



23 MAR. 2538

A PHONOLOGICAL STUDY OF PWO KAREN
AT HUAY-HOM-NOK VILLAGE, TAMBON THA-MAE-LOB,
MAE-THA DISTRICT, LAMPHUN PROVINCE

/
//
NARUEMON CHUENSUKON

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS
(LINGUISTICS).

IN
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
1995

000281

Thesis
entitled

A PHONOLOGICAL STUDY OF PWO KAREN
AT HUAY-HOM-NOK VILLAGE, TAMBON THA-MAE-LOB,
MAE-THA DISTRICT, LAMPHUN PROVINCE

Naruemon Chuensukon
.....

Naruemon Chuensukon

Candidate

Sujaritlak Deepadung
.....

Sujaritlak Deepadung, Ph.D.

Major Advisor

Somsong Burusphat
.....

Somsong Burusphat, Ph.D.

Co-advisor

Sukhuma-Vadee Khamhira
.....

Sukhuma-Vadee Khamhira, M.A.

Co-advisor

M. Chulasamaya
.....

Monthree Chulasamaya, MD., Ph.D.

Dean

Faculty of Graduate Studies

Sophana Srichampa
.....

Sophana Srichampa, M.A.

Chairman

Master of Arts Program

in Linguistics

Institute of Language and

Culture for Rural Development

Thesis
entitled

A PHONOLOGICAL STUDY OF PWO KAREN
AT HUAY-HOM-NOK VILLAGE, TAMBON THA-MAE-LOB,
MAE-THA DISTRICT, LAMPHUN PROVINCE

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Arts (Linguistics)

on

February 2, 1995

Naruemon Chuensukon
.....

Naruemon Chuensukon
Candidate

Sujaritlak Deepadung
.....

Sujaritlak Deepadung, Ph.D.

Chairman

Somsong Burusphat
.....

Somsong Burusphat, Ph.D.

Member

Sukhuma-Vadee Khamhira
.....

Sukhuma-Vadee Khamhira, M.A.

Member

Suriya Ratanakul
.....

Suriya Ratanakul, Ph.D.

Director

Institute of Language and
Culture for Rural Development

Wirat Niyomtham
.....

Wirat Niyomtham, M.A.

Member

M. Chulasamava
.....

Monthree Chulasamava, MD., Ph.D.

Dean

Faculty of Graduate Studies

BIOGRAPHY

NAME	Miss Naruemon Chuensukon
DATE OF BIRTH	18 October B.E. 2512 (1969)
PLACE OF BIRTH	Maharakham, Thailand
INSTITUTIONS ATTENDED	Srinakharinwirot University, Maharakham Campus, 1988-1992: Bachelor of Education (English) Mahidol University, 1992-1995: Master of Arts (Linguistics)
RESEARCH GRANT	Graduate Studies, Mahidol University, 1994 The National Reach Council, 1995

ACKNOWLEDGEMENT

Many people have been indispensable in the writing of this thesis. I would like to take this opportunity to express my gratitude and appreciation to them. Without their help, this thesis may not have come to fruition.

1. I am deeply indebted to my principle advisor ; Assistant Professor Sujaritlak Deepadung who has devoted her precious time not only to excellent teaching, giving advice, and assisting in revisions of this draft but who has also given me many valuable comments and suggestions.

2. I would also like to thank my committee members, Associate Professor Somsonge Burusphat, and Assistant Professor Sukhuma-Vadee Khamhiran, for their valuable comments and suggestions.

3. All my teachers / for their teaching and advice during my graduate studies at Mahidol University.

4. I also owe my thanks to all my informants at Huay-Hom-Nok Village, Tambon Tha-Mae-Lob, Mae-Tha District, Lamphun Province, especially my main informants, Miss Yupin Phutdee and Miss Waebue Chaisang. I would also like to thank Mr. Khue Sukmuengchai and his family who take care of me during my fieldwork.

5. Mr.Seree Laophram, Mr.Wiset Khetwit and all of the officials of Hilltribe Welfare and Development Centre, Changwat Lamphun who provided transportation, accommodation and good meals for me during my fieldwork.

6. Mr. Nivom Chuensukon and Mrs. Landuan Chuensukon, my parents, and all my brothers, who offered the everlasting encouragement and helped me to get through all the difficulties encountered.

7. My best friend, Mr. Kittipong Wongarasint, who helped me everything with sincere behavior.

8. My seven friends, Ms. Lalin Benjakul, Ms. Nutthika Saengkham, Ms. Parisara Tantinakhom, Ms. Saichai Duangmanee, Ms. Wasana Noinat, Mr. Amphon Wichitkhachee, and Mr. Chalermchai Chaichomphu, for helping me during my graduate studies at Mahidol University.

9. Ms. Natthamon Khunphom, the librarian of the Institute of Language and Culture for Rural Development who helped me to locate various books and theses.

10. This research reported here was supported by grant from The National Research Council and the research grant of the Faculty of Graduate Studies, Mahidol University.

There are many more names of people than I can mention who deserved special thanks. Anyway, thanks and appreciation go to all who helped in the completion of this thesis.

Naruemon Chuensukon

ชื่อวิทยานิพนธ์	การศึกษาระบบเสียงภาษากะเหรี่ยงโปที่หมู่บ้านห้วยฮ่อมนอก ต.ท่าแม่ลอบ อ.แม่ท้อ จ.ลำพูน
ผู้วิจัย	นฤมล ชื่นสุดนธ์
ปริญญา	ศิลปศาสตรมหาบัณฑิต (ภาษาศาสตร์)
คณะกรรมการควบคุมวิทยานิพนธ์	
	สุจิตลักษณ์ คีฬดุง, Ph.D.
	สมทรง บุรุษพัฒน์, Ph.D.
	สุขมาวดี ขำหิรัญ, M.A.
วันที่สำเร็จการศึกษา	2 กุมภาพันธ์ พ.ศ. 2538

บทคัดย่อ

วิทยานิพนธ์ฉบับนี้ เป็นการศึกษาาระบบเสียงภาษากะเหรี่ยงโป ซึ่ง จัดอยู่ในตระกูลภาษาทิเบต-พม่า พูด ที่หมู่บ้านห้วยฮ่อมนอก ต.ท่าแม่ลอบ อ.แม่ท้อ จ.ลำพูน

เนื้อหาของวิทยานิพนธ์แบ่งออกเป็น 6 บท คือ บทที่ 1 บทนำ บทที่ 2 ทบทวนงานวิจัยที่เกี่ยวข้อง บทที่ 3 คำและการเน้นเสียง บทที่ 4 พยางค์ บทที่ 5 หน่วยเสียง บทที่ 6 บทสรุปและข้อเสนอแนะ และ ภาคผนวกได้เสนอคำศัพท์พื้นฐาน ในภาษากะเหรี่ยงโป ที่พูดที่หมู่บ้านห้วยฮ่อมนอก จำนวน 1,117 คำ

จากการศึกษาพบว่า ระบบเสียงภาษากะเหรี่ยงโป ที่หมู่บ้านห้วยฮ่อมนอกนี้ มีหน่วยเสียงพยัญชนะทั้งหมด 23 หน่วยเสียง หน่วยเสียงสระ 24 หน่วยเสียง และหน่วยเสียงวรรณยุกต์ 5 หน่วยเสียง ส่วนพยางค์มี 3 ชนิด คือ พยางค์นำ พยางค์หลัก และพยางค์รอง คำ แบ่งออกเป็น คำพยางค์เดียว และ คำหลายพยางค์ ทำนองเสียง เกิดจากเสียงวรรณยุกต์ของพยางค์สุดท้ายของประโยค

Thesis Title A Phonological Study of Pwo Karen at Huav-
Hom-Nok Village, Tambon Tha-Mae-Lob, Mae-
Tha District, Lamphun Province.

Name Naruemon Chuensukon

Degree Master of Arts (Linguistics)

Thesis Supervisory Committee

Sujaritlak Deepadung, Ph.D.

Somsonge Burusphat, Ph.D.

Sukhuma-Vadee Khamhiran, M.A.

Date of Graduation 2 February B.E.2538 (1995)

ABSTRACT

This thesis is an attempt to present a phonological analysis of Pwo Karen, a Tibeto-Burman language as spoken in Huay-Hom-Nok Village, Tambol Tha-Mae-Lob, Mae-Tha District, Lamphun Province.

The thesis is divided into 6 chapters. The first chapter is an introduction. The second chapter is a review of the related literature. The analyses of the phonological word, syllable and phonemes are presented in the chapters 3, 4, and 5 respectively. And the sixth chapter is the conclusion and suggestions for further studies. Moreover, there is an appendix that presents a word list 1,117 words of the Pwo Karen in Huay-Hom-Nok Village.

From the study, there are 23 consonants, 24 vowels, and 5 tones. There are 3 types of syllable; presyllable, major syllable and minor syllable.

Phonological words are monosyllabic and polysyllabic.

Intonation is caused by tone of the final particles of the statements to be falling or rising.

หามขุด เข่น ขั้วความโลๆ
ลงในหนังสือหองมด

TABLE OF CONTENTS

	page
ABSTRACT	i
LIST OF MAPS	viii
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS AND SYMBOLS	xi
CHAPTER	
: INTRODUCTION	1
1.1 General Information on the Karen	1
1.2 Language Affiliation	5
1.3 Geographical Location	7
1.3.1 Pwo Karen in Thailand	7
1.3.2 Karens in Lamphun	8
1.3.3 Karens in Huay-Hom-Nok village	8
1.4 Objective of the Study	16
1.5 Scope of the Study	17
1.6 Methodology	17
1.6.1 Method of the Study	17
1.6.2 Criteria in Choosing the Informants	18
1.6.3 Source of data	19
1.7 Descriptive Approach	21
1.8 The Intonation Group	22
II : A REVIEW OF THE RELATED LITERATURE	24
2.1 Jones, R.B. (1961) Karen Linguistic Studies ; Description Comparison and Text. (part two)	24

	page
2.2 Weerawat Samranchit (1973). Pho Karen's Phonology at Suan Phung subdistrict, Chom Bung district, Ratchaburi province.	28
2.3 Joseph R. Cooke and others (Smalley (ed.) 1976) "Phlong" (Pwo Karen of Hot district, Chiang Mai province.)	30
2.4 Chutima Kaewsilpa (1982) A Description of Pho Karen : A Tibeto-Burman Language in Thailand.	35
2.5 Potchanat Samermit (1983) Phonetics and Phonology of Phlow Spoken at Srisawat district, Kanchanaburi province.	38
2.6 Naruemon Chuensukon (1993) A Phonological study of Pwo Karen at Yang-Khaw Village, Tambon Prang-Phe, Sang-Kha-Buri Province.	43
 III : THE PHONOLOGICAL WORD	 46
3.1 General Definition	46
3.2 Structure	46
3.2.1 Type 1 Monosyllabic word	46
3.2.2 Type 2 Disyllabic word	47
3.2.2.1 Disyllabic word of the first type	47
3.2.2.2 Disyllabic word of the second type	48
3.2.3 Type 3 Trisyllabic word	49
 IV : SYLLABLE	 50
4.1 General Definition	50
4.2 Structure	50
4.2.1 Types of Syllable	50
4.2.1.1 Presyllable	50

	page
4.2.1.2 Major syllable	54
4.2.1.3 Minor syllable	60
4.2.2 Stress in Syllable	65
4.2.2.1 Types of Stress and Syllable	65
Stress Symbols	
a). Stress : strong stress	65
and weak stress	
b). Non-Stress : zero stress	66
4.3 Function	67
4.3.1 The Nuclear Syllable	67
4.3.2 Peripheral Syllable	68
4.3.2.1 Weakly Stressed Peripheral Syllable	68
4.3.2.2 Zero-Stressed Peripheral Syllable	68
4.4 Syllable Boundary and Syllable Break	69
4.4.1 In Phonetic Transcription	69
4.4.2 In Phonemic Transcription	69
V : PHONEMES	70
5.1 General Definition	70
5.2 Phonemes in Pwo Karen Language	70
5.3 Consonant Phonemes	70
5.3.1 General Definition	70
5.3.2 Consonant Phoneme Chart	71
5.3.3 Formational Statements	73
5.3.3.1 Plosives	73
5.3.3.2 Nasals	76
5.3.3.3 Fricatives	77
5.3.3.4 Affricates	79
5.3.3.5 Approximants	80

5.3.3.6	Lateral	81
5.3.3.7	Trill	82
5.3.4	Classification of Consonants	83
5.3.4.1	Consonant sub-class C_1	83
5.3.4.2	Consonant sub-class C_2	84
5.3.5	Consonant Phoneme Contrast	89
5.4	Vowel Phonemes	93
5.4.1	Vowel Phoneme Chart	94
5.4.2	Formational Statements	96
5.4.2.1	Vowel and Diphthongs of plain vowel set	96
5.4.2.2	Vowel and Diphthongs of glottal vowel set	102
5.4.2.3	Nasal vowel set	105
5.4.2	Vowel Phoneme Contrast	106
5.5	Tonemes	109
5.5.1	Formational Statements	110
5.5.2	Toneme Contrast	112
VI	: CONCLUSION AND SUGGESTIONS FOR FURTHER STUDIES	114
6.1	Conclusions of Huay-Hom-Nok Pwo Karen dialect	114
6.1.1	Intonation	114
6.1.2	Phonological word	114
6.1.3	Syllable	114
6.1.4	Phonemes	115
6.2	Remark on Pwo Karen at Huay-Hom-Nok Village	115
6.3	Suggestions for Further Studies	116
	REFERENCES	117
	APPENDIX I	121
	APPENDIX II	136

LIST OF MAPS

Map no.		page
1	Location of Karen Population	3
2	The Distribution of Karen in the North of Thailand	4
3	Changwat Lamphun Administrative Divisions	10

LIST OF TABLES

	page
Table 1: The co-occurrence of a consonant with [ə] in the presyllable with the single initial consonants of a major syllable	52
Table 2: The co-occurrence of single initial consonants and vowels of a major syllable	56
Table 3: The co-occurrence of initial consonant clusters and vowels of a major syllable	58
Table 4: The co-occurrence of single initial consonants and vowels in minor syllable	61
Table 5: The co-occurrence of initial consonant clusters and vowels of a minor syllable	63
Table 6: Consonant Phonemes Chart	72
Table 7: Co-occurrence of the first and the second consonant in consonant cluster	87
Table 8: Pwo Karen Vowel Phonemes	95
Table 9: Pwo Karen Tonemes	109

LIST OF FIGURES

	page
Figure 1: Schematic chart of Sino-Tibetan groups	6
Figure 2: Pwo Karen's house in Huay-Hom-Nok	11
Figure 3: Karen girls in sack dress	13
Figure 4: A Karen housewife's dress	14
Figure 5: Karen boys	14
Figure 6: An old Karen man	15
Figure 7: A three-stone fireplace	16
Figure 8: Main informants	• 20
Figure 9: The Phonological Hierarchy	21

LIST OF ABBREVIATIONS AND SYMBOLS

asp.	-	aspirated
C ₁	:	Initial Consonant
C ₂		second member of consonant cluster
Class.	:	Classifier
f.p.	:	final particle
HHN	:	Huav-Hom-Nok dialect
I.F.A.	:	The International Phonetic Alphabet
n.p.		negative particle
p.v.	:	pre-verb
q.p.	:	question particle
s	:	strong stress (syllable)
T	:	Tone
unasp.	:	unaspirated
~	:	nasal vowel
v?	:	glottal vowel
vd.	:	voiced
vl.		voiceless
w	:	weak stress (syllable)
YK	:	Yang-Khaw dialect
z		zero stress (syllable)
²¹¹	/1/ :	tone 1
²³¹	/2/ :	tone 2
⁵⁵¹	/3/ :	tone 3
⁵¹¹	/4/ :	tone 4
²⁵¹	/5/ :	tone 5

ˌ	:	phonetic transcription
ˈ	:	phonemic transcription
	:	strong stress (syllable)
		weak stress (syllable)
		occurrence
		non-occurrence

CHAPTER I

INTRODUCTION

1.1 General Information on the Karen

The Karen people are the largest tribal minority in Thailand. They migrated into Thailand before other minorities such as Akha, Lahu, Lisu, Hmong and Yao. It has been suggested that the original habitat of the Karen is in the land of Tibet and the Gobi Desert, but there are more references to the fact that the Karens have been settled in Burma for a long time. It was about the 18th century that the Karens crossed the Salween River in Burma and, from there into the northern and the western regions of Thailand. They are plains as well as hill dwellers. Their settlements in Burma are in the low flat plains of the Irrawaddy, Sittang and Salween deltas, and extending into the plain of Tenasserim.

Karen in Thailand can be found in the central plains region but the majority of them are in the northern and western hill areas.

According to the Tribal Research Institute(1990:5), there are approximately 275,354 Karen people in Thailand. This number constitutes 49.67% of the total hilltribe population in the country. The 9 major hilltribe groups in Thailand are : Karen, Hmong, Lahu, Lisu, Yao, Akha, Lua, Thin and Khmu.

Karens are generally classified into four major sub-groups.

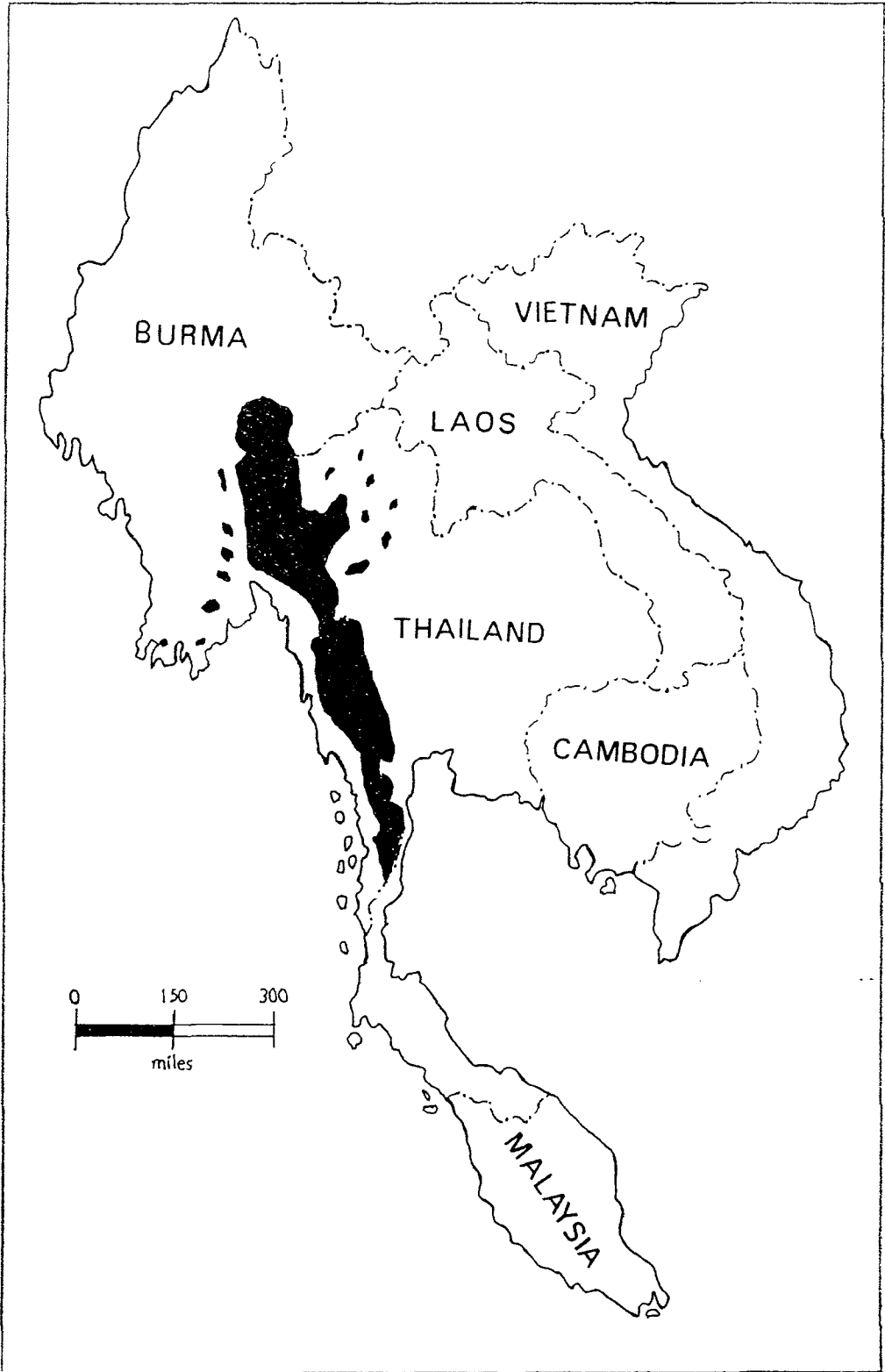
1. Sgaw Karen (S'əw, Skaw) or /pakapɔ̌ cəkɔ̌/ as they call themselves. They are also known in Thai as "Yang Khao" (White Karen) and called by the Burmese "Bama Kayin" (Burmese Karen). In Burma, they are more widely distributed throughout the Irrawaddy and Sittang delta area. In Thailand, they are widely distributed in the western and the northern region along the Thai-Burmese border in the north downwards to the south.

2. Pwo Karen (Pho, Po, P'wo, Pro or Phlong) or /pakapɔ̌ pʋo/ as they call themselves. Some Thai people call them "Yang Dang" (Red-Karen) or "Taliang Kayin" (Mon Karen) as called by the Burmese. In Burma, they are concentrated in the Irrawaddy delta and northern Tenasserim. In Thailand, they are found nearby the Sgaw settlements. The name "Pwo Karen" will be used in this study.

3. Bwe Karen (Bre, B'ghwa) or "Kayah" as the Burmese call them. In Burma, they are in Kayah State : an area in the southern Shan States. They are found in northern Thailand, especially in Changwat Mae-Hong-Son and Changwat Chiangmai.

4. Taungthu Karen (Pa-o) "Pa-o" as they call themselves and "taungthu" (which means hillman) as called by the Burmese. In Burma, they are in the southwestern portion of the Shan States, and east of the Gulf of Martaban in Tenasserim. They are few in Thailand, mostly found in the north.

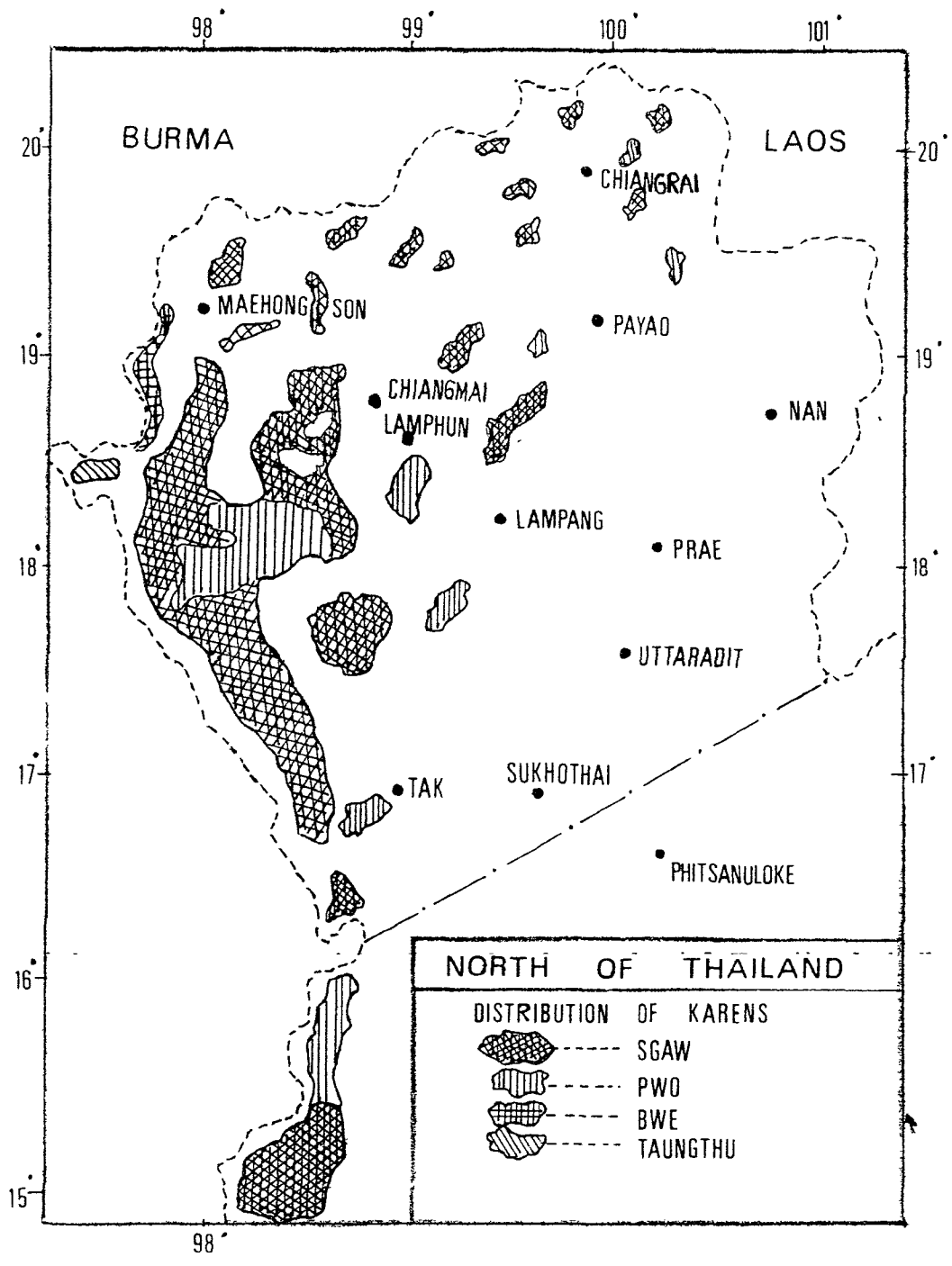
These four groups of the Karens dress alike. The difference can be known from their languages. Joseph R. Cooke, and others state that : the Sgaw language is " a language which is unintelligible to the vast majority of Phlong in Thailand". (in Smalley 1976:189)



Map 1

Location of Karen Population

Source : Keyes (ed.) (1979:9)



1.2 Language Affiliation

Although the Karen languages are different from other Tibeto-Burman languages in certain aspects, many linguists now accept that the Karen languages are still in the Tibeto-Burman family.

G.H. Luce (1959:9) states that:

There is no doubt whatever, in my opinion, that Karen is basically a Tibeto-Burman language, akin in origin to Burmese, though Burmans and Karens have followed widely different routes to meet once again in the plains of Burma.

Karen linguistic affiliation is not definitely established, however, as it is mentioned in Lebar and Others (1964:58) :

Although the Karen group of language is usually placed within the Sino-Tibetan stock, its position therein has remained in doubt. Shafer(1955:107-08) would assign them to a Karenic division of Sino-Tibetan. A recent judgement by Luce is that Karen is most closely affiliated with the Tibetan-Burman languages,...

Benedict (1972) placed Karen outside the Tibeto-Burman stock but still within the large Sino-Tibetan superstock.

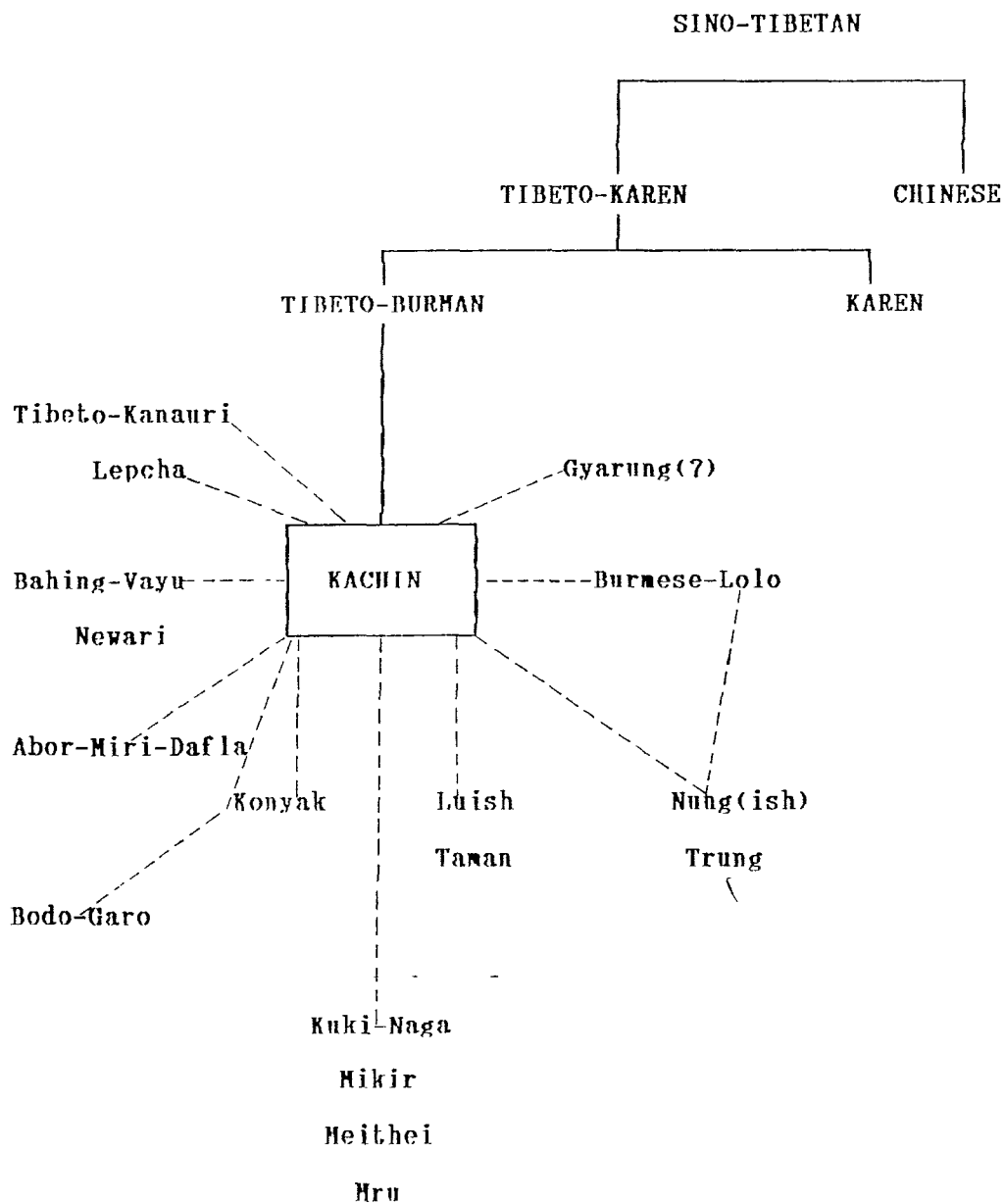


Figure 1 : Schematic chart of Sino-Tibetan groups

Source : adapted from Benedict (1972:6)

1.3 Geographical Location

1.3.1 Pwo Karen in Thailand

Pwo Karen is one of the sub-divisions of Karen who migrated from Burma into the northern and western parts of Thailand.

Based on information from Tribal Welfare Division officials, a rough estimate of the Pwo Karen is about 100,000. They are settled in 13 provinces of Thailand : Prajua-p-khirikhan, Petchaburi, Ratchaburi, Kanchanaburi, Suphanburi, Uthaithani, Tak, Phrae, Chiangmai, Lampang, Lamphun, Maehongson and Chiangrai.

Pwo Karen and Sgaw Karen are the two largest groups. They live near each other. Sometimes they live in the same village, and often they intermarry. However, in the central and the southern provinces below Tak province, the majority of the Karen living there are Pwo Karen. Overall, the number of the Sgaw Karen is larger than that of the Pwo, both in Thailand and in Burma.

Some of the Karen have very limited contact with Thais and other groups because some of the Karen live in mountainous areas. In general though, they are very conscious of their ethnic identity, custom, religion and language, which is different from that of the Thai people.

1.3.2 Karens in Lamphun

Lamphun is a province in the north of Thailand. It is adjacent to Chiangmai in the north and the west. Tak lies to the south and Lampang in the east. Lamphun occupies an area of 4,505.9 square kilometres (2,816,176 rais). It is 729 kilometres from Bangkok by Phaholyothin Road or 689 kilometres by Asia Road and 729 kilometres by railroad. Lamphun is situated in the plateau at the average height of 450-1,000 metres above sea level. The land is comprised of plateaus, plains and mountains and the climate is fairly warm.

The Karens in Lamphun are of the Sgaw and Pwo sub-groups. The Sgaw are found only in Huay-Tom village, Tambon Na-Saay, Li District. All of the other Karen villages in Lamphun are Pwo. (Dhananajayananda 1983:7).

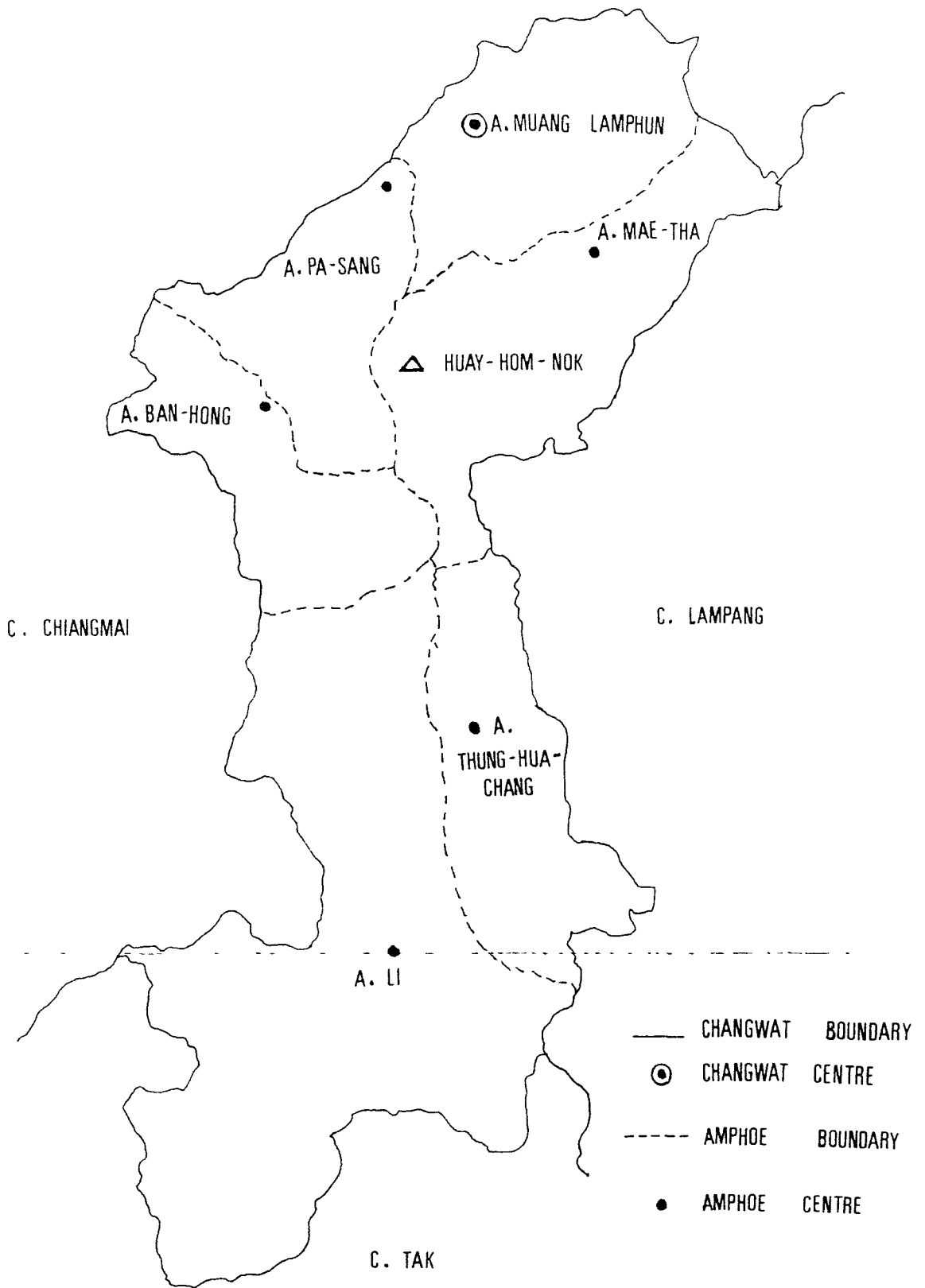
According to The Hilltribe Welfare and Development Centre, Changwat Lamphun (1993), the total population of Karen in Lumphun is 23,645, (7,466 in Li District, 4,577 in Mae-Tha District, 2,240 in Ban-Hong District and 9,362 in Thung-Hua-Chang District).

1.3.3 Karens in Huay-Hom-Nok Village.

- Geographical features and Historical background

Huay-Hom-Nok is a Karen village established more than 150 years ago. It is situated in Tambon Tha-Mae-Lob, which was recently changed from Tambon Tha-Rhum-Ngen, Mae-Tha District, 55 kilometres from Mae-Tha District and 50 kilometres from Muang District.

It is surrounded by mountains. There is a small stream in the village. Before this village was established, the Karens were more widely distributed in Mae-Tha District and Thung-Hua-Chang District. Then, they moved to another place after a plague. Two groups of the Karens established new villages in the north and in the south of Huay-Hom village. The village in the north, which was on the left bank of the river, is called "Ban Huay-Hom-Nai", and the village in the south, which was on the opposite side, is called "Ban Huay-Hom-Nok".



Map 3

Changwat Lamphun Administrative Divisions

Source : Adapted from Map of Changwat Lamphun

Figure 2 : Pwo Karen's house in Huay-Hom-Nok

- Population

According to a teacher at Huay-Hom-Nok school, the population in this village is 378, consisting of 124 male adults, 119 female adults, 86 boys and 49 girls. Most of them are Pwo Karen, only 4-5 people are northern Thais who have intermarried into the village.

Some of the Pwo Karen in this village have more contact with the surrounding Thai communities. Most of them have been recognized as Thai citizens. Their children go to Thai government school. Moreover, they accept the Thai political system and most of the government's development projects. Also, the adults trade with the Thais or work as labourers for the Thais.

- Occupation

Most of the Karens at Huay-Hom-Nok village are farmers. They cultivate upland fields and harvest crops from the forest. They shift their cropping areas from place to place around their village. They will cut trees and burn them so as to provide themselves with cultivated lands. After 4-5 years they will return to a place that was previously used. They mainly grow rice, but they also grow other crops such as, vegetables (lettuce, potatoes, pumpkins, onion, garlic, chilies, spices) taros, yams, sugarcane and fruits (papayas, corns, beans and bananas) tobacco (most of the men, women and children smoke cigarettes or pipes) and some cotton as well. Now, however, they mostly buy rayon instead of growing cotton because it comes in many colors and is easy to weave. Two women weave cloth (bag, blouse, skirt) for their family. Weaving is done on simple back-strap looms using a single-warp technique. The Karens at Huay-Hom-Nok are also good at hunting.

- Dress

Women, from childhood to youth, wear white cotton sack dresses (now they wear many colored sack dresses). The dress is simply made by stitching together lengthwise two rectangular pieces of cloth of ankle length, leaving spaces for the neck and arms. The dress then is embroidered with Job's tears and colored lines around the neck, arms and along the shoulders.

The girls wear this white dress until they get married and then change to a red dress. This red dress is usually reserved for married women. The red dress consists of a sarong and a sleeveless blouse. Their dresses are beautifully designed to indicate their own individual characteristics.

As for males, little boys wear a white sack with pink lines like the girls, but without the embroidery. When they become older, they wear a sarong like the adults (now they wear like Thai boys and Thai farmers). In the past, both men and women liked to wear tattoo on their skin, especially, on their legs, ankles and hands because they believed that it was very attractive to others.

↗

|

Figure 3 : Karen girls in sack dress



Figure 4 : A Karen housewife's dress



Figure 5 : Karen boys

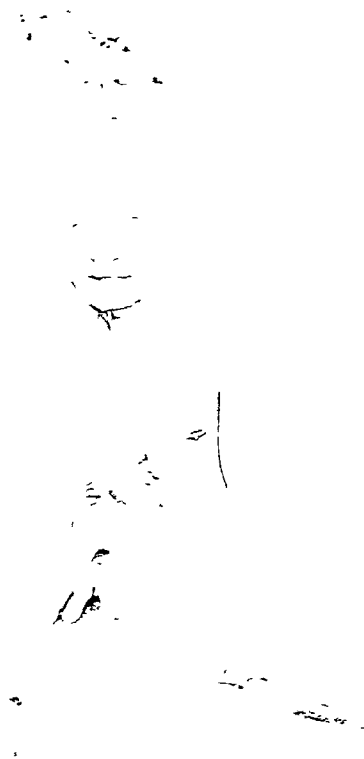


Figure 6 : An old Karen man

- Religion

All the Karens in Huay-Hom-Nok still believe in several kinds of spirits, (such as natural spirits that inhabit rocks, trees, water, paddies, mountains or valleys and inanimate objects ; ancestral spirits and house spirits). Each Karen house has a three-stone fireplace which is used for paying respect to the spirits. They believe that the spirits are the cause of sickness. Hence, they have to make offerings to the house or the ancestral spirits when they get sick. Moreover, the ancestral spirit will be angry, if lovers have premarital sexual relationships. According to thier belief and the rule of the village, a man who does such

a thing has to make offerings to the spirits so as to apologize to the spirits and the woman. Polygamous marriages is not permitted in this community. There is a small number of Buddhists living in this village.

~~----- Figure 7 : A three-stone fireplace -----~~

1.4 Objective of the Study

The objective of the study is to describe the sound system of the Pwo Karen language which is spoken at Huay-Hom-Nok Village, Tambon Tha-Mae-Lob, Mae-Tha District, Lamphun Province, in order to provide available phonological data to scholars and others who are interested in this language.

1.5 Scope of the Study

This study presents a phonological system of the Pwo Karen language which is spoken by the Pwo Karen people at Huay-Hom-Nok Village, Tambon Tha-Mae-Lob, Mae-Tha District, Lamphun Province. It is organized as follows : the intonation group, the stress groups, syllables and phonemes.

1.6 Methodology

1.6.1 Method of the study

My interest in the Pwo Karen language began when I had an opportunity of going to study the language at Huay-Hom-Nok village during my Field Methods in Linguistics Course. First, I started investigating published documents on the Karen language to become acquainted with the language. Then, a preliminary survey was made in March 1993. I collected data in August and in November 1993. The data were then checked again in January 1994. To elicit the data, I prepared a wordlist and asked an informant to pronounce the particular word a number of times. Then I repeated after the informant, until it was accepted to be correct in the informant's judgement. The wordlist data was then immediately transcribed into IPA phonetic symbols and recorded on cassettes. The phonological approach adopted in this study is that of Tagmemics.

1.6.2 Criteria in Choosing the Informants

To choose native speakers of Pwo Karen as informants, the criteria were set up as follows :

1. The informants must be Pwo Karens who have lived in Huay-Hom-Nok village over 10 years.
2. The informants must have had a complete set of articulators, so that they can pronounce the sounds clearly and fluently.
3. The informants must know some Thai, but must use Pwo Karen in their daily lives.
4. The informants must have had enough time to work with me.
(Pwo Karen, both males and females, work in the field).
5. The informants' age must be over 15 so they would be responsible in working with me and have sufficient experience in their own language.

1.6.3 Source of Data

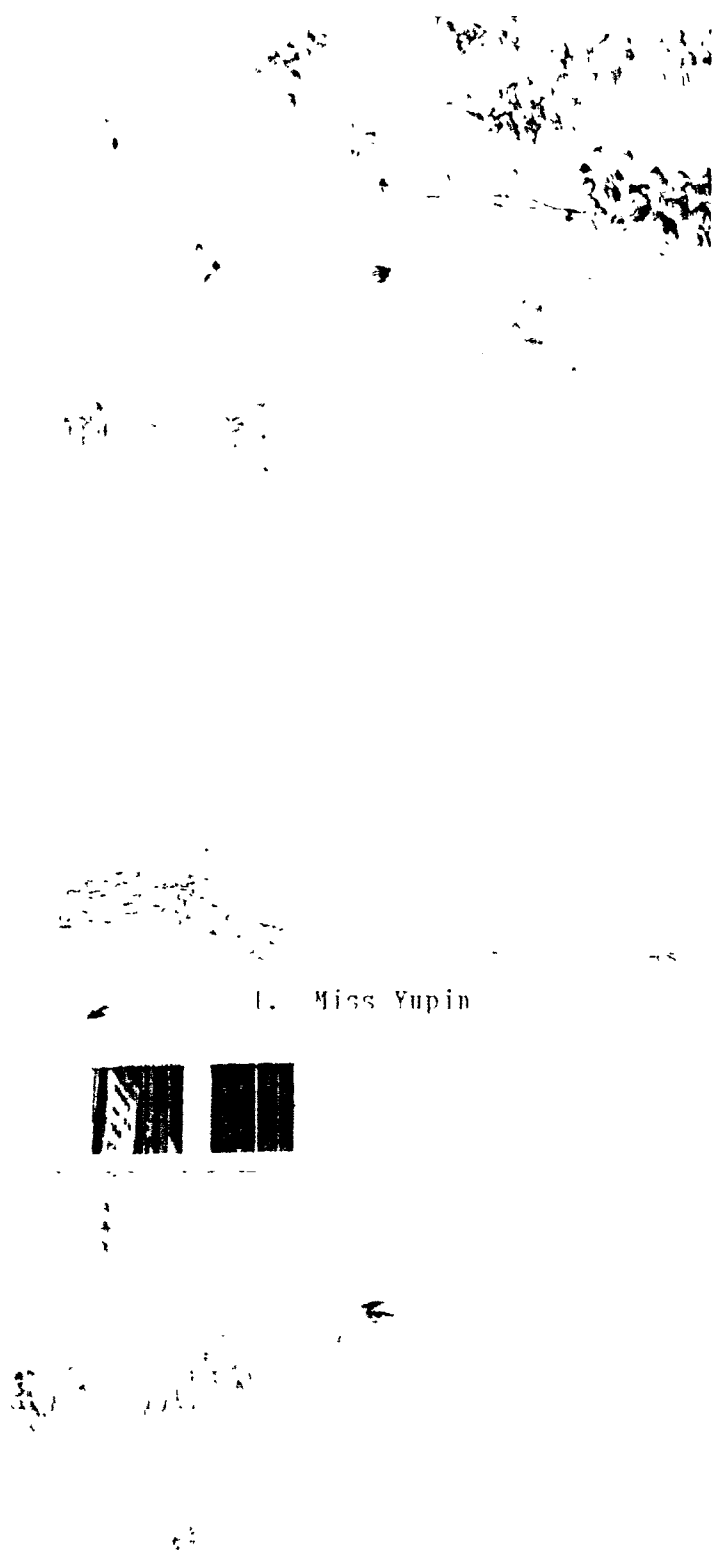
The data used in this study was collected in Huay-Hom-Nok Village, Tambon Tha-Mae-Lob, Mae-Tha District, Lamphun Province.

Miss Yupin is my main informant. She is twenty-five years old. She was born in Huay-Hom-Nok village. She can read and write Thai and she is a fourth-grade student of the Non-Formal Education at Huay-Hom-Nok school.

- Miss Wae Bue is fifteen years old. She was born in this village also. She is good at Thai and she is a fifth-grade student in a Thai government school.

- Mrs. Tib is thirty-six years old. She was born in this village. She can speak Central and Northern Thai.

My data are based primarily on Miss Yupin and Miss Wae Bue. However, I checked all the data with Mrs. Tib and also elicited a few conversation and short stories from her in order to get more words.



1. Miss Yubin

2. Miss Wae-Bue

Figure B : Main informants

1.7 Descriptive Approach

The phonological approach adopted in this study is Tagmemics, which sees phonology as a hierarchy of ranks. The phonological hierarchy is postulated with such ranks of the intonation group, the phonological word, the syllable and the phoneme. The units of each rank have a structure stated in terms of the rank below (except for the lowest rank, the phoneme) and the function stated in terms of the rank above (except for the highest one, the intonation). Since Karen is a tonal language, intonation is not a distinctive feature and therefore, non-contrastive. It will be described briefly at the end of this introductory chapter.

An approximate idea of the phonological hierarchy can be seen in the following diagram.

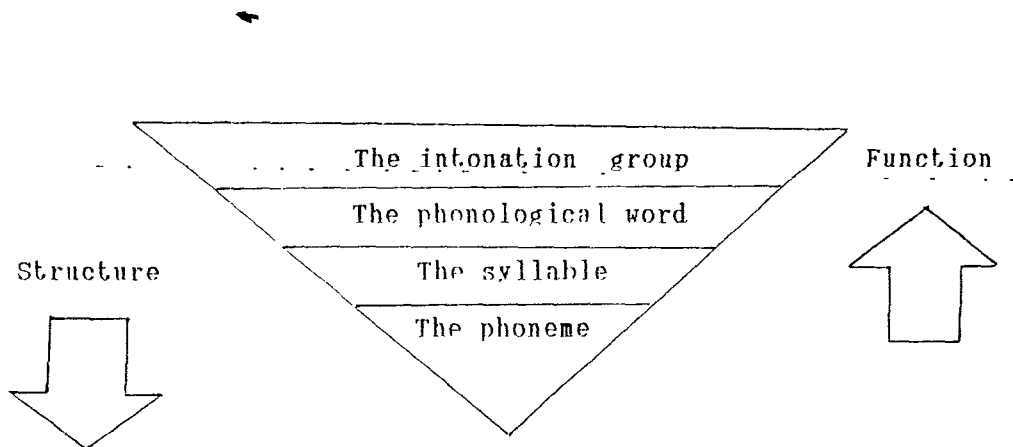


Figure 9 : The Phonological Hierarchy

1.8 The Intonation Group

The intonation group is the highest ranking unit in the phonological hierarchy that is being considered in this study. The structure of the intonation group is stated in terms of final contours.

No particular types of intonation can be mentioned. Only tones of final syllable and particles of statements seem to create different intonation types. So, the final contour can be falling, rising depending on the tone of the final syllable as in the following examples :

[jɛ¹ kə¹ ?ə³ mi¹ ɱau⁵ jau?¹] "I have already eaten."
I p.v eat rice already

[t^ho?¹ dɱi¹ nə¹ bə³ na¹] "That pig is very fat."
pig class. that fat very

[nɛ¹ nə¹ mə¹ mə¹ na¹ lə?¹] "What will you do?"
you p.v will do what

[t^hai¹ wai¹] "Go out"
go out

[k^hmi⁴ nə¹] "Sit down"
sit down

[p^hləu¹ mu¹ nə³ mə¹ t^hɛ⁴ kau¹ xə⁵] "We sing together."
we sing together

[dai¹ ?e?³]

run n.p.

"Don't run"

[ku¹ bæi³ kle⁴]

close door

"Close the door"

[je¹ kə¹ bε³ sa?¹ ?ə¹ ?e?³]

I p.v want eat not

"I don't want to eat."

[je¹ kə¹ ?ə³ mi¹ ma¹ dai¹ ?e?³]

I p.v eat rice vet. not

"I have not eaten yet."

[?ə¹ klə³ ?e?³]

give not

"Not give"

[k^hlai¹ lə¹ si¹ bε³]

<p>speak</p>	<p>can</p>
	<p>not</p>

"Can not speak"

[nε¹ nə¹ ?e³ je¹ mə⁵]

you p.v love I q.p.

"Do you love me?"

[nε¹ nə¹ bε³ sa?¹ ?ə³ nə³ lε³ | "What would you like to eat?"

you p.v want eat what

The intonation group patterns are predictable according to the final particle tones.

CHAPTER II

A REVIEW OF THE RELATED LITERATURE

Reviews of a few important articles are included here to provide a basic overview of the studies that have been done on the Pwo Karen Language.

2.1 Jones, R.B. (1961). *Karen Linguistic Studies ; Description Comparison and Text.* (Part Two)

He presents two varieties of Pho Karen Phonology (Moulmein and Bassein) spoken in Burma. The phonemic systems of the two varieties of Pho Karen are presented briefly below.

Syllable structure. The syllable structure of both varieties is

$$C_1(C_2)V^T(C_3)$$

C_1 - the initial consonant

C_2 = the second consonants /w, l, r, j/

C_3 = the one final consonant [__?] which is allophone of the initial consonant-/??/-

V = vowel

T = Tone

Phonemes. Single consonants, except as noted, are the same for both to the Moulmein and the Bassein dialects of Pho.

p	t	c	k	s			ʔ
ph	th		kh	sh	θ	x	(h)
b	d					ʎ	
w		j		š			
m	n	(ɲ)					
	l	r					



The two phonemes enclosed in parentheses, (h) and (p), do not occur in Bassein Pho(BP) and occur rarely in Moulmein Pho(MP). Aspirated consonants are more heavily aspirated in MP than in BP. In final position /ʔ/ has a stop allophone with mid and low tones in MP and low tone in BP. It has an allophone of constriction with the high tone in both dialects. Moreover, in final position /n/ is nasalization from the preceding nucleus. No other consonants occur in final position.

Consonant Clusters : The same system applies to both dialects.

Second consonant	Initial consonant
w	p b m t h d n k kh ʔ s sh θ x j l
l	p ph b m . . . k kh
r	p . . . t th . . . k (θ)
j	(p) ph b

Parentheses in the table indicate that the cluster /θr/ occurs only in BP and the cluster /pj/ occurs only in MP.

Syllabic nuclei : the two varieties have the following
syllabic nuclei :

Moulmein Pho Syllabic Nuclei

Plain Nuclei			Nasalised Nuclei			Stopped Nuclei		
i	y	u	-	yn	--	--	y?	--
e	ə	o	en	ən	on	e?	ə?	o?
ɛ	a	ɔ	ɛn	an	ɔn	ɛ?	a?	--
							ai?	au?

All nuclei are somewhat shorter when terminated by
glottal stop.

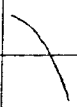
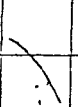

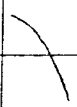




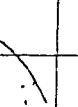




Bassein Pho Syllabic Nuclei

Plain Nuclei			Nasalised Nuclei			Stopped Nuclei		
i	y	u	--	--	--	--	y?	--
e	ə	o	en	ən	on	e?	ə?	o?
ɛ	a	ɔ	ɛn	an	ɔn	ɛ?	a?	ɔ?
	ai	au						

All mid and low vowels are diphthongised with nasalisation.

In comparison with Moulmein vowels, Bassien vowels are all in approximately cardinal position. Note also that in this dialect diphthongs occur only as plain nuclei, whereas in Moulmein they occur only as stopped nuclei. The vowels /ɛ, ɔ, ə/ are rare.

Tones : MP has three phonemic tones: high, mid, and low ; BP has only two: high and low. In both dialects each tone has two allophones, depending on the presence or absence of final /ʔ/. Besides the allophonic features of final /ʔ/, the low tone itself has fairly strong pharyngeal constriction in MP. The relative pitches and contours of the various allophones of the tones are indicated in the diagram. Note that the presence of a final /ʔ/ tends to raise the pitch of the tone.

	MP tones						BP tones				
	ˊ	ˊʔ	ˋ	ˋʔ	ˌ	ˌʔ	ˊ	ˊʔ	ˋ	ˋʔ	
H											
M											
L											

Tone Diagram

Moulmein and Bassein Pho Karen Tones

2.2 Weerawat Samranchit (1973). Pho Karen's Phonology at Suan Phung subdistrict, Chom Bung district, Ratchaburi province.

Syllable structure. The syllable structures are

- V^T (no initial consonant)

$C_1 (C_2) V^T (C_3)$

Phonemes. Consonant : There are 22 single consonant phonemes, as follows :

	Bilabial	Alveolar	Palatal	Velar	Glottal
STOPS					
Voiceless unaspirated	p	t		k	ʔ
Voiceless aspirated	ph	th		kh	
Voiced	b	d			
AFFRICATES					
Voiceless unaspirated			c		
Voiceless aspirated			ch		
FRICATIVES					
Voiceless		s	ʃ	x	h
Voiced				v	
NASALS					
	m	n	ɲ		
LATERAL					
		l			
SEMIVOWELS					
	w		j		

Consonant clusters : There are 16 consonant clusters as follows :

Second consonant	Initial consonant
w	t n k kh ʔ s x h j l
l	ph b m
j	b

There are 3 consonants /ʔ,n,j/ that can occur in the final position and these three final consonants will shorten the vowel.

Vowel phonemes : There are 10 vowels of Pho Karen at Suan-Pung and no length contrast of vowels, as follows :

	front	central	back
high	i	i	u
mid	e	ə	o
low	ɛ	a	ɔ

Tone phonemes : There are 5 tones, 3 types of level tones and 2 types of contour tones as follows :

- Low tone /˘/
- Mid tone /ˊ/
- High tone /ˋ/
- Falling tone /ˆ/
- Rising tone /ˊˋ/

2.2 Joseph R. Cooke and others (Smalley (ed.) 1976) "Phlong" (Pwo Karen of Hot district, Chiang Mai province.) Phonemes and Orthography : Language Planning in Ten Minority Languages of Thailand.

Syllable structure. The syllable structure is $(C_1)(C_2)V^T(n/?)$
 $n/?$ the phonemes in a final position which are nasalised and glottalised.

Phonemes. The inventory of Phlong consonants is charted below. All items occur as single initial consonants.

	Bilabial	Alveolar	Palatal	Velar	Glottal
STOPS					
Voiceless unaspirated	p	t	c[č]	k	ʔ
Voiceless aspirated	ph	th	ch[čʰ]	kh	
Voiced implosive	b[ɓ]	d[ɗ]			
SPIRANTS					
Voiceless	f[fw]	s[θ/s]	sy[š]	x[xʷ]	h
Voiced					
FRICATIVES					
Semivowels	w[vw]		y		
Nasals	m	n	ny[ɲ]	ŋ	
Lateral		l			
Trill		ʀ			

Inventory of Phlong (Pwo Karen) consonants. Symbols in [] indicate phonetically the major details of pronunciation when these are not obvious from the phonemic symbol. /ʀ/ occurs in the Mountain dialect only.

Consonant clusters : All consonants except /f w sy ʒ ny ŋ r/ occur as the first consonant in a initial consonant clusters. In initial clusters, the second consonant of the cluster may be /w/. /y/, or /l/, or (in the mountain dialect) /r/.

initial consonant.	second consonant.	w	l	r	y
p		+	+	+	+
ph		+	+	+	+
b		+	+	+	+
m		+	+	+	+
t		+	-	+	-
th		+	-	-	-
d		+	-	-	-
s		+	-	-	-
n		+	-	-	-

(continue)

initial consonant.	second consonant.	w	l	r	y
	l	+	-	-	+
	c	+	-	-	-
	ch	+	-	-	-
	y	+	-	-	-
	k	+	+	+	+
	kh	+	+	+	+
	x	+	-	-	-
	ŋ	+	-	-	-
	ʔ	+	-	-	-
	h	+	-	-	+

The co-occurrence of Pwo Karen clusters at Hot district,
Chiang Mai province.

+ = occurrence

- = non-occurrence

Vowel phonemes : There are 12 vowel phonemes : 9 single vowels and 3 diphthongs as follows :

	Front	Central	Back
High		i	u
Mid	e	ə	o
Low	ɛ	a	ɔ
Diphthongs	ai	ai	au

The nucleus of a syllable is comprised of a vowel or diphthong accompanied by one of the four tones and also, optionally, by nasalisation or glottalisation.

The phonetic values of vowels and diphthong are summarised as below. Small raised wedges point in the direction of the tongue position as against the tongue position usually assumed for the vowel symbols used. [ʌ] under a vowel here indicates a non-syllabic offglide. A small subscript hook [̤] again represents nasalisation. A dash indicates combinations which do not occur.

	Front	Central	Back
High	/i/	/i/	/u/
Plain	i ^v	i ^v	u ^v
Nasal	i ^v i [^]	i ^v i [^]	u ^v u [^]
Glottalised	--	--	--
Mid	/e/	/ə/	/o/
Plain	e ^v	ə ^v	o ^v u ^v
Nasal	e ^v i [^]	ə ^v i [^]	o ^v u [^]
Glottalised	e ^v i [^] ?	ə ^v ?	o ^v u [^] ?
Low	/ɛ/	/a/	/ɔ/
Plain	ɛ [^]	a	ɔ [^]
Nasal	--	a ^v i [^]	ɔ [^] u ^v
Glottalised	ɛ [^] ?	a?	ɔ [^] ?
Diphthongs	/ai/	/ai/	/au/
Plain	a ^v i [^]	--	au ^v
Nasal	-----	-----	-----
Glottalised	a ^v i [^] ?	a [^] i ^v ?	a [^] u ^v ?

Phonetic values of phlong plain, nasalised and glottalised vowels.

Tone phonemes : there are 4 tones in this dialect ; Mid tone, Low tone, Falling tone and High tone. Moreover, there are 2 allotones of Mid and Falling tones which depend on the co-occurrence of a glottal and a vowel in the syllable.

2.1 Chutima Kaewsilpa (1982) A Description of Pho Karen :
A Tibeto - Burman Language in Thailand.

This thesis presents a description of Pho Karen which is spoken in Thailand. The thesis includes phonology and syntax of the language, especially of the dialect spoken in Tambon Kan-Ma-Krut and Tambon Khok-Khwai, Ban Rai District, Uthai Thani Province.

Syllable structure. The syllable structure is CV^T

C - single consonant clusters

V - vowel

T - tone

Phonemes. Single Phoneme, Pho Karen has twenty three consonant phonemes. All of them occur only in the syllable initial position. There are no final consonants.

	Bilabial	Alveolar	Palatal	Velar	Glottal
STOPS					
Voiceless unaspirated	p	t	c	k	ʔ
Voiceless aspirated	ph	th	ch	kh	
Voiced implosive	b	d			
FRICATIVES					
Voiceless		sʃθl	ʃ	x	h
Voiced				ɣ(ŋ)	
RESONANTS					
Nasals	m	n	ɲ		
Lateral		l			
Trill		r			
Semivowels	w		j		

The sound [ʃl] occurs mainly in words borrowed from Thai.

Consonant clusters : Pho Karen has two-consonant clusters which occur only in the syllable initial position. All consonants except /š p V h w l/ occur as first consonant in a cluster. The second consonant may be /w j l r/, but only /kh p/ can occur with /r/. Alveolas and glottal occur only before /w/ in clusters.

initial consonant \ second consonant	w	l	j	r
p	+	+	+	+
ph	-	+	+	-
b	-	+	+	
m	+	+	+	
t	+	-	-	
th	+	-	-	-
d	+	-	-	-
s	+	-	-	
n	+	-	-	
r	+	-	-	
c	+	-	+	
ch	+	-	-	
j	+	-	-	
k	+	+	-	
kh	+	+	-	+
x *	+	-	-	-
?	+	-	-	

The co-occurrence of consonant clusters in Ban Rai Pho Karen

+

- = non-occurrence

Vowel phonemes : there are 24 vowel phonemes which are divided into three different sets. Ten of them are in the plain vowel set, eight in the glottal vowel set and six in the nasal vowel set.

	Front	Central	Back
Plain Vowel Set	i e ej	i ə əi ou	u o
Glottal Vowel Set	i? e? ɔi?	i? a? ai?	u? ɔ?
Nasal Vowel Set	ɛ əi	ɛ 	ɤ ɛ ɛ

Tone phonemes : Pho Karen has three contrastive contour tone and one level tone : mid-high, high-rising, falling and low. The plain and nasal vowels occur with all four tones, while the glottal vowels occur with only two tones; low and high rising.

2.5 Potchanat Samermit (1963) Phonetics and Phonology of Phlow
Spoken at Srisawat district, Kanchanaburi province.

This thesis includes the phonetic and phonological descriptions of the consonants, the vowels and the tones.

Syllable structure. The Syllable structures are

1. Major Syllable $C_1(C_2)(C_3)V^T$

C_1 = consonant

C_2 = the second consonants which are /h,w,l,r,j/

C_3 = the third consonants which are /w,l,r,j/

V = vowels

T = tones

2. Minor Syllable

2.1 V^T \rightarrow V = vowel (only /i/, /a/)
- T = tone (only low-tone/3/)

2.2 $C_1(C_2)V^T$

C_1 = voiceless stops /p,t,c,k,ʔ/

C_2 = the second consonant (only /h/)

V = vowel (only /aʔ/)

T = tone (low-falling tone /4/)

Phonemes. Single consonant : there are 20 phonemes as follows :

		Bilabial	Alveolar	Palatal	Velar	Glottal
STOPS	Vl. unasp.	p	t	c	k	ʔ
	Vd.	b	d			
NASALS	Vd.	m	n		ŋ	
FRICATIVES	Vl.	f	θ	š	x	h
CONTINUANTS	Vd.	w	l	j	ʏ	
			r			

Consonant clusters : There are two types of consonant clusters : two consonant clusters and three consonant clusters. In this dialect there are 31 two consonant clusters and 11 three consonant clusters. The co-occurrence of the two consonant clusters and the three consonant clusters are shown in the following two charts.

initial consonant \ second consonant	h	w	l	r	j
p	+	+	+	+	+
b	-	-	+	-	+
t	+	+	-	-	-
d	-	+	-	-	+

(continue)

initial consonant \ second consonant	h	w	l	r	j
c	+	+	-	-	+
k	+	+	+	+	+
ʔ	-	+	-	-	-
θ	-	+	-	-	-
x	-	+	-	-	-
m	-	+	+	-	+
n	-	+	-	-	+
ŋ	-	-	-	-	+
w	-	-	-	-	+
l	-	-	-	-	+
r	-	-	-	-	+
j	-	-	-	-	-

The co-occurrence of two consonant clusters of Phlow

+ = occurrence

- = non-occurrence

	C ₂		C ₁			
	h	r	w	l	r	j
p	+	-	-	+	-	-
p	+	-	-	-	+	-
p	+	-	-	-	-	+
p	-	+	+	-	-	-
p	-	+	-	-	-	+
t	+	-	+	-	-	-
c	+	-	+	-	-	-
k	+	-	+	-	-	-
k	+	-	-	+	-	-
k	+	-	-	-	+	-
k	-	+	-	-	-	+

The co-occurrence of three consonant clusters of Phlow

 + = occurrence

 - = non-occurrence

Vowel phonemes : there are 17 single vowels which are divided into 3 groups ; 9 plain vowels, 6 glottal vowels and 2 nasal vowels.

Plain vowels	Glottalised vowels	Nasalised vowels
i i u	iʔ iʔ uʔ	
e ə o	eʔ oʔ	ẽ
ɛ a ɔ	aʔ	õ

Diphthongs: There are 13 diphthongs. They are divided into 3 groups;

- 4 plain vowel diphthongs.
- 4 glottalised vowel diphthongs.
- 5 nasalised vowel diphthongs.

Plain vowels	Glottalised vowels	Nasalised vowels
eɪ ou	eɪʔ əɪʔ ouʔ	eĩ əĩ õũ
ai au	aiʔ	aĩ aĩ

Tone phonemes, there are 2 contour tones and 2 level tones;

- high-level marked as /1/
- high-falling marked as /2/
- low-level marked as /3/
- low-falling marked as /4/

Note that, there is no influence of glottalisation and nasalisation on the vowels, so that these two features are not as significant in this dialect as they are in the previously discussed Pwo Karen dialects.

2.6 Naruemon Chuensukon (1993) A Phonological study of Pwo Karen at Yang-Khaw Village, Tambon Prang-Phe, Sang-Kha-Buri District, Kanchanaburi Province. (Unpublished manuscript)

The data of Yang-Khaw Village, Tambon Prang-Phe, Sang-Kha-Buri District, Kanchanaburi Province, were taken from my study with the informants in Field Methods in Linguistics Course during November 1992 to February 1993. This study is proposed as a sketch of some major units, i.e., the consonant phonemes, the vowel phonemes and the tonemes. Moreover, a glossary comparison of the Pwo Karen at Huay-Hom-Nok Village, Tambon Tha-Mae-Lob, Mae-Tha District, Lamphun Province and the Pwo Karen at Yang-Khaw Village, Tambon Prang-Phe, Sang-Kha-Buri District, Kanchanaburi Province will be presented in Appendix I. The analysis given here is not a detailed study because it is just a classroom exercise. However, this unpublished work is mentioned here because it is closely related to the dialect being analyzed.

Phonemes Consonant Phonemes : there are 25 consonant phonemes in Yang-Khaw dialect as follows:

	Bilabial	Alveolar	Palato- alveolar	Palatal	Velar	Labial- velar	Glottal
Plosives	p	t			k		ʔ
	p ^h	t ^h			k ^h		
	b	d					
Nasals	m	n		ɲ	(ŋ)		
Fricatives		θ s	ʃ		x		h
Affricatives					tʃ tʃ ^h		
Approximants				j	ɥ		
					[ɥ]~[ʏ]	w	
Lateral		l					
Trill		r					

Vowel Phonemes : there are 30 vowel phonemes which are divided into three different sets. 17 of them are in a plain vowel set, 8 in a glottal vowel set and 5 in a nasal vowel set.

	Front	Central	Back
Plain Vowel Set	i	ɯ	u
	e	ə	o
	ɛ	a	ɔ
	wi wu əi əu ai au ui ua		
Glottal Vowel Set	iʔ		uʔ
		əʔ	
	ɛʔ	aʔ	ɔʔ
	aiʔ auʔ		
Nasal Vowel Set			ũ
		ẽ	õ
		ãi	õ̃

Tone Phonemes : there are five contrastive tonemes, three contour tones and two level tones as follows:

- /1/ [²1] a low-falling tone
- /2/ [³3] a mid level tone
- /3/ [⁵5] a high level tone
- /4/ [⁵1] a high-falling tone
- /5/ [²5] a low-rising tone

CHAPTER III

THE PHONOLOGICAL WORD

3.1 General Definition

The phonological word is defined as the rank which functions as the unit of the intonation group and whose structure is stated in terms of syllable.

In Pwo Karen, a phonological word has only one main (strong) stress. The stress is placed on the last syllable of a phonological word. That is, a strong stressed syllable shows the end of a phonological word. Thus a phonological word in this study may be called a stress group as well.

3.2 Structure

In terms of stress, the stress group in this language can be divided into 3 types : Monosyllabic word, Disyllabic word and Trisyllabic word.

The syllabic pattern of Pwo Karen is basically monosyllabic. There are also a small number of disyllabic words and an even rarer number of trisyllabic words.

3.2.1 Type 1 Monosyllabic word

A monosyllabic word is a word with only one syllable. The strong stress usually occurs on that syllable. Its structure is ['s].

Examples:

['ʔu⁵⁵]

"to blow"

[¹ blaiʔ ²¹]	"thin"
[¹ kwi ³³]	"sea"
[¹ k ^h a ⁵¹]	"trencher"
[¹ ju ⁵¹]	"rat"
[¹ səi ⁵⁵]	"tree"
[¹ lje ²¹]	"old-aged"
[¹ wi ²⁵]	"son-in-law"
[¹ xəʔ ⁵⁵]	"knife"
[¹ k ^h eʔ ²¹]	"to stab"

3.2.2 Type 2 Disyllabic word

A disyllabic word is a word with two syllables. It can be classified according to its structure into 2 sub-types.

3.2.2.1 Disyllabic word of the first type

This sub-type is composed of a presyllable which has a zero stress followed by a major syllable. The strong stress is on the last syllable. Its structure is [z.¹s].

Examples:

[pə ¹ ʔau ³³]	"termite"
[pə ¹ nɛ ²¹]	"buffalo"
[pə ¹ k ^h ə ³³]	"mosquito"
[sə ¹ mɛ ⁵⁵]	"crocodile"
[tə ¹ k ^h lmi ⁵¹]	"seed"
[tə ¹ p ^h o ⁵¹]	"flower"
[tə ¹ su ⁵¹]	"bear"
[tə ¹ smi ⁵⁵]	"medicide"
[tə ¹ xoʔ ⁵⁵]	"deer, basket"

[t ^h ə 'du ³¹]	"bison"
[t ^h ə 'na ⁵¹]	"cow"
[t ^h ə 'me ⁵⁵]	"chilli"

It should be noted that a large number of this sub-type could be found in most of animal names. Moreover, the presyllable, for example : /pə/, /sə/, /tə/ and /t^hə/ has no lexical meaning of its own and cannot occur as a free form.

3.2.2.2 Disyllabic word of the second type

This sub-type is composed of two syllables.

The weak stress falls on the first syllable and the strong stress is on the last syllable. Its structure is [,w. 's].

Examples:

[,lə ²¹ 'ʔəʔ ²¹]	"to sink"
[,lə ²¹ 'jwe ⁵⁵]	"to float"
[,lə ²¹ 't ^h eʔ ⁵⁵]	"to fall"
[,ʔə ⁵⁵ 'lə ⁵¹]	"to give"
[,ʔə ⁵⁵ 'lāiʔ ⁵⁵]	"to lick"
[,ʔə ⁵⁵ 'waiʔ ²¹]	"to stir"
[,ʔa ²¹ 'dmi ³³]	"gall"
[,ʔa ²¹ 'daiʔ ²¹]	"wing"
[,be ³³ 'ʔa ³³]	"mud, dirty"
[,di ³³ 'su ⁵⁵]	"a toad"
[,je ⁵⁵ 'p ^h u ⁵⁵]	"fish"
[,k ^h we ⁵¹ 'kəʔ ²¹]	"a hoe"
[,pau ⁵¹ 'xwaiʔ ⁵⁵]	"to throw"

The first syllable of this syllable-type can occur as a free form and has lexical meaning of its own.

3.2.3 Type 3 Trisyllabic word

A trisyllabic word is a word with three syllables, which is rare in Pwo Karen. Only few words are found in the data. According to the structure, they are divided into 2 kinds.

1. [z.z.'s]

[t ^h ə lə 'məʔ ⁵⁵]	"to be happy"
[t ^h ə lə 'p ^h lɔ̃ ⁵¹]	"chasm"

2. [z.,w.'s]

[kə ,jɯ ²¹ 'p ^h ɛ ⁵⁵]	"gibbon"
[t ^h ə ,k ^h e ⁵⁵ 'kle ²¹]	"forest"
[mə ,ne ²¹ 'k ^h o ⁵¹]	"night"
[tə ,p ^h u ⁵⁵ 'xɛ ²¹]	"animals"(general)
[tə ,p ^h mi ⁵¹ 'pə ³³]	"weasel"

CHAPTER IV

SYLLABLE

4.1 General Definition

The syllable rank is defined as the rank whose structure is stated in terms of phonemes and whose unit functions in the phonological word.

4.2 Structure

The structure of syllable is described in terms of segments consisting of a vowel and usually a toneme (except in a presyllable) and one or two consonants as periphery.

4.2.1 Types of syllables

There are three types of syllables in Pwo Karen :
presyllable, major syllable and minor syllable.

4.2.1.1 Presyllable

A presyllable consists of a single consonant followed by a vowel which is usually has the plain vowel /ə/ with the phonetic realisation [ə]. This syllable type bears the original high and low tones which are neutralised and thus become a mid level pitch. It has been found that the neutralised low tone is more frequent than neutralised high tone.

The structure of the presyllable is : [Cə]

Examples:

/kə si3/	[kə 'si ⁵⁵]	"horse"
/kə kɛ3/	[kə 'kɛ ⁵⁵]	"spirit"
/kə k ^h ə̃4/	[kə 'k ^h ə̃ ⁵¹]	"elephant"
/lə pi4/	[lə 'pi ⁵¹]	"small"
/pə jmi2/	[pə 'jmi ³³]	"teak"
/pə xə̃2/	[pə 'xə̃ ³³]	"spider"
/pə kə̃2/	[pə 'kə̃ ³³]	"mosquito"
/p ^h ə ʔmi2/	[p ^h ə 'ʔmi ³³]	"here"
/p ^h ə k ^h ə4/	[p ^h ə 'k ^h ə ⁵¹]	"corn"
/sə lmi2/	[sə 'lmi ³³]	"tick"
/sə mɛ3/	[sə 'mɛ ⁵⁵]	"crocodile"
/tə p ^h a2/	[tə 'p ^h a ³³]	"hole"
/tə p ^h ə̃4/	[tə 'p ^h ə̃ ⁵¹]	"fence"
/t ^h ə ʔəu3/	[t ^h ə 'ʔəu ⁵⁵]	"cloud"
/t ^h ə lu1/	[t ^h ə 'lu ²¹]	"mountain"
/t ^h ə p ^h aiʔ1/	[t ^h ə 'p ^h aiʔ ²¹]	"leather,hide"
/t ^h ə ɲauʔ1/	[t ^h ə 'ɲauʔ ²¹]	"freeze"
/kə lə̃2/	[kə 'lə̃ ³³]	"to putt"
/k ^h ə xo3/	[k ^h ə 'xo ⁵⁵]	"rightside"

	p	p ^h	b	t	t ^h	d	k	k ^h	ʔ	m	n	ɲ	s	ʃ	x	h	ʈ	ʈ ^h	j	ɰ	w	l	r	
pə						x			x	x	x			x		x			x					
p ^h ə								x	x		x													
bə																								
tə		x					x		x				x	x				x						
t ^h ə		x				x		x	x	x	x									x			x	
də																								
kə													x					x	x					
k ^h ə																								
ʔə																								
mə																								
nə																								
ɲə																								
sə										x										x			x	
ʃə																								
xə																								
hə																								
ʈə																								x
ʈ ^h ə															x									
jə																								
ɰə																								
wə																								
lə		x																						
rə																								

Table 1 : The co-occurrence of a consonant with [ə] in the presyllable with the single initial consonants of a major syllable.

x : occurrence

: non-occurrence

The co-occurrence of a consonant with [ə] in the presyllable with the single initial consonants of major syllables in Table 1 shows that:

1. No consonants in the presyllables occur with identical consonants in the major syllables.
2. The consonant phonemes /h,t,t^h,ʃ,h,w,r/ in major syllables never occur with the presyllables.
3. Only the presyllables /pə,p^hə,tə,t^hə,kə,sə,ʔə,ʔ^hə,lə/ occur with initial consonant in major syllables.
4. The presyllable /ʔ^hə / is followed by /x/ only.
5. The presyllable /lə / is followed by /p/ only.
6. The consonant phoneme /k/ follows the presyllable /tə/ only.
7. The consonant phonemes /p,j/ follow the presyllable /pə/ only.

It should be noted that, there is only one word in which the presyllable occurs with the initial consonant clusters of major syllable. It was discovered from the collected data, i.e.,

.....
 /tə k^hlmi/ [tə 'k^hlmi⁵¹] "seed"

4.2.1.2 Major Syllable

A major syllable consists of a single consonant or a consonant cluster, a single vowel or a diphthong (which can be of plain or glottal or nasal set) and a tone. It always takes a strong stress. Its occurrence is obligatory in the final position, that is, every word must have one major syllable.

The structure of the major syllable in Pwo Karen is C(C)VT.

Examples: (in plain vowels)

/bjɛ3/	"blanket"
/ləu3/	"a worm"
/p ^h li2/	"tongue"
/swɛ4/	"tooth"
/ʃjɛ1/	"old-aged"
/t ^h u3/	"bird"
/xa4/	"heavy"
/mɛ2/	"Don't!"
/kʰi2/	"silver"
/k ^h mi1/	"to massage"

Examples: (in glottalised vowels)

/ʔoʔ1/	"to pick"
/bauʔ1/	"near"
/dwaʔ1/	"to count"
/k ^h aiʔ3/	"to think"
/meʔ3/	"eye"
/pjuʔ1/	"to vomit"
/xeʔ3/	"knife"
/k ^h eʔ1/	"to stab"

Examples: (in nasalised vowels)

/ʔã3/	"to eat"
/bã3/	"fat"
/lã4/	"rainbow"
/prã2/	"floor"
/p ^h lã4/	"to leak"
/xã4/	"ladder, to force"
/ɰã3/	"to cry"
/k ^h õ3/	"strong"

All the initial consonants, all kind of vowels and tones can occur in the major syllable.

	i	e	e?	ɛ	ɪ	ə?	ẽ	a	a?	u	u?	o	o?	ɔ	ɔ?	õ	mi	ɛi	əu	ai	ai?	au	au?
p	x	x		x	x			x	x							x	x	x			x	x	
p ^h	x	x		x	x	x	x	x	x	x		x				x	x	x		x	x	x	
b	x		x	x	x		x					x				x		x	x	x	x	x	x
t			x		x		x			x		x	x	x	x				x		x		x
t ^h	x	x	x	x	x	x	x	x	x	x		x	x			x	x	x	x		x	x	x
d	x	x		x	x	x	x			x	x				x	x	x	x	x	x	x	x	x
k	x	x		x	x	x	x	x	x			x	x			x	x		x	x	x	x	x
k ^h	x	x		x	x	x	x	x	x			x	x			x	x			x	x		x
ʔ	x	x	x	x	x	x	x	x		x		x	x				x	x	x	x		x	
m	x	x	x	x	x	x	x	x	x	x				x				x	x		x		x
n	x		x	x			x	x	x	x			x	x				x	x	x	x		x
ɲ				x	x	x								x					x				x
s	x	x		x	x	x	x	x	x	x	x					x	x	x	x		x		x
ʃ					x			x				x	x										
x			x	x	x	x	x	x	x	x		x	x		x	x	x		x	x			x
h					x		x	x				x						x		x	x		x
ʈ	x	x		x			x	x		x		x	x			x				x	x		x
ʈ ^h	x	x		x	x	x	x	x	x	x		x	x	x		x	x			x	x		x
j		x		x			x			x	x	x	x							x	x		x
ɰ	x	x	x	x	x	x	x	x	x			x	x			x	x	x	x	x		x	x
w	x	x	x	x			x	x	x			x						x	x		x	x	
l	x	x	x	x	x	x	x	x	x			x		x		x	x	x	x		x	x	x
r					x																x		x

Table 2 : The co-occurrence of single initial consonants and vowels of a major syllable.

x : occurrence

: non-occurrence

The co-occurrence of single initial consonants and vowels of the major syllable in Table 2 shows that:

1. All consonant phonemes can be the initial consonant of a major syllable.
2. All vowel phonemes can occur in a major syllable.
3. /ẽ/ is the vowel phoneme that has the widest distribution in a major syllable.
4. /uʔ/ is the vowel phoneme that has the narrowest distribution in a major syllable.
5. There are only 3 vowel phonemes, /ɪ, aiʔ, auʔ/, which can occur with /r/.

For example :

/t ^h oʔ1 rɪ4/	"comb" (made of pig feather)
/raiʔ1/	"to twist, to roll"
/rauʔ3/	"to stretch"

	i	e	eʔ	ɛ	ɪ	ɔʔ	ə	a	aʔ	u	uʔ	o	oʔ	ɔ	ɔʔ	ɔ̃	mi	əi	əu	ai	aiʔ	au	auʔ
pj				x							x						x						
bj				x																			
kj				x								x											
mj								x							x								
ɟj				x			x			x													x
pl												x											
p ^h l	x	x		x		x		x				x				x	x		x		x		x
bl				x			x	x	x	x		x	x						x		x		
kl		x		x					x		x									x	x		
k ^h l						x	x			x		x	x				x	x		x	x	x	x
pr							x										x						
pʷ	x		x																				
bʷ		x						x															
t ^h ʷ	x								x														
dʷ	x								x														
kʷ	x		x	x					x														
k ^h ʷ	x	x	x	x					x												x	x	
ʔʷ	x			x																			
nʷ		x																					
sʷ	x	x	x	x					x												x		
xʷ	x																					x	
tʷ	x							x															
t ^h ʷ	x			x																			
jʷ				x																			
lʷ		x		x																			

Table 3 : The co-occurrence of initial consonant clusters and vowels of a major syllable.

x : co-occurrence

: non-occurrence

The co-occurrence of initial consonant clusters and vowels of a major syllable in Table 3 shows that :

1. There are 2 vowel phonemes /ɯ, ɔʔ/ that never occur after consonant clusters.
2. All plain vowels except /ɔ/ occur with /-l/ clusters.
3. The vowel phoneme which has the widest distribution with consonant clusters in a major syllable is /ɛ/.
4. The vowel phonemes which have the narrowest distribution with consonant clusters in a major syllable are /ɔ, ɔ̃, əi, auʔ/.

4.2.1.3 Minor Syllable

The structure of a minor syllable in Pwo Karen is the same as that of a major syllable, i.e., it consists of a single consonant or a consonant cluster, a single vowel or a diphthong (which can be of plain or alveolar or nasal set) and a tone. It bears a weak stress and occurs as penultimate syllable in the word of two or three syllables.

The structure of the minor syllable in Pwo Karen is C(C)VT.

Examples:

/ʔə̃3 lə̃4/	"to give"
/ʔə̃3 laiʔ3/	"to lick"
/ʔa1 dmi2/	"gall"
/ʔa1 dəiʔ1/	"wing"
/be2 ʔa2/	"mud, dirty"
/bəu3 t ^h ə̃3/	"humid"
/di2 su3/	"a toad"
/je3 p ^h u3/	"fish"
/k ^h ε3 laʔ3/	"chin"
/k ^h wε4 tɔʔ1/	"a hoe"
/pau4 xwaiʔ3/	"to throw"
/p ^h ε4 laiʔ1/	"monkey"
/se4 kwi2/	"banana"
/waiʔ1 di2/	"millipede"
/k ^h wi4 p ^h o3/	"sugar cane"

	i	e	e?	ɛ	ɪ	ə?	ə̃	a	a?	u	u?	o	o?	ɔ	ɔ?	õ	ɰi	əi	əu	ai	ai?	au	au?
p	x			x	x		x										x		x				
p ^h		x		x	x		x	x	x	x		x				x	x	x		x	x		
b		x		x	x		x											x	x	x	x	x	
t				x								x											x
t ^h		x		x			x	x	x	x		x	x				x		x	x		x	x
d	x						x			x		x		x		x		x		x			x
k	x	x		x			x	x		x		x					x		x	x		x	x
k ^h		x		x			x	x	x	x		x	x			x	x		x	x			
ʔ		x					x	x		x		x					x	x		x		x	
m	x		x	x			x										x						
n	x			x			x	x				x					x		x	x		x	
ɲ							x															x	
s		x	x	x	x		x	x	x								x	x	x	x	x		
f																							x
x							x					x					x						
h							x	x									x						x
ʈ										x		x	x						x	x			
ʈ ^h				x			x			x		x	x	x		x	x			x	x	x	x
j				x	x		x			x										x			
ɰ	x	x			x		x			x		x					x			x		x	x
w	x		x	x			x										x				x		
l	x	x	x	x	x		x	x				x					x	x	x		x	x	
r																					x		x

Table 4 : The co-occurrence of single initial consonants and vowels in minor syllable.

x : occurrence

: non-occurrence

The co-occurrence of single initial consonants and vowels in minor syllable in Table 4 shows that:

1. All consonant phonemes can be the initial of minor syllable.
2. All vowel phonemes except /ə?, u?/ can occur in minor syllable.
3. Vowel phoneme which has the widest distribution in minor syllable is /ə̃/.
4. Vowel phoneme which has the narrowest distribution in minor syllable is /ɔ?/.
5. The consonant phoneme /f/ can occur with /au/ only.

	i	e	e?	ɛ	ɪ	ə?	ə̃	ə	ə?	u	u?	o	o?	ɔ	ɔ?	ɔ̃	mi	əi	əu	ai	ai?	au	au?
pj																							
bj																							
kj																							
mj																							
fj																							
pl																							
p ^h l		x		x			x					x					x		x				
bl										x			x										
kl																x							
k ^h l		x		x	x		x														x		
pr																							
pw																					x	x	
bw																							
t ^h w	x																						
dw																							
kw																							
k ^h w	x		x	x																			
?w		x		x																			
nw			x	x																			
sw			x	x																			x
xw																				x	x		
kw																							
k ^h w																							
jw																							
lw																							

Table 5 : The co-occurrence of initial consonant clusters and vowels in minor syllable.

x : co-occurrence

: non-occurrence

The co-occurrence of initial consonant clusters and vowels of minor syllable in Table 5 shows that:

1. There are 9 vowel phonemes, i.e, /ə?, a, a?, u?, ɔ, ɔ?, əi, au, au?/ that never occur with consonant clusters in minor syllable.
2. Vowel phoneme which has the widest distribution with consonant clusters in minor syllable is /ɛ/.
3. /õ/ only occurs with /kl/.
4. /m/ only occurs with /k^hl/.
5. /u, ɔ?/ only occur with /bl/.
6. /o, mi, əu/ only occur with /p^hl/.

4.2.2 Stress in Syllable

Stress is defined in terms of intensity (volume) and duration of (vowel) length. It functions in syllable rank. In Pwo Karen, stress is predictable by the types of syllables and its position in phonological word. Therefore, the word stress needs not to be marked overtly at the phonemic level.

4.2.2.1 Types of Stress and Syllable Stress Symbols

Stress can be divided into two groups. They are stress and non-stress.

a). Stress : strong stress and weak stress

Strong Stress (Primary Stress)

It is the strongest stress with the most volume and greatest (vowel) length of all. It is the only stress that occurs on the peak of the major syllable. This strong stress is obligatory in a phonological word (a stress group) and it is marked by [']. Stress in the major syllable is 's.

Examples:

/ʔəi 2/	['ʔəi ³³]	"ginger"
/b [~] ɔ̃3/	['b [~] ɔ̃ ⁵⁵]	"fat"
/dauʔ1/	['dauʔ ²¹]	"house"
/jo4/	['jo ⁵¹]	"easy"
/kəu3/	['kəu ⁵⁵]	"lazy"
/wi5/	['wi ²⁵]	"son-in-law"

Weak Stress (Secondary Stress)

Weak stress is weaker than strong stress. It occurs on any minor syllable and is marked by [,]. Stress in the minor syllable is ,w.

Examples:

/ʔa1 daiʔ1/	[,ʔa ²¹ 'daiʔ ²¹]	"wing"
/di2 ʔə̃3/	[,di ³³ 'ʔə̃ ⁵⁵]	"a species of bullfrog"
/hə̃4 ʔwe2/	[,hə̃ ⁵¹ 'ʔwe ³³]	"garlic"
/k ^h u3 xə̃3/	[,k ^h u ⁵⁵ 'xə̃ ⁵⁵]	"pillow"
/li1 pi4/	[,li ²¹ 'pi ⁵¹]	"to avoid"
/p ^h ε4 laiʔ1/	[,p ^h ε ⁵¹ 'laiʔ ²¹]	"monkey"

b). Non Stress : zero stress

It is no stress at all with the least volume and shortest duration of (vowel) length as possible that it is still a syllable. It occurs on all presyllables and it is left unmarked [].

The syllable of this type is z.

Examples:

/kə si3/	[kə 'si ⁵⁵]	"horse"
/pə nε1/	[pə 'nε ²¹]	"buffalo"
/p ^h ə k ^h e4/	[p ^h ə 'k ^h e ⁵¹]	"corn"
/sə lmi2/	[sə 'lmi ³³]	"tick"
/tə k ^h lmi4/	[tə 'k ^h lmi ⁵¹]	"seed"

4.3 Function

The syllables function in the phonological word. They have two main functions in the phonological word : as Nucleus and Periphery.

4.3.1 Nuclear Syllable

The nuclear syllable is a major syllable and always takes strong (primary) stress. It always occupies the last position in the word.

Examples:

['s]

/ʔəʔ/	['ʔə ⁵⁵]	"to eat"
/ju1/	['ju ²¹]	"rat"
/k ^h i4/	['k ^h i ⁵¹]	"tiger"

[z. 's]

/kə si3/	[kə 'si ⁵⁵]	"horse"
/pə kəʔ2/	[pə 'kə ³³]	"mosquito"
/t ^h ə məʔ3/	[t ^h ə 'mə ⁵⁵]	"chilli"

[,w. 's]

/p ^h ε4 laiʔ1/	[,p ^h ε ⁵¹ 'laiʔ ²¹]	"monkey"
/k ^h ai4 bəʔ3/	[,k ^h ai ⁵¹ 'bə ⁵⁵]	"bottom"
/di2 kauʔ1/	[,di ³³ 'kauʔ ²¹]	"a frog"

[z.z. 's]

/t ^h ə lə məʔ3/	[t ^h ə lə 'məʔ ⁵⁵]	"to be happy"
/t ^h ə lə p ^h ləʔ4/	[t ^h ə lə 'p ^h lə ⁵¹]	"chasm"

[z. ,w. 's]

/kə jw1 p ^h ε3/	[kə ,jw ²¹ 'p ^h ε ⁵⁵]	"gibbon"
/tə p ^h mi4 pəʔ2/	[tə ,p ^h mi ⁵¹ 'pə ³³]	"weasel"

4.3.2 Peripheral syllable

The syllables in this class function as the periphery of the phonological word. Every peripheral syllable can occur in any position, except the final one, of a phonological word. It can be divided into two sub-classes: weakly stressed peripheral syllable and zero-stressed peripheral syllable.

4.3.2.1 Weakly Stressed Peripheral Syllable

It is a weakly stressed syllable, a minor syllable. It always takes a secondary stress.

Examples:

/ʔa1 rmi4/	[,ʔa ²¹ 'rmi ⁵¹]	"fin"
/du1 lɛ4/	[,du ²¹ 'lɛ ⁵¹]	"a fly"
/jə̃4 bə̃2/	[,jə̃ ⁵¹ 'bə̃ ³³]	"turmeric"
/sɛ4 kwi2/	[,sɛ ⁵¹ 'kwi ³³]	"banana"

4.3.2.2 Zero-Stressed Peripheral Syllable

It is a non-stressed syllable, a presyllable. This kind of syllable has phonemic /ə/ with phonetic realisation [ə] as the vowel of the syllable and it carries the neutral tone.

Examples:

/pə̃ kə̃2/	[pə̃ 'kə̃ ³³]	"mosquito"
/sə̃ mɛ3/	[sə̃ 'mɛ ⁵⁵]	"crocodile"
/tə̃ p ^h ə̃4/	[tə̃ 'p ^h ə̃ ⁵¹]	"fence"
/t ^h ə̃ ɲə̃21/	[t ^h ə̃ 'ɲə̃ ²¹]	"angle"

4.4 Syllable Boundary and Syllable Break

4.4.1 In Phonetic Transcription

Stress shows the beginning of a syllable. That is, the strong stressed sign ['] shows the beginning of a major syllable, the weakly stressed sign [ˌ] shows the beginning of a minor syllable. As for the zero stress, there is no sign to show the beginning of the non-stressed syllable, the presyllable, but the initial consonant of the syllable does. Since all Pwo Karen syllables end with a vowel, if a vowel (together with any tone) appears, it shows that the preceding syllable ends, and that a following consonant (or a consonant cluster) marks the beginning of the next syllable.

For example:

Major Syllable	<u>v</u> 'C	[,moʔ ²¹ 'k ^h u ⁵⁵]	"sky"
Minor Syllable	<u>v</u> ,C	[,pə̃ ⁵⁵ ,pə̃ ⁵⁵ 'li ⁵¹]	"a fire fly"
Presyllable	<u>v</u> C	[t ^h ə lə 'məʔ ⁵⁵]	"to be happy"

4.4.2 In Phonemic Transcription

Stress is predictable by the syllable position in the phonological word and by the syllable structure: the final syllable in a phonological word is the major syllable, the non-final syllable in /Cə/ structure is the presyllable, and the non-final syllable in a phonological word is the minor syllable. Therefore, stress needs not to be marked in the phonemic transcription. The vowel together with any tone still shows the end of the preceding syllable and the consonant following shows the beginning of the next syllable as well.

CHAPTER V

PHONEMES

5.1 General Definition

The phoneme is defined as the rank whose units function in the syllable. It is the lowest rank of the hierarchy and, therefore, has no statable structure, but the phonetic forms of phonemes may be described.

5.2 Phonemes in Pwo Karen Language

There are both segmental and suprasegmental phonemes in the Pwo Karen language. In this study, a segmental phoneme is stated in terms of consonant and vowel and a suprasegmental phoneme is stated in terms of tone, glottalisation and nasalisation. Therefore, on the basis of their function in the syllable, there are 3 classes of phonemes : consonants, vowels and tones.

5.3 Consonant Phonemes

5.3.1 General Definition

Consonants are sounds made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, or so restricted that audible friction is produced. Consonant articulations are relatively easy to feel, and as a result are most conveniently described in terms of place and manner of articulation. In addition, a routine phonetic description of consonants would involve information about the mode of vibration

of the vocal cords, and it is often necessary to specify the duration of the sound, the airstream mechanism involved and the direction of airflow. From a phonological point of view, consonant are those units which function at the margins of syllables, either singly or in clusters (Crystal 1991:74).

Pwo Karen consonant phonemes function as a syllable periphery. There is no contrast between short and long consonants. Therefore, the length of consonants is not phonemic.

All consonant phonemes in Pwo Karen are produced with pulmonic egressive airstream mechanism.

5.3.2 Consonant Phonemes Chart

There are 23 consonant phonemes in the Pwo Karen language as spoken in Huay-Hom-Nok village. All of which only occur initially in a syllable, except /l,r,w,j/ which can occur both initially and as the second element in the consonant cluster. Moreover, there is no final consonant in this language.

In the following chart, each of them will be grouped according to their manners and points of articulation. They are divided into 7 groups: plosive, nasal, fricative, affricate, approximant, lateral and trill.

Point of Articulation Manner of Articulation	Bilabial	Alveolar	Palato- alveolar	Palatal	Velar	Labial- velar	Glottal
Plosives	vl. unasp. vl.asp. vd.	p p ^h b	t t ^h d			k k ^h	?
Nasals	vd.	m	n		ŋ		
Fricatives	vl.		s	ʃ		x	h
Affricates	vl. unasp. vl.asp.				tʃ tʃ ^h		
Approximants	vd.			j	ɰ [ɰ]~[ʏ]	w [w]~[v]	
Lateral	vd.		l				
Trill	vd.		r				

Table 6 : Consonant Phoneme Chart

5.3.3 Formational Statements

5.3.3.1 Plosives

Plosive is a term used in the phonetic classification of consonant sounds on the basis of their manner of articulation: it refers to a sound made when a complete closure in the vocal tract is suddenly released, the air pressure which had built up behind the closure rushes out with an explosive sound, hence the term (Crystal 1991:266).

/p/ is a voiceless unaspirated bilabial plosive phoneme which is realised as follows:

[p] a voiceless unaspirated bilabial plosive.

For example:

/pə doʔ3/	[pə 'doʔ ⁵⁵]	"porcupine"
/pəu3 ləu3/	[,pəu ⁵⁵ 'ləu ⁵⁵]	"round"
/paiʔ1/	['paiʔ ²¹]	"husband's younger brother"

/p^h/ is a voiceless aspirated bilabial plosive phoneme which is realised as follows:

[p^h] a voiceless aspirated bilabial plosive.

For example:

/p ^h i4/	['p ^h i ⁵¹]	"chaff, bran"
/p ^h e4/	['p ^h e ⁵¹]	"necklace"
/p ^h aʔ1 t ^h o4/	[,p ^h aʔ ²¹ 't ^h o ⁵¹]	"long, tall"
/p ^h ε4 laiʔ1/	[,p ^h ε ⁵¹ 'laiʔ ²¹]	"monkey"

/b/ is a voiced bilabial plosive phoneme which is realised as follows:

[b] is a voiced bilabial plosive.

For Example:

/bɛ2 ʔa2/	[₁ bɛ ³³ 'ʔa ³³]	"mud,dirty"
/bə̃2/	[¹ bə̃ ³³]	"yellow"
/bəi3/	[¹ bəi ⁵⁵]	"classifier of bird"

/t/ is a voiceless unaspirated alveolar plosive phoneme which is realised as follows:

[t] a voiceless unaspirated alveolar plosive.

For Example:

/tɯ3/	[¹ tɯ ⁵⁵]	"husband's younger sister"
/tə k ^h lmi4/	[tə ¹ k ^h lmi ⁵¹]	"seed"
/tə̃2/	[¹ tə̃ ³³]	"a bench"

/t^h/ is a voiceless aspirated alveolar plosive phoneme which is realised as follows:

[t^h] a voiceless aspirated alveolar plosive.

For Example:

/t ^h ə doʔ1/	[t ^h ə ¹ doʔ ²¹]	"vegetables (general term)"
/t ^h aʔ1/	[¹ t ^h aʔ ²¹]	"iron,needle"
/t ^h u3 fjaʊ3/	[₁ t ^h u ⁵⁵ 'fjaʊ ⁵⁵]	"sparrow"

/d/ is a voiced alveolar plosive phoneme which is realised as follows:

[d] is a voiced alveolar plosive.

For Example:

/di2/	[¹ di ³³]	"navel"
/di2 kauʔ1/	[₁ di ³³ 'kauʔ ²¹]	"frog"
/dɛ3/	[¹ dɛ ⁵⁵]	"to see"

/k/ is a voiceless unaspirated velar plosive phoneme which is realised as follows:

[k] a voiceless unaspirated velar plosive.

For Example:

/kə si3/	[kə 'si ⁵⁵]	"horse"
/kəʔ1/	['kəʔ ²¹]	"to call"
/kəu3/	['kəu ⁵⁵]	"lazy"

/k^h/ is a voiceless aspirated velar plosive phoneme which is realised as follows:

[k^h] a voiceless aspirated velar plosive.

For Example:

/k ^h i4/	['k ^h i ⁵¹]	"tiger"
/k ^h a4/	['k ^h a ⁵¹]	"a chopping block"
/k ^h oʔ1 se3/	[,k ^h oʔ ²¹ 'se ⁵⁵]	"mango"

/ʔ/ is a voiceless glottal plosive phoneme which is realised as follows:

[ʔ] a voiceless glottal plosive.

For Example:

/ʔə3/	[,ʔə ⁵⁵]	"to eat"
/ʔə3 laiʔ3/	[,ʔə ⁵⁵ 'laiʔ ⁵⁵]	"to lick"
/ʔwi5/	[,ʔwi ²⁵]	"here"
/ʔwe2/	[,ʔwe ³³]	"white"

Note : In this study, /ʔ/ in the initial position is a consonant phoneme but /ʔ/ in the final position is treated as a quality of a vowel, i.e., a glottalisation of vowel.

5.3.3.2 Nasals

Nasal is a term used in the phonetic classification of speech sounds on the basis of manner of articulation : it refers to sounds produced while the soft palate is lowered to allow an audible escape of air through the nose. Both consonants and vowels may be articulated in this way. Nasal consonants occur when there is a complete closure in the mouth, and all the air thus escapes through the nose (Crystal 1991:229).

/m/ is a voiced bilabial nasal phoneme which is realised as follows:

[m] is a voiced bilabial nasal.

For Example:

/mi3/	['mi ⁵⁵]	"fire"
/meʔ1/	['meʔ ²¹]	"sand, to hit"
/m̃ə1 meʔ3/	[,m̃ə ²¹ 'meʔ ⁵⁵]	"sun"

/n/ is a voiced alveolar nasal phoneme which is realised as follows:

[n] is a voiced alveolar nasal.

For Example:

/ni3/	['ni ⁵⁵]	"yam"
/nɛ1/	['nɛ ²¹]	"ear"
/nwi2/	['nwi ³³]	"day"

/ɲ/ is a voiced palatal nasal phoneme which is realised as follows:

[ɲ] is a voiced palatal nasal.

For Example:

/ɲə1 sɛ3/	[,ɲə ²¹ 'sɛ ⁵⁵]	"the eggplant"
/ɲə3 saʔ1/	[,ɲə ⁵⁵ 'saʔ ²¹]	"pity"
/ɲau4 xwaiʔ3/	[,ɲau ⁵¹ 'xwaiʔ ⁵⁵]	"to throw"

5.3.3.3 Fricatives

Fricative is a term used in the phonetic classification of consonant sounds on the basis of their manner of articulation: also sometimes called spirant, it refers to sounds made when two organs come so close together that the air moving between them produces audible friction. There is no complete closure between the organs (in which case a plosive articulation would be produced): there is simply a stricture (Crystal 1991:143).

/s/ is a voiceless alveolar fricative phoneme which is realised as follows:

[s] a voiceless alveolar fricative.

For Example:

/sɛ4 kwi2/	[,sɛ ⁵¹ 'kwi ³³]	"banana"
/saʔ1/	['saʔ ²¹]	"heart"
/sɰi3/	['sɰi ⁵⁵]	"medicine, drug"
/səi3/	['səi ⁵⁵]	"tree"

/j/ is a voiceless alveo-palatal fricative phoneme which is realised as follows:

[ç] a voiceless alveo-palatal fricative.

For Example:

/ʃm3/	[¹ ʃm ⁵⁵]	"to be shy"
/ʃo3/	[¹ ʃo ⁵⁵]	"kind of tree"
/ʃau4 lə̃1/	[₁ ʃau ⁵¹ lə̃ ²¹]	"to bend, to stoop"

/x/ is a voiceless velar fricative phoneme which is realised as follows:

[x] a voiceless velar fricative.

For Example:

/xeʔ3/	[¹ xeʔ ⁵⁵]	"knife"
/xaʔ1/	[¹ xaʔ ²¹]	"diligent"
/xai4/	[¹ xai ⁵¹]	"dry"
/xu4/	[¹ xu ⁵¹]	"six"

/h/ is a voiceless glottal fricative phoneme which is realised as follows:

[h] a voiceless glottal fricative.

For Example:

/ha4/	[¹ ha ⁵¹]	"what?"
/hai2/	[¹ hai ³³]	"to be in a hurry"
/hau3/	[¹ hau ⁵⁵]	"to prefer, to like"

5.3.3.4 Affricates

Affricate is a term used in the classification of consonant sounds on the basis of their manner of articulation. It refers to a sound made when the air-pressure behind a complete closure in the vocal tract is gradually released; the initial release produces a plosive, but the separation which follows is sufficiently slow to produce audible friction, and there is thus a fricative element in the sound also. However, the duration of the friction is usually not as long as would be the case of an independent fricative sound (Crystal 1991:12)

/k̟/ is a voiceless palatal unaspirated affricate phoneme which is realised as follows:

[k̟] a voiceless unaspirated palatal affricate.

For Example:

/k̟i2/	[¹ k̟i ³³]	"silver"
/k̟u3/	[¹ k̟u ⁵⁵]	"hand"
/k̟ai3/	[¹ k̟ai ⁵⁵]	"to walk"

/k̟^h/ is a voiceless aspirated palatal affricate phoneme which is realised as follows:

[k̟^h] a voiceless aspirated palatal affricate.

For Example:

/k̟ ^h e21/	[¹ k̟ ^h e ²¹]	"to stab"
/k̟ ^h a4/	[¹ k̟ ^h a ⁵¹]	"sweet"
/k̟ ^h ai3/	[¹ k̟ ^h ai ⁵⁵]	"sour lime"

5.3.3.5 Approximants

Approximant is a general term used by some phoneticians in the classification of speech sounds on the basis of their manner of articulation, and corresponding to what other approaches would be called frictionless continuants, and all vowels. The term is based on the articulations involved, in that one articulator approaches another, but the degree of narrowing involved does not produce audible friction (Crystal 1991:23).

/j/ is a voiced palatal approximant phoneme which is realised as follows:

[j] a voiced palatal approximant. It functions as the element of initial position in the syllable and as the first or the second element in the consonant cluster.

For example:

/jɛ1/	[¹ jɛ ²¹]	"I"
/jai4/	[¹ jaɪ ⁵¹]	"to move"
/lɔ̃1 jwɛ3/	[₁ lɔ̃ ²¹ ¹ jwɛ ⁵⁵]	"to float"
/pju?1/	[¹ pju? ²¹]	"to vomit"

/ɲ/ is a voiced velar approximant phoneme which is realised as follows:

[ɲ]~[ʎ] a voiced velar approximant [ɲ] or a voiced velar fricative [ʎ]. The voiced velar fricative [ʎ] is a free variation of /ɲ/ in the initial position of a few words as exemplified below.

For example:

/ɱi1/ ['ɱi²¹] ~ ['yi²¹] "rattan"
 /səi3 ɱmi1/ [,səi⁵⁵ 'ɱmi²¹] ~ [,səi⁵⁵ 'yi²¹] "root"(of tree)

In other words only [ɱ] occurs.

/ɱəi3/ ['ɱəi⁵⁵] "village"
 /ɱəu1/ ['ɱəu²¹] "weevil"
 /ɱau5 jau?1/ [,ɱau²⁵ 'jau?²¹] "already"

/w/ is a voiced bilabial approximant phoneme which is realised as follows:

[w] [v] a voiced bilabial approximant [w] or a voiced labio-dental fricative [v], the voiced labio-dental fricative [v] is a free variation of /w/ in the initial position of all words as exemplified below.

For example:

/wi5/ ['wi²⁵] ~ ['vi²⁵] "son-in-law"
 /wmi1/ ['wmi²¹] ~ ['vmi²¹] "fan"

In other positions, only [w] occurs as in the following examples:

· · · /dwa?1/ ['dwa?²¹] "to count"
 /swɛ4/ ['swɛ⁵¹] "tooth"

5.3.3.6 Lateral

Lateral is a term used in the phonetic classification of consonant sounds on the basis of their manner of articulation: it refers to any sound where the air escapes around one or both sides of a closure made in the mouth, as in the various types of "l" sound in English. Air released around only one side of the tongue produces unilateral sounds; around both sides bilateral sounds (Crystal 1991:195).

/l/ is a voiced alveolar lateral phoneme which is realised as follows:

[l] a voiced alveolar lateral. It functions as the element of initial position in the syllable and as the first or the second element in the consonant cluster.

For example:

/lɛ4/	[¹ lɛ ⁵¹]	"green"
/lmi2/	[¹ lmi ³³]	"wind"
/k ^h ə4 ku1 lwe3/	[¹ k ^h ə ⁵¹ ,ku ²¹ 'lwe ⁵⁵]	"earthworm"
/p ^h lō4/	[¹ p ^h lō ⁵¹]	"to leak"

5.3.3.7 Trill

Trill is a term in the phonetic classification of consonant sounds on the basis of their manner of articulation: also known as a "trilled" consonant or a roll, "trill" refers to any sound made by the rapid tapping of one organ of articulation against another.-(Crystal 1991:361)

/r/ is a voiced alveolar trill phoneme which is realised as follows:

[r] a voiced alveolar trill. It functions as the first element of initial position in the syllable and the second element in the consonant cluster.

For example:

/rai?1/	[¹ rai? ²¹]	"to twist"
/rau?3/	[¹ rau? ⁵⁵]	"to stretch"
/prə?2/	[¹ prə? ³³]	"floor"

5.3.4 Classification of Consonants

There are 23 consonant phonemes in Pwo Karen: /p, p^h, b, t, t^h, d, k, k^h, ʔ, m, n, ɲ, s, ʃ, x, h, ɕ, ɕ^h, j, ɲ, w, l, r/. These phonemes, according to their appearance in syllables, are going to be mentioned into two sub-classes as follows :

5.3.4.1 Consonant sub-class C₁

The consonant sub-class C₁ are all the consonant phonemes which function as initial consonants. They are /p, p^h, b, t, t^h, d, k, k^h, ʔ, m, n, ɲ, s, ʃ, x, h, ɕ, ɕ^h, j, ɲ, w, l, r/.

Examples:

/pwi2/	"flute"
/p ^h i4/	"chaff, bran"
/bɔ̃3/	"fat"
/tɔ̃2/	"a bench"
/t ^h əʔ1/	"to pull"
/di2/	"navel"
/kaʔ1/	"to tie, to sheaf"
/k ^h i4/	"tiger"
/ʔu3/	"to blow"
/meʔ1/	"to hit, sand"
/ni3/	"yam"
/ɲau4 xwaiʔ3/	"to throw"
/smi3/	"comb"
/ʃm3/	"to be shy"
/xeʔ3/	"knife"
/hə̃3/	"to cancel, to stop"
/ɕi2/	"silver"
/ɕ ^h eʔ1/	"to stab"

/je1/	"five"
/me4/	"to come"
/wi5/	"son-in-law"
/ləu1/	"stone"
/rauʔ1/	"to tie"

5.3.4.2 Consonant sub-class C_2

The consonant sub-class C_2 are those function as the second member of the consonant cluster. They are /l,r,w,j/.

The co-occurrence of C_1 and C_2 is restricted to 4 patterns of consonant cluster as follows :

Pattern I: -l- cluster (C_1 l)
 C_1 are /p,p^h,b,k,k^h/
 C_2 is /l/

They make 5 -l- clusters /pl,p^hl,bl,kl,k^hl/.

Examples:

/ʔə3 plo3/	"to eat"(only rice)
/p ^h li4/	"smooth"
/blo3/	"blind"
/kle2/	"road,path"
/k ^h lau4/	"back"

Pattern II: -r- cluster(C_1 r)

C_1 is /p/
 C_2 is /r/

There is only one word of -r- cluster /pr/.

Example:

/prmi2/	"to be powdered"
---------	------------------

Pattern III: -w- cluster (C_1w)

C_1 are / p, b, t^h, d, k, k^h, ? , n, s, x, ṭ, ṭ^h, j, l/

C_2 is /w/

They make 14 -w- clusters /pw, bw, t^hw, dw, kw, k^hw, ?w, nw, sw, xw, ṭw, ṭ^hw, jw, lw/

Examples:

/pwe?1/	"to melt"
/bwa2/	"to ask"
/t ^h wa?1/	"to break"
/dwa?1/	"to count"
/kwe?1/	"to write"
/k ^h wε1/	"to watch"
/?wi3/	"to rape"
/nwe4/	"seven"
/swε4/	"tooth"
/xwi1/	"thin"
/ṭwi2/	"to help"
/ṭ ^h wε3/	"cymbals, to push"
/l̃1 jwε3/	"to float"
/p̃1 ku2 lwε3/	"tomato, Lycopersicon esculentum"

Pattern IV: -j- cluster (C_1j)

C_1 are /p,b,k,m,j/

C_2 is /j/

They make 5 -j- clusters /pj,bj,kj,mj,jj/

Examples:

/pju ² 1/	"to vomit"
/bjε ³ /	"blanket"
/kjε ³ /	"to turn,to mix"
/mja ¹ /	"to ask"
/fju ³ /	"a pimple"

It should be noted that /l/ and /j/ can be as initial consonant C_1 or the second member of the cluster C_2 .

Examples:

/l ^h ε ¹ jwε ³ /	"to float"
/bjε ³ /	"blanket"
/k ^h ε ⁴ ku ¹ lwe ³ /	"earthworm"
/p ^h lmi ¹ /	"rope"

The 4 patterns of the co-occurrence of C_1 and C_2 is shown in Table 7.

$C_1 \backslash C_2$	-l- (C_1l)	-r- (C_1r)	-w- (C_1w)	-j- (C_1j)
p	pl	pr	pw	pj
p ^h	p ^h l			
b	bl		bw	bj
t				
t ^h			t ^h w	
d			dw	
k	kl		kw	kj
k ^h	k ^h l		k ^h w	
ʔ			ʔw	
m				mj
n			nw	
ɲ				
s			sw	
f				fj
x			xw	
h				
tɕ			tɕw	
tɕ ^h			tɕ ^h w	
j			jw	
ɲ				
w				
l			lw	
r				

Table 7 : Co-occurrence of the first consonants (C_1) and the second consonants (C_2) in consonant cluster.

The co-occurrence of the first consonants (C_1) and the second consonants (C_2) in Table 7 shows that:

1. There are 4 consonant phonemes /l,r,w,j/ that occur as the second member of a consonant cluster.
2. Only /l,j/ can be both the first member of the cluster (C_1) and as the second member of the consonant cluster (C_2).
3. A voiceless alveolar consonant phoneme /t/, a palatal nasal /ɲ/, a glottal consonant phoneme /h/ and approximant consonant phoneme /ɹ/ are not found as either member of the consonant cluster in this study.
4. The first and the second members of the cluster do not appear to be the same phonemes, there is no /ll/, /rr/, /ww/ and /jj/ cluster in this study.
5. In -l- clusters, only bilabial plosives and velar plosives /p,p^h,b,k,k^h/ occur as the first member of the cluster of this kind.
6. In -r- cluster, only /p/ occur as the first member of the cluster.

For example:

/pr̃ə2/ "floor"
/pr̃mi/ "to be powdered"

7. Only /p/ occurs with all of the consonant cluster /l,r,w,j/.
8. In -w- clusters, almost all consonant phonemes, except bilabial plosive, alveolar plosive, palatal-alveolar fricative, a glottal phoneme, an approximant phoneme and alveolar trill /p^h,t,j,h,ɹ,r/ occur as the first member of the consonant cluster.
9. Only /p,b,k,m,j/ occur in -j- cluster.

5.3.5 Consonant Phoneme Contrast

All consonants described above are phonemically contrastive in Pwo Karen. The suspect pairs of consonants which are contrastive in identical environments (IE) are shown below together with some examples:

<u>Consonant Phonemes</u>	<u>Example</u>
/p/ - /p ^h /	/pi4/ "small"
	/p ^h i4/ "bran, chaff"
/p/ - /b/	/pɛ3/ "to be inclined"
	/bɛ3/ "same, right"
	/paiʔ1/ "husband's younger brother"
	/baiʔ1/ "to squeeze"
/b/ - /p ^h /	/bõ3/ "fat"
	/p ^h õ3/ "a section of bamboo stem"
	/bai3/ "classifier of bird" ...
	/p ^h ai3/ "weevil"
/t/ - /d/	/tã2/ "a bench"
	/dã2/ "boyfriend or girlfriend"
/t/ - /t ^h /	/tã3/ "thick"
	/t ^h ã3/ "trunk" (of tree)
	/taiʔ1/ "to cling, to mold"
	/t ^h aiʔ1/ "to start a fire"

/d/ - /t ^h /	/du ³ /	"big"
	/t ^h u ³ /	"bird"
	/do ² 1/	"to collect"
	/t ^h o ² 1/	"pig"
/b/ - /m/	/bo ² 1/	"to break"
	/mo ² 1 ku ³ /	"sky"
	/bau ² /	"classifier of fish,snake"
	/mau ² /	"to lead,gong"
/k/ - /k ^h /	/kε ³ /	"difficult"
	/k ^h ε ³ /	"bitter"
/k ^h / - /x/	/k ^h a ⁴ /	"a chopping block"
	/xa ⁴ /	"heavy"
	/k ^h u ³ /	"smoke"
	/xu ³ /	"taro"
/k/ - /x/	/ko ² 1/	"to call"
	/xo ² 1/	"tidy"
	/kai ⁴ /	"to be bored"
	/xai ⁴ /	"dry"
/k/ - /k ^h / - /x/	/ka ² 1/	"to sheaf,to tie"
	/k ^h a ² 1/	"to shoot"
	/xa ² 1/	"diligent"
/x/ - /ŋ/	/xə̃ ³ /	"leg"
	/ŋə̃ ³ /	"to cry"

/k/ - /x/ - /ŋ/	/kəʔ1/	"to bar, to dam, to intercept"
	/xəʔ1/	"a farm, plantation"
	/ŋəʔ1/	"classifier of a candle"
/ʔ/ - /k/	/ʔε3/	"many"
	/kε3/	"difficult"
	/ʔəi3/	"narrow"
	/kəi3/	"to pinch, to pluck"
/m/ - /n/	/mi3/	"fire"
	/ni3/	"yam"
	/mε4/	"wife"
	/nε4/	"nose"
/n/ - /p/	/nə̃3/	"grass"
	/pə̃3/	"a charm of rolled gold or silver strips strung around the waist or the neck"
/n/ - /j/	/nɯ1/	"breast"
	/ju1/	"rat"
	/noʔ1/	"mouth"
	/joʔ1/	"to carry"
/p/ - /l/	/pəu3/	"cry of dog's bark" (onomatopoeia)
	/ləu3/	"a worm"
/d/ - /l/	/de2/	"to hit" (with the palm)
	/le2/	"wide"

/l/ - /r/	/laiʔ1/	"kite"
	/raiʔ1/	"to roll"
/k/ - /k ^h /	/k̃ə3/	"hand net"
	/k ^h ̃ə3/	"a large mortar for pounding paddy rice"
	/kəʔ1/	"to pick"(with the beak)
	/k ^h əʔ1/	"to bud"
/k/ - /k ^h / - /l/	/kə3/	"wet"
	/k ^h ə3/	"to carry, to hold"
	/fo3/	"kind of tree"

5.4 Vowel Phonemes

Two Karen vowel phonemes function as the syllable nucleus. There are 24 vowel phonemes: /i, e, ε, ɯ, ə, a, u, o, ɔ, eʔ, əʔ, aʔ, uʔ, oʔ, ɔʔ, ẽ, õ, mi, əi, əu, ai, au, aiʔ, auʔ/. The length of vowel is not contrastive. All vowel phonemes can be divided into three different sets. 14 of them are in the plain vowel set, 8 in the glottal vowel set and 2 in the nasal vowel set as follows:

a). Plain vowel set

There are 14 plain vowels: /i, e, ε, ɯ, ə, a, u, o, ɔ, mi, əi, əu, ai, au, /.

b). Glottal vowel set

There are 8 glottal vowels: /eʔ, əʔ, aʔ, uʔ, oʔ, ɔʔ, aiʔ, auʔ/.

c). Nasal vowel set

There are 2 nasal vowels: /ẽ, õ/.

The reasons for treating the final [ʔ] and [ŋ] as a vowel quality, i.e., glottalised and nasalised respectively, not as the final consonants are as follows:

1). The basic syllable pattern of this language is C(C)VT, i.e., there is no final consonant. To conform with the syllable pattern, the final [ʔ] and [ŋ] should be treated as qualities of vowels.

2). There is no nasal velar phoneme /ŋ/ in the consonant system. To assign a new phoneme to the phonological system does not seem to be economical.

There are a lot of diphthongs in this study because there is no final consonant in the basic syllable pattern in this language. To conform with this syllable pattern, the VV sequence [mi, ai, əu, ai, au] are treated as diphthongs.

5.4.1 Vowel Phoneme Chart

Vowels are sounds articulated without a complete closure in the mouth or a degree of narrowing which would produce audible friction; the air escapes evenly over the centre of the tongue. If air escapes solely through the mouth, the vowels are said to be oral; if some air simultaneously released through the nose, the vowels are nasal. In addition to this, in a phonetic classification of vowels, references would generally be made to two variables, the first of which is easily describable, the second much less so (a) the position of the lips-whether rounded, spread or neutral; (b) the part of the tongue-raised--and the height to which it moves. From a phonological point of view, vowels are those units which function at the centre of syllables (Crystal 1991:377).

All 24 vowel phonemes, arranged according to tongue position are shown in the table below.

Tongue position	Front.	Central	Back
Tongue height			
<u>Plain vowels</u>			
Closed	i	ɯ	u
Half-closed	e	ə	o
Half-open	ɛ		ɔ
Open		a	
Diphthongs		ɰi ɛi əu ai au	
<u>Glottal vowels</u>			
Closed			uʔ
Half-closed	eʔ	əʔ	oʔ
Half-open			ɔʔ
Open		aʔ	
Diphthongs		aiʔ auʔ	
<u>Nasal vowels</u>			
Half-closed		ẽ	
Half-open			õ
diphthongs			

Table 8 : Pwo Karen vowel phonemes.

5.4.2 Formational Statements.

All vowels are basically pronounced with medium length. Single vowels and diphthongs will be discussed together in three groups of a plain vowel set, a glottal vowel set and a nasal vowel set.

5.4.2.1 Vowels and Diphthongs of plain vowel set.

/i/ is a closed front unrounded oral vowel phoneme which is realised as follows:

[i] a closed front unrounded oral vowel. It occurs in syllables with all tones.

For example:

/mi1/	['mi ²¹]	"rattan"
/li2/	['li ³³]	"to go"
/si3/	['si ⁵⁵]	"proficient, able"
/k ^h i4/	['k ^h i ⁵¹]	"tiger"
/wi5/	['wi ²⁵]	"son-in-law"

/e/ is a half-closed front unrounded oral vowel phoneme which is realised as follows:

[e] a half-closed front unrounded oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/je1/	['je ²¹]	"five"
/ke2/	['ke ³³]	"to drive"(nail)
/me3/	['me ⁵⁵]	"hot of taste"
/ke4/	['ke ⁵¹]	"to thread"(a rope through a hole in the nose of a buffalo)

/ɛ/ is a half-open front unrounded oral vowel phoneme which is realised as follows:

[ɛ] a half-open front unrounded oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/jɛ1/	[¹ jɛ ²¹]	"I"
/k ^h ɛ2/	[¹ k ^h ɛ ³¹]	"expensive"
/dɛ3/	[¹ dɛ ⁵⁵]	"to see"
/lɛ4/	[¹ lɛ ⁵¹]	"green"

/ɯ/ is a closed central unrounded oral vowel phoneme which is realised as follows:

[ɯ] a closed central unrounded oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/jɯ1 saʔ1/	[¹ jɯ ²¹ ¹ saʔ ²¹]	"to think of"
/dɯ2/	[¹ dɯ ³³]	"classifier of elephant"
/ʃɯ3/	[¹ ʃɯ ⁵⁵]	"to be shy"
/p ^h ɯ4/	[¹ p ^h ɯ ⁵¹]	"to jump"

/ə/ is a half-closed central oral vowel phoneme which is realised as follows:

[ə] a half-closed central oral vowel. It occurs only in presyllables (zero stressed syllable).

For example:

/pə juʔ1/	[pə ¹ juʔ ²¹]	"nettel-hemp"
/sə lmi2/	[sə ¹ lmi ³³]	"tick"
/tə ku3/	[tə ¹ ku ⁵⁵]	"the florescence of the banana plant"
/tə p ^h ə4/	[tə ¹ p ^h ə ⁵¹]	"fence"
/t ^h ə xo3/	[t ^h ə ¹ xo ⁵⁵]	"rightside"

/a/ is an open central oral vowel phoneme which is realised as follows:

[a] an open central oral vowel. It occurs in syllables with all tones.

For example:

/p ^h a1 jɛ4/	[p ^h a ²¹ 'jɛ ⁵¹]	"door"
/xa2/	[xɑ ³³]	"mushroom"
/wa3/	[wa ⁵⁵]	"leech"
/p ^h a4/	[p ^h a ⁵¹]	"bed-bug"
/boʔ1 k ^h a5/	[boʔ ⁷¹ 'k ^h a ²⁵]	"to break apart"

/u/ is a closed back rounded oral vowel phoneme which is realised as follows:

[u] a closed back rounded oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/ju1/	[ju ²¹]	"rat"
/tu2/	[tu ³³]	"wife's younger brother"
/t ^h u3/	[t ^h u ⁵⁵]	"bird"
- /p ^h u4/ - -	[p ^h u ⁵¹]	--- -- "stomach"---

/o/ is a half-closed back rounded oral vowel phoneme which is realised as follows:

[o] a half-closed back rounded oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/lo1/	[lo ²¹]	"straw"
/lo2 kwi2/	[lo ³³ 'kwi ³³]	"to play"
/mo3/	[mo ⁵⁵]	"good"
/p ^h o4 t ^h ə3/	[p ^h o ⁵¹ 't ^h ə ⁵⁵]	"to flower"

/ɔ/ is a half-open back rounded oral vowel phoneme which is realised as follows:

[ɔ] a half-open back rounded oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/lɔ1/	[¹ lɔ ²¹]	"a cart"
/k ^h ɔ2 mjɔ2/	[¹ k ^h ɔ ³³ ¹ mjɔ ³³]	"sad, sorry"
/k ^h ɔ3/	[¹ k ^h ɔ ⁵⁵]	"cradle"
/t ^h ɔ4 nɔ1/	[¹ t ^h ɔ ⁵¹ ¹ nɔ ²¹]	"soybean"

/mi/ is a closed central to closed front gliding oral vowel phoneme which is realised as follows:

[mi] a closed central to closed front gliding oral vowel. It occurs in syllables with all tones.

For example:

/t ^h mi1/	[¹ t ^h mi ²¹]	"cucumber"
/xmi2/	[¹ xmi ³³]	"clear, brilliant"
/smi3/	[¹ smi ⁵⁵]	"comb"
/mmi4/	[¹ mmi ⁵¹]	"to sleep"
.../?mi5/....	...[¹ ?mi ²⁵]....	"here"....

/əi/ is a half-closed central to closed front gliding oral vowel phoneme which is realised as follows:

[əi] a half-closed central to closed front gliding oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/t ^h əi1/	[¹ t ^h əi ²¹]	"frequent"
/ʔəi2/	[¹ ʔəi ³³]	"ginger"
/səi3/	[¹ səi ⁵⁵]	"tree"
/wəi4/	[¹ wəi ⁵¹]	"abscess"

/əu/ is a half-closed central to closed back rounded gliding oral vowel phoneme which is realised as follows:

[əu] a half-closed central to closed back rounded gliding oral vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/t ^h əu1/	[¹ t ^h əu ²¹]	"comb"(of cock)
/dəu2/	[¹ dəu ³³]	"drum"
/ləu3/	[¹ ləu ⁵⁵]	"a worm"
/ŋəu4/	[¹ ŋəu ⁵¹]	"to hug"

/ai/ is an open central to closed front unrounded gliding oral vowel phoneme which is realised as follows:

[ai] an open central to closed front unrounded gliding oral vowel. It occurs in syllables with all tones.

For example:

/jai1/	[¹ jai ²¹]	"a long time"
/p ^h ai2/	[¹ p ^h ai ³³]	"a ciruela"
/mai3/	[¹ mai ⁵⁵]	"kind of animal"
/xai4/	[¹ xai ⁵¹]	"dry"
/h ⁵⁴ ?ai5/	[¹ h ⁵¹ ?ai ²⁵]	"cry of buffalo" (onomatopoeia)

/au/ is an open central to closed back rounded gliding oral vowel phoneme which is realised as follows:

[au] an open central to closed back rounded gliding oral vowel. It occurs in syllables with all tones.

For example:

/t ^h au1/	['t ^h au ⁷]	"to ride"
/t ^h au2/	['t ^h au ³]	"bridge"
/hau3/	['hau ⁵⁵]	"to prefer"
/p ^h au4/	['p ^h au ⁵¹]	"a fish trap made of bamboo"
/lau5 paʔ3/	[,lau ⁷⁵ 'paʔ ⁵⁵]	"all"

5.4.2.2 Vowels and Diphthongs of glottal vowel set.

All glottal vowels are pronounced with approximately the same tongue and lip position as their plain counterparts. The only difference is that they are always followed by the glottal stop phoneme /ʔ/ appearing as a final consonant. As this language does not have any final consonant, it will be resegmented as the vowel quality ; a glottalisation of vowel. However, the glottal vowels tend to be phonetically shorter than their plain counterparts and can bear only two tones: low-falling and high-level tones, except /uʔ/ which occurs in syllable with low-falling tone only.

/eʔ/ is a half-closed front unrounded vowel phoneme followed by a glottal stop which is realised as follows:

[eʔ] a half-closed front unrounded vowel followed by a glottal stop. It occurs in syllables with tone 1 and tone 3.

For example:

...../meʔʔ/[⁵⁵ meʔ ⁵⁵]"eye".
/k ^h eʔ1/	[¹ k ^h eʔ ¹]	"to stab"

/əʔ/ is a half-closed central vowel phoneme followed by a glottal stop which is realised as follows:

[əʔ] a half-closed central vowel followed by a glottal stop. It occurs in syllables with tone 1 and tone 3.

For example:

/kəʔ1/	[¹ kəʔ ¹]	"to bar, to dam, to intercept"
/ʔoʔ xəʔʔ/	[⁵⁵ ʔo ⁵⁵ ¹ xəʔ ⁵⁵]	"together"

/aʔ/ is an open central vowel phoneme followed by a glottal stop which is realised as follows:

[aʔ] an open central vowel followed by a glottal stop.
It occurs in syllables with tone 1 and tone 3.

For example:

/t ^h aʔ1/	[^h t ^h aʔ ²¹]	"iron, needle"
/waʔ3/	[^h waʔ ⁵⁵]	"to scratch"

/uʔ/ is a closed back rounded vowel phoneme followed by a glottal stop which is realised as follows:

[uʔ] a closed back rounded vowel follow by a glottal stop.
It occurs in syllables with only tone 1.

For example:

/pjuʔ1/	[^h pjuʔ ²¹]	"to vomit"
/xoʔ3 kjuʔ1/	[₁ xoʔ ⁵⁵ ^h kjuʔ ²¹]	"Adam's apple"

/oʔ/ is a half-closed back rounded vowel phoneme followed by a glottal stop which is realised as follows:

[oʔ] a half-closed back rounded vowel followed by a glottal stop. It occurs in syllables with tone 1 and tone 3.

For example:

/koʔ1/	[^h koʔ ²¹]	"to call"
/tə xoʔ3/	[tə ^h xoʔ ⁵⁵]	"deer"

/ɔʔ/ is a half-open back rounded vowel phoneme followed by a glottal stop which is realised as follows:

[ɔʔ] a half-open back rounded vowel followed by a glottal stop. It occurs in syllables with tone 1 and tone 3.

For example:

/xɔʔ1/	[¹ xɔʔ ²¹]	"to sharp" (with a knife)
/kau3 kɔʔ3/	[₁ kau ⁵⁵ ¹ kɔʔ ⁵⁵]	"a sticky rice box made of bamboo"

/aiʔ/ is an open central to closed front unrounded gliding vowel followed by a glottal stop which is realised as follows:

[aiʔ] an open central to closed front unrounded gliding vowel followed by a glottal stop. It occurs in syllables with tone 1 and tone 3.

For example:

/raiʔ1/	[¹ raiʔ ²¹]	"to roll"
/k ^h aiʔ3/	[¹ k ^h aiʔ ⁵⁵]	"to think"

/auʔ/ is an open central to closed back rounded gliding vowel followed by a glottal stop which is realised as follows:

[auʔ] an open central to closed back rounded gliding vowel followed by a glottal stop. It occurs in syllables with tone 1 and tone 3.

For example:

/mauʔ1/	[¹ mauʔ ²¹]	"sex"
/hm3 k ^h auʔ3/	[₁ hm ⁵⁵ ¹ k ^h auʔ ⁵⁵]	"an ear of paddy"

5.4.2.3 Nasal vowel set

The nasal vowels are the central and back vowels which are nasalised. As this language does not have any initial /ŋ/ and this language does not have any final consonant, /ŋ/ will be resegmented as a vowel quality; a nasalisation of vowel.

/ẽ/ is a half-closed central nasal vowel which is realised as follows:

[ẽ] a half-closed central nasal vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/lẽ1/	[¹ lẽ ²¹]	"to descend"
/ɲẽ2/	[¹ ɲẽ ³³]	"shadow"
/tẽ3/	[¹ tẽ ⁵⁵]	"thick"
/xẽ4/	[¹ xẽ ⁵⁵]	"ladder, to force"

/õ/ is a half-open back rounded nasal vowel which is realised as follows:

[õ] a half-open back rounded nasal vowel. It occurs in syllables with tone 1, tone 2, tone 3 and tone 4.

For example:

/ɲai4 ɲõ1/	[¹ ɲai ⁵⁵ ¹ ɲõ ²¹]	"out of order"
/lõ2/	[¹ lõ ³³]	"straight"
/p ^h õ3/	[¹ p ^h õ ⁵⁵]	"a section of bamboo stem"
/p ^h lõ4/	[¹ p ^h lõ ⁵⁵]	"to leak"

5.4.3 Vowel Phoneme Contrast

All vowels described above are phonemically contrastive in Pwo Karen. The suspect pairs of vowels which are contrastive in identical environments (IE) are shown below together with some examples:

<u>Vowel phonemes</u>		<u>Examples</u>
/i/ - /e/	/ki2/	"silver"
	/ke2/	"to drive"(nail)
/i/ - /ɛ/	/si3/	"proficient,able"
	/sɛ3/	"to breath"
/i/ - /a/	/khi4/	"tiger"
	/kha4/	"a chopping block"
/e/ - /ɛ/	/de2/	"to hit"(with the palm)
	/dɛ2/	"youngest"(child)
	/je1/	"five"
	/jɛ1/	"I"
/i/- /e/- /ɛ/- /a/	/li2/	"to go"
	/le2/	"wide"
	/lɛ2/	"moon"
	/la2/	"warm"
/a/ - /ɔ/	/na4/	"to smell"
	/nɔ4 lɛ3/	"What?"

/o/ - /ɔ/	/lo1/	"straw"
	/lo1/	"a cart"
/ɔ̃/ - /ɔ/	/khɔ̃3/	"strong"
	/khɔ3/	"cradle"
/u/ - /ʉ/	/ʉu3/	"to blow"
	/na4 ʉm3/	"to be rotten"
/u/ - /o/	/ku3/	"hand"
	/ko3/	"wet"
/ʉ/ - /əu/	/dʉ2/	"turbid(water),muddy"
	/dəu2/	"drum"
/əi/-/əu/-/əi/-/mi/-/au/	/nai3/	"to pinch,to overlie"
	/nəu3/	"horn"
	/nəi3/	"year"
	/nmi3/	"to smile"
	/nau3/ . . .	"lake"
/mi/ - /əu/	/lmi1/	"four"
	/ləu1/	"stone"
/əi/ - /əu/	/kəi3/	"to pinch,to pluck"
	/kəu3/	"lazy"
/mi/ - /əi/	/dmi2/	"to run"
	/dəi2/	"to kick"

/ai/ - /aiʔ/	/jai/	"a long time"
	/jaiʔ1/	"to step on, to tread on"
/au/ - /auʔ/	/lhau/	"to ride"
	/lhauʔ1/	"to wipe, to rub"

The suspect pairs of vowels which are contrastive in analogous environments (AE) are shown below.

/ə/ - /ə̃/ - /əʔ/	/t ^h ə lu/	"mountain"
	/t ^h ə̃1/	"to pound"
	/t ^h əʔ1/	"to pull"
	/lə pi4/	"small"
	/lə̃ʔ/	"to descend"
	/ləʔ1/	"one"

5.5 Tonemes

There are five contrastive tonemes in Pwo Karen language spoken at Huay-Hom-Nok village, three contour tones and two level tones. The plain and nasal vowels can bear all five of them while the glottal vowels can bear only two tones; low falling and high level. Pwo Karen tones function, together with vowels, as the syllable-nucleus.






Phonemic Notation	Description	Tone Stick	Phonetic Transcription
/1/	low-falling		[² 1]
/2/	mid-level		[³ 3]
/3/	high-level		[⁵ 5]
/4/	high-falling		[⁵ 1]
/5/	low-rising		[² 5]

Table 9 : Pwo Karen Tonemes.

5.5.1 Formational statements.

/1/ [²¹] a low-falling tone. Its tonal figure starts slightly below mid-level and then moves down softly to low level.

Examples:

/saʔ1/	[¹ saʔ ²¹]	"heart"
/t ^h oʔ1/	[¹ t ^h oʔ ²¹]	"pig"
/ŋi1/	[¹ ŋi ²¹]	"rattan"
/k ^h ε1/	[¹ k ^h ε ²¹]	"weak"

/2/ [³³] a mid-level tone. Its tonal figure starts from mid-level, and continues and ends at the same range.

Examples:

/lo2 kwi2/	[¹ lo ³³ ¹ kwi ³³]	"to play"
/pmi2/	[¹ pmi ³³]	"flute"
/xmi2/	[¹ xmi ³³]	"clear, brilliant"
/ŋə̃2/	[¹ ŋə̃ ³³]	"shadow"

/3/ [⁵⁵] a high-level tone. Its tonal figure starts from a high-level, and stays and ends at the same range.

Examples:

/ʔə̃3/	[¹ ʔə̃ ⁵⁵]	"to eat"
/k ^h u3/	[¹ k ^h u ⁵⁵]	"smoke"
/lou3/	[¹ lou ⁵⁵]	"a worm"
/kɿ3/	[¹ kɿ ⁵⁵]	"leftside"

/4/ [⁵¹] a high-falling tone. Its tonal figure starts from a high-level then falls at the end to low-level.

Examples:

/k ^h i4/	[¹ k ^h i ⁵¹]	"tiger"
/lɛ4/	[¹ lɛ ⁵¹]	"green"
/p ^h ɯ4/	[¹ p ^h ɯ ⁵¹]	"to jump"
/səi4/	[¹ səi ⁵¹]	"raw"

/5/ [²⁵] a low-rising tone. Its tonal figure starts below mid-level and then rises to the high-level of the range.

Examples:

/wi5/	[¹ wi ²⁵]	"son-in-law"
/h ^h 54 ʔai5/	[¹ h ^h 54 ¹ ʔai ²⁵]	"cry of buffalo" (onomatopoeia)
/lau5 paʔ3/	[¹ lau ²⁵ ¹ paʔ ⁵⁵]	"all"
/mau5 jauʔ1/	[¹ mau ²⁵ ¹ jauʔ ²¹]	"already"...

This toneme will be resegmented as one phoneme of tone because there is a contrastive pairs.

5.5.2 Toneme Contrast.

All five tonemes are contrastive in identical environment (IE) as shown below:

<u>Tonemes</u>	<u>Examples</u>
/11/ - /2/ - /3/ - /4/	/ɰe1/ "classifier of person" /ɰe2/ "Don't!" /ɰe3/ "hot of taste" /ɰe4/ "to come"
/11/ - /3/ - /4/	/ʃjɛ1/ "old-aged" /ʃjɛ3/ "star" /ʃjɛ4/ "bamboo strap"
/2/ - /3/ - /4/	/xa2/ "mushroom" /xa3/ "to winnow" /xa4/ "heavy"
/11/ - /2/	/dəu1/ "wife's younger sister" /dəu2/ "drum"
/11/ - /3/	/meʔ1/ "to hit" /meʔ3/ "eye"
/11/ - /4/	/nɛ1/ "you" /nɛ4/ "nose"

/1/ - /5/	/ɲi1/	"rattan"
	/ɲi5 jau21/	"to thank"
/2/ - /3/	/kɛi2/	"silver"
	/kɛi3/	"leftside"
/2/ - /4/	/lɛ̃2/	"to descend"
	/lɛ̃4/	"rainbow"
/2/ - /5/	/ʔmi2/	"this"
	/ʔmi5/	"here"
/3/ - /4/	/sɛi3/	"tree"
	/sɛi4/	"raw"
/3/ - /5/	/ʔai3/	"sharp, to bite"
	/hɔ̃4 ʔai5/	"cry of buffalo" (onomatopoeia)

CHAPTER VI

CONCLUSIONS AND SUGGESTIONS FOR FURTHER STUDIES

6.1 Conclusion of Huay-Hom-Nok Pwo Karen dialect.

Pwo Karen phonology has the following characteristics :

6.1.1 Intonation

There is no significant particular intonation pattern. Tones of final particles seem to cause falling and rising of the intonation.

6.1.2 Phonological Word

There are monosyllabic word, disyllabic word and trisyllabic word.

6.1.3 Syllable

According to their structures, there are altogether 3 types of syllables: presyllable, major syllable and minor syllable. The presyllable consists of only /ə/ and has a neutral tone. The major and minor syllables consist of all vowel phonemes and also all tonemes. There is no contrast between short and long vowels. Therefore, the length of vowels is non-phonemic.

Stress: There are 3 types: strong stress ('s), weak stress(,w) and zero-stress (z).

6.1.4 Phonemes

There are 23 consonant phonemes /p, p^h, b, t, t^h, d, k, k^h, ʔ, m, n, s, ʃ, x, h, t, t^h, j, ɲ, w, l, r/ 24 vowel phonemes /i, e, eʔ, ε, ɯ, ə, əʔ, ẽ, a, aʔ, u, uʔ, o, oʔ, ɔ, ɔʔ, ẽ, ɰi, ɰi, əu, ai, aiʔ, au, auʔ/ ; and 5 tonemes as follows : [˥˥] a low-falling tone, [˨˨] a mid-level tone, [˥˥] a high-level tone, [˥˥] a high-falling tone and [˨˨] a low-rising tone.

C.2 Remark on Pwo Karen at Huay-Hom-Nok Village

In the Pwo Karen spoken at Huay-Hom-Nok Village, the voiced velar fricative [ʎ] was found to be a free variant of the voiced velar approximant /ɲ/ in the initial position of a few words. Chutima(1982) claims that the voiced velar approximant [ɲ] is an allophone of the voiced velar fricative [ʎ]. She does not, however, provide any data or phonological rules to support her claim. Naruemon(1993) proposes that [ɲ] and [ʎ] are in free variation. It may be possible that the original [ʎ] is in the process of changing to /ɲ/ due to the ease of articulation. This study sets up /ɲ/ as a phoneme instead of /ʎ/ because [ɲ] has wider distribution than [ʎ] in this dialect.

6.3 Suggestions for Further Studies.

1). There are various Pwo Karen dialects in Thailand, especially in the west and the north. It would be interesting to compare all of them.

2). Beside a phonological study, other topics would be of interest e.g. ; Sociolinguistic Study, Pwo Karen Classifiers, Final Particles in Pwo Karen, Grammatical studies, etc.

REFERENCES

REFERENCES

- Anderson, T. David. "Two Karen Language Survey" in Interim Report.
Language Research and Development Project, 1987.
- Benedict, Paul K. Sino-Tibetan : A Conspectus. Contributed by
James A. Matisoff, New Yoke : Cambrige University Press,
1972.
- Chutima Kaewsilpa. A Description of Pho Karen : A Tibeto-Burman
Language in Thailand. M.A. Thesis in Southeast Asian
Linguistics. Faculty of Graduate Studies, Mahidol
University, 1986.
- Cooke, Hudspith and Morris. "Phlong" Phonemes and Orthography:
Language Planning in Ten Minority Languages of Thailand.
ed. by Smalley. The Australian National University, 1967.
- Crystal, David. A Dictionary of Linguistics and Phonetics. thrid
edition. Oxford : Blackwell. 1991.
- Keyes, Charles F. (Ed.). Ethnic Adaptation and Identity : The Karen
on the Thai Frontier with Burma. Institute For the Study of
Human Issues, Philadelphia, Pennsylvania, 1979.
- Lebar, Frank M., et al. Ethnic Groups of Mainland Southeast Asia.
New Haven, Conn. : Human Relations Area Files Press, 1964.
- Lewis, Paul and Elaine. Peoples of the Triangle : Six Tribes in
Thailand. Thames and Hudson, London, 1984.

- Luce, Gordon H. "Introduction to the Comparative Study of Karen Languages." in Journal of the Burma Research Society. Vol. 42, part 1, p.1-8, 1959.
- Naruemon, Chuensukon. A Phonological study of Pwo Karen at Yang-Khaw Village, Tambon Prang-Phe, Sang-Kha-Buri District, Kanchanaburi Province. Unpublished manuscript, 1993.
- Preecha, Chaturabhard. People of the Hills. ed. by Duang Kamol. Bangkok, 1987.
- Puttachart, Dhananjayananda. The Phonology of Sgaw Karen, with Comparisons with Thai : M.A. Thesis in Southeast Asian Linguistics. Faculty of Graduate Studies, Mahidol University, 1983.
- Varaporn, Noiwong. A Phonological of Thiganyun, Rangoon Burmese as Spoken in Maesot, Tak Province : M.A. Thesis in Southeast Asian Linguistics. Faculty of Graduate Studies, Mahidol University, 1991.
- Young, Gordon. The Hill Tribes of Northern Thailand, Bangkok : The Siam Society, 1962.
- จังหวัดลำพูน, สำนักงาน. บรรยายสรุปจังหวัดลำพูน. ลำพูนการพิมพ์, 2529.
- กีระพันธ์ ล. ทองคำ. บรรพชากรรมภาษาชนกลุ่มน้อยในประเทศไทย. รายงานเสนอฝ่ายวิจัย คณะอักษรศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กรุงเทพฯ, 2527.
- พระเจ้าสงเคราะห์, กรม. ชีวิตชาวเขาและการพัฒนา. (เอกสารประกอบนิทรรศการ) : สภานักวิจัยชาวเขา กองสงเคราะห์ชาวเขา กรมประชาสงเคราะห์ กระทรวงมหาดไทย, 2534.

พจนานุกรม เสมอมิตร. เสียงและระบบเสียงในภาษาโผล่ว อำเภอศรีสวัสดิ์ จังหวัดกาญจนบุรี.
 วิทยาลัยแพทยปริญาอักษรศาสตร์มหาบัณฑิต สาขาภาษาศาสตร์. บัณฑิตวิทยาลัย
 จุฬาลงกรณ์มหาวิทยาลัย, 2526.

ศูนย์พัฒนาและส่งเสริมชาวเขา จังหวัดลำพูน. ข้อมูลสรุปประชากรชาวเขาจังหวัดลำพูน.
 (อัดสำเนา), 2536.

สมทรง บุรุษพัฒน์. สรีวิทยา : การวิเคราะห์ระบบเสียง. กรุงเทพฯ : สถาบันวิจัยภาษา
 และวัฒนธรรมเพื่อพัฒนาชนบท มหาวิทยาลัยมหิดล, 2536.

สุวิมลลักษณ์ ศีผดุง. รายงานภาคสนาม : กะเหรี่ยง บ้านห้วยฮ่อมนอก ตำบลทาชูเมง
 อำเภอแม่ทา จังหวัดลำพูน. ภาษาและวัฒนธรรม. ปีที่ 12, ฉ.1
 (ม.ค.-มิ.ค. 2536)

สุริยา รัตนกุล, รศ.ดร. คุณหญิง. นาเวภาษาในเอเชียอาคเนย์. เล่มที่ 1 ภาคที่ 1
 ภาษาตระกูลออสโตรเอเชียติกและตระกูลจีน-ทิเบต. กรุงเทพฯ : สถาบันวิจัย
 ภาษาและวัฒนธรรมเพื่อพัฒนาชนบท มหาวิทยาลัยมหิดล, 2531.

สอ เสถบุตร. พจนานุกรมไทย-อังกฤษ. กรุงเทพฯ : ไทยวัฒนาพานิช จำกัด, 2532.

สอ เสถบุตร. พจนานุกรมอังกฤษ-ไทย. กรุงเทพฯ : ไทยวัฒนาพานิช จำกัด, 2536.

APPENDIX I

GLOSSARY

This glossary followed the Southeast Asia word list of
Mahidol University Field Method-revised 1990.

HHN	YK	
/moʔ1 k ^h u3 /	/mauʔ1 k ^h u3/	"sky"
/t ^h ə ʔəu3/	/sə ʔəu3/	"cloud"
/m̃ə1 meʔ3/	/m̃ə1 mi3/	"sun"
/lɛ2/	/la1/	"moon"
/l̃jɛ3/	/l̃ja2/	"star"
/lmi2/	/lmi1/	"wind"
/t ^h ə ɲə4 t ^h a2/	/t ^h ə t ^h ə̃2/	"rain"
/lã4/	/lã4 ʔo1 t ^h i4/	"rainbow"
/tə k ^h u1 swi4/	/s̃ɔ1 k ^h u3/	"mist"
/mə nɛ1 k ^h o4/	/kɛ1 m̃ə2 naʔ1/	"night"
/mə t ^h ɛ4 k ^h o4/	/kɛ1 m̃ə2 t ^h a4/	"day"
/nəi3/	/nəi3/	"year"
- /m̃ə1/	- /m̃ə1 əa3/	- "hail" -
/pə t ^h ə̃1 t ^h mi4/	/t ^h ə̃1 k ^h u3 l̃u3/	"snow"
/t ^h ə ɲauʔ1/	/k ^h auʔ1 t ^h ə̃3/	"freeze"
/t ^h mi4/	/t ^h i4/	"water"
/t ^h mi4 kl̃ɔ2 p ^h a2/	/t ^h i4 k ^h lu3/	"river"
/nəu3/	/kə ma4/	"lake"
/kui2/	/mə4 t ^h a1 maiʔ1/	"sea"
/ɲə̃3 k ^h u3/	/ɲə̃1 k ^h u3/	"earth, soil"
/ləu1/	/ləu3/	"stone"
/meʔ1/	/pə ti1/	"sand"
/bɛ2 ʔa2/	/t ^h iʔ1 kə lɛʔ1/	"mud"

HHN

YK

/m̃ɔ̃3 k ^h u3 mu3/	/t ^h ə k ^h u3 mau?3/	"dust"
/t ^h ə lu1/	/k ^h u3 lū1/	"mountain"
/səi3/	/θəi3 t ^h əu3/	"tree"
/t ^h ə k ^h ɛ3 kle2/	/məi1 la3/	"forest"
/səi3 le3/	/əəi3 la3/	"leaf"
/səi3 p ^h ai?1/	/θəi3 p ^h ai?1/	"bark"
/tə p ^h o4/	/p ^h õ4/	"flower"
/səi3 m̃mi1/	/θəi3 m̃mi5/	"root"
/səi3 su3 wɛ3 sɛ3/	/əəi3 ou3 wa3 əə3/	"fruit"
/tə k ^h lmi4/	/ʔə k ^h li4/	"seed"
/nə̃3/	/ñɔ̃3/	"grass"
/səi3 dai2/	/ʔə t ^h ai?1/	"stick"
/sɛ4 kwi2/	/əə1 kuil əə3/	"banana"
/m̃i1/	/m̃i5/	"rattan"
/sɛ?1 sɛ3/	/əi1 əə3/	"areca"
/sɛ4 kwi2 k ^h ɛ4/	/kləu1 t̃ɛi1 əə3/	"papaya"
/m̃ə̃2 p ^h lo2/	/p ^h lɔ̃1 əə3/	"coconut"
/t ^h u3/ - - -	--- /t ^h u3/ - - -	"bird" -
/ʔə1 dai?1/	/ʔə dai?1/	"wing"
/ʔə1 t ^h ɔ̃3/	/ʔə t ^h ũ4/	"feather"
/ju2/	/ju1/	"to fly"
/ʔə1 dmi3/	/t ^h ə dmi3/	"egg"
/ʔə1 mi1/	/ʔə mi5/	"tail"
/kɛu3 m̃mi3/	/kɛmu3 mi3/	"claw"
/ʔə1 nəu2/	/ʔə nəu1/	"horn"
/tə p ^h u3 xɛ1/	/sə p ^h u3 sə xa5/	"animal"
/t ^h ui3/	/t ^h ui3/	"dog"
/t ^h o?1/	/t ^h u1/	"pig"

HHN	YK	
/k ^h ǎ4/	/sǎ4/	"chicken"
/jɛ3 p ^h u3/	/ja3/	"fish"
/ɰu1/	/ɰu5/	"snake"
/ju1/	/ju5/	"rat"
/kə tɛ3/	/pə dɛʔ1/	"rabbit"
/p ^h ɛ4 laiʔ1/	/sə ʔauʔ1/	"monkey"
/tə xoʔ3/	/t ^h ə rɛ5/	"deer"
/k ^h i4/	/k ^h i4/	"tiger"
/pə nɛ1/	/pə na5/	"buffalo"
/t ^h ə na4/	/sə na4/	"cow"
/kə k ^h ǎ4/	/kə sǎ4/	"elephant"
/kə k ^h ǎ4 mi3/	/kə sǎ4 mɛ3/	"elephant tusk"
/ləu3/	/ləu3/	"worm"
/dai2 bǎ1 k ^h wi3/	/k ^h ə kǎi3 mi3/	"scorpion"
/pə xǎ2/	/k ^h ǎ1 k ^h o1/	"spider"
/səu3/	/əəu3/	"louse"
/pə kǎ2/	/kɛ3 kǎ1/	"mosquito"
.. /du1.lɛ4/ /du1.la4/ "a fly" ..
/nɛ4/	/na4/	"nose"
/mɛʔ3/	/mi3 k ^h li4/	"eye"
/nɛ1/	/na5/	"ear"
/k ^h u3 xmi3/	/k ^h u3 xui3/	"head"
/noʔ1/	/nuʔ1/	"mouth"
/swɛ4/	/mɛ3/	"tooth"
/p ^h li2/	/nuʔ1 p ^h liʔ1/	"tongue"
/k ^h u3 su4/	/k ^h u3 əu4/	"hair"
/xoʔ3 bǎ2/	/k ^h u3 bǎ1/	"neck"
/su4 pɛ3/	/sui4/	"shoulder"

HHN

YK

/saʔ1 nɛ4 [jɛ1/	/əaʔ1 na4/	"chest"
/k ^h lau4/	/kləu1 k ^h ɔ̃4 k ^h u3/	"back"
/saʔ1/	/əaʔ1/	"heart"
/ɲu1 p ^h au4/	/ɲauʔ1 p ^h əu4/	"abdomen"
/xwaiʔ3/	/xwaiʔ3/	"intestines"
/səu3/	/ʔə əu3/	"liver"
/kəu3/	/kɛjɲu3/	"hand"
/kəu3 p ^h ɔ̃4 saʔ1/	/kɛjɲu3 ja4 əaʔ1/	"palm"
/kəu3 ɲɲi3/	/kɛjɲu3 mi3/	"nail"
/xə̃3/	/xɔ̃3/	"leg"
/xə̃3 jɛ4 k ^h u3/	/xɔ̃3 ja4/	"foot"
/xə̃3 ləu1 ɲu1/	/xɔ̃3 ləu1 ɲu5/	"knee"
/ɲɲi3 t ^h aiʔ1/	/ki3 t ^h ai1/	"thigh"
/xə̃3 du3 sɛ3/	/xɔ̃3 dɲu3 əa3/	"calf"
/sui3/	/əui3/	"blood"
/xɲi3/	/xui3/	"bone"
/ʔa1 p ^h aiʔ1/	/ʔə p ^h aiʔ1 k ^h u3/	"skin"
- /ʔa1- jɛ3/ - - -	- /ʔə ja3/ - - -	"flesh" -
/ʔa1 su3/	/ʔə əu3/	"fat"
/ʔa1 bau3 ʔo1 daiʔ1/	/əaʔ ma/	"to live"
/sɲi4/	/əɲi4/	"to die"
/t ^h ə lə məʔ3 bɛ3/	/k ^h ũ4 kãi1/	"to be sick"
/sɛ3/	/əa3/	"to breath"
/nɛ1 ɲa4/	/ɲə̃4/	"to hear"
/dɛ3/	/da3/	"to see"
/k ^h lai1/	/k ^h lai1/	"to speak"
/ɲɲi1/	/ɲɲi5/	"to laugh"
/ɲə̃3/	/ɲə̃3/	"to weep"

HHN	YK	
/ʔu3 kʰauʔ1/	/ʔõ3 kʰauʔ1/	"to suck"
/tʰu4 pʰli2/	/tʰu3 pʰlaiʔ1/	"to spit"
/ʔu3/	/ʔu3 ɕu3/	"to blow"
/ʔai3/	/ʔãi3/	"to bite"
/ʔõ3/	/ʔõ3/	"to eat"
/ʔo2/	/ʔo1/	"to drink"
/ma2/	/mã1/	"to be drunk"
/pjuʔ1/	/pjuʔ1/	"to vomit"
/na4/	/na4/	"to smell"
/kʰõ4 mɔ3/	/kʰũ4 mõ3/	"to think"
/smi3 ɲe4/	/øi3 ja4/	"to know"
/dwaʔ1/	/naʔ3/	"to count"
/saʔ1 mi3/	/øa1 me3/	"to fear"
/be2 saʔ1/	/ba3 øaʔ1/	"to want"
/mmi4/	/mmi4/	"to sleep"
/mmi4 nõ2/	/mmi4 nɔ1/	"to lie"
/kʰmi4 tʰõ3/	/kʰi4 tʰɕu3/	"to stand"
/kʰmi4 nõ2/	/kʰi4 nɔ1/	"to sit"
/kai3/	/kãi3 kʰõ3/	"to walk"
/qe4/	/qe4/	"to come"
/li2/	/li1/	"to go"
/tʰõ3/	/tʰõ3/	"to ascend"
/lõ2/	/lõ1/	"to descend"
/tʰai1 nɕu3/	/nɔ3 lõ1/	"to enter"
/tʰaiʔ1/	/tʰãi1/	"to return"
/waiʔ3/	/kãi3 ku3/	"to turn"
/je1 tʰmi4/	/ja1 tʰi4/	"to swim"
/lõ1 jwe3/	/tʰõ3 pʰõ4/	"to float"

HHN

YK

/lǎi kwaʔ1/	/lǎi jua1/	"to flow"
/k ^h wɛ3/	/k ^h ɔ̃3/	"to push"
/t ^h əʔ1/	/t ^h auʔ1/	"to pull"
/pau4 xwaiʔ3/	/k ^h waiʔ3/	"to throw"
/lǎi t ^h eʔ3/	/lǎi t ^h iʔ3/	"to fall"
/ʔǎ3 lǎ4/	/p ^h i3 lǎ4/	"to give"
/mɛ1 ni1/	/ma1 ni5/	"to take"
/ʔǎ3 sm4 maʔ1/	/ʔǎ3 ɔi4 jaʔ1/	"to wash"
/ʔǎ3 sm4 maʔ1/	/ʔǎ3 ɔi4 jaʔ1/	"to launder"
/p ^h aʔ1/	/p ^h aʔ1/	"to split"
/kaʔ1/	/ka1 t ^h əu3/	"to lie"
/t ^h auʔ1/	/t ^h auʔ1/	"to wipe"
/t ^h auʔ1/	/t ^h auʔ1/	"to rub"
/mɛʔ1/	/du3/	"to hit"
/bɛ2 kauʔ1/	/ma1 t ^h iʔ3/	"to cut"
/k ^h eʔ1/	/kɛiʔ1/	"to stab"
/xǎ3/	/k ^h əu3/	"to dig"
-- /k ^h waʔ3/ --	-- /k ^h waʔ3/ --	"to scratch"
/baiʔ1/	/bǎi1 k ^h aiʔ1/	"to squeeze"
/ʔa1 k ^h wɛ4/	/ʔə k ^h wa4/	"man"
/ʔa1 mǎ3/	/ʔə mɪ3/	"woman"
/p ^h ləu1/	/mə nɪ5/	"person"
/ʔa1 p ^h ɛ1/	/p ^h a5/	"father"
/ʔa1 mu1/	/mu5/	"mother"
/p ^h u3 sɛ3/	/p ^h u3 ɔa3/	"child"
/ʔa1 wɛ1/	/wa1/	"husband"
/ʔa1 mɛ4/	/ma4/	"wife"
/koi1 k ^h wɛ4/	/wei1 k ^h wa4/	"elder brother"

HHN

YK

/nə̃1 mə̃3/	/wə1 mɯ3/	"elder sister"
/p ^h ɯ1/	/p ^h ɯ5/	"younger sibling"
/məi2/	/ʔə məi1/	"name"
/jɛ1/	/jəʔ1/	"I"(familiar)
/nɛ1/	/nəʔ1/	"you"(sg.)
/ʔa1 k ^h wɛ4/	/ʔəʔ1/	"he"
/p ^h ləu1 d̃ə4 mu4/	/pəʔ1/	"we"(incl.)
/nə sm4 mu4 lau2 mu4 le2/	/nə əi3/	"you"(pl.)
/nə sm4 mu4 lau2 mu4 le2/	/ʔə wə4 əi3/	"they"
/bɯ3 bæi3/	/bɯ3 bæi3/	"paddy rice"
/ɯɯ1 saʔ1/	/ɯɯ4 k ^h a3/	"pounded rice"
/mi1 məi4/	/mi1/	"cooked rice"
/p ^h ə k ^h e4/	/bɯ3 k ^h e4 əa3/	"corn"
/t ^h mi4 le3/	/t ^h i4 la3/	"salt"
/xwəiʔ3 sɛ3/	/xwəiʔ3 əa3/	"pepper"
/si4/	/oi1 əa3/	"betel chew"
/k ^h ə̃3 p ^h u3 t ^h i3/	/k ^h əi3 k ^h u4/	"pestle"
-/k ^h ə̃3 p ^h u3ʔ - - -	/k ^h əu3/	"mortar"
/ʔə̃3 p ^h o4 ʔə̃3 mi2/	/ʔə̃3 p ^h u4 mi1/	"to cook"
/səi3 mə̃1/	/əəi3 mɯ5/	"firewood"
/mi3/	/mi3/	"fire"
/k ^h əuʔ1 p ^h lə̃2/	/k ^h əuʔ1/	"to burn"
/p ^h əi4 k ^h le3 mu3/	/p ^h əi4 k ^h la3/	"ashes"
/k ^h u3/	/ʔə k ^h ɯu3/	"smoke"
/kle2/	/p ^h ə̃1 əa1/	"road, path"
/dauʔ1/	/ɯəi3/	"house"
/dauʔ1 k ^h u3/	/ɯəi3 k ^h u3/	"roof"
/p ^h lmi2/	/p ^h lmi1/	"cord"

HHN

YK

/k ^h aʔ1/	/k ^h aʔ1/	"to sew"
/k ^h ai4 k ^h ə1/	/k ^h ə kũ1 k ^h ə ouʔ1/	"clothing"
/nmi3/	/t ^h ə dũ1/	"loincloth, sarong"
/t ^h ə mɛ2/	/sə mal/	"work"
/lo2 kwi2/	/lu3 kwe1/	"to play"
/mɛ1 t ^h ɛ4/	/mal t ^h ai k ^h u3/	"to sing"
/mɛ1 kə̃2/	/t ^h əu3 li5/	"to dance"
/dəu2/	/təʔ1 pəu5/	"drum"
/mau2/	/mũ1/	"gonǝ"
/xwi2/	/xwe1/	"to buy"
/k ^h lmi3/	/k ^h li3/	"crossbow"
/p ^h lɛ1/	/p ^h la5/	"arrow"
/p ^h ə̃2/	/p ^h ə̃1/	"spear"
/k ^h aʔ1/	/k ^h aʔ1/	"to shoot"
/kai3 k ^h aʔ1/	/xə lə mja3/	"to hunt"
/mɛ1 smi4/	/mal ɔi4/	"to kill"
/mɛʔ1 lo2 saʔ1/	/mal dəu3/	"to fight"
... /ləʔ1/ /ləu1/ ...	"one"
/k ^h mi4/	/nmi4/	"two"
/sa4/	/ə̃4/	"three"
/lmi1/	/lmi5/	"four"
/je1/	/je5/	"five"
/xu4/	/xmu4/	"six"
/nwe4/	/nwe4/	"seven"
/xoʔ3/	/xũ3/	"eight"
/xui4/	/k ^h ui5/	"nine"
/ləʔ1 k ^h mi4/	/k ^h i4/	"ten"
/k ^h mi4 k ^h mi4/	/nmi3 k ^h i4/	"twenty"

HHN

YK

/ləʔ1 jεʔ/	/ləu1 ja1/	"hundred"
/lau5 paʔʔ/	/lau5 k ^h əi4/	"all"
/ʔε3/	/ʔaʔ t ^h ə bauʔ1/	"many"
/bε3 ɲε2 ɲε2/	/ku1 nau1 nau1/	"some"
/pi3 pi4/	/jja1/	"few"
/du3/	/p ^h a1 du3/	"big"
/pi3 pi4/	/pi4/	"small"
/p ^h aʔ1 t ^h o4/	/t ^h ō4/	"long"
/p ^h ɱ3 k ^h oʔ3/	/p ^h ɱ3/	"short"
/p ^h aʔ1 t ^h o4/	/t ^h ō3/	"tall"
/p ^h ɱ3 k ^h oʔ3/	/p ^h ɱ3/	"short"
/pəu3 ləu3/	/tə lɱu3 kɱu1/	"round"
/p ^h li4/	/k ^h ə də1 p ^h ō1/	"smooth"
/tə3/	/tō3/	"thick"
/blaiʔ1/	/bə1/	"thin"
/le2/	/le5/	"wide"
/ʔəi3/	/ʔəi3/	"narrow"
/sa4/	/əə4/	"black"
/wo2/	/wɔ1/	"red"
/ʔwε2/	/ʔwa1/	"white"
/le4/	/ji4/	"green"
/bō2/	/bō1/	"yellow"
/xai4/	/xāi4/	"dry"
/ko3/	/kɔ3/	"wet"
/na4 ʔɱ3/	/nəu4 ʔɱu3/	"to be rotten"
/p ^h u4/	/ju1 t ^h ō3/	"to swell"
/xwi2/	/xu1/	"full"
/bε2 ʔa2/	/kɛi3 kə3/	"dirty"

HHN	YK	
/ʔai/	/ʔāi3/	"sharp"
/lə ʔai3 bɛ3/	/lō1 laiʔ1/	"dull"
/sā4/	/oñ4/	"new"
/k ^h u1/	/k ^h u5/	"hot"
/k ^h lai3/	/k ^h lai3/	"cold"
/xa4/	/xə4/	"heavy"
/lō2/	/lū1 t. ^h ū1/	"straight"
/bɛ3/	/ba3/	"right"
/mɔ3/	/mi1/	"good"
/p ^h le3/	/t ^h ə ʔā1/	"bad"
/fjɛ1/	/fja5/	"old-aged"
/jai2/	/jāi1/	"far"
/bauʔ1/	/bauʔ1/	"near"
/xoʔ3/	/t ^h ju3 xu1/	"rightside"
/kɪ3/	/k ^h ju3 kɪ3/	"leftside"
/bɛ3/	/ba3 dū1/	"same"
/lə bɛ3 bɛ3/	/lə ba3 dū1/	"different"
/p ^h ə ʔmi2/	/t ^h ō3 ju1/	"here"
/p ^h ə nɔ3/	/lə nɔ3/	"there"
/ha4 ʔmi2/	/ʔə ju1/	"this"
/ha4 nɔ3/	/nɔ3/	"that"
/p ^h m1 jai3 lɔ1/	/ʔə k ^h a4 nɔ4 lɛ2/	"When?"
/k ^h ɔ4 lɛ1/	/t ^h ō1 k ^h ɔ4 lɛ2/	"Where?"
/p ^h ləu1 lɛ1/	/mwe1 pɔ4 lɛ2/	"Who?"
/nɔ4 lɛ1/	/nɔ4 lɛ2/	"What?"
/dɔʔ1/	/de5/	"and"
/dəʔ1/	/de5 mō4 mō3/	"with"
/p ^h əʔ1/	/t ^h ū1 nɔ3/	"at"

HHN	YK	
/ɲe4 ni1/	/ba1 nɔ4 le2 kai?1 bu2/	"because"
/be3 na4 lo1/	/k ^h ə nɔ4 mai?1 le2/	"how"
/te3 do?1 k ^h we1/	/?e5 jai?1 bu2/	"if"
/je4 k ^h o4/	/?ə dwe1 p ^h ə1/	"in"
/?e?3/	/mwe1 ?i?3/	"not"
/dai?1 ?e?3/	/dai?1 ?i?3/	"(not)yet"
/jau?1/	/jau?1/	"already"

Note : According to the glossary above, there are some words which are identical and some which are different in both dialects as follows:

1). There are some words in both dialects that all phonemes ; consonant phoneme, vowel phoneme and toneme, are the same.

For example:

_Huy-Hom-Nok	_Yang-Khaw	
/nəi3/	/nəi3/	"year"
/t ^h u3/	/t ^h u3/	"bird"
/k ^h i4/	/k ^h i4/	"tiger"
/ləu3/	/ləu3/	"worm"
/xwəi?3/	/xwəi?3/	"intestines"
/pju?1/	/pju?1/	"to vomit"
/nə4/	/nə4/	"to smell"
/mwi4/	/mwi4/	"to sleep"
/ɲe4/	/ɲe4/	"to come"

Huay-Hom-Nok	Yang-Khaw	
/p ^h aʔ1/	/p ^h aʔ1/	"to split"
/t ^h auʔ1/	/t ^h auʔ1/	"to wipe, to rub"
/bɯ3 bəi3/	/bɯ3 bəi3/	"paddy rice"
/mɿ3/	/mɿ3/	"fire"
/k ^h aʔ1/	/k ^h aʔ1/	"to sew"
/k ^h aʔ1/	/k ^h aʔ1/	"to shoot"
/nwe4/	/nwe4/	"seven"
/ʔəi3/	/ʔəi3/	"narrow"
/kə3/	/kə3/	"wet"
/bauʔ1/	/bauʔ1/	"near"
/ɰauʔ1/	/ɰauʔ1/	"already"

2). There are some words in both dialects that are different. The difference may be in a consonant phoneme, a vowel phoneme or a tone as follows:

a. Difference in a consonant

There is a consonant phoneme /e/ that occurs in Yang-Khaw dialect only, while Huay-Hom-Nok dialect uses a consonant phoneme /s/ instead.

For example:

Huay-Hom-Nok	Yang-Khaw	
/səi3 p ^h aiʔ1/	/eəi3 p ^h aiʔ1/	"bark"
/səi3 ɲmi1/	/eəi3 ɲmi5/	"root"

Huay-Hom-Nok	Yang-Khaw	
/səu3/	/əəu3/	"louse"
/sɯi4/	/əɯi4/	"to die"
/hɛ3 sɑʔ1/	/hɛ3 əɑʔ1/	"to want"
/p ^h u3 sɛ3/	/p ^h u3 əɑʔ3/	"child"

b. Difference in a vowel

The vowel phoneme /ɛ/ in the Huay-Hom-Nok dialect is usually replaced by the vowel phoneme /a/ in the Yang-Khaw dialect.

For example :

Huay-Hom-Nok	Yang-Khaw	
/lɛ2/	/la1/	"moon"
/lɛʔ/	/lja2/	"star"
/səi3 lɛ3/	/əəi3 la3/	.. "leaf"..
/pə nɛ1/	/pə na5/	"buffalo"
/nɛ4/	/na4/	"nose"
/sɛ3/	/əɑ3/	"to breath"
/dɛ3/	/da3/	"to see"
/xwajʔ sɛ3/	/xwajʔ əɑ3/	"pepper"
/ʔwɛ2/	/ʔwa1/	"white"
/hɛ3/	/ha3/	"right"
/p ^h lɛ1/	/p ^h la5/	"arrow"

. Difference in tone

There are some words that both dialects have the same consonant phonemes and vowel phonemes but different tones. In a word with the same meaning, if the word in Huay-Hom-Nok dialect occurs with tone 1 (low-falling), the one in Yang-Khaw dialect always occurs with tone 5 (low-rising), as follows:

For example:

Huay-Hom-Nok	Yang-Khaw	
/ɲi <u>1</u> /	/ɲi <u>5</u> /	"rattan"
/ɲu <u>1</u> /	/ɲu <u>5</u> /	"snake"
/ju <u>1</u> /	/ju <u>5</u> /	"rat"
/nɲi <u>1</u> /	/nɲi <u>5</u> /	"to laugh"
/p ^h ɲ <u>1</u> /	/p ^h ɲ <u>5</u> /	"younger sibling"
/lɲi <u>1</u> /	/lɲi <u>5</u> /	"four"
/je <u>1</u> /	/je <u>5</u> /	"five"
/k ^h u <u>1</u> /	/k ^h u <u>5</u> /	.. "hot" ..

It should be noted that the nasalised vowel in Yang-Khaw dialect also has a high frequency.

APPENDIX II

APPENDIX

The following Pwo Karen lexical items from Huay-Hom-Nok Village are presented in this list with their general meanings. The entries are arranged in the following order.

1. The order of the initial consonant of words is given in accordance with the alphabetical system.

Thus, the order of the initial consonant of words is /ʔ, b, d, h, j, k, k^h, l, m, n, p, p, p^h, r, s, t, t, t^h, w, x, ɲ, ʈ, ʈ^h/.

2. The order of the vowels is /i, e, eʔ, ε, ɯ, ə, əʔ, ẽ, a, aʔ, u, uʔ, o, oʔ, ɔ, ɔʔ, õ, mi, əi, əu, ai, aiʔ, au, auʔ/.

3. The order of tone is /1, 2, 3, 4, 5/.

121

/ʔe3/	"to love"
/ʔe3 bau2/	"paramour"
/ʔeʔ3/	"not"
/ʔe3/	"many"
/ʔẽ3/	"to eat"
/ʔẽ3 doʔ1/	"to taste"
/ʔẽ3 doʔ1/	"to fetch"
/ʔẽ3 ju1 k ^h lauʔ1/	"to swallow"
/ʔẽ3 ki1 p ^h a1 t ^h a4/	"to overlap"
/ʔẽ3 ki3 su3/	"to hide"
/ʔẽ3 ke3/	"to grill, to roast"
/ʔẽ3 ko3/	"to point"
/ʔẽ3 k ^h wi4/	"to fish"
/ʔẽ3 le4/	"to change"
/ʔẽ3 lã4/	"to give"
/ʔẽ3 lã4 t ^h aiʔ1/	"to return"
/ʔẽ3 lu4/	"to dry in the sun"
/ʔẽ3 lo4/	"fraudulently"
/ʔẽ3 laiʔ3/	"to lick"
/ʔẽ3 mu2/	"to keep in the mouth"
/ʔẽ3 mu2/	"to pounce"
/ʔẽ3 mauʔ1/	"to get married"
/ʔẽ3 nã1/	"to share"
/ʔẽ3 plo3/	"to eat" (only rice)
/ʔẽ3 p ^h o4/	"to cook"
/ʔẽ3 p ^h o4 ʔẽ3 mi2/	"to cook rice"
/ʔẽ3 sm4 maʔ1/	"to wash, to launder"
/ʔẽ3 t ^h ẽ1/	"to beg"

/ʔə̃3 t ^h əu4/	"to pick up"
/ʔə̃3 wə3/	"to roast"
/ʔə̃3 waiʔ1/	"to stir"
/ʔə̃3 xɯ4/	"to look for"
/ʔə̃3 xwi1/	"to boil"(water)
/ʔə̃3 ɲi1 ʔə̃3/	"curry"
/ʔə̃3 ɲi1 lə̃2/	"to put"
/ʔə̃3 ɲau4 ʔə̃3 mi2/	"to steam sticky rice"
/ʔə̃3 k ^h ɛ4/	"to sell"
/ʔə̃3 k ^h ə̃4 ʔə̃3/	"to pound"
/ʔə̃3 k ^h ə̃4 ɬm2/	"to pound rice"
/ʔa1 bau3 ʔo1 daiʔ1/	"to be alive"
/ʔa1 de3/	"daughter-in-law"
/ʔa1 dmi2/	"gall"
/ʔa1 dmi3/	"egg"
/ʔa1 dəu2/	"nest"
/ʔa1 daiʔ1/	"wing"
/ʔa1 dau2/	"stalk"
/ʔa1 hə4 ɲoʔ3/	"good behavior"
/ʔa1 ɲe3/	"flesh"
/ʔa1 k ^h wɛ4/	"he"
/ʔa1 mi1/	"tail"
/ʔa1 mɛ4/	"wife"
/ʔa1 mə̃1 t ^h ə̃3/	"seedlings"
/ʔa1 mə̃3/	"woman"
/ʔa1 maʔ3/	"son-in-law"
/ʔa1 mu1/	"mother"
/ʔa1 mu1/	"female"(animal)
/ʔa1 nə̃1 mə̃1/	"elder sister"
/ʔa1 noʔ3/	"beak"

/ʔa1 nəu2/	"horn"
/ʔa1 nau4	"placenta" (after birth)
/ʔa1 p ^h ε1	"father"
/ʔa1 p ^h ε4/	"male"(animal)
/ʔa1 p ^h a4/	"hole"
/ʔa1 p ^h u3 k ^h wε4/	"son"
/ʔa1 p ^h mi1/	"younger sibling"
/ʔa1 p ^h aiʔ1/	"skin"
/ʔa1 p ^h lo4/	"small beads"
/ʔa1 rmi4/	"fin"
/ʔa1 su3/	"fat"
/ʔa1 t ^h ə ʔoʔ/	"nest"
/ʔa1 t ^h ʔ3/	"to be rich"
/ʔa1 t ^h ʔ3/	"ligament,tendon"
/ʔa1 wi1/	"the husband of one's elder sister"
/ʔa1 wi1 m̃ʔ3/	"elder brother's wife"
/ʔa1 wε1/	"husband"
... /ʔa1 xmi3/ ...	"fish bone"
/ʔa1 kɛi3/	"leftside"
/ʔa1 kɛo2 k ^h wε4/	"elder brother"
/ʔa1 k ^h ʔ3/	"feather"
/ʔa1 k ^h auʔ1/	"corner"
/ʔa1 k ^h auʔ1/	"spur"(of cock)
/ʔu3/	"to blow"
/ʔu3/	"addle,empty"
/ʔu3 ləʔ2 mi3/	"to start a fire"
/ʔu3 k ^h auʔ1/	"to suck"
/ʔo2/	"to drink"

/ʔo3/	"to exist"
/ʔo3 bləu3/	"to be naked"
/ʔo3 hā1/	"to remain stuck"
/ʔo3 kə su3/	"to avoid being seen, to keep out of sight"
/ʔo3 kəu2/	"to starve"
/ʔo3 kau3/	"to abound"
/ʔo3 lɪ4/	"to exceed"
/ʔo3 pwi1/	"to rest"
/ʔo3 t ^h o4/	"stop, quiet!"
/ʔo3 xəʔ3/	"together"
/ʔoʔ1/	"to pick"
/ʔmi2/	"this"
/ʔmi5/	"here"
/ʔəi1 k ^h ai4/	"galingale"
/ʔəi2/	"ginger"
/ʔəi3/	"narrow"
/ʔəi4 k ^h u3 nəi3/	"next year"
/ʔəi4 ɱo1 k ^h oʔ3/	"tomorrow"
/ʔai3/	"to bite, sharp"
/ʔai3 lo1 saʔ1/	"to quarrel"
/ʔai3 xauʔ1/	"to chew"
/ʔau3 pəu2/	"to bark"
/ʔwi3/	"delicious"
/ʔwi3/	"to rape"
/ʔwe1 p ^h ai1/	"to open" (the door)
/ʔwe1 məʔ1 se3/	"langur"
/ʔwe2/	"white"

/b/

/bɛ2 mǎ1 t ^h ǎ3/	"cotton plant"
/bɛ1/	"to tilt, to nod"
/bɛ2 ʔa2/	"mud, dirty"
/bɛ2 kauʔ1/	"to cut"
/bɛ2 saʔ1/	"to want"
/bɛ3/	"right, same"
/bɛ3 k ^h u1/	"to be possessive"
/bɛ3 na4 lɔ1/	"how"
/bɛ3 ɱɛ2 ɱɛ2/	"someone"
/bɛ3 k ^h ɛ4 k ^h u1/	"to apologize"
/bɛ3 k ^h ɔ̃3 k ^h ɔ̃4/	"something"
/bɪ3 ʔa1 bɔ̃2/	"straw"
/bɪ3 bæi3/	"paddy rice"
/bɪ3 k ^h auʔ3/	"an ear of paddy"
/bɔ̃2/	"yellow"
/bǎ3 p ^h laiʔ1/	"young" (of animals)
/boʔ1/	"to break"
/boʔ1 k ^h a5/	"to break apart"
/bɔ̃3/	"fat"
/bæi3/	"classifier of bird, hen duck, book, knife, leaf"
/bæi3 mɛʔ3/	"to close" (one's eyes)
/bəu3/	"to melt"
/bəu3 t ^h ǎ3/	"humid"
/bæi2/	"to tighten"
/bæi3 doʔ1/	"nappa cabbage"
/bæi3 doʔ1 k ^h u3/	"radish, cabbage"
/bæi3 doʔ1 p ^h o4/	"cauliflower"

/baiʔ1/	"to squeeze"
/bau2/	"classifier of fish, snake, broom"
/bau2 hɛʔ kuʔ nau2/	"sugar pea"
/bau3/	"to pack, to fold"
/bauʔ1/	"near"
/bɛʃ3/	"blanket"
/blɛ1/	"to be flat in taste"
/blaʔ1/	"classifier of necklace"
/blu3 t ^h mi4/	"to dive"
/blo3/	"blind"
/bloʔ1 t ^h ʔ3/	"to raise, to life up one's face"
/bloʔ1 t ^h ʔ3 k ^h u3/	"to nod"
/blaiʔ1/	"thin"
/bwa2/	"to ask"

/d/

... /di2/ ...	"navel"
/di2 ʔəʔ3/	"a species of bullfrog"
/di2 kauʔ1/	"a frog"
/di2 su3/	"a toad"
/dɛ2/	"to hit" (with the palm)
/dɛ2/	"youngest" (child)
/dɛ3/	"to see"
/dɯ2/	"classifier of basket, elephant, horse"
/dɯ2/	"turbid (water), muddy"
/də ni1 lo1 saʔ1/	"to fight for, to grab"

/dəʔ1/	"and, with"
/də̃2/	"boyfriend or girlfriend"
/də̃3/	"husband's younger brother"
/du1 lɛ4/	"a fly"
/du3/	"big"
/du3 sɛ4 tʰəʔ1/	"to knock"
/doʔ1/	"to collect"
/doʔ1 nə̃2/	"to lean"
/doʔ1 tɔʔ1/	"razor"
/doʔ1 tʰmi4/	"to collect" (water)
/doʔ1 sɔ̃1 pʰo1/	"kind of flower"
/dmi2/	"to run"
/dmi3 tʰə̃3/	"pimple, knob"
/dəi2/	"to kick"
/dəi2 ləi2/	"luffa"
/dəi3 kʰlmi4/	"sesame"
/dəu1/	"wife's younger sister"
/dəu2/	"drum"
/dai2 bə̃1 tʰwi3/	"scorpion"
/dai4 bə̃2/	"centipede"
/daiʔ1 ʔeʔ3/	"still"
/daiʔ1 dauʔ1/	"to crush"
/dau3 be3/	"suspicious"
/dau3 pa1 ʔau2/	"owl"
/dauʔ1/	"house"
/dauʔ1 kʰu3/	"roof"
/dauʔ1 laiʔ1/	"house-lizard"
/dauʔ1 tʰa3/	"to confine, to coop"

/dwi3/	"to start a fire"
/dwaʔ1/	"to count"

/ h /

/hm2/	"to take"
/hə̃2 lo2 saʔ1/	"to divorce, to separate"
/hə̃3/	"to cancel, to stop"
/ha4/	"what?"
/ha4 ʔmi2/	"this"
/ha4 nɔ3/	"that"
/hɔ̃4 ʔai5/	"cry of buffalo" (onomatopoeia)
/hɔ̃4 ʔwɛ2/	"garlic"
/hɔ̃4 na4 ma4/	"onion"
/hɔ̃4 wo2/	"shallot"
/hmi4/	"to chase"
/hai2/	"to be in a hurry"
/hai4/	"to call"
/haiʔ1/	"a bag"
/hau3/	"to prefer, to like"
/hau4 pɔ̃2/	"the parslev"

/ j /

/je1/	"five"
/jɛ1/	"I"
/jɛ1 dəi2/	"waist"
/jɛ1 dəi2 p ^h lmi2/	"belt"

/jɛ1 t ^h mi4/	"to swim"
/jɛ3 lmi3/	"snakehead"
/jɛ3 p ^h u3/	"fish"
/jɛ3 k ^h ɛ4/	"a cat fish"
/jɛ4 k ^h o4/	"inside"
/jɯ1 saʔ1/	"to think of"
/jɔ̃3 ʔu3 lau4/	"a string"
/jɔ̃4 bɔ̃2/	"turmeric"
/ja3/	"to be torn"
/ju1/	"rat"
/ju2/	"to fly"
/ju3/	"to whistle"
/ju1 kɔ̃3/	"the monitor lizard"
/jo3/	"to exclaim when surprised"
/jo4/	"easy"
/joʔ1/	"to carry"
/joʔ1/	"deep"
/jai1/	"a long time"
... /jai2/ ...	"cicada"
/jai2/	"far"
/jai4/	"to move"
/jaiʔ1/	"to step on, to tread on"
/jauʔ1/	"already"

/k/

/ki1/	"pain"
/ke2/	"to be"
/ke2 k ^h ɛ2/	"hips, buttocks"

/kə4/	"to thread" (a rope through a hole in the nose of a beast)
/kə4 tə1/	"often"
/kə2 t ^h ə̃3/	"to yawn"
/kə3/	"difficult"
/kə jɪ1 p ^h ə̃3/	"gibbon"
/kə si3/	"horse"
/kə tɕə3/	"spirit"
/kə tɕ ^h i2/	"to sneeze"
/kə tɕ ^h ə̃4/	"an elephant"
/kə tɕ ^h ə̃4 mi3/	"an elephant tusk"
/kəʔ1/	"to bar, to dam, to intercept"
/kə̃3 t ^h a3/	"to screen"
/ka3 wə1/	"to prepare"
/kaʔ1/	"to tie, to sheaf"
/ku2/	"shell" (of tortoise)
/ku2 bæi1 lə̃2/	"to clothe, to cover oneself with a blanket"

/ku3 baiʔ1/	"to close" (book, door)
/ku3 baiʔ1/	"to cover"
/ku4 p ^h ə̃3/	"friend"
/kə2/	"to cut" (banana)
/kəʔ1/	"to call"
/kəʔ1 ja1/	"to shout"
/kə̃3/	"roast rice"
/kɪi2 kai2/	"design of cloth"
/kɪi3 laʔ1/	"armpit"

/kəi3/	"to pinch, to pluck"
/kəu3/	"lazy"
/kəu3 t̃ə2/	"a lamp"
/kəu3 kəu?1/	"cheat"
/kai2/	"to bend"
/kai2 kau2/	"to be crooked"
/kai4/	"to be bored"
/kai?1/	"kapok"
/kau2/	"a bottle"
/kau3 kə?3/	"a sticky rice box made of bamboo"
/kau3 l̃ə3/	"a lamp"
/kau3 k̃ ^h ε3/	"dry cell battery"
/kau?1/	"to cough"
/kau?1 bɯ3/	"to harvest rice"
/kje3/	"to turn"
/kje3/	"to mix"
/kjo2/	"slow"
/kle2/	"street, path"
.../kla?1/...	"crow"
/klai2/	"to grind" (knife)
/klai3/	"to leer"
/klai?1/	"to fold"
/kwj2/	"sea"
/kwi3/	"to feel ticklish"
/kwe?1/	"to write"
/kwe2/	"an axe"
/kwa?1/	"to sweep"

/k^h/

/k ^h i4/	"tiger"
/k ^h ε2/	"expensive"
/k ^h ε3/	"bitter"
/k ^h ε3 laʔ3/	"chin"
/k ^h ε3 p ^h ə̃2/	"beard"
/k ^h ε3 xmi3/	"molars"
/k ^h ε4 p ^h a3/	"to cross"
/k ^h ε4 xə̃3/	"to step"
/k ^h ə̃1 k ^h u3/	"a black magician"
/k ^h ə̃3 lə̃1 bla2/	"to bury"
/k ^h ə̃4 ləi1/	"cricket"
/k ^h a4/	"a chopping block, trencher"
/k ^h aʔ1/	"to shoot"
/k ^h aʔ1 pə t ^h ε4/	"to click, to flip"
/k ^h u1/	"hot"
/k ^h u1 ɲai4/	"to smart, to feel pain"
/k ^h u3/	"classifier of shoes"
/k ^h u3/	"smoke"
/k ^h u3 ku3 lə̃2/	"to bury" (one's face)
/k ^h u3 k ^h lə̃1/	"hat"
/k ^h u3 nəu4/	"sweets"
/k ^h u3 nau3/	"brain"
/k ^h u3 sε4 mauʔ1/	"guava"
/k ^h u3 su4/	"hair"
/k ^h u3 t ^h aiʔ3/	"hairpin"
/k ^h u3 xə̃3/	"pillow"
/k ^h u3 xmi3/	"head"

/k ^h u3 xmi3 p ^h ə2/	"to have a headache"
/k ^h u3 xmi3 k ^h ε4/	"to hurt a head"
/k ^h u3 ɱɱ3 lə̃2/	"to crouch"
/k ^h u4 t ^h ə̃3/	"to dig out"
/k ^h oʔ1 sε3/	"mango"
/k ^h oʔ1 t ^h ε4/	"to wait"
/k ^h ɔ4 lε1/	"Where?"
/k ^h mi3/	"bed-bug"
/k ^h mi3/	"a flea"
/k ^h mi3 k ^h ɱ3/	"to roll"
/k ^h mi3 k ^h ə̃3/	"hammer"
/k ^h mi4/	"two"
/k ^h mi4 k ^h mi4/	"twenty"
/k ^h ai4 bə̃3/	"bottom"
/k ^h ai4 kə̃2/	"to strain"
/k ^h aiʔ3/	"to think"
/k ^h le2 bau2/	"a winnowing basket"
/k ^h le4 t ^h ə̃3/	"to pull up"
/k ^h lɱ1 baiʔ1/	"to cover"
/k ^h lɱ1 lə̃2/	"to turn over"
/k ^h lu3/	"shell"
/k ^h lo3/	"mat, matting"
/k ^h lɱi3/	"crossbow"
/k ^h lɱi4/	"boat"
/k ^h lɱi4/	"a flea"
/k ^h ləi3/	"cold"
/k ^h lai1/	"to speak"
/k ^h lai1 bæi3 swi4/	"to gossip"
/k ^h lai1 k ^h ləi4/	"bell"
/k ^h laiʔ1/	"tortoise"

/k ^h laiʔ1/	"to lean"
/k ^h lau4/	"back"
/k ^h wi2/	"an edible ground lizard"
/k ^h wi2 lã2/	"to trickle"
/k ^h wi2 xaʔ3/	"a chameleon"
/k ^h wi3/	"hook"
/k ^h wi3 lã2/	"to spread out"
/k ^h we2/	"to crawl"
/k ^h weʔ1 k ^h waʔ1/	"to stir"
/k ^h wε1/	"to watch"
/k ^h wε1 t ^h ã3/	"to throng"
/k ^h ε1 t ^h mi4/	"to stare"
/k ^h wε1 xw4/	"to look for"
/k ^h wε4 tɔʔ1/	"a hoe"
/k ^h waʔ1/	"kind of tree"
/k ^h waʔ3/	"to scratch"
/k ^h waiʔ1/	"to gore"

// 1 //

/li1 pi4/	"to avoid"
/li2/	"to go"
/le2/	"wide"
/leʔ1/	"to warm"
/leʔ3 lã2/	"to disgorge"
/lε2/	"moon"
/lε3 kε3 bε3/	"cheap"
/lε4/	"green"
/lm1 tə mã1 xε1/	"ceremony" (for spirit)

/lɪ1 ɲo3 lə̃2 xəʔ3/	"early morning"
/lə ʔai3 bɛ3/	"dull"
/lə bɛ3 bɛ3/	"different"
/lə bəu3 bɛ3/	"cowardly"
/lə na4 bɛ3/	"to be defeated"
/lə pi4/	"small"
/ləʔ1/	"one"
/ləʔ1 jɛ2/	"one hundred"
/ləʔ1 nəi3/	"one year"
/ləʔ1 nwe3/	"one week"
/ləʔ1 tʰu1/	"one minute"
/ləʔ1 tʰmi4/	"ten"
/lə̃1 ʔəʔ1/	"to sink"
/lə̃1 jwɛ3/	"to float"
/lə̃1 kluʔ1/	"to be let out"
/lə̃1 kwaʔ1/	"to flow"
/lə̃1 kʰəʔ1/	"to overflow, to spill"
/lə̃1 pʰləʔ1/	"to topple"
/lə̃1 tʰeʔ3/	"to fall"
/lə̃1 wɔ1/	"to dance"
/lə̃1 tʰə̃1/	"to drop"
/lə̃2/	"to descend"
/lə̃2 kʰlə̃1/	"to capsize"
/lə̃2 mɛ1/	"to disappear"
/lə̃2 tʰe3 pʰɛ1/	"to fall, to topple"
/lə̃4/	"rainbow"
/lə̃4 se4/	"to thunder"
/lə̃4 tʰi2/	"dragon fly"
/lə̃4 wɛ1 daiʔ1/	"lightening"
/la2/	"warm"

/la2 k ^h o4/	"south"
/laʔ3/	"to boil, to foam"
/lu3/	"thread"
/lo1/	"straw"
/lo1 k ^h oʔ3/	"to belch"
/lo1 saʔ1/	"to annoy, to persecute"
/lo2 kwi2/	"to play"
/lo1/	"a cart"
/lõ2/	"straight"
/lwi1/	"four"
/lwi1 lauʔ1/	"squirrel"
/lwi2/	"leech"
/lwi2/	"wind"
/lwi2/	"cave"
/lwi2 k ^h wε4/	"son's son"
/læi1 bi1/	"female sexual organ"
/læi4 smi3/	"a file"
/ləu1/	"stone"
/ləu1 k ^h e4 sε3/	"pumpkin"
- - /ləu1 k ^h wi4/ - -	- - "an animal of the . . . squirrel kind, a chipmunk"
/ləu1 su4 xõ3/	"a stove made from three rock put together"
/ləu3/	"worm"
/laiʔ1/	"kite"
/laiʔ1 ko2/	"nail"
/lau2/	"straight"
/lau3 tə su3/	"oil" (for car)
/lau5 paʔ3/	"all"

/ m /

/mi1 məi4/	"cooked rice"
/mi1 na2 ho3/	"hell"
/mi2 na4 lɔ1/	"What?"
/mi3/	"fire"
/mi3 ʔə̃3/	"to burn"
/mi3 bɔ̃2/	"fire crackers"
/mi3 kwaʔ1/	"matches"
/mi3 k ^h u3/	"smoke"
/mi3 t ^h ə k ^h ə3 klə2/	"wild fire"
/mi4 mə̃1 t ^h əʔ1/	"to dream"
/meʔ1/	"to hit"
/meʔ1/	"sand"
/meʔ1 lo2 saʔ1/	"to fight"
/meʔ3/	"eye"
/meʔ3 ku1 duʔ1/	"eye-glasses"
/meʔ3 mə̃3 k ^h ə̃3/	"eyebrows"
/meʔ3 sə laiʔ1/	"eyelash"
...../meʔ3 sə3/.....	"the eyes".
/meʔ3 t ^h mi4/	"tears"
/mə1 ʔo2 kə̃3/	"to concentrate"
/mə1 bə1 t ^h aiʔ1/	"to punish"
/mə1 bajʔ1/	"to plug"
/mə1 baiʔ1 t ^h əʔ1/	"to fill"
/mə1 du3 t ^h ə̃3/	"to increase, to stretch"
/mə1 daiʔ1/	"more, again"
/mə1 ni1/	"to take"
/mə1 nai3 t ^h a3/	"to limit, to separate"

/mɛ1 sɿi4/	"to kill"
/mɛ1 tʰɛ4/	"to sing"
/mɛ1 wəʔ1/	"to wag"
/mɛ1 ɿi1/	"to repair"
/mɛ1 ɿe2/	"to forbid"
/mɛ1 ɿoʔ3/	"to repair"
/mɛ1 kʰa1/	"to help"
/mɛ2/	"work"
/mɛ2/	"to build"
/mɛ2 tʰəʔ1/	"to work"
/mɛ2 kʰau3 jɛ1/	"to request"
/mɛ3 tʰə kʰu3/	"forehead"
/mə nɛ1 kʰo4/	"night"
/mə kʰɛ4 kʰo4/	"day"
/məʔ3/	"happiness"
/mə̃1/	"hail"
/mə̃1 lə̃2/	"west"
/mə̃1 meʔ3/	"sun"
/mə̃1 tʰə̃3	"east"
/mə̃1-ɿɛ1/	"mother's mother"...
/mə̃1 ɿɛ3/	"yesterday"
/mə̃2/	"father's elder brother"
/mə̃2/	"mother's father"
/mə̃2 ʔu2/	"pomelo"
/mə̃2 pʰlo2/	"coconut"
/mə̃3 kʰə lɛ2/	"bitter gourd"
/mə̃3 kʰai3 kʰə̃3 sɛ3/	"caramba"
/mə̃3 kʰwɛ4/	"a eunuch, spado"
/mə̃3 nɛ4 sɛ3/	"sponge gourd"

/mõ³ nẽ2/	"girl, young woman"
/mõ³ tau?1/	"button"
/mõ³ t ^h o?1 dãi3/	"peanut"
/mõ4/	"lung"
/ma2/	"to be drunk"
/mu4 k ^h wai?1/	"to eject (a liquid) from the mouth"
/mu4 t ^h ẽ3/	"to blow, to puff"
/mo?1 k ^h u3/	"sky"
/mõ³ k ^h ẽ4/	"a frying pan"
/mwi4/	"to sleep"
/mwi4 mẽ1/	"to dream"
/mwi4 nẽ2/	"to lie"
/mwi4 pɔ2/	"cat"
/mwi4 sɛ3 sɛ4/	"to snore"
/mæi2/	"name"
/mai3/	"kind of animal"
/mau2/	"to lead" (especially by the hand)
7mau2/	----- "gong" -----
/mau?1 kə t ^h ɛ1 k ^h ɛ4/	"a bride groom"
/mau?1 kə t ^h ɛ1 mẽ3/	"a bride"
/mja1/	"to ask"

/n/

/ni3/	"yam"
/ni3 xẽ2/	"to interfere"
/ni4/	"bee"
/ni4 ?a1 ?i3/	"bee wax"

/ni4 xoʔ3/	"candle"
/ni4 kə̃2/	"honey"
/nɛ1/	"you"
/nɛ1/	"ear"
/nɛ1 ʔa2/	"deaf"
/nɛ1 daiʔ1/	"earrings"
/nɛ1 kai3/	"to be naughty"
/nɛ1 ɱa4/	"to hear"
/nɛ4/	"nose"
/nɛ4 ʔi3/	"mucus"
/nɛ5 p ^h lau4/	"young man"
/nə sm4 mu4 lau2 mu4 le2/	"they"
/nə̃1 dauʔ1 t ^h mi4/	"flask"
/nə̃1 kweʔ1/	"pencil"
/nə̃1 mə̃3/	"elder sister"
/nə̃3/	"grass"
/nə̃3 blaʔ1 lə̃2/	"wire"
/nə̃3 dauʔ1 t ^h mi4/	"a big jar"
/nə̃3 dwi2/	"candle"
/nə̃3 k ^h auʔ1/	"water bucket"
/nə̃3 k ^h lə̃3 k ^h u3/	"cloth rolled round head"
/nə̃3 mə̃ʔ1/	"tattoo" (general term)
/nə̃3 pau4/	"indigo"
/nə̃3 p ^h a4 nəu1/	"garbage"
/nə̃3 p ^h lə̃3 nu1/	"a brassiere"
/nə̃3 p ^h lə̃3 tɕu3/	"gloves"
/nə̃3 sm4 ɱaʔ1/	"powdered detergent"
/nə̃3 sə mmi4/	"to imagine, to talk in one's sleep"

/nẽ3 t ^h ẽ1 bɯ3/	"stick for pounding rice"
/nẽ3 t ^h aiʔ3/	"chopstick"
/nẽ3 t ^h auʔ1/	"a paintbrush"
/nẽ3 t ^h auʔ1 lõ1/	"a bath towel"
/nẽ3 t ^h auʔ1 mɛʔ3/	"a handkerchief"
/nẽ3 ɱẽ3 k ^h ɛ2/	"sensitive plant"
/nẽ3 k ^h oʔ1 swɛ4/	"toothbrush"
/nẽ3 k ^h mi3/	"a deep spoon made of coconut shell"
/na1 ma4/	"to kiss"
/na4/	"to smell"
/na4 ʔɯ3/	"to be rotten"
/nu1/	"breast"
/nu1 t ^h mi4/	"breast milk"
/nuʔ1 t ^h əʔ1/	"to confused, to jumble"
/nu3 t ^h au2/	"spoon"
/nu3 t ^h au2 blaiʔ1/	"flipper" (for frying)
/noʔ1/	"mouth"
/noʔ1 p ^h ɛ1/	"cheek"
/noʔ1 p ^h ɛ1 lõ1 ʔəu3/	"a dimple"
/noʔ1 p ^h mi2/	"mumps"
/noʔ1 t ^h mi4/	"saliva"
/noʔ1 ɱɛ3/	"lip"
/noʔ1 k ^h õ3/	"moustache"
/no4 lɛ1/	"What!"
/nɱi1/	"to laugh"
/nɱi2/	"day"
/nɱi3/	"to smile"
/nɱi3/	"skirt" (woman)

/nəi3/	"year"
/nəi3 je4/	"this year"
/nəu3/	"horn"(of animal)
/nai3/	"to overlie,to pinch"
/nai3/	"a closely big bamboo basket for keeping the things"
/nau3/	"lake"
/nwe4/	"seven"
/nweʔ1 se3/	"jack-fruit"
/nweʔ1 se3 m̃ə1 t̃əʔ3/	"jack-fruit tree"
/nwe1 t̃aʔ3/	"a prop up"

/p/

/pəʔ1/	"to stretch"
'p̃ə1 ku2 lwe3/	"tomato,Lycopersicon esculentum"
/p̃ə1 se3/	"the eggplant"
· -/p̃ə1 se3 p̃aʔ1-t̃əʔ4/·	"long eggplant"·
/p̃ə1 se3 t̃ai3/	"tomato"
/p̃ə3/	"a charm of rolled gold or silver strips strung around the waist or the neck"
/p̃ə3 saʔ1/	"pity"
/pəu3/	"cry of dog,bark" (onomatopoeia)
/pau4 xwaiʔ3/	"to throw"

/p/

/pi3 pi4/	"small, few"
/pɛ3/	"to be inclined, tilted"
/pɛ3 t̃ɔ3/	"loincloth"
/pɯ2/	"to carry on the back"
/pɯ3 t̃ʰə3/	"to push, to put pressure on"
/pə ʔau2/	"termite"
/pə ʔau3/	"to ache"
/pə de2/	"a mountain goat"
/pə doʔ3/	"porcupine"
/pə juʔ1/	"nettle-hemp"
/pə jmi2/	"teak"
/pə jmi2 m̃ɔ1 t̃ʰə3/	"teak tree"
/pə nɛ1/	"buffalo"
/pə nɛ1 nəu3/	"buffalo horn"
/pə sai4 doʔ1/	"type of Acacia"
.. /pə x̃əʔ/ "spider"
/pə x̃ə2 je2/	"spider thread"
/pə t̃ə1 t̃ʰmi4/	"dew, snow"
/pə t̃ə2/	"mosquito"
/p̃ə3 p̃ə3 li4/	"a fire fly"
/pu2/	"a kerosine can"
/p̃mi2/	"flute"
/p̃mi3 p̃je3/	"to spread, to extend"
/pəu3 ləu3/	"round"
/paiʔ1/	"husband's younger brother"

/pui4/	"to torment"
/pju?1/	"to vomit"
/prə̃2/	"floor"
/prwi2/	"to be powdered"
/pwe?1/	"to melt"
/pwai3 t ^h ə̃3 k ^h wai3/	"to discharge"
/pwai?1 sa?1/	"to be tired"

/p^h/

/p ^h i4/	"chaff, bran"
/p ^h e1/	"to take away from"
/p ^h e1 k ^h u4/	"to weed"
/p ^h e3 be3 ɕu3/	"to cut" (finger)
/p ^h e3 p ^h a?1/	"to peel"
/p ^h e4/	"necklace"
/p ^h ε1/	"father"
/p ^h ε1 t ^h ai3/	"to blink"
/p ^h ε3 kə1 ləu2/	"skirt" (for man)
..... /p ^h ε3 -nə̃3/ "to weed"
/p ^h ε3 ɕo3/	"an image of Buddha"
/p ^h ε4 bau3 du1/	"Ipomoea"
/p ^h ε4 le?1/	"to smooth, to caress"
/p ^h ε4 lai?1/	"monkey"
/p ^h ɯ1/	"younger sibling"
/p ^h ɯ1 wi1 mə̃1 k ^h wε4/	"cousin"
/p ^h ɯ3 k ^h o?3/	"short"
/p ^h ɯ4/	"a bunch" (classifier of banana)
/p ^h ɯ4/	"to jump"

/p ^h ə ʔmi2/	"here"
/p ^h ə k ^h ə4/	"corn"
/p ^h ə nɔ3/	"there"
/p ^h əʔ1 p ^h ə̃1/	"to climb"
/p ^h ə̃2/	"spear"
/p ^h ə̃3/	"bright"
/p ^h ə̃3/	"granary"
/p ^h ə̃4 t ^h wi3/	"spade"
/p ^h a1 jɛ4/	"door"
/p ^h a1 jɛ4 kɛ2/	"a door bolt"
/p ^h a1 li1/	"wide"
/p ^h a2/	"a pot"
/p ^h a2 k ^h u3 klaʔ1/	"a lid"(of a pot)
/p ^h a2 mauʔ1/	"soot"
/p ^h a2 t ^h wi4/	"jar"
/p ^h a4/	"bed-bug"
/p ^h a4 lɔ̃1/	"to fill, to insert"
/p ^h aʔ1/	"to predict, to split"
/p ^h aʔ1 t ^h o4/	"long, tall"
/p ^h u1 p ^h ə̃4/	"above"
/p ^h u3 ʔo3/	"to give birth"
/p ^h u3 k ^h ə̃2/	"a mongoose"
/p ^h u3 sɛ3/	"children"
/p ^h u3 sɛ3 ʔo3 sə̃4/	"baby"(general)
/p ^h u3 sɛ3 k ^h wɛ4/	"a boy"
/p ^h u3 xwi3/	"a broom"
/p ^h u4/	"classifier of shrimp"
/p ^h u4/	"to swell"
/p ^h u4/	"father's father"
/p ^h u4/	"stomach"

/p ^h o4 sai4 mǝ3/	"fennel"
/p ^h o4 t ^h ǝ3/	"to flower"
/p ^h ǝ3/	"a section of bamboo stem"
/p ^h ǝ3 t ^h a21/	"to bear, to support"
/p ^h mi1 jai2 lo1/	"When?"
/p ^h mi3/	"pus, abscess"
/p ^h mi4/	"father's mother"
/p ^h mi4 de1 dǝ3/	"a wall that forms part of a house"
/p ^h mi4 t ^h u3 p ^h u4 t ^h u3/	"a primogenitor"
/p ^h ǝi3/	"a weevil"
/p ^h ǝi4 k ^h le3 mu3/	"ashes"
/p ^h ai2/	"a ciruela"
/p ^h ai21 xǝ3/	"to engage"
/p ^h au4/	"a fish trap made of bamboo"
/p ^h li2/	"tongue"
/p ^h li4/	"smooth"
/p ^h le3/	"bad"
/p ^h le3 p ^h lo1/	"lizard" (general)
/p ^h le1/	"arrow"
/p ^h le3/	"bat"
/p ^h lm1 t ^h ǝ3/	"dumb"
/p ^h la4/	"wasp"
/p ^h lo1 mǝ3 nǝ2/	"young woman"
/p ^h lo2/	"cockroach"
/p ^h lo3/	"classifier of school, house, bottle"
/p ^h lǝ4/	"to leak"

/p ^h lɿi2/	"rope"
/p ^h lɿi2 t ^h aʔ1/	"chain"
/p ^h ləu1/	"person"
/p ^h ləu1 ʔa1/	"a corpse"
/p ^h ləu1 d̃ə4 mu4/	"we"
/p ^h ləu1 lɛ1/	"who?"
/p ^h ləu1 sɿi4/	"a death person"
/p ^h laiʔ1/	"to punch"

/r/

/rai3 rauʔ1/	"to polish"
/raiʔ1/	"to twist"
/raiʔ1/	"to roll"
/raiʔ3/	"to fling"
/rauʔ1/	"to tie"
/rauʔ1 l̃ə2/	"to take off"
/rauʔ3/	"to stretch"

/s/

/si3/	"proficient, able"
/si4/	"betel chew"
/se2 t ^h a4/	"to announce"
/seʔ1 sɛ3/	"arcea"
/sɛ3/	"to gasp for breath, to breath"
/sɛ3/	"gain, product"
/sɛ3 kwi1 du3/	"herbaceous stalk of a banana plant"

/sɛ3 saʔ1/	"to lie near an open fire for warmth as well as sanitation (of a woman during confinement)"
/sɛ4 kwi2/	"banana"
/sɛ4 kwi2 k ^h ɛ4/	"papaya"
/sɛ4 naʔ3/	"gun"
/sə lwi2/	"tick"
/sə mɛ3/	"crocodile"
/sə ɲe2/	"to hop on one foot"
/səʔ1/	"to go backward, to spread"
/səʔ1 saʔ1/	"to move"
/sə̃4/	"new"
/sa4/	"black,three"
/sa4 ɲəʔ1/	"triangle"
/saʔ1/	"heart"
/saʔ1/	"to be itchy"
---/saʔ1 ʔɛ3/	"paramour"
/saʔ1 kə le2/	"to be squeamish"
/saʔ1 kwi2 t ^h ə̃3/	"to be angry"
/saʔ1 mi3/	"to fear"
/saʔ1 ne4 ʃje1/	"chest"
/saʔ1 nə̃1 neʔ3/	"cute"
/saʔ1 nə̃3/	"to forget"
/su3/	"to emit,to discharge"
/su4/	"to want"
/su4 ʔə̃3 saʔ1/	"to be hungry"
/su4 nwi2 saʔ1/	"humorous,to be amused"

/su4 pɛ3/	"shoulder"
/smi3/	"comb"
/smi3 mɛ4/	"to know"
/smi4/	"to die"
/smi4 k ^h lǎ2/	"areca"
/smi4 foʔ1/	"to shake"
/smi5 mɛ4 jauʔ1/	"to understand"
/səi3/	"tree"
/səi3 dai2/	"stick"
/səi3 lɛ3/	"leaf"
/səi3 mǎ1/	"firewood"
/səi3 p ^h aiʔ1/	"bark"
/səi3 su3 wɛ3 sɛ3/	"fruit"(general)
/səi3 xmi3/	"creeper"
/səi3 mmi1/	"root"(of tree)
/səi4/	"raw"
/səu1/	"to be ajar, to be half-closed"
/səu3/	"to grow"
... /səu3/ ...	"louse" -
/səu3/	"liver"
/səu3 ləu1/	"to thatch"
/səu4/	"garden"
/səu4 mǎ2/	"a millionaire"
/saiʔ1/	"liquor"
/saiʔ1 dǎ2/	"shrimp"
/saiʔ1 dǎ2 p ^h o4/	"fresh water shrimp"
/saiʔ1 nəu3/	"to thrust"
/sau3 t ^h ǎ3/	"to pick" (a thorn in the foot)

/sauʔ1/	"mosquito net"
/swi3/	"blood"
/swi3 lə̃2/	"to bleed"
/swe3/	"to gather"
/swe3/	"to rip"
/sweʔ1/	"rough"
/sweʔ1 swaʔ1/	"to be busy, to become complicated"
/swɛ3/	"charcoal"
/swɛ3 k ^h u3/	"cemetery"
/swɛ4/	"tooth"
/swɛ4 la1 t ^h aiʔ1/	"gums"
/swɛ4 pwi2 kai2/	"to have a toothache"
/swaʔ1/	"to pass over"
/swai3/	"to shrink"
/swaiʔ1 swaʔ1/	"to hop on one foot"

/ ɿ /

/fɯ3/	"to be shy"
/fo3/	"kind of tree"
/fau4 lə̃1/	"to bend, to stoop"
/fjɛ1/	"old-aged"
/fjɛ3/	"star"
/fjɛ4/	"bamboo strap"
/fjə̃3/	"poor"
/fjə̃4/	"to be torn"
/fju3/	"a pimple"

/t/

/təʔ1/	"to argue"
/tɛ3 doʔ1 k ^h wɛ1/	"if"
/tɯ3/	"husband's younger sister"
/tə ku2/	"luffa"
/tə ku3/	"the florescence of the banana plant"
/tə k ^h u1 ʔwi2/	"sweat"
/tə k ^h u1 swi4/	"mist"
/tə k ^h u3 ʔu2/	"spear"
/tə k ^h aiʔ1/	"dark"
/tə k ^h lmi4/	"seed"
/tə p ^h ə2 t ^h ə3/	"bright"
/tə p ^h a2/	"hole"
/tə p ^h aʔ1/	"goat"
/tə p ^h u3 xɛ1/	"animals"(general)
/tə p ^h u4/	"a barking deer"
/tə p ^h o4/	"flower"
/tə p ^h o4 ʔeʔ1/	"lotus"
/tə p ^h ə3/	"pannier"
/tə p ^h ə4/	"fence"
/tə p ^h mi4 pə2/	"weasel"
/tə su3/	"oil"(edible)
/tə su4/	"bear"(general)
/tə swi3/	"medicine, drug"
/tə swi3 ʔ ^h oʔ1 swe4/	"toothpaste"
/tə xoʔ3/	"basket"
/tə xoʔ3/	"deer"

/tə xoʔ3 p ^h ε4/	"stag"
/tə xoʔ3 ɰau4 meʔ3/	"a screen"
/tə t ^h u3/	"thorn"
/tə̃2/	"a bench"
/tə̃3/	"thick"
/tu2/	"wife's younger brother"
/toʔ1/	"to be almost touching, to dig"
/toʔ1/	"to shave, to scrape"
/təu4/	"a mattress"
/taiʔ1/	"to cling, to mold"
/tauʔ1 du3/	"to clench the hand"

/t^h/

/t ^h e2/	"to crack"
/t ^h e4 p ^h aʔ1/	"to break"
/t ^h eʔ1/	"to pull out"
-- /t ^h ε3 blə̃3/	"loom"
/t ^h ə ʔa2 mɰ1/	"property"
/t ^h ə ʔəu3/	"cloud"
/t ^h ə du2/	"a bison"
/t ^h ə doʔ1/	"vegetables" (general)
/t ^h ə na4 ʔm3/	"bad smell"
/t ^h ə jε4 k ^h o4/	"inside"
/t ^h ə k ^h e3 klε2/	"forest"
/t ^h ə k ^h u1 k ^h ε4/	"summer"
/t ^h ə lə məʔ3/	"to be happy"
/t ^h ə lə məʔ3 bε3/	"to be sick"

/t ^h ə lə p ^h lɔ̃4/	"chasm"
/t ^h ə lu1/	"mountain"
/t ^h ə mɛ2/	"work"
/t ^h ə məʔ1/	"to be happy"
/t ^h ə na4/	"cow"
/t ^h ə p ^h ə̃4 la3/	"below"
/t ^h ə p ^h aiʔ1/	"leather,hide"
/t ^h ə xə̃3 t ^h aiʔ1/	"king"
/t ^h ə ɲe3/	"chilli"
/t ^h ə ɲe4 ɸ ^h a2/	"rain"
/t ^h ə ɲe4 ɸ ^h a2 k ^h ε4/	"rainy season"
/t ^h ə ɲəʔ1/	"angle"
/t ^h ə ɲauʔ1/	"freeze"
/t ^h əʔ1/	"to pull"
/t ^h ə̃1/	"to pound"
/t ^h ə̃3/	"trunk"(of tree)
/t ^h ə̃3/	"to ascend"
/t ^h ə̃3 ʔi3/	"fungus"
/t ^h ə̃3 le3/	"reed"
/t ^h ə̃3 p ^h o4/	"to float"
/t ^h a1 k ^h o4/	"north"
/t ^h a1 t ^h ε3/	"to weave"
/t ^h a1 ɲeʔ3/	"a sickle"
/t ^h a4 t ^h əi1/	"to crush with foot"
/t ^h aʔ1/	"iron,needle"
/t ^h aʔ1 mi5 k ^h ai4/	"thread"
/t ^h u1/	"to follow"
/t ^h u3/	"bird"
/t ^h u3 le1 t ^h mi4/	"goose"
/t ^h u3 lmi1/	"turtle-dove"

/t ^h u3 ʃjau3/	"sparrow"
/t ^h u3 t ^h ε2/	"duck"
/t ^h u3 waʔ1/	"to sway"
/t ^h u3 ɰwi3 p ^h ai3 pe3/	"dish"
/t ^h u4/	"creeper"
/t ^h u4 p ^h li2/	"to spit"
/t ^h u4 ɰwi3/	"bowl"
/t ^h o3/	"to row"
/t ^h oʔ1/	"pig"
/t ^h oʔ1 k ^h loʔ1/	"a trough to hold water or food for domestic animals"
/t ^h oʔ1 mæi2/	"wild pig"
/t ^h oʔ1 p ^h õ2/	"a pigsty"
/t ^h oʔ1 rɰ4/	"comb" (made of pig feather)
/t ^h oʔ1 sε3/	"bean"
/t ^h oʔ1 sε3 p ^h aʔ1 t ^h o4/	"long bean"
/t ^h oʔ1 su3 dəu2/	"ant's nest"
.. /t ^h ɔ2 ʔõ3/ . . .	"to fry" . . .
/t ^h ɔ4 nɔ1/	"green soybean"
/t ^h mi1/	"cucumber"
/t ^h mi3/	"greedy, selfish"
/t ^h mi4/	"water"
/t ^h mi4 du3 lõ1/	"to flood"
/t ^h mi4 jwε3/	"to spill over, to be filled to overflowing"
/t ^h mi4 klõ2 p ^h a2/	"river"
/t ^h mi4 k ^h mi4/	"upstream"
/t ^h mi4 lε3/	"salt"

/t ^h mi4 l [̃] 2 kwa [?] 1/	"to spill over, to be filled to overflowing"
/t ^h mi4 m [̃] 3/	"maskmelon"
/t ^h mi4 n [̃] 5 ma ⁴ /	"perfumes"
/t ^h mi4 s [̃] 3 bwe ² /	"sponge"
/t ^h mi4 t ^h əu ¹ /	"downstream"
/t ^h mi4 t ^h au ² /	"drainer"
/t ^h mi4 t ^h au [?] 1 b [̃] 2/	"eel"
/t ^h mi4 xwi ³ /	"rain water"
/t ^h mi4 t ^h a ⁴ /	"sugar"
/t ^h əi ¹ /	"frequent"
/t ^h əu ¹ /	"comb" (of cock)
/t ^h əu ¹ xwi ² /	"ant" (general)
/t ^h əu ³ /	"a bag"
/t ^h ai ¹ nəu ³ /	"to enter"
/t ^h ai ⁴ /	"to weave" (a basket)
/t ^h ai ⁴ /	"to plow"
/t ^h ai ⁴ /	"bracelet"
/t ^h ai [?] 1/	"to start a fire, to return"
/t ^h au ¹ /	"to ride"
/t ^h au ² /	"bridge"
/t ^h au ⁴ /	"gold"
/t ^h au ⁴ su [?] 1/	"parallel"
/t ^h au [?] 1/	"to wipe, to rub"
/t ^h wi ¹ /	"grasshopper"
/t ^h wi ³ /	"dog"
/t ^h wi ³ məi ³ /	"wolf"
/t ^h wa [?] 1/	"to break"

/w/

/wi5/	"son-in-law"
/we1/	"before"
/weʔ1/	"to bail"
/weʔ1 waʔ1/	"to brew"
/wɛ1/	"husband"
/wɛ1 t ^h ə̃3/	"to scoop, to gather up with both hands"
/wə̃3 raiʔ1/	"to stagger"
/wa3/	"leech"
/waʔ1/	"to draw"
/waʔ3/	"to scratch"
/wo2/	"red"
/wmi1/	"fan"
/wmi1 t ^h ə̃3/	"to climb"
/wəi4/	"abscess"
/wai4/	"mirror"
/waiʔ1/	"shouldn't do"
/waiʔ1 ʔi3/	"the toilet"
/waiʔ1 di2/	"millipede"
/waiʔ1 wə̃4/	"to fling"
/waiʔ3/	"to turn"

/x/

/xeʔ3/	"knife"
/xeʔ3 t ^h u1/	"a hilt"
/xɛ1/	"landed property"
/xɛ4/	"to use abusive language"

/xəʔ1/	"a farm,plantation"
/xə̃3/	"to dig"
/xə̃3/	"leg"
/xə̃3 ʔm2/	"to groan"
/xə̃3 du3 sɛ3/	"calf"
/xə̃3 jɛ4 k ^h u3/	"feet"
/xə̃3 lə̃2 blaʔ1/	"to bury"
/xə̃3 ləu1 mu1/	"knee"
/xə̃3 meʔ3/	"ankle"
/xə̃3 mmi3/	"a toenail"
/xə̃3 nəu1 k ^h ai4/	"the heel"
/xə̃3 pə̃4 saʔ1/	"paws,feet"
	(of animals)
/xə̃3 xmi3/	"the shin"
/xə̃4/	"ladder"
/xə̃4/	"to force"
/xə2/	"mushroom"
/xə3/	"to winnow"
/xə4/	"heavy"
/xəʔ1/	"diligent" ...
/xu3/	"taro"
/xu4/	"six"
/xo4/	"scar"
/xoʔ1/	"tidy"
/xoʔ3/	"eight"
/xoʔ3 bə̃2/	"neck"
/xoʔ3 kjuʔ1/	"Adam's apple"
/xoʔ3 t ^h mi4/	"Caladium"
/xoʔ1/	"to sharp"
	(with a knife)

/xwi2/	"clear,brilliant"
/xwi3/	"bone"
/xəu2/	"scar"
/xai4/	"dry"
/xwi1/	"thin"
/xwi2/	"to buy"
/xwi2/	"full"
/xwi4/	"nine"
/xwi4/	"light"
/xwai3 xə̃2/	"to throw"
/xwaiʔ3/	"intestines"
/xwaiʔ3 sɛ3/	"pepper"

/ ㄣ /

/ɲi1/	"rattan"
/ɲi1 naʔ1/	"very beautiful"
/ɲi5 jauʔ1/	"to thanks"
/ɲe1/	"classifier of person"
/ɲe1 t̃ə̃2/	"to dance"
/ɲe2/	"Don't!"
/ɲe3/	"hot of taste"
/ɲe4/	"to come"
/ɲe4 ni1/	"because"
/ɲe4 t ^h aiʔ1/	"to return"
/ɲe4 t ^h au2/	"to arrive"
/ɲɯ4 saʔ1/	"milled rice"
/ɲəʔ1/	"classifier of candle"
/ɲə̃2/	"shadow"
/ɲə̃3/	"to cry"

/ɰə̃3 k ^h u3/	"earth, soil"
/ɰə̃3 k ^h u3 mu3/	"dust"
/ɰə̃3 k ^h u3 p ^h ai3/	"clay"
/ɰə̃3 t ^h ε2/	"to be shy"
/ɰə̃4/	"salty"
/ɰə̃4 t ^h ai?1/	"side"
/ɰu1/	"snake"
/ɰu1 p ^h au4/	"abdomen"
/ɰu1 p ^h au4 wai?3/	"diarrhoea"
/ɰu1 sə̃4/	"cobra"
/ɰo3/	"good"
/ɰo4 t ^h ai2/	"to drive out"
/ɰwi3 t ^h ai2 ?a1 su3/	"castol oil tree"
/ɰwi3 t ^h ai?1/	"thigh"
/ɰwi4 t ^h ə̃3/	"to wake up"
/ɰəi3/	"village"
/ɰəu1/	"weevil"
/ɰəu4/	"to hug"
/ɰai4 ɰə̃1/	"out of order"
/ɰau3 xwi3/	"a rib"
/ɰau5 jau?1/	"already"
/ɰau?1/	"sex"
/ɰau?1 t ^h e?3/	"to slash, to carve"

/t/

/t ^h i2/	"silver"
/t ^h i3/	"leftside"
/t ^h e2/	"to drive" (nail)
/t ^h ə lə̃2/	"to putt"

/t̥ə̃3/	"hand net"
/t̥ə̃4 l̃ə1 pə k̃ə̃2 t̃ə̃4/	"custom"
/t̥u3/	"hand"
/t̥u3/	"to steep"
/t̥u3 du3/	"arm"
/t̥u3 jɛ4 k̃u3/	"a back hand"
/t̥u3 l̃ə1/	"letter"
/t̥u3 l̃ə1/	"to soak"
/t̥u3 mɛʔ3/	"wrist bone"
/t̥u3 mmi3/	"claw, nail"
/t̥u3 nau1 k̃ai4/	"elbow"
/t̥u3 p̃ə̃4 saʔ1/	"palm"
/t̥u3 si3/	"clever"
/t̥u3 saiʔ1/	"ring"
/t̥o1 k̃wɛ4/	"elder brother"
/t̥o3/	"wet"
/t̥oʔ1/	"to pick"
	(with the beak)
/t̥oʔ1 p̃aʔ1 səi3 m̃ə1/	"to split the firewood"
/t̥ə̃u3 ni1/	"to borrow"
/t̥ai1 doʔ1/	"to guess"
/t̥ai1 p̃a2/	"rice field"
/t̥ai2 k̃u4 t̃ə̃1/	"to seek"
/t̥ai3/	"to walk"
/t̥ai3 k̃aʔ1/	"to hunt"
/t̥aiʔ1/	"fierce"
/t̥auʔ1/	"to persuade"
/t̥wi2/	"to help"
/t̥wa3/	"creeper"
	(a lot of thorn)

/tɕʰ/

/tɕʰeʔ1/	"to stab"
/tɕʰɛ1/	"weak, young green leaf"
/tɕʰɛ4 meʔ1/	"to hate"
/tɕʰə xo3/	"rightside"
/tɕʰəʔ1/	"shallow"
/tɕʰə̃2 pʰaʔ1 tʰo4/	"trousers"
/tɕʰə̃3/	"a large mortar for pounding paddy to separate the grains from the chaff"
/tɕʰə̃3 pʰu3/	"mortar"
/tɕʰə̃3 pʰu3 tʰi3/	"pestle"
/tɕʰə̃4/	"chicken"
/tɕʰə̃4 ku1 lwe3/	"earthworm"
/tɕʰə̃4 ku1 pəi2/	"butterfly"
/tɕʰə̃4 ku1 pau3/	"a plant louse, "ān'aphīd"
/tɕʰə̃4 lɛ1/	"pineapple"
/tɕʰə̃4 tʰəu1/	"a cock's comb"
/tɕʰa4/	"sweet"
/tɕʰaʔ1/	"to sew"
/tɕʰu3 pʰlau4/	"to punch"
/tɕʰu4/	"to pour"
/tɕʰu4/	"to knock"
/tɕʰu4 lə̃2/	"to pour"
/tɕʰo3/	"to carry, to hold"
/tɕʰo3 pʰu4/	"to infuse"

/tʰo3 tʰǎ3/	"to lift up"
/tʰoʔ1/	"to bud"
/tʰɔ2 mɔ2/	"sad, sorry"
/tʰɔ3/	"cradle"
/tʰǎ3/	"strong"
/tʰǎ3 kʰu3/	"turban"
/tʰǎ4/	"classifier of a can, bracelet"
/tʰǎ4 mǎ3/	"to think"
/tʰmi1/	"to massage"
/tʰmi1 beʔ1/	"to pulp, to grind"
/tʰmi1 lǎ1/	"to press down"
/tʰmi3/	"to urinate"
/tʰmi3 tʰmi4/	"to whip out, to flutter"
/tʰmi4 nǎ2/	"to sit"
/tʰmi4 pʰo3/	"sugar cane"
/tʰmi4 tʰǎ3/	"to stand"
/tʰai3/	"sour lime"
/tʰaf3 pʰǎ2 ʔǎ2 pʰǎ2/	"fallow"
/tʰai4/	"Karen's sack dress"
/tʰai4/	"to carry on the shoulder"
/tʰai4 pə pɛ1/	"shirt"
/tʰai4 tʰǎ1/	"clothing"
/tʰaiʔ1 lǎ2/	"to drop"
/tʰaiʔ3/	"farm, rice field"
/tʰau3 mɛ3/	"certain"
/tʰauʔ1 pʰlǎ2/	"to burn"
/tʰauʔ3/	"to cling"

/tʰwi3/

"crab"

/tʰwi4/

"to through"

/tʰwɛ3/

"cymbals"

/tʰwɛ3/

"to push"

000281