'	
				am
phaakhóom	'a skirt like dress (for man)'	tanʔkaám	'shirt'	
		khətam	'liver'	
phoom	'a kind of bamboo basket smaller than "chəphuŋ"'	ʔumʔam	'coriander'	
		saam	'to eat'	
pyoom	'to help, to lead'	maam	'button'	

	- n		kijpkéén	'a pigtail'	
		in	phéén	'a sheet'	
jaafin	'opium'				un
sin	'a skirtlike dress (for women)'		ʔun	'damp, moist'	
		iin	khəsun	'to attack'	
siin	'cooked (food)'		sún	'to thread (a rope through the hole in the nose of a beast)'	
thəəlkhiiin	'pocr'		thuy khún	'to kick'	
ɲaaʔsiin	'rice'		nɛul yun	'cold'	
palpiin	'a mortar'	in	ɲyún	'to shake'	un
		un	chunən	'lead'	
		en	phúun	'a piece, a shirt (classifier)'	ən
ʔen	'he, she, it'	een	(khaək) hén	'a female buffalo which has a baby'	
ɛk méen	'a guava'		ʔón	'to put, to place'	
ween	'a sweet potato'		kén (chuy)	'the big too'	
yeen	'study, learn'		then	'stop, to lose, to give up'	
pheen	'to get, to be able to'		khəpən	'wife'	
noʔneen	'a little'		taakén	'old man, uncle'	
khəmeen	'Khmer'	en	mpoon	'a mat'	ee
		één	chothəən	'a young buffalo, wild'	
thajléén	'Thailand'		ləən	'catfish'	

		an	khanwáan	'a strip of bamboo'	un
		aan			
		an	mun	'pimple'	
wiŋcan	'Wieng Chan' (Capital of Lao)		thanwun	'to be in confusion'	
			jun	'the yam bean'	
rəwáaj san	'The name of a year'		mún	'one's spirit'	
máak tán	'a chinese date'		mun	'virtue, merit'	
səwan	'tobacco'		lún	'young bud'	
ŋan	'to catch, to hold'				uun
penan	'to show off'		ntuuh phuun	'navel'	
(ntəh) tan	'dull'		khoəj tuun	'an instrument for hunting'	
fan	'to teach'				
kaŋŋán	'to be modest'		ləkhuun	'rich'	
chalan	'to pinch'		túun	'a kind of rat'	
mán	'money unit (2 thəep= 1man)'			-	ən
			jeən	'northern thai people'	ə
phán	'five'		chəən	'a kind of bamboo basket higher than "that	
khəchan	'heavy'				
kalkan	'to link (arms)'		ntəən	'chisel, shrink'	
pan	'to mold'		laaw phəən	'a group of laotians'	
		aan			on
khəwaan	'sticky'		mon	'round, loop'	
thaan khee?	'branch, fork'				oor
wáan	'to tie'		coon	'a thief'	
haan	'goose'		poon	'four'	
kháan	'lazy'				an
kháan	'to curse'				

		aan			uayn
waan	'to dance'		nəhɔwɔn	'the gum'	
kaan	'a baby (classifier, prefix)'		phəɲ	'snake'	əɲ
weenʔaan	'potato'		kləɲ	'fat'	
maan	'waist'		təɲ	'to fell a tree'	
ntaan (teew)	'a loincloth'		pəɲ	'to shoot'	
	.. ɲ		nəhəɲ	'to pound'	
		iɲ	kheeʔchəɲ	'a firewood'	
kíɲ	'hair'				əəɲ
phinmiɲ	'a gnat'				ɔɲ
kiɲwiɲ	'curly hair'				ɔɔɲ
khɪɲ	'job'				əɲ
khə́ɔnaʔ khə́chiɲ	'to scatter'		ɣəɲ	'a general name for sedges, flags, or chids, hems and herbs'	
		iiɲ			
thiɲ~thaan	'to bare one's (kap) teeth'		pəɲ	'a worm'	
		ɔɲ	kəɲ	'a teeth'	
		uɲ	(poop) khəwəɲ	'to sit with legs crossed'	
		əɲ	kwɪkəɲ	'a chopping block'	
		eəɲ			a:
		əɲ	phaaɲ	'white clear'	
		səɲ	ŋkəaɲ phaaɲ	'a rabbit'	
		uɲ	təɲ	'a grasshopper, to weave'	
mɣɔɲ	'cockmito'				
chə́thɔ́ɲ	'to be drunk'		khəʔaap	'wasp'	
			khəmaap	'cramps'	

máan	'to beg, to ask'		pyii? nyeh mliín	'spur pepper'	
thaan (kan)	'to bare one's tooth'		mliín	'male (animal)'	
		un	kaan mliín	'village's name'	
khəmun	'a star'				un
		uun	phaacun	'a towel'	
phúun	'a termite'		ju	'to be light'	
?úun	'father'				un
?ə?úun	'a male'		chəliín	'an umbrella'	
	-	ən	ju	'a village'	
		ənən	liín	'long'	
		ən	səkhun	'to liston, to tilt (in a sloping position)'	
		oən			
joon (naaj)	'the corners of the eye'		khəwliín	'a peacock'	
	-	ən	chumliín	'to marry'	
?ən	'dry'		mun	'tea leaves'	
	-	aən	chun	'foot'	
	- n		pli? chun	'calf'	en
khəsiín	'to quarrel'	in	la:w:hen	'a group of Laotians in Saj, ko province'	
khəthiín	'way'		khén	'a vessel made of banana leaves'	
nyíin	'cowbell'	iin	khén	'to pull'	
khee?mliín	'moon'		yén	'the lid of a steaming pot'	
mliín	'sky'				
(wak) wíin	'to go too and fro'		kéen	'to dig'	eer
wíin			néen	'a fin, the spine of a f	
səkiín	'ginger'				

ʔomkhleɛŋ	'sugar'	ntuh jook puŋ	'otorrhoea'
ŋkeɛŋ	'a pillow'	muŋ	'to look, to visit'
ɣéɛŋ	'the opposite bank'	luŋ	'to pitch, to be set'
	ɛŋ	phəsuŋ	'cotton tree'
	ɛɛŋ		uŋ
ʔɛɛŋ	'a mortar'	phwuŋ	'a group, a mass (of grass, people, animal)'
kaɔŋ keɛŋ	'an elbow'		
léɛŋ	'ratian'	kuŋ	'to fence'
téɛŋ	'to drink'	klɛuŋ	'to force open, to prise'
ɸyéɛŋ	'oil'	wak juuŋ	'going out to catch fish'
ŋyéɛŋ	'small cup-shaped cymbals'	put puuŋ	'a tomtom'
ɣéɛŋ	'to clear, to cut, to mow'		əŋ
khəwɛɛŋ	'to put both hands behind the back'	kaŋ	'a half'
təɛɛŋ	'a district'	kəŋ	'tight, firm'
	- uŋ	jaa kheɛʔ myəŋ	'herbs used medicinally'
thuŋ (ʔom)	'a swamp'	ŋaɔj ntoh kəŋ	'with eyes wide open'
kaan kənuŋ	'a village's name'	kləwaŋ	'around, a circle'
sewaaj luŋ	'the hour between eleven and twelve in the morning'	(muŋ) phəŋ kəŋ	'to stare'
mpuŋ (məh)	'where'	khəŋ	'to race to compete, to resemble'
ʔuŋ	'to become rotten, bad smelling'	ɣəŋ	'a bamboo rail'
ɣúŋ (khaak)	'a horn (buffalo)'	həŋ (ŋaaʔ)	'to sift, to winnow (grai
puŋ	'wet'	məŋ	'a day'
taajɔúŋ	'a big grasshopper'		

		əəŋ	khəlaŋ	'to sharpen'	
həəŋ	'acrid (smell)'		kháŋ	'to dam up'	
	-	ʌŋ	phinháŋ	'to aim, to point, to level'	
		ʌəŋ			
		aŋ	ŋláŋ	'wooden nail'	
pəʔeemláŋ	'rain clouds'		ŋlaŋ	'smooth'	
láŋ	'black'		pholáŋ	'Westerners'	
táŋ	'to burn'		nláŋ	'a latch, a door bolt'	
khəŋáŋ	'steel, a nail'		chaŋ	'to weigh'	
ʔaŋ khəŋáŋ	'rust'		khəʔáŋ	'a plot (of land)'	
kətah táŋ	'a brick'				aa
cáŋ	'bitter'		khəʔaaŋ	'a stone'	
ʔum pyaŋ	'the red cotton tree'		yaáŋ	'red, thorn'	
saŋ	'joint'		luəŋ phəbaaŋ	'Luang Phrabang (city name)'	
pláŋ	'the lalang or cogon grass'		keən khəʔaaŋ	'a village name'	
plih takəl pholaŋ	'a variety of cucumber'		khaaŋ	'an outer covering, shell, husk'	
plih mpii caŋ	'a squash'		thəŋtaŋ	'sweet'	
khəjáŋ	'a cobra'		plih kinsáaŋ	'a grapefruit'	
myáŋ	'a horse'		plih lanŋaŋjaacháaŋ	'a kind of mango'	
ʔaŋ	'excrement'		tii jook ŋkáaŋ	'a kind of mushroom'	
(ntah) nlaŋ	'a bald empty spot'		ŋkáaŋ	'a rat'	
pəcaŋ	'gallbladder (of cow or buffalo)'		pətaaŋ	'a skink'	
thaŋ	'straight'		sonáaŋ	'a bone, a fish bone'	
mpáŋ	'to throw away'		ŋyaŋ	'a mosquito'	
kaŋ	'to hang from one shoulder'		kláaŋ	'a hawk'	

młáaŋ	'a shoulder'	phlún	'a shoot, a bulb'
?aaŋ (moom)	'to open the mouth'	chəlún	'lemongrass'
kháaŋ (kaan pijah)	'to be jealous of'	səbaaj phlún	'a bean sprout'
naaŋ	'a ring net'	ɤplún	'to confine (cattle)'
jaaŋ (?ee)	'a coop for a hen and chickens'	chəphuŋ	'a bamboo basket'
mpaaŋ	'a winnowing basket'	kun	'opium field'
chaaŋ (ʔor)	'to cross (a river)'	phəlun	'to start (a fire)'
pał khə?aaŋ	'a grind stone, a mill'	kaŋtuŋ	'Cantonese'
khə?aal kháaŋ	'a pan'	chətún	'a drum'
jáaŋ	'a female animal (haven't had a baby)'	mpuŋ	'a door'
neh khaaŋ	'a grass widow, a divorce '		uu
kaan mlaaŋ	'babytwins'	yuŋ	'a day'
mcaŋ	'a reed organ, played by the people of northeast Thailand'	ŋúuŋ	'the trunk of an elephant'
lepáaŋ	'a'gong'	múuŋ	'balcony'
kaancáaŋ	'an employee'	plɔ? mak múuŋ	'Chinese date'
chəlaaŋ	'a book, a letter'	maa? khəpúuŋ	'epilepsy'
ntáaŋ	'pack-animal'	lɔŋ	'yellow' ɔŋ
pyáaŋ	'a roof'	ɤŋ	'a province' ɔŋ
thəwáaŋ	'a stove'	taŋ chəlɔŋ	'a kamman, district offici
ncáaŋ	'a mantle, a shelf'	khəɔn	'a knee'
náaŋ	'a necklace'	chə?lɔŋ	'chest cavity'
səwáaŋ	'cinnamon'	khəjɔŋ	'to carry by at least two persons'
	uŋ	lɔŋ	'to find, to look for'
		jɔŋ	'barn'
			ɔŋ
		khəɔŋ	'a necklace made from a shell'
ɔuŋ	'to blow'		

coŋ	'to carry suspended from the hand'	khəpɦu?	'the soul, t' e spirit'
		k'əpɦoon	
khóŋ	'to be proof against weapons'	pyoon	'an evil spirit (the soul of a woman)'
móŋ	'empty'	lóon	'a coffin'
khəloŋ	'loose'	phəjóon	'a mermaid'
		nyóon	'to carry a load swinging from a pole between two men'
yoŋ	'a brook, a creek'	ntóon	'bridge'
chənoŋ	'the bridge(of the nose), the ridge of a hill, the back edge of a knife'		
khooŋ (plɪh pətɪh)	'a bunch (of bananas)'	paŋ	'a cave'
ŋaa? hooŋ	'glutinous rice'	təpɦán	'a bamboo shoot'
mjoŋ	'to swing, to hang, to cling'	taŋmán	'a section of bamboo stem'
wak khóon	'a caterpillar'	khəthul kán	'to suffer from constipation'
ɟuŋ móon	'the forehead'	sán	'to believe, to know'
ŋóon	'the shin'	khəthəŋ	'an earthen jar'
khlooŋ	'to tell a lie'	maŋ	'some'
hooŋ	'to steam'	pəh pɦəŋ	'a kind of banana (in the wood)'
chəlóon	'a ship, a boat'		
phɪŋ nóon	'a log'		
khəjóon	'to swim'	ʔumsəmej kɦəaŋ	'the tamarind tree'
móon	'to swallow, a kind of fishing tool'	plaaŋ	'a segment of the many-jointed stem of a bamboo or a sugarcane'
nhooŋ	'a spoutless kettle with holes in the bottom for steaming food'	ʔáaŋ (ntuh)	'a kind of wasp'
		máaŋ	'a kind of insect'

aŋ

aaŋ

jaan	'the hill myra'	héel	'to vomit'	
ntaan (tii?)	'to stretch'	kéel	'ten'	
naan	'to remain'			ei
sakaan	'a stick used for holding something to roast'	?é1	'Yes/No question particle'	
khaan	'things'			ee.
kháan	'a trace that looks like a rat's path'	pi ? təkəel	'a cucumber'	
lawjaan	'to sing'	cəel	'to play'	
mpáan	'a ladder'	maa? phəséel	'a hurricane, the wind(blow)'	
səmej kaan	'a kind of tamarind tree which has a long pod'	pyéel	'hail'	ul
	~ 1	khəthəw1	'the stomach'	
	il	poop ŋkw1	'to sit with one leg over the knee'	
	iil	(chəŋ)		
səmíil	'a bamboo blow pipe'	tɬw1	'to prop up, to lean on'	
phíil	'to expand, spread out'	kw1	'the snakehead fish'	
həŋthíil	'looks like a water bug'	soŋw1	'stump'	
wíil	'a mat, used in a barn'			uw1
	~ 1	pu1thúw1	'to be cruel to (animal)'	
ntə1	'fever, malaria'	thúw1	'to be difficult, sin'	
ml' 1	'flute'	kuw1	'a chair'	
		el		el
mél	'to be round'	ɔtməl	'dust, garbage'	
khəmel	'to roll'	təl	'a wooden bowl, wooden mortar'	
		eel		
wəel	'to singe (fire)'	təl	'to bury'	
phəjeel	'a wing'	ŋəl	'piece, a lump'	

		æɫ	səkhuul	'to point at'	
		ɫɫ	khúul	'a rainbow'	
ɲaaɟ	kháɫ		ʔoom pulʔúul	'steam, sweat'	
ɲkáɫ	'a plank across a beam'		huul	'to whistle'	
ɲáɫ	'fire'		puul	'seven'	
wáɫ	'a big knife'		(kan) khəphúul	'a tooth is upon another tooth'	
tɛɛɲɲáɫ	'to smoke(a cigarette)'				
ɟɫɫ	'a leaf (classifier for money, and banana leaf)'				ɫɫ
			khəɫɫ	'a collar made of silver'	ɫɫɫ
		ɫɫɫ			ɫɫ
		ɫɫ	plɪh təkɫɫ kol	'a melon'	
kaanɲáɫ	'a child'				ɫɫɫ
ʔáɫ	'a sister'		kóol	'a bump (on ox back)'	
káɫ	'to measure'				
ɲkaɫ	'hate, angry'		naʔhool (kɪɲ)	'a topknot, to put up(the hair), a tuft (of hair)'	
		aal			
ɲkəáɫ	'surface, above'		ntool	'yeast'	
(laat) cheɲaaɫ	'a brass'		chəmool	'to plant by dropping the seeds in the hole'	
luɲ kaal	'north'				
səɲaaɫ	'green'		thool	'anvil'	
kwáaɫ	'to bay'		pilpool	'to clench one's fist'	
khə máaɫ	'blunt'		khóol	'a barn'	
		ul			
		uul	wóol	'to call'	
khəmuul	'money'		wan hool	'a spider'	
(plɪh) juul	'banana flower bud'		tóol	'to send'	
kaan pəkhuul	'the forefinger'		ɲaaɟ phool	'to be deceived, to be partic	

al

ew

wəək:yal 'an earthworm'

ee

ʔal 'to scold'

yeew 'to feed'

hal 'to go'

neew 'a Mco tribesman,
living in north Thailand'

pəl hal 'to hold someone to walk'

nál 'to stuff'

ew

mál 'to pound (rice)'

ee

khəpál 'an earring'

mcew 'a cat'

khəlmál 'a hammer, a mallet'

khsew 'a knife sheath
made of steel'

ntal 'shallow'

tanléew 'a woven charm'



aal

haal 'to draw (a picture),
to write'

keew 'Vietnamese'

ur

tdal 'six'

un

khəʔácl 'a pot'

kan huw 'the mouth with
all teeth broken'

- w

iw

wəklmw 'Hong kong foot'

cəciw 'a Taechew man from
south China'

-

ə

ə

iiv

Δ

iw

mw 'mumps'

uw

-

Δ

ml'iw 'father's younger
brother or sister'

ə

kan phl'iw 'a young man, a bride'

məəŋ yáw 'a year'

t'iw 'a pair of pants,
trousers, slacks'

yuuŋ páw 'a year'

kaa máw 'a year'

✓ táw 'a day'

✓ chəcháw 'the morning'

laa ka [?] aw	'lettuce'			uj
(phaaŋ)				u:
siim kawáw	'a woodpecker'			ej
tu [?] cáw	'a monk'	ʔum saméj	'the tamarind tree'	
law	'to guess, to speak'	léj	'a parrot'	
kláw	'to stir'	léj	'to chase, to drive'	
pláw	'to take out the seeds'	ɲuuk théj	'the point of an arrow'	
khəklaw	'a ladle'	wəj	'to buy'	
haw	'to wilt (of flowers)'	ɣəj	'to cut (with scissors)'	
	aaw	ɲɣej	'scissors'	
mak plaaw	'a coconut'			ee
pl [?] phəjaaw	'a rambutan'			ej
kháaw	'to wrap up'			ɛɛ
ŋa [?] caaw	'rice'	ʔumkalɲuj	'the horse tamarind'	ɯj
laaw	'Laos'	ɲúj	'an axe'	
pəsaáaw	'son-in-law'	tuɲj	'to lift out'	
ŋkaaw	'a pillow case, a parcel'	ləŋɲuɲj	'mango'	um
-	uw			e:
	uuw	ŋáa [?] kéj	'rice'	
	ɔw	ɲpəj	'the eyebrows'	
	ɔuw	kəj (ʔuup)	'to cook (rice)'	
	ow	khamləj	'a bracelet'	
	oow			ə
	aw	khəpəej	'to blow (a fan)'	
	aaw	✓ kəej	'to ttcn'	
- j		khéej	'used to'	
	ij	təej	'to take off (təaən)'	
	ijj	wəej	'to dip up'	

		aj	jam kéh klaaj	'to recover, to regain'	
		aaaj	háaj	'not yet'	
		aj	khəháaj	'to laugh'	
seem ?aj	'tonight'		səkhəh ʔáaj	'to gossip about-	
pyii? haj	'pepper'			to blame one's absence'	
waak maj	'a silkworm'		sáaj	'to be able to (poss-verb)'	
khətáj	'beriberi'		klaaj	'to return'	
kaan phaj	'daughter-in-law'		pəklaaj	'to turn (face) back,	
ʔáj	'both of us'			to move'	
		aaj	wək jáaj	'to go fishing'	
ʔáaj	'to be dry'		khəmaaj	'a widow'	
kháaj-h	'hard, strong'		səʔaaj	'poor'	
rəwaaj	'a day'		faaj	'cotton, thread'	
yaanjáaj	'a longan'		phaaj	'to paddle; to row'	
səwáaj	'late, late in the morning'		səháaj	'far, overthere'	
pláaj (khee?)	'a flower'		phənaaj	'to hire, to employ'	
khəpaaj	'a small paddle used in cooking'		háaj	'the eyes'	
səphaaj	'beans, peas'		səə háaj	'to name'	
pyáaj	'a wild boar'				uj
khawáaj	'a tiger'		ʔúj	'to become rotten, bad sme	
khəaj (kətah)	'to delve, to turn up'				ul
taaj taaj	'a shrimp'		myuuj (chal ?	'to rain lightly'	
khəhaaj	'a big variety of bees'		khəpuuj	'a kind of rat'	
paaaj	'to grind'		həl thuuj (?əm)	'to go against the tide'	
ntúh khəháaj	'a dimple'		yooj muuj	'a fruit fly'	
khəkháaj	'to be strong'				əj

		၁၁၂			၁၂
num mɔɔj	'next year'		ʔum sompaj	'holy water'	
lɔɔj	'to float'				၁၁၂
plɔɔ? khəɔɔj	'the bottle gourd'		ʔum khaaj	'a plant of the family 'Urticaceae'	
khəɔɔj khəɔɔj	'slowly'		kaaj	'a yam-like plant' (ကလေး)	
plɔɔj (jɔɔj)	'a pigeon'		khaaj	'a kind of plant'	
thəɔj	'a cup'		ʔumtáaj	'a kind of plant'	
ntɔɔj	'the eaves, rim'		səkáaj	'a ginger like plant'	
mɔɔj	'one'			-ø	
jɔɔj	'to point'				
		oɔj			
		ooj			ii
kaanhooj	'the shadow'		tawsii	'a year'	
pooj	'to wrap around one's head'		tawpii	'a year'	
mpooj	'a millet'		makmii	'a jack fruit'	
pyii? capnóoj	'the bird pepper'		pl? mpíi	'a pumpkin, a bomb'	
wak pangpóoj	'a millipede'		pii	'to bare one's teeth'	
thóoj	'the ant'		míi	'you'	
kóoj	'to have, not'		sii (kan)	'to brush(teeth)'	
γóoj	'a fly'		thajchəɔɔpii	'Black Thai (in Burma)'	
ʔaɔɔγóoj	'a mole'		khewíi	'to spin'	
səɔɔii?kooj	'birthday'		lii	'thin'	
chənooj	'a ring' (kaan pəkul)				ut
lə?ooj	'Three'		səɔɔ	'clean'	
γóoj	'one hundred'		ɔú ɔú	'true'	
chəlóoj	'a cone (made of leaf)'		ʔú	'a hen'	
			sonu	'rim'	
			mu	'to climb'	

khəjɿ	'a winnowing basket'	puɿ	'to ask, to greet'	
phimɿ	'to hold for creeping'	katɿuɿ	'a year'	
wɿ	'to take a bypass'			ee
phiwɿ	'a roundabout way'	mɿəə	'to fly'	
phenmɿ	'to dance'	phəə	'soft'	
liɿ (naa)	'to restore (roof)'	səə	'to put on, to wear'	
phəjɿ	'to cock one's gun'			aa
phəju	'a guest'	saa	'palm civet'	
plɿh ju	'a carambola'	pəhaa	'a bee'	
		ee	laa	'to cut'
təphee	'the headman of a village'	sakkaa (ŋaa)	'to close (one eye)'	
phée	'a raft'	pa	'to roll, to turn'	
γée	'a root'	khaa	'to bind, to tie'	
γée (phəmu)	'a radish'	khətaa	'to shake, to tremble'	
ŋkée	'a porcupine'	ɿm'kaa	'to incline'	
lée	'cross eyes'	phəsa	'a nerve'	
sée	'a langur'	phəjaa	'a dead person'	
plɿh makŋés	'a lemon'	ee	ntaa	'a wall'
wəə	'seaweed'	ŋkaa	'a bundle'	
naənəə	'a sweetsop'	naa	'a tick'	
ləə	'a needle used for tattoo'			aa
		uuɿ	knəp səŋaa	'a year'
kaankəturu	'a village's name'	fa	'a day'	
thuru	'to recline'	kaa	'to roast'	
?iit	{ khəthuru	ŋəŋnaa	'a corn'	
	{ nturu	sə?aa	'sour'	
kaan pijahluru	'an old maid'	ŋaa	'a sesame'	

taa phəjaa	'a head man of a village'	(ʔəm puk) suu	'to scald'	
ta akhəchaa	'a sheriff, a district officer'	phəem pyeh chuu chuu	'to pant, to gasp for breath'	
taan láa	'a grasshopper'	múu	'fragrant, scented'	
tháa	'a ferry'	huu (muuj)	'to blow the nose, to wear, to cover'	
ɲláa	'a fence, staircase rail'	juu	'to push'	
phənmaa	'to fondle, to touch'	suu, huu	'to pour, to water'	
ləʔáa	'two'	ɲalɲuu	'a candle'	
chaa	'far out far off'	khuu	'a teacher'	
chaa	'to have many holes like a net'			oo
muuc ʔaa	'a kind of ant'	khuʔ phəw	'the evening, night fall'	
cáa	'to tell'	ləw	'a tip (of a stick), the top of a tree'	
maa	'a field'	ɲpəw	'a cow'	
ʔɲɲ láa	'a fence'			oo
sumaa	'to excuse'	ləjoo	'a canal'	
khechaa	'tasteless'	loo	'a mud'	
ntaa (ʔaj)	'wait a moment'	luɲ phoo	'in front of'	
	uu	ləthoo	'a banana'	
chuu	'to go down, down'	loo	'a read'	
púu	'lime'	tiik joo	'a kind of mushroom'	
kaan juu	'an orphan'	taktoo	'a wall gecko'	
phəmuu	'a garlic'	thoo	'all over, every'	
phəɲ mpe huu	'a kind of snake'	ɲpoo	'face'	
phuu	'to pester'	khəthoo	'an armpit'	
s:ɲkhuu	'lips'	phoo	'before'	
phəchuu	'to reduce, to stoop, to close an umbrella'	ntoo (ʔəm)	'source (of a river)'	

(?m) maa	'wolf water'
plu? takel háa	'a watermelon'
ween háa	'the cassava or tapioca'
noáa	'an animal like a squirrel'
jaa	'wattle'
taa	'to start (a fire)'
háa	'disintegrated foot'
wak háa	'to call on, to visit'
jaa	'a bag, a pocket'
lúa	'to melt'

Wiang Pa Pao word list

For Wiang Pa Pao Lua, the order of final consonants is: p, t, c, k, ʔ, s, h, m, n, ɲ, l, w, j, ø. The order of vowels is: i, ii, e, ee, ε, σε, u, uu, y, yy, a, aa, u, uu, o, oo, ɔ, ɔɔ, ia, ua, ua.

` represents low tone

	-p			
		ip		sep
sip	'ten'		phakkhèep	'a kind of vegetable'
waaksa'ip	'a centipede'		tèep	'a fist'
ntip	'(one) fist'		koopèep	'goiter'
		iip	ʔoomkèep	'an earthen jug'
biip	'to massage, to press, to milk'		sèep	'to be sore'
			salkèep	'chopstick'
talpeptalniip	'tight'		nèep	'a gable'
		ep	talhèep	'to whisper'
baakep	'a children's game'		lèep	'a bundle of banana leaves'
ta(ŋ)jèp	'tomorrow'			
		eep	pɛ̀p	'to meet'
kakkheep	'spoon'		phaa pupkɛ̀p	'a cover of a pot'
jèep	'to fall, to fall down'		tɛ̀p	'to perch'
		ep	kantɛ̀p	'to stamp down'
tɛ̀p	'flattened (of organ)'		kɛ̀p	'to shut, to close'
kɛ̀p	'to nip, to fork out'		kheʔ ɔk khɛ̀p	'tooth pick'
khɛ̀p	'shoes'		lɛ̀p	'sharp'
msɛ̀p	'cockroach'			
wɛ̀kɛ̀p	'scissors'		khɛ̀p	'a span'

sunp (vɔɔŋ, naa)	'to descend'				up
		ɣp	palkup	'to turn upside down'	
tappɣp	'flat'		sup	'to wear (hat, shoes)'	
		vɣp	ɣup	'to close (umbrella)'	
p ^h vɣp	'to lie on top of'				uup
hvɣp (vɔɔŋ siim)	'scarecrow'		tuup	'hut'	
kvɣp	'shoes'		?uup	'cooked rice'	
		ap	ɣuup	'to draw in, to inhale'	
tap	'armspan (fingertip to fingertip)'		ruup	'to lie face down'	
tàp	'to roof'				op
kàp	'tight (of clothes)'		top	'to hit a small cup- shaped musical instrument'	
?ap	'dark'				
ɣàp	'to receive'		tòp	'to fold'	
wek thàp	'a pocket-knife'		tɔŋlop	'a bed sheet'	
kap	'a 'ox (of matches)'		sop	'crippled'	
		aap	lop	'to sidestep, to evade'	
bàap	'sin'				oop
tàap	'cold'		khoop (ti?)	'to carry with both arms'	
kaap	'chin'		iunɣòp	'a buffalo biting insect'	op
kaap	'petal'				
kàap	'to mouth'		kòp	'a saddle'	
ɣàap	'a meal (classifier)'				ɔɔp
ɲaap	'to yawn'		thɔɔɔ	'clearly (speak)'	
ɲàap	'a kind of stick used for holding meat in roasting'		kòp	'to cover, to plaster'	iap
yaap	'rough'		su?siap	'to feel pain in stomach'	

pjiap	'to blink'		combet	'to fish'	
		wap	ket	'scale'	
			saaw'et	'twenty-one'	
		uap	mwuj pasadet	'axe'	
khuap	'a cycle (classifier of time)'				eet
	- t		pyeet	'a ghost'	
		it	plst	'to turn'	st
pìt	'poison'		khəthotthet	'to inch nearer'	
phit	'wrong'		kət	'to be burned'	
bit	'to twist'		ket	'cold'	
talphit	'to quarrel'		ketwet	'to sway, to swing'	
khwit	'to core'		khənet	'pineapple'	
wìt	'to jump'		khemkəlet	'a safety pin'	
		iit	khət	'to rub'	
ŋlìt	'to catch'		sət	'to stab, to pierce'	
diit	'to kick'		sət	'to tattoo'	
khiit	'to slit'		səpət	'to put on one's shoulder'	
?iit	'to sleep'		hət	'to practise'	
ɣlìt	'rite, tradition'		mət	'a bunch, a bundle'	
hiit	'a box'		ɲət	'to stuff'	
ciihìit	'cricket'		ŋət	'dry (water)'	
ɣəwìit	'to throw'		ŋət	'to force open'	
		et	wət	'to measure'	
pet	'duck'		pət	'to twist'	
penket	'skin diseases'				ee'
bet	'a fishhook'		pest	'to embrace'	

pət pəet	'to fold one's arms'		
kəɔnfəet	'twin'		aat
ʔoɔmpəet	'liquor'	pomlaat	'coward'
ʔum palnəet	'sugar cane'	pàat	'the gamelan, played like a xylophone'
salwəet	'to throw, to cast'	kaat	'market'
		keduat	'naper'
put	'to nip off, to pluck'	kalwàat	'to throw'
plut	'to dam, to bar'	khalsaat	'reed'
bət	'sometimes, a moment'	khàat	'to wran around the head, or waist'
tamqùt	'to sit over'	sinaat	'gun'
khut	'thick'	saat	'mat'
hət	'to wear (skirt)'	laat	'to be afraid of'
lampət	'bad'	ʔoom cuultaat	'waterfall'
mottakhut	'venereal diseases'		
ntut	'to be torn'		ut
		pùt	'waist (at the back)'
		cutphut	'to emerge'
plàut	'to swallow'	kut	'stub'
fuut	'asthma'	sut	'to keep money'
juut	'to stretch'	sut	'mosquito net'
		(tal) sùt	'to tickle'
kət	'to obstruct'		
hət	'(come) to see'		uut
		pjuut	'to put out (fire)'
		pùut	'to pull'
pəet	'pale'	buut	'to become putrid'
kəet	'to bear a child'	kunqlùut	'a firefly'
		khut	'to shave'

γuut	'to sip'	ʔoot	'to rub'	
γuut	'to suck'	loot (koon)	'to abort'	
baakhuut	'a kaffir lime'	tòot	'to cast a net'	
mpluut	'to come off, to cut loose'			iat
jùut	'to die out (of a fire)'	pìat	'a kind of bamboo basket'	
jook luut	'deaf'			
ηkluut	'a toad'			uat
		ot		
pot	'to shoot an arrow'			uat
phot	'to be developing ears'	tamruàt	'policeman'	
bot	'to be overcast (with clouds)'	talʔuat	'to show off'	
talhot	'to be crumpled, shrink'	muat	'a cluster (classifier)'	
			-c	
kòt	'to cut (wood)'			ic
khot	'to slide'			iic
ʔot	'to starve, to abstain from'			ec
				cec
		oot		ec
pomkhòot	'had-tempered'	γamec	'to sharpen (knife)'	
khòot	'to be angry'			εεc
ηòot	'to stay'			uc
		ot		
pot	'short'	puic	'to throw away, away (γcompuc)'	
pheempot	'small-minded, touchy'	tuic	'to sell'	
sulpot	'short pants'	kuc	'sunlight'	
		γuc	'a kind of bird'	
			-	uuuc
thòot	'to fry'	oot		ec
		ʔec	'all'	

	-	aac			ooc
		ac	pomlòoc	'forgetful'	
		aac	γòoc	'intestine'	
làac	'to be lost'		hòoc	'to whistle'	
ṅàac	'to scratch'		lòoc	'to forget'	
ṅtyàac	'the butt of an arrow'		γòoc	'to sharpen'	
		uc			iac
palhuc	'naked'				
		uuc			wac
puuc	'to take off'				
talnùuc	'stinger'				uac
kalmùuc	'graveyard'				
khəmùuc	'ant'			- k	
huuc	'to sting'				ik
muuc	'shade'		pìk	'small, emaciated'	
ntùuc	'muddy'		pik	'to go back, (pik kla·i naṅmi?) to go backward'	
ṅyuuc	'to make fire'				
		oc			
		ooc	pakkadik	'to turn a somersault'	
			taljik	'to pinch (each other)'	
poclòoc	'hell'	thu	thuk thik	'to crush'	
to?mòoc	'top of mountain'		dik	to sink'	
khooc	'to wash'		cik	'astringent'	
mòoc	'mountain'		koonpèkpik	'a new born baby'	
		oc	sakplik	'a chili'	
pòc	'sharp'		ṅepun pik	'a minor wife'	
bòc	'broken rice'		jik	'to pinch'	
khòc	'to nudge'				i
wòc	'the tip of an arrow'		kua?lìik	'dip - trough'	

liik	'pig'				εεk
		ek	bεεk	'to carry on one's shoulder'	
tek	'to cross'				
cèk	'Chinese'		tallèεk	'to exchange'	
		eek	cεεk	'to tear'	
plèek	'eel'		cèεk	'a bamboo basket carried on the back'	
caŋʔaŋpɣeek	'rib'		kɔɔŋjookɔɔŋʔεεk	'cousin'	
nlèek	'lightning'		ʔεεk	'elder brother'	
naŋpɣeek	'beside'		jèεk	'to separate'	
		ek			wik
pèk	'to spit'		mpɣɣk	'to break, to be broken'	
pakkεk	'to close one eye'		pɣɣk	'to dip up'	
pækhεεk	'to marry'		pəŋwɣk	'a crossbeam running parallel to the base of a gab'	
taljεk	'to convulse'				
tek	'to bite (person)'		bɣk	'a mortar'	
kɔɔŋpèk	'children'		tɣk (tiiʔ)	'to pull out, to uproot'	
ʔiit lamkèk	'to wake up'		tɣk	'to arrive, to'	
fakwèk	'a knife sheath'		kεŋmpɣk	'a tooth is broken'	
sɔŋhεk	'to remember'		kεεnbɣk	'nestle'	
saaɣhεk	'skillful'		ʔiitpɣk	'sleeping soundly'	
senwèk	'back of a knife blade'		ʔoɔrɣwɣk	'ink'	
hεk	'finish, already'		maŋlɣk	'to boil, to froth'	
lèk	'to enter'		nɣk	'caught in one's throat'	
wèk	'knife'				
jεk	'to pull, to drag'		ŋook luk cɣk	'to drowse'	
məhεk	'last (year, month)'				wɣk
kaŋsεk	'a bark, eaten with arecanut'		waaktɣk	'intestinal worm'	

		ək	màk	'to deliver a blow with an edged implement'	
əkkədək	'to tilt'				
ək	'late at night'		ŋkàk	'raw'	
əpsək	'war'		nloəkàk	'to stammer'	
		əək	wàk	'to crawl, to go'	
hiitəək	'phlegm'				aak
əək	'to give up, to stop'		paltàak	'tongue'	
		ak	paltàak	'to turn face up'	
àk	'to ride'		kàak	'banana'	
ək	'to pitch'		kalʔaak (siim)	'a crow'	
əus tak	'glue'		kəŋwàak	'a bad tooth'	
ək	'to bevel'		khaaŋ khaak	'a toad'	
ək	'to cut a finger'		ʔaak	'a crossbow'	
əaltak	'to attach'		sàak	'to have enough food'	
əalmàk	'to kill'		yaak	'buffalo'	
ək	'to knit'		yaak	'to shout'	
ək	'to bite'		məaak	'to be bruised'	
əwàk	'to beckon'		wàak	'a caterpillar'	
əələk pəkək	'bumpy'		joŋŋəewyaak	'mynas of the genera Acridotheres'	
əhwàk	'vessel made of banana leaves'		tàak	'the palm, the sole'	
ək	'diligent'				uk
ək	'a pod'		pək	'hot'	
ək	'a seed, classifier of seed, egg'		pək	'tainted (meat), bad (eggs)'	
ək	'to love'		tək	'to tie'	
ək	'to drv, to expose'		cək	'to stumble over'	
ək	'to sob'		kələk	'to eargle, to eject (a liquid) from the mouth'	

'uk	'a thick(forest)'	nañhonwantok	'west'	
'uk (?un)	'to ripen(fruits) by warmth'	hok	'to flee, to run away'	
'uk	'grass'	lòk	'a pen'	
'uk	'hair which grows on the body'	wekwòr	'knife for mowing grass'	
'umsuk	'a variety of bamboo'	wek ñok	'big knife for chopping'	
		wòk:	'to crook, to bend'	
		jòk	'to lift'	
		γòk	'frog'	
ɔɔɔyuuuk	'to weave(cloth)'			ook
yuuuk	'a weaving instrument'	pòok	'to pound'	
		kalkòok	'chameleon'	
ɔòk	'a nocket'	kòok	'a bump on the ox head'	
ɔhok	'to hide, to snoon'	kawjook	'the base of the ear'	
ɔye'òk	'to cock one's gun'	γambook	'to cough'	
buəyadok	'heritage'	lɔ'jook	'ear' (the external part)	
pottolpɛt'ok	'to fold one's arms across the chest'	'umkook	'the hog snem'	
to'taŋòk	'chair'	nòok	'full'	
taŋ ñòk	'to sit'	jòok	'ear'	
cok	'to gather('ruits) from a tree by using a long stick'			ok
		paltòk	'to turn inside out'	
kampaaj γòk	'tadpole'	talhok	'to bet'	
kəlòk	'a resonant cylinder, made of bamboo'	tonnòk	'rag'	
		camlòk	'a variety of cricket'	
kok	'to limp, to hobble'	cok	'wet'	
khəbok	'a digging tool with a broad blade'	kok	'coconut shell'	
			'a fishtrap'	
sakplik nok	'bird pepper'	kòk	'to plant by putting a seed in a hole'	

၁၅၀	'to nod, to tilt (the head)'			wak
၁၆	'to put, to wear (ring, necklace, bracelet)'			uak
၁၇	'good, beautiful'	buak	'a reservoir'	
၁၈	'Vagina'	suak	'furv'	
၁၉	'menses'	hawpuaak	'a cobra'	
၂၀	'a bamboo cowbell'	liak	'to blanch (vegetables)'	
		၁၁		
၂၁	'to hide, a secret'		..?	
၂၂	'a soun'			i?
၂၃	'a squirrel'	palsi?	'rope'	
၂၄ (tii?)	'a ring'	ti?	'to take'	
၂၅ (khe?)	'a section of bamboo stem'	ci?	'to set fire to'	
		kuinsi?	'lice'	
၂၆	'a pillow'slip, a shirt'	kəpi?	'shrimp paste'	
၂၇	'to pour'	γəmi? (ceəŋ)	'(foot) print'	
၂၈	'a bird trap'	γəmi?	'wound'	
၂၉	'elbow'	khoopti?	'to carry in both arms'	
၃၀	'a stall'	?comkəthi?	'coconut milk'	
၃၁	'east'	senpalsi?	'general name for a climber or a vine'	
၃၂	'outside'			
၃၃	'sparrow'	səkiŋpyi?	'galincale'	
၃၄	'to wear (shirt)'	salnəmyi?	'herbs used medicinally'	
၃၅	'a kind of mushroom'	(moo) ni?	'a little'	
		iaak		
၃၆	'deer'	naŋ mi?	'back'	
		talji?	'to quarrel'	
		pəyi?	'forest'	

liikyi?	'a wild boar'			ε?
kuuyi?	'tiger'	pantè?	'a moment ago'	
so?yi?	'fox'	pè?	'to snit out'	
nkooj jì?	'never mind'	pε?	'a goat, to patch'	
		ii?	γəmè?	'man, husband'
tii?	'hand'	pons?	'there'	
ple?tii?	'arm'	pyè?	'sand'	
kambii?	'dragonfly'	pyε?	'scurf'	
?i?ii?	'person'	təŋsamtè?	'plain cloth'	
?ii?	'he'	moosamtε?	'only that'	
səŋli?	'daytime'	təwè?	'left'	
		e?	cè?	'wet'
parhe?	'nerve'	kətε?	'ground'	
pəte?	'to aim at'	kε?	'to peel, to take out'	
plaaŋ khe?	'flower'	khe?	'a spit used for roasting meat'	
ple?	'classifier for fruit, mortar, bottle, jar, pot'	sətε?	'nearly, break'	
te?	'smoke'	sakŋè?	'shell'	
tè?	'to measure'	mε?	'to be close to, beside'	
taŋep talke?	'the day after tomorrow'	ne?	'that'	
khe?	'moon'	nts?	'near'	
laakhe?	'vegetable'	vaak wè?	'butterfly larva'	
me?	'yesterday'	wè?	'to turn to a direction'	
?umkhe?	'tree'	ŋàmŋε?	'previously'	
		ee?	jenjε?	'tip-toe'
sak pleε?	'areca nut'	ccεŋ khe?	'paralysed leg'	
kalpee?	'to entrust, to put something in the care of'	cuk pətè?	'keep silent, still'	εε?
		lεε?	'greedy'	

		u?	pal?a?	'partly ripe, half-witted'
?u?	'this'			
pə?u?	'straight, here'		paljə?	'lady, young (for women)'
saŋ?u?	'today'			
lawphw?	'to guess, to tell alie'		phiikə?	'a ghost'
moosam?u?	'only'		tà?	'to touch'
		uui?	ta?	'eight'
			tamjə?	'to sink, to turn unside down'
		ə?	tu?ta?	'toddling'
pyə?	'to spill'		təŋkə?	'to divide'
də?	'a niece(classifier)'		tus tampla?	'streaked lightning'
khiijə? hə?	'rubbish'		tha?	'to chip, to trim, to hew'
?iimə?	'who'		kalsa?	'morning'
səyə?	'lemon grass'		kə?	'to give'
naajsə?	'not looking carefully'		kamja?	'house owner'
nthə?	'scratched'		koonpaljə?	'bride, daughter'
?i?ii sə?	'dumb'		saŋka?	'comb, a hand of bananas'
lə?	'time(classifier)'			
		əə?	ɣona?	'sharp edge of knife'
pəə?	'to eat'		ha?	'to slash, to bail'
təpəə?	'food'		la?	'a leaf (classifier for dish, leaf, paner)'
ɣəə?	'to do, to make'		nta?	'tail'
kəttəyəə?	'to try'		ja?	'she'
ŋaaj ləə?	'squint-eye'		ɣaŋ jə?	'to break up, to destroy'
		a?		
pà?	'bright'			

pakka....	'Don'+...'	nku?	'skin'	
γəmaa?	'to be shy'	kə?aaŋ kəhu?	'a stove made of three stones'	
səmaa?	'cheek'	ŋkhu?	'to gargle, to rinse (one's mouth)'	
ciiq̄ khaaŋ kha?	'to straddle'			
?oom γà?	'waterfall'			
		aa?		uu'
màa?	'wind'	sətùu?	'next (year, month)'	
kàa?	'fish'	tùu?	'come'	
		u?		o?
pancu?	'to tell a lie'	po?	'before'	
təəŋcəlu?	'the underpart of thigh'	pyo?	'brittle, fragile'	
tu?	'fat'	bo?	'to break open'	
du?	'brave'	to?	'to pierce, to pin'	
cəlù?	'leg, thigh'	tampo?	'to include'	
cγu?	'deep'	ceəŋkho?	'naralysed leg'	
kətù?	'kidney'	kalto?	'arm+it'	
kəŋntu?	'a bad tooth, a decayed tooth'	kəŋkənsə?	'to become loose (of a tooth)'	
kəənsu?	'nephew or niece'	kənsə?	'to shake to tremble'	
kalpu?	'the circle of hair behind the top of head, a person's spirit'	so?	'to mill, to hull (rice)'	
khəmu?	'Khmu'	vo?	'taro root'	
su?	'hurt, pain'	ŋlò?	'treetop'	
su?	'hungry'	ŋkho?	'lung'	
γù?	'a pail, a bucket'			o
lu? (kətɯl)	'diarrhea'	lòo?	'a bog, a puddle'	
ntu?	'hole'	lajloo?	'butterfly'	
		təŋkəcòo?	'rags'	
		cəmlək pyoo?	'cricket'	

		၁?	sakṅṅṅṅ?	'rice seed'	
၁?	'without charge'		kṅṅ?	'neck'	
၁?	'to come off'				ia?
ak lṅ?	'to trap a kind of fishing tool'		sakkia?	'ancestor ghost'	ua?
aṅok ṅṅkhṅ?	'to sit on the heels'				ua?
aṅok pṅṅ?	'to sit with arms around knees'				ua?
၁?	'to hook'		lua?	'lua'	
hṅkhṅ? (ket)	'to scale (fish)'			- s	
uujthaw ṅṅ?	'great grandmother'				is
၁?	'dog'				iis
ṅṅ?	'to search to look for'		tiis	'mushroom'	
ṅṅṅ?	'a handle, a holder'				es
၁?	'to persuade'				ees
၁?	'to pick (the ear, the nose)'				es
ṅṅ?	'a fishing instrument'		cṅṅ	'needle'	
၁?	'already (fin.pt.)'		pṅṅ	'to take out, to heel'	
ṅṅṅṅ?	'to be clean'				us
၁?	'an end'		ṅṅ	'skv'	
ṅṅṅ? (liik)	'a manger, a nig- trough'		kṅṅ	'to count'	uus
ṅṅ?	'to cross'				ys
ṅṅ?	'real, true'				ys
		၁?			as
ṅṅṅ?	'rice'		paltas	'to squirm'	
ṅṅ? ṅṅṅ?	'barn'		tambas	'to sneeze'	

lwa tas	'a saw'				iih
tas	'to cut'		γiih	'bear'	
tàs	'to play a kind of musical instrument'				eh
kaapʔas	'mumps'		peh	'to open'	
ʔas	'swell'		γèh	'to do up'	
sakʔas	'a cock'		γeh	'correct, right'	
			taŋkeh	'to look up'	
		aas	keh	'to rise, from'	
kàas	'hard'		kèh	'to light a fire'	
		us	soʔeh	'many (persons)'	
ʔus	'loud'		wèh	'to sit with one's knees up'	
		uus			
pùus	'glue, rubber'				eel
-		os	caŋkeeh	'porcupine'	
		oos			eh
-		os	kγeh	'quick, fast'	
		oos	neh	'to pluck (flower)'	
ŋoos	'expensive'		pγeh	'to cock a gun'	
-		ias			ee
-		was	γèeh	'root'	
		uas			wh
- h					uur
		ih			vh
pih	'to pound'		-		vy
γambih	'mucus'				at
lìh	'out, to go out'		wàh	'wide'	
plih	'(to take) out'		γàh	'old'	

		aah	- m	
		uh		ir
puh	'to wash(cloth)'	ʔim (root)	'fresh, alive'	
pùh	'to throw up'	ɣim	'an edge, rim'	
		uuh	'quiet, still'	
		oh		i:
poh	'to take off(hat)'	paaliim	'the snakehead(fish)'	
coh	'to bark'	phajmiim	'the joint of a nail'	
kòh	'to peck'	pyiim	'old, ancient'	
toh	'to come off, to take off'	tiim	'nine'	
toh	'to take off(shoes)'	ciim	'to taste'	
pokpoh	'the horned owl'	siim	'bird'	
kampòh	'face'	miim	'nail'	
-		ooh		er
		oh		
taŋtòh	'noon'	kəm	'salty'	
tòh	'to hit, to beat, to hammer'	ʔem	'to hear'	
ntòh	'head'	haalʔem	'to have pity sympathy'	
ŋklòh	'to bloom'	lem	'classifier for pencil, sword, needle, hook'	
		ooh		
		iah		ee
			pheem	'heart'
		mah	pleer	'leech'
			pleʔ pheem	'heart (an organ)'
		uah	tohpheem	'to breath'
-			kalseen	'night'

γεεmseeem	'to stay over-night'	num	'year'	
jèem	'delicious'			uur
		em	khootəjɯm	'to borrow'
?əhem	'to clear the throat'			ym
		εem		yr
pèem	'cloth for carrying baby on one's back'			am
tεem	'to write, to draw a line'	hok baacam	'earnest money'	
tèem	'short'	təham	'right (side)'	
γèem	'waning (moon)'	təm	'to see'	
		talləm	'to carry by at least two persons'	
		um		
pon pənùm	'anthill'	than	'cave'	
palsùm	'to transplant paddy in the field'	cəm	'every'	
pjùm	'to close (one's eyes)'	?iijam	'Northern people'	
plum	'stingy'	muujan	'they'	
plum	'a kind of insect's wax'	səhəm	'clear (water)'	
kalnùm	'thunder'	səm	'to reneat'	
kəcùm	'soft'	lən	'to carry on one's shoulder'	
γənùm	'to hatch (eggs)'	ləm	'over, more than usual'	
?um	'classifier for tree'	jəm	'to die'	
sum	'to order'	nam	'many, much'	
salnùm	'medicine'	ntam	'egg'	
hum	'to fart'			aar
mpum	'to be sore'	ponjəam	'cryingful'	
ntum	'the west side of a house'	kətaam	'crab'	
		kaam	'muscle'	
		γəmàam	'to flow'	

sətàam	'pike'		talpuum	'fence'	
?umbaakhaam	'tamarind tree'		tuum	'to hold, carry in one's arm'	
paam	'areca'		koetm pùum	'digestive ailment of children'	
naam	'blood'		tyuur	'around, down'	
jàam	'fork'		kuur	'to winnow (grain)'	
ɣkhaam	'husk, chaff'		?oomlùur	'pus'	
naam	'time'				om
jàam	'to cry'		poipòam	'moon'	
chaam	'to cross'		nom	'knot'	
paam	'to chew'	um	pom	'a classifier for yams; root vegetable, a lump'	
itùm	'ripe'		tom	'to boil'	
tum	'eel trap'		təkəlkom	'a melon'	
toŋphaatùm	'towel'		toŋkəmlor	'sheets for baby'	
kum	'to cover'		kaaknaamnòm	'banana'	
kəlum	'blanket'		kloŋ	'round'	
koŋyənun	'groom'		?uuptom	'sticky rice in banana leaf'	
khum	'coop'		?aakhom	'magic, spell'	
khum	'hole, a grave'		ɣyom	'to inflame, to swell'	
sum	'to pile, to make fire'		lom	'to be loose'	
hum	'to take a bath'		mom	'hurry'	
num	'young (tree)'		ɣjəu	'to fumble under water'	
nùm	'to urinate'		ɣhom	'to fill (a pond)'	
raajsùm	'sandblind'	uum			oom
puum	'to keep in one's mouth'		peŋ?oom	'the larvae of mosquitoes'	

aʔʔoom	'steam'	sòom	'to pound (rice)'
aaʔoom	'a ferry'	γoom	'to chase, to drive away'
òom	'lamp'	ntoom	'liver'
oom	'water'	noom	'to look'
immòom	'the part between mouth and nose'	wòom	'hat'
òom	'to roast'	toom	'to loosen, to break un (the around)'
òom	'mouth, beak'	ʔoom	'small round bottle'
onʔoom	'holy water'	kəmcòom	'to walk stealthily'
hakkhənkəm	'the horseradish tree'		
om	'to bend down, to stoop'	pjiar	'to kill'
om	'to go under'	lìam	'a corner, an angle'
ulkom	'pants'	mooʔiam	'a span (from forefinger to the thumb)'
om	'a piece, a part (classifier for fire wood)'		
òlsəom	'to hand feed'		
hoktanəom	'button'	phaalum	'a quilt'
əom	'to beset'	buam	'to become bashed in'
ompəom	'parsley, (Coriandrum)'	thuam	'to flood'
òom	'thin'		
əngsòom	'milled but unpolished rice'	- n	
əttəncəom	'to notice'	phakkənsin	'the lead tree'
əhəncəom	'the crown of the head'	cəawphəndin	'king'
ʔiʔiinəom	'fortune teller'	sin	'cooked'

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sin	'a skirt like dress(for women)'			en
lìn	'a rail, track'		ponpèn	'to roll up, to coil'
noʔsin	'grain, rice'		tən (saŋkul)	'to suffer from congestion of the nose'
jaafìn	'opium'		toŋ nèn	'holy cloth with cabalistic writing'
		iin		
palpliin	'to turn over'		kocən	'heavy'
khiin	'hard, difficult'		khèn	'to rankle'
sakplik konpiin	'a larger variety of the bird pepper'		sətən	'Chinese date'
wansiin	'the Buddhist holy day'		ʒən	'to shove away with the foot'
cikkinjiin	'to stand on tiptoe'		bən	'to clench one's fists'
		en		ee
tèn	'to dance'		teen	'in place of'
khəmen	'Cambodia'		kəən (?uup)	'to choke'
səden	'to sour, or to be thrown'		kəən	'a stopper, a cork'
sen	'a rope'		kheʔpəən	'planks boards'
		een	pùukhwèən	'a kamnan district official'
peen	'to get, to obtain'		khəən	'a reed organ'
ʔeen	'it'		wəən (lòc)	'(cart) wheel'
suʔtəpeen	'to want or need'			un
moosamʔeen	'How much, How many'		punkun	'thumb'
nuksepeen	'to hope'		kun	'old'
ween	'a potato'		kun	'female'
namʔeen	'when'		pooyəpun	'father in law'
			ʔənmun	'to be annoyed by a noise'
			ʔiikun	'an old man'

ʔuujyəpun	'mother in law'	tàan	'a branch'
yəpun	'wife'	tàan	'a temple fair'
əkùn	'many'	thàan	'charcoal'
		hodaan	'a board'
phuuun	'a piece (of cloth, a fishnet)'	kàan	'to be defeated'
kəjkhluun	'midnight'	khii yàan	'to be lazy'
muun	'ten thousand'	ʔoontaan	'sugar'
juun	'to hand out'	ʔàan	'to read'
		sobaan	'to swear'
		yanwàan	'to knock, to drive (a nail)'
talʔyn	'to shout'	hàan	'a goose'
məmyv	'long ago'	ʔurwaan	'a general name for sedges'
		màan	'a stomach'
pan	'to mold'	maajkàan	'a pole for carrying loads across the shoulder'
pàn	'one thousand'	nàan	'about, approximate'
phan	'five'	naan	'a job'
fàn	'to squeeze'	waan	'to sow, to scatter (seeds)'
sàn.....	'some.....'	gaan	'a bump'
nàn	'to carry, to hold'	paan	'birthmark'
		paan	'a fiber from tree bark or jute grass'
		paan	'to bail (bilge water)'
təhaan	'a soldier'	lun	'to scald'

		uun	kosoon	'the inside of flower, comprising both the stamen and the pistil'	
ɬalsuun	'to mix'				
ɣənúun	'a jack fruit'		koon	'an offspring'	
		on			
ɔon	'to nledge'		kam koon	'a female which has had offspring'	
ɬalɔ̀on	'to bump against'		khòon	'a club, a stick'	
ceɛŋmonkon	'an important pole in the middle of the house'		khooŋ	'side'	
ɔon	'to stir, to preserve'		fòon	'to dance, especially with the manner of the north'	
ɔon	'time(classifier)'		soon	'to teach'	
lon	'(water) fall'		hoon	'to buy' (do)	
lon	'to fade'		lòon	'to collect, to keep'	
non	'a circle'		ŋaajtoon	'a cataract in the eye'	
		oon			
ɔoon	'four'		ŋòon (thaj)	'the handle of a plow'	ia
ɬalpoon	'ceiling'		ɣian	'to change'	
ɬamtoon	'a chisel'		thian	'classifier for book, knife, axe'	
lekkòon	'a nail'				
		on			
ɔ̀on	'to coil'		khian	'to flood, to whip'	
ɔoo thawròon	'great grandfather'		səwian	'to dye'	
tòn	'a piece, a lump'		khiiwàan	'a lender'	ua
		oon			
ɔankoon	'a little finger'		ɣuan	'to be like, to resemble'	
ɔaakoon	'a nitch-and-toss game'		ŋootdwan	'to lie near an open fire (of a women during confinement)'	
ɔoon	'to tie'				

		uan	maan	'to ask, to beg'	
suan	'a garden'				un
nuan	'to be soft'				uu
			pyuan	'a termite'	
	- n		kunpyuan	'a tussock moth'	
		in			on
		iin			oo
		en			on
		een			oo
		en	koon	'meat'	
yeimən	'a gnat'				ia
-		een			
		un			wə
puŋ	'to shoot'				
phun	'a snake'				ua
yanmən	'a star'				
klun	'fat'			- ŋ	
sətun	'to be drunk'				in
tun	'to fell(a tree)'		niin-ŋ	'a sister-in-law'	
		un	tolin	'at the middle'	
puŋhuun	'the gum around the tooth'		tokelcin	'a large variety of cucumber'	
		ŋ	cin	'to sew'	
		vŋ	cyin	'small cup shaped cymbals'	
		aŋ			
		aan	kaltin	'the wav'	
taan	'a grasshopper'		luuknin	'daughter-in-law'	
taan	'to weave'		niwtalin	'middle finger, ring finger'	

noonniŋ	'sister-in-law'	wekleŋ	'a knife with a long handle for trimming bamboo strins'	
tunŋtiŋ	'to crush, to squash'			
kiŋ	'the hair'	jèŋ	'a village'	
		iin		
pliŋ	'a water leech'			eg
tampliŋ	'the sky'	talkeŋ	'green'	
ciiŋ	'to stand'	taljèŋ	'to pull, to drag'	
katliŋ	'big'	talkhèŋ	'to race, to compete'	
koonyam kotliŋ	'a big boy'	theŋ	'to add, to pour'	
(pik) wiŋ	'to go back'	kèŋ	'tooth'	
		keŋ	'to carry on the shoulder'	
		ʔeŋ	'feces'	
keŋ	'proficient'	wèŋ naaj	'to dilate, to part(eyes)'	
jeŋ	'to be light'	witʔeŋ	'toilet'	
		peŋ	'a worm'	
phèŋ	'a song'	jèŋ	'to lead by the hand'	
pleʔ cèŋ	'the calf'			
talyèŋ	'to greet, to say hallo'			ee
cèŋ	'the-foot'	pyeŋ	'the oil'	
keŋ	'to die'	tèŋ	'to drink'	
keŋjèŋ	'headman of a village'	talkeŋ	'to pretend, to annoy'	
səpaajleŋ	'a cownea'	ceŋ	'to damn'	
heŋ	'cover of a fishing tool'	khəŋeŋ	'a cluster (coconut, areca nut)'	
loŋphèŋ	'to sing'	səkiin kèŋ	'a ginger'	
leŋ	'long'	saŋkèŋ	'to lie on one side, to incline'	
nleŋ	'above'	leŋ	'a rattan'	
ŋkèŋ	'a pillow'	wəŋ	'to be chipped'	

ʔam̩ ʃeɛŋ	'reed, rush, sedge'	phenàŋ	'to dam (water)'
ceɛŋ ɲəaj	'the corner of the eye near the nose'	phə̀làn	'duava'
bɛɛŋ	'to split'	plàn	'the lalang or cogon grass'
ʔoomklèɛŋ	'a sugarcane'	tal'əŋ	'back'
	ɯŋ	taŋ	'to burn'
tùŋ	'a whirlpool'	taŋ	'since, from'
kɯŋ	'tight, fast, firm'	təʔəŋ	'a bank (of a river)'
ʔɯŋɣùŋ	'to growl'	təpàn	'a bamboo shoot'
sùŋ	'a musical instrument with strings'	calwaan làn	'a herb with offensive odor'
ɣùŋ	'horn'	caŋ	'bitter'
	ɯɯŋ	komdaŋ	'the bridge of the nose'
pɯɯŋ	'a basket for carrying on the back'	palkan	'sleepwalk, nightmare'
bɯɯŋ	'a bat'	ɣəŋàŋ	'steel, iron'
ʔɯɯŋ	'a bullfrog'	khe'ʔəŋ	'a firewood'
	ɣŋ	khəontàŋ	'a mullet'
(tə) kɣŋ	'a half'	sokketàŋ	'to nudge with the elbow'
taŋɣɣŋ	'to string'	siimtàŋ	'the bird used for calling other birds into a f
thɣŋ	'easy'	ɣəŋ	'to prison'
mookɣŋ	'a few, a little'	ɣɣ'ɣàŋ	'to dam for catching fish'
	ɣɣŋ	làn	'black'
tal'ɣɣŋ	'to turn up (one's face)'	laŋ	'classifier for house rindnet'
	aŋ	màŋ	'no, not'
pom samməlaŋ	'cassava, tapioca'	nàŋ	'near.....'
palkàŋ	'tight, fast, firm'		

pàŋ	'straight'	paltaan	'a house lizard'
siihàŋ	'a belt'	pom samplaŋ	'the shoulder'
	aaŋ	pàaŋ	'a bottle'
caaŋ	'to be tasteless'	phaaŋlâaŋ	'a cowbell'
ceeŋnâaŋ	'the important pole in a house'	tangyaŋ	'a mosquito'
kâaŋ	'an outer covering'	tonâaŋ	'sweet'
kaaŋ	'to spread, to open'	ŋyaŋ	'to be jealous'
kâsaŋ	'an elephant'	calwâaŋ	'sweet basil'
kenkâaŋ	'upper arm'	caŋ?aaŋ	'a fish bone, bone'
γəʔoolmookhaaŋ	'a nan'	?aaŋ (moom)	'to open (the mouth)'
khâaŋ	'to remain, to stay'	faaŋ (ŋaaŋ)	'to be deceived'
sakkəʔaaŋ	'a stone'	saŋtâaŋ	'a barn'
yaŋ	'a thorn'	təwâaŋ	'a stove'
yaŋ	'red'	paŋkhwaŋ	'to bar, to block'
laaŋ	'classifier for fish trap'	koŋ kaaŋ	'pounded rice'
meeçâaŋ	'an accoucheur, a midwife'	ləpâaŋ	'a small drum'
meehâaŋ	'a grass window, a divorcee'	puŋ	'to blow'
naaŋ	'para rubber'	pəlùŋ	'ashes'
ŋkâaŋ	'a rat'	phakbuŋ	'morning glory'
ŋyâaŋ	'a horse'	thùŋ	'a log'
ŋaaŋkhaaŋ	'(to sleep) with eyes half-closed'	kəʔool?ùŋ	'a large earthen jar'
klaaŋ	'a hawk'	saŋtuŋ	'a drum'
pom kalmulyaaŋ	'a red onion'	baahuŋ	'caster-oil plant'
		ŋyùŋ	'to shake'
		ntel ŋyùŋ	'malaria'
		tampyuuŋ	'a hole at the bottom'

neɛŋpooŋ	'a scorpion'	gùaq	'the trunk of an elephant'	
jooŋ	'the hill myna'			
jooŋ	'to carry on the head, to put down'	ɣuaŋ	'to be sleepy'	
ɣooŋ (?oom)	'a brook, a creek'	khuaŋ	'a cage'	
ɔlooŋ	'a segment of the many-jointed stem of a bamboo'		- 1	il
ɔooŋ	'a fin, a rib'	koon?il	'a great grand-son or grand daughter'	
	iaŋ			
ɔɔliãŋ	'an employer'	piil	'to lay (the table), to spread'	
chiimian	'rust'			
ɔiaŋ	'a plateau'	comiil	'blow-pine bamboo'	
nian	'tea leaves prepared for chewing'	ɣiil	'thin'	
		ple? piil	'the wax gourd'	
ɣiaŋ	'a jag, the spine of a fish'			el eel
		palieel	'the wing'	
	waŋ	teel	'noise, sound'	
ɔɛŋwɪl fwaŋ	'a corncob'	heel	'to vomit'	
fwaŋ	'straw'	meel	'to crawl, to climb'	
ɔuãŋ	'yellow'	weel	'to singe'	
ɔaafwaŋ	'a carambola'	seel	'a langur'	
				el
	uaŋ	plɛl	'to stick out (the tongue)'	
uaŋ	'to worry about'			
uaŋ	'a bin for storing rice'	təkɛl	'a cucumber'	
akplik luaŋ	'the bell pepper or sweet pepper'	tɛl	'to run'	
		tɛŋɛl	'to interfere'	

kun ^h ʔeɪ	'a hen'	sət ^h uɪ	'to snore'	
kunmɛɪ	'ticks'	huɪ	'to walk'	
khətɣeɪ	'a trap'	juɪ	'to be smooth'	
ʔeɪ	'a chicken'	-		uu
ʔoombɛɪ	'saliva'			yl
sɛɪ	'palm civet'			yy
ɣoombɛɪ	'to hunt'	p ^h vɪ	'to float, to rise'	
ntɛɪ	'a side wall'	t ^h vɪ	'to send'	
jeɪ	'good'	kapp ^h uɪtɛp ^h vɪ	'to looking for, thinking of'	
kwɛɪ	'to bend (the legs)'	m ^h vɪ	'to play'	
peɪ	'to roll (cigarettes)'			al
	eɪ	buk pal	'big wooden mortar'	
ɣyeɪ	'bottom, buttock'	tawŋal	'a stove'	
ŋjɛɪ	'to sift, to winnow'	kapŋal	'a match'	
wɛɪ	'to except'	ŋal	'a fire'	
pyɛɪ	'hail'			aa
phɛɪ	'a big variety of bees'	caai	'to be far away'	
ntɛɪ	'a fever'	coŋaal	'green'	
po ^h ntɛɪ	'weak, sickly'	maal	'a field'	
	uɪ	ŋkaal	'the east side of a house'	
puɪ	'to fly'			
tuɪ	'to bury'	kwaal	'to buy dog'	
kət ^h uɪ	'stomach'			ul
kal ^h ʔokt ^h uɪ	'a joint'	puɪjul	'to swing, to hang, to cling'	
kuɪm ^h ɛɪ	'to roll'			
kancuɪ	'to fall'	poksul	'a nocket'	
coŋ ^h uɪ	'a stump'	puɪ	'seven'	

saŋkul	'nose'			oo
ʔoompulʔul	'sweat'	pom kalmul	pòɔl 'garlic'	
ʔunthul	'to be slack'	pòɔl	'white'	
sul	'pants, trousers'	tiisjòɔl	'a kind of mushroom'	
jul	'the edible inflores- cence of a banana'	kəʔɔɔl	'a pot'	
tiis tul	'a kind of mushroom (Jew's ears)'	ʔɔɔl	'to lead'	
puk pullùl	'to be inflated'	ŋkòɔl	'a bunch (of bananas)'	
		paltɔɔl	'to employ'	
	uul	pyeʔ kəʔɔɔl	'a thallophytic plant growing on wood long immersed in water'	
cuul	'down, to go down'	ʔuup takkəʔɔɔl	'crispy rice'	
kalmuul	'an onion tree'			
kantuul	'a swing'			ia
suul (ʔoom)	'to water'			
khemùul	'money'			wə
		ol		
ŋaajpɔl	'to be blind'			ua
		ool	-	
(moɔ) pɔɔl	'the (first) night'		- w	
(kal) pɔɔl	'dusk'			iw
cokkòɔl	'a rainbow'	tiw	'to carry by suspending from hand'	
jòɔl	'a candle'	siw	'a simile'	
		ol		
ʔɔɔl	'to scold'	ŋìw	'the red cotton, java cotton'	
ntɔɔl	'foot'			ii
ŋɔɔl	'a piece (of meat)'	jakkìiw	'to lift (an eyebrow)'	
wakɔɔl	'an earthworm'	cəkhìiw	'cramp'	
tɔɔl	'six'			

niiw	'the fingers'	taw	'to plane (wood), a carpenter's plane'
-		ew	
		eeew	baataw 'watermelon'
ntu? heew	'an abyss, a chasm'	tal?aw	'lettuce'
		ew	tu?caw 'monk'
		eeew	taŋokkhupkhàw 'to sit by kneeling'
taan lèew	'a woven charm'	càw	'to hire, to lent'
pom mankéew	'the yam bean'	kàw	'the bole of a tree'
lèew	'to be crushed'	kaawaw	'a woodpecker'
theew	'a row'	koonpal ja?thaw	'an old maid'
keew	'Vietnamese'	?uu j thaw	'a grandmother'
koonpek theew	'teon-aer'	fàw	'a bundle, a sheaf'
γèew	'to raise, to feed'	səpàw	'a papaya'
baakèew	'a kidney'	sa? càw	'very early in the morning'
mèew	'a Meo tribesman in north Thailand'	hruasəpàw	'a junk, an argosy'
mèew	'a tool used for grating coconut'	làw	'to tell, to complain, to re ad
namkèew	'a pumpkin'	tappjaaw	'a net'
ple? baa kiwkèew	'seville orange'	kàaw	'to wrap'
?èew	'to travel'	kàaw	'a harrow, a rake'
-		uw	kaaw 'a step'
		uwuw	ɣonàaw 'a farm, paddy field'
		yw	
-		yyw	?um paaw 'coconut palm'
		aw	?ɛŋpaaw 'shredded coconut'
taw	'a turtle'	saaw	'to spin (web)'
		γàaw	'a clothes line'

haaw	'coarse, loud (voice)'			
hàaw (?uŋtu?)	'to arch (a bow)'			u
làaw	'Laos'			
baanàaw	'a lemon, a lime'			u
moosàaw	'twenty'			
nàaw	'sticky, tough, strong'		- i	
ŋaaw	'shady, shelter'			i
		aaw	-	i.
ŋàaw	'to be ouzzled, foolish'			e
ŋɔɔ? caaw	'a nonglutinous variety of rice'			e
ŋkàaw	'a parcel, package'			e
wɛklàaw	'long knife'			u:
-		uw	talnùj	'a cock's sour'
-		uw	kujtuuj	'beriberi'
-		ow	mùj	'a shade'
-		oow	-	uu
-		ɔw	nỳj	'to be tired'
-		ɔɔw	tɔptvuj	'a wattle'
		iaw		yy
kiaw	'to mow, reap, harvest'		talkỳvj	'accustomed to'
khìaw	'a sickle'		lvvj	'to follow'
sìaw	'a friend'		plvvi	'to blow'
hìaw	'to wilt, to wither'		thrvj	'to change (dress)'
niaw	'sticky, glutinous'			aj
ŋiaw	'a Shan person'		phaj	'a mole'

tàj	'an arrow'	luuk càaj	'son-in-law'
thaj	'to plow'	mεεmaaj	'a widow'
thaj	'Thai'	naaj	'to be bored, to hate unly'
khwàj (khuap)	'to complete a circle'	nooη càaj	'brother-in-law'
?aalàj	'to think of'	wàaj	'to recover'
?aj (?aj ?oo?)	'of'	caaj	'to use'
senjàj (hool)	'a web'	paaj	'to part the hair'
γàj (γənaaw)	'a plot of paddy field'	piicàaj	'brother-in-law'
γaj	'an earthen jar'	phàaj	'a faction, a side'
hontaj	'south'	phaaj	'a paddle'
hàj	'chicken mite'	plaaaj	'a flower'
lampaj	'the longan'	talhaaj	'bee'
laj	'a parrot'	tii?plàaj	'white trace on a finger nail'
lεk naqnàj	'to go into'	tiin càaj	'the eaves'
nàj	'in, flesh'	təηok khotsəwaaj	'to sit with legs crossed'
wàj	'to buy, purchase'	tyaaaj	'to rummage, turn up'
waj	'to turn'	tyàaj	'a sword'
waakmaj	'a silkworm'	ceηtaaj	'a shrimp'
salmàj	'the emblie or Indian goose bury'	cotmaaj	'a letter'
kàj	'stuffed up'	kətàaj	'a rabbit'
	aaj	kiwηàaj	'the eyebrows'
sambaaaj	'comfortable'	keηkàaj	'a tooth'
yaaj (pheem yaaj)	'bad, rascals'	kàaj	'to be hardened (of skin)'
γəkàaj	'to be strong'		
γəηàaj	'to laugh'		
laaj (tii?)	'a finger print'		

khaaj (nàa)	'to move (house)'	lòoj	'to swim'
khwaaj	'late'	nlòoj	'the bottle gourd'
?oomnàaj	'a tear'	konkooj (tii?)	'to grab, to snatch'
?iitfaaj	'to core (cotton)'		
faaj	'cotton'	soj	'testis'
salpàaj	'bean, peas'	(puŋ) npoj	'a flute'
səŋaaj	'far out'		
γàaj	'to be dry'	ɸγɔɔj	'crisp, fragile'
	uj	toɔŋnɔɔj	'lower abdomen'
puj	'manure'	taŋŋək mwaħɔɔj	'a brazier'
?uj	'to become rotten, to smell'	cɔɔj	'to help, to give a hand'
wək suj	'a pocket knife'	kɔɔj	'a kind of squirrel'
	uuɟ	kɔɔj	'slowly'
talkùuj	'to fight'	kunγɔɔj	'a fly'
kunγɔɔj mùuj	'a fruit fly'	khɔɔj	'to blame in one's absence'
?ùuj	'mother'	klɔɔj	'a yam-like'
ləkùuj	'a fist, to punch'	?ɔɔj	'three'
mùuj	'an axe'	?i?ii?ɔɔj	'a dwarf'
-	oj	sɔɔj	'to slice, to cut'
	ooj	γɔɔj	'one hundred'
pooj	'a barkina deer'	mγɔɔj	'a plant of the family Uritaceae'
plooj	'the turtle dove'	ŋaajmɔɔj	'ankle'
talkòoj	'the crest'	ŋɔɔj	'expensive'
kampooj	'shadow'		
kooj	'to have'		
khəmòoj	'(No.) a thief'		
səγooj	'a cone'		

		uaj	moo sii	'classifier for a match'
puaj	'to become tender crumbly'		səl̩i	'a mattress'
muaj	'fog, dew, haze'		mool̩i	'a cigarette'
m̩uaj	'to gasp for breath'		m̩i	'she, you'
			naɲni	'a gibbon'
		uaj	ɲaajpy̩i	'the sun'
thuaj	'a dish, a bowl'		withi	'rite, ritual'
?uaj	'to eat filthily or sloppily'		jindii	'Thank you'
?oombuaj	'a coconut shell dipper'		dincii	'a brick'
			paɲɲèe	'to be enjoyable, entertaining'
	- ø			
		ii	tèe	'to null down, to search'
pancii	'to point'		kalnee	'to tell, to teach'
pawii nii	'custom'		ɲemèe	'to dream'
phakcii	'the parsley (small leaf)'		nee	'a horn'
py̩i	'falling rain'		ɲèe	'sure, confident, certain, steady'
pyii	'spicy'		toktèe	'a wall decko'
boohaajboodii	'moderately, reasonable'		pèe	'triumph, to win'
t̩i	'classifier for place, ladder'		pɛɛ	'you'
thii	'clearly(see)'		py̩i səl̩èe	'the rain will fall'
cii	'young bud'		tiis wee	'a poisonous mushroom'
cawt̩i	'god'		taɲok moomee	'to sit, squat on the floor, in a polite attitude'
?oommii	'a sauce of shrimp paste and chili'			
sii	'colour'		tii? nee	'accurate'

-
cèε 'to steep, to soak'

κεε 'old'

κεε (wool κεεκεε) 'loud'

καλεε 'two crossed beams
at the table'

καρεε 'a key'

ʔεε 'wə'

ʔuujγamèε 'a husband's mother'

σèε 'a bolt'

γρεε 'a fishnet'

κεε 'Sesbania(a flower)'

μèε(pal) 'wooden pestle for
a big mortar'

nooneε 'the custard apple'

wèε 'bore'

jèε 'our'

ουυ

phiisuu 'a demon which possesses
the soul of a woman'

thuu 'to mind'

cuu 'name'

ηυρηυυ 'a fin'

γγ

pantγγ 'to tell'

pelγγ 'many, several'

jek kajγγ 'tug-of-war'

γγγ 'to stand on end,
to stretch'

cakkcəγγ 'a skink'

panyàa 'to steal'

pookàa 'a merchant'

phaa 'the cloud'

phiibaa 'mad insane, crazy'

plàa 'to chop, a kind of food'

ton phaa 'a blanket'

talʔaηnàa 'a roof'

càa 'slow'

ceeq nàa 'a pole, a post'

kàa 'naddy sprouts'

kaljàa 'to chew'

koʔoolmookàa 'a teapot'

khooosumàa 'to excuse, Excuse me'

ʔuujpaa 'an elder sister of
one's parent'

sakncəη kullàa 'a variety of egg
plant'

sàa 'a bamboo basket'

sanηaa 'to promise'

səmaa 'to leave'

səγàa 'a builder'

salkwaa 'to stir, to mingle'

γaksaa 'to cure, to keep'

γaak kàa 'a young buffalo'

γàa 'preserved fish'

hoonjaa 'hospital'

laʔjaa 'tobacco leaves'

la'saa	'tea leaves'	kùu	'a pair, a couple'
meeŋdaa	'a water bug'	γəmùu	'smell'
nàa	'aunt, a younger sister of one's parent'	?uu	'a cradle, a cot'
ntγàa	'a shelf, shackle'	sakpuu	'a large earthen jar'
naa	'a house'	sakplùu	'the salt'
ŋàa	'ivory'	γùu	'a teacher'
wàa	'monkey'	hokkhansuu	'to engage, to betroth'
wəsaa	'the rainy season, when Buddhist priests have to live in monast- eries'	muu	'a group'
saksiidaa	'guava'	mùu	'classifier for cigars and cigarettes'
ŋàa	'itching'	ŋùu	'to push'
kəthaa	'magic, a spell'	ŋlùu	'to give up, to stop'
		tuu	'a cabinet'
		uu	
paljùu	'a fruit of the family Euphorbiaceae'	peetpoo	'to put arm in arm'
puu	'the breast, milk'	poo	'together'
pùu	'to suck'	too	'body, classifier of animal'
pùu	'a male'	talkòo	'to crow (a cock)'
pòo puu	'grandfather'	thòo	'to rub, to smear'
petuu	'the door'	kalpoo	'to accompany'
plùu	'the befe! pepper'	γoo	'to pick up (vegetable)'
bùu(jaa)	'a tobacco pipe'	?oompuumpòo	'cow milk'
tal?uu	'to talk'	simòo	'the day before yesterday'
tallùu	'to seize, to snatch away'	siawpoo	'close, intimate'
keŋ?oompùu	'a milk tooth'	lòo	'the mud'
		baa?oo	'the pomelo or the shaddoc'



mpòo	'a cow'	lòo	'a cart'
mòo	'a grindstone, a mill'	nlòo	'to speak, sound'
mòo	'one'	nkoo	'to wait'
jòo	'a younger brother or sister'	weenlòo	'a two wheeled c
		jiisoo	'Lisu Tribe'
		thaw hoo	'ground-nut'
ꞑoo	'jute, hemp'	hoo	'How Tribe'
ꞑòo	'father'	too	'to weave'
ꞑoo	'enough, until'		
booo	'a pond, a well'	pia	'to snatch, to s
baatoo	'a ball of woven rattan strips'	sia (pheem)	'sorry'
taltoo	'to join, to connect'	yaihurt yajyia	'to scatter'
dinsoo	'a pencil'	cùu	'to believe'
coo	'(No.) a cluster, a bunch'	kamtùu	'one time'
ceenlòo	'the wheel'	?enlùu	'sawdust'
kalcòo	'gold'	honnua	'northern'
khòo	'joint'	lra	'to be left, more
kansoo	'a mango'	baakhua	'a general name tomato'
kæenlòo	'the hub of a wheel'	khiijwa	'garbage'
khòo(tii?)	'a wrist'		
khoo	'a hook'	γùu	'to leak'
?oo	' '	γùu	'thing'
?oo	'reeds' (plants)	γua	'to non, to roas
sòo	'a fiddle'	lua	'a spade, shove
siilòo	'a spoke'	plaaaj doockbua	'lotus'
*ꞑoo	'Hong Kong foot'		
ꞑapnlòo	'to agree, to promise'		