Thesis
Entitled
SHAN PHONOLOGY AND MORPHOLOGY

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Aggasena Lengtai
ABSTRACT

The purpose of this research was to study the Shan phonology and morphology of Keng Tung dialects. The tones were analyzed with Praat program version 5.1.00.

The results of the study reveal that the phonological word bears strong stress (S) on monosyllabic words or on final syllables while the weak stress (W) or unstress (U) falls on non-final syllables.

The syllabic structures in Shan are i) smooth syllables which end with vowel or continuant consonants / -m, -n, -ŋ, -w, -j / and ii) checked syllables which end with checked consonants / -p, -t, -k /. The syllabic / m / which is a deduction form of / am² / ‘not’ is also found.

The Shan of Keng Tung has 17 consonant phonemes / p, t, k, ?, pʰ, tʰ, kʰ, m, n, ŋ, ŋ, l, s, c, h, w, j / and 8 of them / -p, -t, -k, -m, -n, -ŋ, -w, -j / are found in the final position. The 3 consonant clusters are / l, w, j /.

There are 11 vowels in Shan, 10 monophthongs / i, e, e, u, o, a, a:/ and 1 diphthong / au /. The two central low vowels / a, a:/ are contrasting in vowel length.

The 5 tones in Shan are 1) a rising tone 2) a low tone 3) a mid tone 4) a high tone and 5) a falling tone. The rising tone never occurs in checked syllables.

Shan words are formed by nominalization, compounding, reduplication and expressive without changing the word’s original form.

KEY WORDS: SHAN/PHONOLOGY/MORPHOLOGY/TONE/KENG TUNG/
ระบบเสียงและระบบหน่วยดักภาษาชน

(SHAN PHONOLOGY AND MORPHOLOGY)

อัคคesen แดงไถ 4737639 LCLG/M

ศส.ม. (ภาษาศาสตร์)

คณะบรรณาธิการควบคุมวิทยานิพนธ์ : สมทรง บุรุษพัฒน์ Ph. D., สุวัฒน์ลักษณ์ ติศสุอก Ph. D.,
ปิยมา พัฒน์พงษ์ Ph. D.

บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาระบบเสียงและระบบหน่วยดักภาษาชน (ไทยใหญ่)
เพื่อต้นทางลักษณะเฉพาะของเสียงพยัญชนะต้นและระบบเสียงวรรณยุกต์ที่เข็งเหง่ กืออย่างหนึ่ง
ในการวิจัยนี้ได้ใช้โปรแกรม Prata 5.1.00 (Praat Progam V. 5.1.00) วิเคราะห์คลั่งเสียง
วรรณยุกต์ต้นและ

ผลการวิจัยพบว่า ด้านภาษาชนนี้ มีการลงเสียงท้าย (S) ในคำยางค์เดี่ยวและพยางค์
ท้ายในคำยางค์เดี่ยว สำวนการเสียงแบบ (W) หรือไม่เห็นเสียง (U) นั้นเกิดกับพยางค์ที่ไม่ใช่
พยางค์ท้าย

โครงสร้างพยางค์ชนมีดังนี้ 1) พยางค์เปิด ซึ่งลักษณะดัง สรรและพยัญชนะเปิด
/-m, -n, -ŋ, -w, -j/ และ 2) พยางค์ปิด ซึ่งลักษณะดังพยัญชนะเสียงกัก /-p, -t, -k/
นอกจากนี้ยังพบว่า มีพยางค์ /m/ ซึ่งตรงมาจากคำว่า /?m/ “ไม่”

ภาษาชนเสียงดุนรูปพยัญชนะต้น 17 เสียง /p, t, k, ?, pʰ, tʰ, kʰ, m, n, ŋ, l, s, c, h, w, j/ และเป็นพยัญชนะท้ายได้ 8 เสียง /-p, -t, -k, -m, -n, -ŋ, -w, -j/ พยัญชนะเสียงที่ 3 เสียง /
l, w, j/

เสียงращบด 11 เสียง คือสะเดียว 10 / i, e, ê, u, ũ, a, æ, u, o, ɔ / และ
สะเตือน 1 / ə / ซึ่งตรงกับสรร “อะ” ในภาษาไทย

ส่วนวรรณยุกต์มี 5 เสียง คือ 1) เสียงตัวเดือนสูง 2) เสียงตัว 3) เสียงกลางระดับตกหลักน้อย
4) เสียงสูง 5) เสียงผุดทับ วรรณยุกต์ที่ 5 เสียงเกิดในคำยางค์เปิด และวรรณยุกต์เสียง 1 ไม่พบใน
คำยางค์ปิด

ในการสร้างคำใหม่ในภาษาชนนี้เกิดจาก การผสมคำอิสระเข้าด้วยกัน เช่น การทำให้เป็น
cานาน ผสมคำ คำซ้อน และ คำสร้อยเป็นต้น

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<td>Anno Domini</td>
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<tr>
<td>adj.</td>
<td>adjective</td>
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<tr>
<td>adv.</td>
<td>adverb</td>
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<tr>
<td>C</td>
<td>consonant</td>
</tr>
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<td>etc.</td>
<td>et cetera</td>
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<tr>
<td>FC</td>
<td>final consonant</td>
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<td>i.e.</td>
<td>that is</td>
</tr>
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<td>n.</td>
<td>noun</td>
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<td>prep.</td>
<td>preposition</td>
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<td>(S)</td>
<td>strong stress</td>
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<td>tone</td>
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<td>(U)</td>
<td>unstressed</td>
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<td>V</td>
<td>vowel</td>
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<td>v.</td>
<td>verb</td>
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<td>(W)</td>
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<td>x</td>
<td>non-occurrence</td>
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<td>o</td>
<td>occurrence</td>
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<td>1</td>
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<td>( )</td>
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<td>/ &quot; /</td>
<td>unreleased</td>
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ABBREVIATION (cont.)

/ / = phonemic transcription
[ ] = phonetic transcription
/\ = strong stress
/\ = weak stress
* = proto form
~ = transform
CHAPTER I
INTRODUCTION

1.1 Rationale of the Study

The ‘Grammar of the Shan Language’ by Rev. J. N. Cushing (1887) is the first book which sparked my awareness of the fact that my mother tongue (the Shan language) can also be systematically studied, which I had never realized before, and it is this that led me to this linguistic field.

During my years of study, I came across two theses on the Shan language, one is a study of the Shan language at Amphoe Mae La Noi, Mae Hong Son Province and the other is a study of Shan language at Amphoe Mae Sai, Chiangrai Province. From my first skim through I realized that there were some small differences both in consonants and tones from my native Shan. The question about the Shan language of Keng Tung where I came from arose in my mind i.e. what feature still shares in common and what is different. This is the starting point of this research.

The Shan language that I am studying is that of Keng Tung. Geographically, it is not far from the previous study at Mae Sai (about 102 miles or 168 kilometers) but it was once a forbidden land to foreigners for more than three decades. Does this isolation have any effect on the language? Does it keep the language from changing or does it make the language of Keng Tung differ from its neighbours? These are the questions behind my research.¹

1.2 Objectives of the Study

1. To study the Phonology and Morphology of the Shan language of Keng Tung.

¹ This is not a comparative study but it could be used as a comparison with the previous studies on the Shan language in the areas.
2. To analyze the Shan tonal system based on the Praat program (V. 5.1.00). It is used to confirm the analysis of tone characteristics.

1.3 Benefits of the Study

1. The reader can understand the Shan Phonology and Morphology.
2. This study can be used as a comparison to the previous studies of Shan.
3. This study can be used as guidance for further research or to look at different angles of research on the Shan language at Keng Tung or elsewhere.

1.4 Scope of the Study

This is to study the Shan Phonological system which consists of phonological words, syllables and phonemes with their components such as consonant phonemes, vowel phonemes and tonemes, and the Shan Morphology which deals solely with forming new words.

The words in ‘A Checklist for Determining Tones in Tai Dialects’ of Gedney (1972) which consists of 64 words are analyzed with the Praat program, version 5.1.00 which can be downloaded for free at http://www.fon.hum.uva.nl/praat/download_win.html.

1.5 Hypothesis

Based on the previous studies on Shan, I hope to find out some differences on initial consonants and tonal system which define the characteristics of Keng Tung Shan.

1.6 Research Sites

This research is carried out at Kat Tao village and Yang Hao village, Keng Tung, Shan State, Union of Burma.
1.7 Methodology

In this study, I, myself, is the main informant. Being the main informant, the problem is at which point to start. I am, therefore using ‘A Chicklist for Determining Tones in Tai Dialects’ by W. J. Gedney (1972) and the ‘Swadesh 200 Word List’ (1973) to check primary data.

After having submitted my thesis proposal in May 2006, I went back to my hometown, Kat Tao village, Keng Tung, Shan State, Union of Burma. I spent two weeks there, during visited by relatives and neighbours, I made records of our conversations. In Kat Tao village, two records were made and another record was made in Yang Hao village.

In the recording at Kat Tao village, the people participated in the conversation were Lung Mu, age 78, Pa Jing, age 72 and Sai Sarm Suk, age 33. Lung Mu and Sai Sarm Suk can read and write Shan language while Pa Jing can not. These people moved to Kat Tao village from Yang Hao village, about 4 km far, for over 30 years. They never live any other places longer than 6 months.

Pa Noot, age 65 and Lung Sang Awn, age 58 were the participants in Yang Hao village’s conversation. Lung Sang Awn knows how to read and write but Pa Noot does not. They are the native speakers of this village and have never been out of this village for over 6 months.

Kat Tao village, 11 km North of Keng Tung, is located on the road to Mong Yang. It comprises with about 400 households and 4 monasteries which is considered to be the big village in Keng Tung. Three monasteries follow Tai Khun tradition and one monastery follows Shan tradition. In Keng Tung, generally, Shan and Khun are differentiated by the village monastery’s tradition.

Kat Tao has a village market which means that different people, such as Shan, Khun, Akha, Musur, Khala (Lwa) and so on, in nearby villages will meet there every 5 days (5 days round market). Therefore, the Shan in Kat Tao village have higher chance in contacting with other ethnic groups.

While Yang Hao village which is just about 4 km away from Kat Tao village has a different story. It has about 80 households and one monastery, which belongs to Shan tradition. Majority of the villagers are Shan. The village is surrounded by rivers,
Nam Khun in the East and Nam Khak in its West. There is only a small road access to this village and its location is not on the way to other villages. Therefore, by viewing from the location of the two villages, Yang Hao has lesser chance in language contact and it is believed to preserve the language more than Kat Tao village. These data are used in pronunciations checking and confirming some uncertain words.

1.8 Literature Review

1.8.1 Grammar of the Shan Language, (1887), Rev. J. N. Cushing. It was first published in 1871 and it is believed to be the first printed form of Shan Grammar. Dr. Cushing had provided a great benefit to the Shan language. He also wrote an English-Shan dictionary (1881). He offered himself to the American Baptist Missionary Union as a candidate for the foreign field. He sailed to Burma in 1866, being designated to the Shan people in the mission of spreading the words of Christ. Within a decade he had successfully translated all the New Testament into the Shan language. (Khur-yearn 2006:4)

His Shan Grammar book consists of 17 Chapters which can be roughly grouped as follows. The first four Chapters cover the Shan writing system consisting of 10 vowels and 19 consonants. Concerning the 5th and 17th consonants (s) are found to be exactly the same both in sound and form. Cushing gave the reason that the 17th alphabet was once had a distinct sound of its own and it has been retained in the Shan alphabet on account of a custom connected with the naming of children. Now the 17th consonant is no longer found in new Shan alphabets.

In the following chapters, he studied the word classes and some noticeable characteristics of Shan such as Proper Couplets, Phonetic Couples and Idiomatic Constructions. These are the ways of word formation or the morphological system of the Shan. He then ended the last two chapters of his book with prose and poetry.

No doubt the Old Shan writing system in this book took him much time and effort in explaining. In the old Shan characters, there were fewer symbols representing the vowel sounds than they really existed. In other word, one symbol might stand for different sounds.
1.8.2 Another work of Rev. J. N. Cushing is the **Elementary Handbook of the Shan Language**, (1888, revised and reprinted 1906). The Shan writing is presented in the introduction. In this book the author intended to provide general knowledge of the Shan language for the beginner. It divided into three main parts, the first of which consisting of 20 lessons, deals with the basic Shan grammar; parts of speech and tenses etc. Part two of the book contains the sentences in Shan with their English translation of and presented in various topics such as, Man, Clothing, House, Weapons, Money, Fire, Water etc. Though these colloquial conversations are slightly different from today Shan, they still make sense. And the third part of the book consists of some Shan simple stories, Jataka (Buddha’s previous life story), petitions to Sawbwa (Saopha), written language from a book and sayings. All these stories appear in Shan and they make up 17 lessons. A huge number of vocabularies are listed in the pattern of English-Shan which make up two third of the whole book’s pages.

1.8.3 **A Guide to the Study of Shan**, (1911), by Major F. Bigg-Wither, is another book of Shan language learning published in the early 20th century. The British official wanted to assist the needs of travellers or officials to know the Shan language in order to communicate with local people. So the author who himself was an official focused on natural language as she is spoken in everyday life and at court.

The presentation of this book is quite similar to Cushing’s work. It means that the first part introduces the Shan grammar. And the second part, which takes up most of the book, presents lists of English sentences with Shan translations. It covers different topics of everyday conversation such as Age, Time, School, Tattooing, Gambling and the Law and the Police etc. These sentences come in the form of conversation and some in narrative style. Twenty exercises in English with their Shan translations are given at the end. These exercises come from the set of examinations or petitions from different schools and some are from the Shan stories.

1.8.4 **The Phonology of Tai Yai at Amphoe Mae La Noi, Mae Hong Son Province**, (1985) is the thesis of Orawan Poo-Israkij. She studied the Shan of Mae Hong Son who are Thai citizens. She studied Shan phonology as a hierarchy starting with the intonation group, the phonological word, the syllable and the phoneme. The
tonal comparison of Shan, Khun, Lue and Yong is presented in chapter 6, in order to find out how these languages are related.

Mae Hong Son Shan have the initial consonant /b/ (Voiced bilabial stop) which the Shan of Keng Tung don’t have. It is possible that it comes into with the influence of Kamuang or standard Thai. In Mae Hong Son Shan, some Burmese loanwords are pronounced slightly different from Keng Tung Shan. It is possible that the origins of the loanwords are no longer known to them.

1.8.5 A Descriptive of the Tai Yai (Tai Aw) Language in Mae Sai District, Chiang Rai Province, (in Thai, 1983) by Wanna Jantanakom. She studied the Shan language at Mai Sai with the informants who migrated from Keng Tung and Mong Kha. The study covers the phonology, speeches of the word as well as syntax of the Shan language up to discourse level. With the influence of front vowels /e, e, ee/ cause the stop consonants /p, t, k/ become palatalized and more rounded with the vowels /a, oo/.

The six tones of Tai Yai (Tai Aw) at Mai Sai are as follows:
1. Low rising
2. Low with glottal
3. High falling with glottal
4. High level
5. Mid falling
6. High slightly falling with glottal

The 3rd tone (High falling with glottal) and the 5th tone (Mid falling) are merged into Mid tone of Keng Tung Shan. Therefore the Keng Tung Shan have only 5 distinctive tones in open syllable and 4 tones in checked syllable.

1.8.6 Shan Chrestomathy: An Introduction to Tai Mau Language and Literature, (1985) by Linda Wai Ling Young. This is a study of the oral narrative of Tai Mau (Tai Mao) folktales. It consists of more than ten Tai Mau folktales and some Nam Kham folksongs. It also consists of transcription of Tai Mau into English word by word.
The interesting point is that at the beginning of the book, it provides a few notes on Shan Grammar. Tai Mao has Affected Reduplication pairs in which nonsense items are suffixed to adjectives and other intransitive verbs. According to Young, the vowels /ə, i, e, ɛ/ are associated with a ‘good’ connotation whereas /u, o, aa/ are found with a ‘bad’ connotation. The vowel /u/ appears as neutral.

Example:

<table>
<thead>
<tr>
<th>Good Connotation</th>
<th>Bad Connotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. /lɛŋ ɕn̥ ʰɔŋ/</td>
<td>/lɛŋ ɕn̥ ʰaŋ⁻/ ‘red redupl’</td>
</tr>
<tr>
<td>b. /saw ɕn̥ ʰɛŋ/</td>
<td>/saw ɕn̥ ʰuŋ⁻/ ‘transparent redupl’</td>
</tr>
<tr>
<td>c. /kʰew ciw n̥iɔ/</td>
<td>/kʰew caaw n̥aaw⁻/ ‘green redupl’</td>
</tr>
</tbody>
</table>

Sound Contraction in Tai Mao is also an interesting topic in this book, viz:

| a. ti‘place’ + nan‘that’         | >   tʰaN   ‘there’          |
| b. ti‘place’ + lau‘which’         | >   tʰau⁻   ‘where’          |
| c. ti‘place’ + nai‘this’         | >   tʰai⁻   ‘here’          |

Conclusion

So far the rationale of this study as well as how this study started has been discussed together with its scope and research site. The previous studies on Shan from various researchers are briefly presented as literature reviews. In the next chapter, the historical background of Shan and the Shan language classification will be discussed.
CHAPTER II
GENERAL INFORMATION

Introduction

In this Chapter, general information on the Shan will be presented, covering a brief review of Shan history: their migration and settlement in Burma and the building of their feudal states, their rise to power, extension of their suzerainty, the falling of their kingdoms and became one state in the Union of Burma.

Before the Shan short history is discussed, a brief explanation of the names of the Shan would be helpful, because they are known under different names to different people as well as to the Shan themselves. The Shan call themselves ‘Tai’ or ‘Tai Long’ and prefer to be called so, but, generally, are known to other people as ‘Shan’. The term ‘Shan’\(^1\) is believed to be the Mon loanword in Burmese referring to people speaking Tai language family. Later, the term ‘Shan’ was adopted into English and it became the wider known term for the Tai in Burma.

In Burmese, the term ‘Shan’ not only refers to the ‘Tai or Tai Long’ but also refers to every group of people whose language belongs to Tai language family, such as Tai Long, Tai Mao, Tai Nue, Tai Leng, Tai Khamti, Tai Khun, Tai Lue, Tai Lem and so on.\(^2\) Furthermore to those people in lower Burma such as in Mon State and Taninthayi division, the term ‘Shan’ covers the Thai of Thailand as well.\(^3\)

For those different tribes, who have lived alongside with the Shan for centuries, they have different terms for the Shan. For instance, the Tai in Myanmar are known to the Myanmar people as Shan, to Kachins, A-changs, Zis and La-shis as Sam,

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1 The word ‘Syam’ or ‘Shan’ was found in inscription in the ancient city of Pagan, the earliest dating from A.D. 1120. (Kham Mong 2004:3)
2 According to Kher Sen (1999), there are 23 different Tai groups in Burma.
3 As to personal experience, when introducing to people in that region as ‘Shan’, they will ask Taunggyi Shan (Shan) or Yodaya Shan (Thai), to differentiate.
to the Ma-ru as Sen, to the Palaung as Tsem, to the Wa as Shem and to the Talaing or Mon as Sem (Aung Tun 2000:4). Here in this research, for the sake of convenience, the term ‘Shan’ will be used to refer to the ‘Tai’ or ‘Tai Long’.

2.1 Historical Background

The original home of the Tai which the Shan belong to, currently, is still under discussion, for there are different theories from different scholars. But where most scholars share the same opinion is that once the Tai people had their home in China today.

Many Shan historians believe that the Shan once lived in central Asia and migrated southward. The migrations were usually caused by invasion forces from outside or internal conflict among the Tai. The migration routes were along the main rivers (Kher Sen 1999:14).

Migration and Settlement of Tai Ethnic Groups

Like many other ethnic peoples the Tai once had their homeland in China. Some historians believe that the Tai people first came to settle north of the Yellow (Huang Ho) river, occupying the region known as Hebei and Shanxi round about 2515 B.C. The Chinese annals also mention Tai settlements in the middle basin of the Yellow River in 850 B.C. They made their homeland here for a long time, establishing small feudal kingdoms and spreading their "Na" culture to neighboring regions. But new emigrants coming from Central Asia later impelled the Tai and other ethnic groups to move southwards to new fertile areas between the Yellow and Yangtze (Chang Jiang) rivers covering the present provinces of Hunan and Hubei.

With the Yellow River in the north and the Yangtze River in the south as their natural boundaries, the Tai and other ethnic peoples felt safe, and rebuilt their feudal kingdoms and erected their "Na" which lasted

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4 Now, there are at least 5-6 theories concerned with the original home of the Tai and linguists, such as W. J. Gedney believes that the Tai once had their home in Guangxi and Northern Vietnam today. (Prasert 2002:17)
for several centuries. However, another wave of emigrants from the north, which became powerful and aggressive, put new pressure on the Tai ethnic group. With inter-state rivalries and an inability to establish unity, the Tai and ethnic people of the south were unable to resist the intrusion from the north, and split up into numerous groups. Some took refuge in the neighboring hills and valleys of Sichuan, Guizhou and Yunnan, where they picked up new local names which concealed their identity and turned themselves into little-known hill tribes of the region, remaining obscure for centuries. Other Tai groups who were displaced by the new immigrants migrated into Honan to Hubei, and crossing the Yangtze River, fanned out in different directions to settle in Hunan, Guangxi, Guangdong, Hainan, Vietnam, Laos, Thailand, Myanmar and Assam (Aung Tun 2000:3-4).

Map 1: A map shows the routes of Tai migration from a book ‘Early Shan History’
2.1.1 Shan settlement in Burma

Once again, various figures are given for the date of the Shan settlement in Burma. According to legend, many Shan believe that once there were three Shan brothers and whose father, who was a king, gave each of his son a drum, a white heron and a sword respectively and telling them to look for new land and build Mong or city state for their own. And each brother set off in looking for new land and built each own city state named Mong Kawng (drum), Mong Yang (white heron) and Mong Mit (sword or knife) where these towns are located today. Later on, their youngest brother (the fourth son) built Weng Ser or tiger town (Wun Tho) and ruled it. Now these cities are in Sagaing division and Kachin State. With the belief in this legend the ‘Shan Writing Committee’ used the pictures of those three things for its logo as below (Shan Orthography Commission 1969:4). For the tiger, the Shan believe that they are the descendents of a white tiger as told in story.

![Shan Orthography Commission logo (1969)](image)

‘Report of the Shan Orthography submitted to the Shan State Council’ gives the date of the Mong or city states built by the early Shan in Burma as: Mong Mit built in 992 B.C. and Mong Hsipaw or Ong Pawng built in the year 59 B.C.

In the same manner, another Shan historian Kher Sen (1999) gives the date of Mong built by early Shan in Burma as: Mong Mao built in 6th B.C. Mong Nai about 411 B.C. Hsipaw in 423, Yaung Hwe in 800 A.D. Hsenwi in 780 A.D. Mong Mit in 1238 A.D. respectively. With these figures, though they may not match with each
other, we know that the early Shan started their settlement in Burma at least about 2600-3000 years ago.

It is a good reason to give the view of another Shan scholar on how and when the Shan entered Burma and it is worthy quoting in full as follows:

As to when exactly the Shan entered Myanmar, scholars have different views. Some believe that the migration of the Shan into Myanmar started 2000 years ago citing three reasons: first, their restless character which prompted them to find new lands to settle; second, their warlike character; and third, the pressure of new invasions from the north, such as those of A.D. 78 and A.D. 1253.

Most Shan chronicles say that a big wave of Shan migration took place in the 6th century A.D. the Shan moving from southern Yunnan into the Nam Mao valley and adjacent regions and establishing many Mongs, among them Bhamo, Mong Mit, Hsipaw, and Hsenwi. Making these places their first homeland in Myanmar, they spread out over the whole of the Shan State, establishing more Mongs and Kengs (towns) like Mong Naung, Mong Nang, Mong Hsu, Mong Kung, Mong Keshi-Mansam, Mong Laihka, Mong Nai, Mong Pan, Mong Maukmai, Mong Yawnghe, Mong Sakoi, Mong Sam Kar, Mong Hsamongkham, Mong Lawk Sawk, Mong Pai, Keng Tawng, Keng Hkam and Keng Rom (Aung Tun 2000:4).

The migrated Shan into Burma reached their height in 13th century. From 13th century to 16th century, the Shan had ruled all over Burma. In Shweli basin, at about 957 A.D. the Shan established Mong Mao. Mong Mao under the reign Sao Ser Khan Fa (1311-1365), who established Mao Kingdom, was able to unify the Shan of Mong Kawng, Mong Yang and expanded his suzerainty on Assam (Kher Sen 1999:29).

In Upper Burma, the three Shan brothers, Athinhkaya, Yazathinkyan and Thihathu, were able to control the power with equal status to Bagan from 1298 A.D. After the fall of Bagan (1287 A.D.) the youngest brother Thihathu made himself a king at Pinya in 1312 A.D. Soa Yon (son of Athinhkaya) built Sagaing in 1315 A.D. Thadominbya built Ava in 1364 A.D. and established his dynasty which lasted to 1555 A.D. (Aung Tun 2000:5).
While in the lower Burma, a Shan prince Wareru, a Shan from Tathon, was able to take over Bago (Hamsawadi) in 1369 A.D. and established his dynasty which lasted from 1287-1539 A.D. (Aung Tun 2000:6).

The Shan principality states fell under Burmese King in 1555 A.D. when King Bayinnaung succeeded in unifying the whole Burma. In this Taungoo period, the Shan Saopha submitted to the suzerainty of the Burmese but still retained their full power to rule over their own states (www.shanland.org, 2008). His empire didn’t last long, some Shan States became independent soon after the death of Bayinnaung.

Again, two hundred years later, the Shan states lost their independence, when Alaungphaya was able to unify the whole Burma and established Kongbaung dynasty (1752-1885). In Kongbaung period, the power of the Shan States became weaker when the Burmese divided the then 6 Shan states, Mong Mit, Sen Wi, Hsipaw, Mong Nai, Mong Pai and Yawng Hwe into 44 small principality states (Kher Sen 1999:69). Newly born Shan states started fighting with one another and at many times backed by the Burmese. Then most parts of the Shan states became war zones. The wars among Saopha or rebellion in the state broke out all over the Shan states and the wars didn’t end until the British came.

After the third Anglo-Burma war, the British took over Upper Burma and dethroned King Thipaw in 1885 A.D. The British took another five years to annex the whole Shan States with the British Empire. With the British protection, peace came to the Shan States or at least no inter-state war broke out. Then the Shan states became the Federated Shan States in 1922 and Shan States Federal Council in 1935 respectively (www.shanland.org, 2008).

The Shan and the leaders of other nationalities signed a historical Panglong agreement with Aung San, the Burmese leader then, on 12th February 1947, which is later known as Union Day. Since the Shan state became one of the states in modern Union of Burma after she gained her independence in 4th January, 1948.

### 2.1.2 Where do Shan live in Burma

Today, the Shan live not only in Shan state as some might think, but the Shan communities are found all over Burma. From the West; Weng Ser (Wun Tho), Sawng Sop (Thaung Thod), Ka Lay, Ta Mu and places bordering with Assam, India,
to the East; Keng Tung, Mong Yawng as far as to Mekong river bordering with Laos. In the North from Putao, bordering with Tibet and Yunnan of China and down to Malamyaing, Muttama in the South end. In the central plain of Burma around Ava, Pinya, Sagaing, Taungoo, Phyu, Pyinmana Pyay and Pago are also home to some Shan communities.

In Kachin state as, Putao home to Tai Khamti and Tai Long, Tai Mao, Tai Nue and Tai Leng live scattered over the towns such as Bhamaw (Wan Mo), Mong Mauk, Weng Maw, Kat Kiao, Nam Ma, Nam Ti, Mong Kawng, Mong Yang and many other towns and villages.

In Shan state, it is generally known that from Lashio up to North as Muse, Namkham are home to Tai Mao and Tai Nue, while in the South and Central part of the Shan state as Hsipaw, Nam Lan, Mong Kung, Pang Long, Lai Kha, Mong Nai, Mawk Mai, Lang Kher, Mong Pan are home to Tai Long and in the Eastern part of the Shan state as, Takhilek, Mong Pyak, Keng Tung, Mong Yang, Mong La and Mong Yawng are known as Tai Khun and Tai Lue domain. Actually, Tai Long live scatter all over Shan state (Aung Tun 2000:4).
Map 2: Shan State in modern Burma (www.mapsofworld.com)
2.1.3 Geographical Location

The present Shan State shares the border with China and Kachin State in the North, Laos in the East with the Mekong as its boundaries, Thailand and Kaya State in the South and to its West are Mandalay and Sagaing division of central and upper Burma.

Shan State is the largest state and it forms almost a quarter of total Burma. It covers about 60,416 square miles or 156,480 square kilometer. Most of Shan State is a mountainous plateau whose average height is about 2,000-3,000 feet, with peaks rising to 6,000 and 8,000 feet. The gorge of the Namkhong (Salween) River cuts across the state from the North to the South. The Mekong lies itself as a boundary of the Shan State and Laos. The well known tributary streams are the Namlwe, Namkha, Nampang, Namteng, Nampawn, Namtu, and Nammao (Shweli). The famous Inle Lake home to the one leg-rowing Intha people is the largest lake in Shan State. (Saimong 1965)
The figures for the population of the Shan vary and it is hard to get the exact number because of the difficulty of communication and some areas of Shan state are still inaccessible. The world gazetteer (2008) gives the latest figure at 5,998,397. The official census says the Shan comprise 9 percent of 48.8 million, the whole population of Burma.

### 2.1.4 Keng Tung

Once again, Keng Tung is written in different ways as, Jengtung to Saimong (1981), Chiang Tung to Thai, Kyaing Tong to Burmese and Keng Tung is widely used in English writing. To avoid confusion, Keng Tung is going to be used in
this study. Keng Tung is also known as Tungaburi, which is believed to be derived from the legend of Tungarasi, a hermit who drained flood water out of Keng Tung or Khemarattha.

Keng Tung is located at 21.29°N 99.62°E with its estimated population 74,339 (world gazetteer 2008). It is a trans-Salween state which, then, was the biggest of the Shan states with 12,000 square miles in size.

Historically, it is believed that Keng Tung was built by Phaya Mangrai (1239-1311) in 1243 A.D. and he appointed two Lwa, Mang Khum and Mang Khen rulers. Then in 1253 A.D. Phaya Mangrai sent Thao Nam Tuam to rule Keng Tung (Saimong 1981).

The history of Keng Tung became clearer when King Phayu of Chiangmai sent his son Sao Jetphantu to be Sao Fa of Keng Tung in 1350 A.D. and together with Sao Jetphantu, there were four monks with Buddhist canons and various skillful workers. The temples were built for the monks and since then Buddhism had laid its root firmly in Keng Tung and played the main role in Keng Tung culture (Rattanaphorn 1995:31).

Over 700 years of Keng Tung history, only for sometimes that she enjoyed her fully independent, most of the times she fell under the Lanna Thai or Burmese. In her earlier history, Keng Tung was under Chiang Mai. In 1558 A.D. Keng Tung together with Chiang Mai was occupied by the Burmese which lasted for two hundred years (Ratanaporn 1995:35). Following the fall of Mandalay, the British annexed Keng Tung state to British Empire in 1890. During the Second World War, Keng Tung was under the Thai for four years (1942-1946). When Burma won her independence in 1948, Keng Tung became a part of the Shan States in the Union of Burma.

There were 41 ruling Saopha (princes) of Keng Tung. Sao Sai Long (1927-1997) the last Saopha, handed his power to the Shan State Government in 1959, and this event marked the end of Keng Tung’s autonomy (Kher Sen 1999:131).

Being an old city and with its strategic location, Keng Tung defended itself with the 15 foot-high city wall. The city wall was built with clay or, at some places, brick, with 12 gates which differ from other cities where they usually have 4 or 8
gates. The other different is Keng Tung’s city wall is not in rectangular shape. It is about five-mile long (Scott 1900:442). See Map 4.

2.1.5 Shan Migration to Keng Tung

As mentioned above, Keng Tung is well known as being home to Tai Khun. But the Shan also comprise a main part of its population. The exact date of the Shan coming to Keng Tung is hard to identify.

There is no doubt that some Shan traders had started their settlement in Keng Tung from time to time since the early dates of Keng Tung. The Shan, to some degree, are good at trading, as it is in famous *Khun Sam Law* love story. His home is even in Kengtawng which is in the South of Shan state, he travelled to Nam San and other towns and villages which are in the North of the Shan state on his oxen caravan trading.⁵

⁵ Some old people often say that in the past the Shan went on trading for many months after harvesting and would be back home again for the next year’s ploughing time.
It is believed that a big wave of Shan migration to Keng Tung took place in the second half of 19th century, resulting from wars in the West of Nam Khong (Salween) river. The wars among the Saopha and the wars between the Shan and Burmese occurred from 1849-1888 A.D.

To begin with, in 1849 A.D Khun Sang Hai had started his rebellion against the Burmese governor of Hsenwi state lasted for over twenty years but unsuccessful. Later on when he was joined by Khun Sang Ton Hung their rebellion succeeded in 1881 A.D. and Khun Sang Ton Hung became Saopha of Hsenwi state (Early Shan History 60-3).

Then Sao Khun Kyi, Saopha of Mong Nai (Mone), killed more than a thousand Burmese soldiers who settled in Mong Nai and then fled to Keng Tung in 1881 A.D. A year later in 1882 A.D. Sao Khun Kyi with his allies Sao Khun Tun, Saopha of Mong Nawng took back Mong Nai. Again they had to escape to Keng Tung when Mong Nai was burnt down to ashes by Burmese troops sent from Mandalay (Kher Sen 1999: 71-72).

The following years in 1888 A.D. Nga Lu’s (Thak Lu) rebellion ravages the land as his brigands passed by. He burnt villages and monasteries and killed civilians, as Scott (1889) wrote in his report; “West of Nam Teng, in the Mone (Mongnai) State proper, the country showed signs everywhere of the ravages of Twet Nga Lu…” (Saimong 1969:206). The heavily damages ware caused to Mongnai, Mawkmai, Kengtawng and near by areas.

The situation of long-year war and the unrest in West of Nam Khong (Salween) States drove many Shan civilians to flee to Keng Tung state which is located in the East of the Nam Khong River and enjoyed its peace at some stages then. And in these war times some Shan left for Mae Hong Son and made it home to them.

Those Shan who settled in Keng Tung built their villages and monasteries and named their monasteries after the places where they came from as evidence. In Keng Tung today, therefore, there are the monasteries named Jawng Mong Nai, Jawng Mawk Mai, Jawng Mong Peng and Jawng Nawng Pha. Nawng Pha is the name of a village in the North of Shan State near Tang Yan town.6

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6 ’Jawng’ is the term for monastery which equivalent to ‘Wat’.
2.2 Language Affiliation

The Shan language belongs to the Tai language which is widely spoken in mainland Southeast Asia, covering a territory of 8 countries, China, India, Burma, Thailand, Laos, Cambodia and Malaysia (Ruendet 1988:1). Among the Tai classifications, Fang Kuei Li’s classification is most accepted by linguists. Li (1960) has classified the Tai dialects into three main groups as follows: (see figure 2)

1. The Southwestern group
2. The Central group
3. The Northern group

The criteria used in his Tai dialect classification are as follows:

1. The distribution of vocabulary
2. The distribution of certain special phonological features in the vocabulary
3. The specific phonological development characteristics of certain groups
Marwin Brown (1965) has studied the Tai dialects and classified the Southwestern group of Li into seven groups and each group comprises with some dialects. The seven groups are as follows:

1. Shan
2. Northern Thai
3. Phuan
4. Central Thai
5. Phu Thai
6. Lao
7. Southern Thai
In his study, he divided Shan into three main dialects, Northern Shan with its center at Lashio, Southern Shan with its center at Taunggyi and Eastern Shan at Keng Tung. Such division corresponds to the Shan State’s geographically divided into three parts as North, South and East.

The figure below shows the genetic relationship among the seven groups, the more lines laid between the groups the more they differ. Brown, of all the seven groups, considered the Shan is the most different in the genetic relationship (Brown 1965:92). The Shan and Thai are most different while the Lao closed to every group.

![Figure 3: Brown’s Tai dialects classification (1965:92)](image)

John F. Hartmann (1980) used the tonal splitting in classifying the Tai dialects of Li’s Southwestern group. His classification is based on the tripartition and bipartition of tonal system and he divided the Southwestern group into three groups as follows:

1. Lower Southwestern Tai
2. Middle Southwestern Tai
3. Upper Southwestern Tai

According to Hartmann’s classification, the Shan language is placed in Upper Southwestern Tai together with Red Tai, Black Tai, White Tai, Lue Chieng Tung and Lue Chieng Rung, because their tonal systems are in two ways splitting or bipartition as A 123-4. (Hartmann 1980:77)
James R, Chamberlain (1975), has classified the Li’s Southwestern group into two 1) P group (unaspirated stops) and 2) PH group (aspirated stops). He also studied the tonal splitting. The criteria used in his classification are as follows:

1. P / PH
2. * A column
3. * BCD columns
4. B-DL coalescence

The 12-34 splitting never occurs in the PH group. The BCD columns when splitting as 123-4, the B and DL are coalesced. If the BCD columns are splitting as 1-23-4, the B and DL are unequal. The Shan is placed in the P group with the tonal splitting pattern as ACBC 123-4 D=DL. See the figure below:

![Diagram of Chamberlain’s Southwestern Tai dialects classification](figure4.png)

Figure 4: Chamberlain’s Southwestern Tai dialects classification (1975:50)

**Conclusion**

So far in this chapter, the short history of Shan, their origin home, migration and how they make their home in the Burma had been discussed. Follow with the history of Keng Tung and the Shan settlement had also been presented. For their spoken language, the Shan belong to the P group as being discussed in the language
affiliation. In the next chapter, the Shan phonology which is considered to be the heart of this research will be studied.
CHAPTER III
PHONOLOGY

Introduction

In this chapter, the phonological hierarchy ranks, i.e. the phonological word, syllable and phoneme are going to be studied respectively. The intonation group will not be discussed here as it does not have phonemic distinctive status in Shan. The phonological word and the syllable will be studied in terms of structure. The main focus is placed on phoneme which consists of consonants, vowels and tones.

3.1 Phonological word

3.1.1 Definition
The phonological word is the highest rank discussed here whose units function in the intonation group. The phonological word structure is stated in terms of syllable and its stress component.

3.1.2 Phonological Word Structure
The word in Shan, generally, can be divided into four main types: monosyllabic, disyllabic, trisyllabic and polysyllabic word. The word type has a component of stressness on syllable: strong stress, weak stress and unstressed syllable.

The strong stressed syllable (S) is the syllable that has more volume and greater length than the weak stressed syllable. The strong stressed syllable is marked by (').

The weak stressed syllable (W) is the syllable that has more volume and greater length than the unstressed syllable. The weak stressed syllable is marked by (\).
The unstressed syllable (U) is the syllable that has less volume and length than the weak stressed syllable or in other word the syllable that doesn’t bear stress. The unstressed syllable is unmarked.

The syllabic boundary is marked by (.)

3.1.2.1 Monosyllabic word

A monosyllabic word is a word with only one meaningful syllable. The strong stress is on that syllable. As Shan is the monosyllabic language, many Shan words are in the monosyllabic form. Its structure is strong stress (S).

Example:

- ['pa:24] ‘fish’
- ['hən44] ‘house’
- [’kon44] ‘man’
- [’kʰin24] ‘to eat’
- [’toi44] ‘to look’
- [’laːu24] ‘star’
- [’nam41] ‘water’
- [’kʰaːu24] ‘white’
- [’nau44] ‘inside’

3.1.2.2 Disyllabic word

A disyllabic word is a word with two syllables. In a disyllabic word the strong stress always falls on the final syllable. The weak stress and unstress fall on the non-final syllable. There are two types of this structure.

a) Sub-type 1 (W. S)

This type of structure has the weak stress on the first syllable and the last syllable bears the strong stress. Many Shan original disyllabic words are such type of structure.
Example:

\[
\begin{align*}
& [\text{lin}^{24}. \ 'məŋ^{44}] \quad \text{‘earth’} \\
& [\text{lun}^{44}. \ 'sut^{44}] \quad \text{‘at the end’} \\
& [\text{sa:i}^{24}. \ 'kho^{44}] \quad \text{‘necklace’} \\
& [\text{tho}^{21}. \ 'nau^{332}] \quad \text{‘soya bean’} \\
& [\text{thonj}^{24}. \ 'lik^{33}] \quad \text{‘envelop’} \\
& [\text{mək}^{21}. \ 'kum^{332}] \quad \text{‘cloud’} \\
& [\text{khu}^{332}. \ 'nau^{24}] \quad \text{‘breakfast’} \\
& [\text{sa:i}^{24}. \ 'haŋ^{41}] \quad \text{‘belt’} \\
& [\text{ton}^{33}. \ 'mai^{41}] \quad \text{‘tree’}
\end{align*}
\]

b) Sub-type 2 (U. S)

This type of structure has the strong stress on the last syllable and the unstress on the first syllable. Notably, such a type of syllabic structure is mainly found in the Burmese loanwords, Pali loanwords through Burmese or English loanwords. In the examples below, the first line is the only word which seems to the Shan origin.

Example:

\[
\begin{align*}
& [\text{sa}^{41}. \ 'məŋ^{44}] \quad \text{‘sacred tree where spirit dwells’} \\
& [\text{sa}^{41}. \ 'pij^{33}] \quad \text{‘alms bowl’} \quad \text{(Bur)} \\
& [\text{sa}^{41}. \ 'phə^{44}] \quad \text{‘nature (mind)’} \quad \text{(Bur)} \\
& [\text{tə}^{41}. \ 'le^{44}] \quad \text{‘writer’} \quad \text{(Bur)} \\
& [\text{ta}^{41}. \ 'lə ə^{44}] \quad \text{‘violin’} \quad \text{(Bur)} \\
& [\text{sa}^{41}. \ 'the^{44}] \quad \text{‘rich’} \quad \text{(Pali)} \\
& [\text{ja}^{41}. \ 'tha:^{44}] \quad \text{‘train’} \quad \text{(Pali)} \\
& [\text{pa}^{41}. \ 'lat^{41}] \quad \text{‘brush’} \quad \text{(Eng)}
\end{align*}
\]
3.1.2.3 Trisyllabic word

A trisyllabic word is a word consisting of three syllables. The strong stress falls on the final syllable. The weak stress and the unstress fall on the non-final syllables. There are three types of this structure.

a) Sub-type 1 (W. U. S)

This type of structure has the weak stress on the first syllable, the unstress on the second syllable and the strong stress on the final syllable.

Example:

\[
\begin{align*}
\text{[pha}^{24}. \text{sa}^{41}. \text{p}' \text{it}^{33}] & \quad \text{‘alms bowl cover’} \\
\text{[kon}^{44}. \text{sa}^{41}. \text{the}^{44}] & \quad \text{‘rich man’} \\
\text{[sen}^{332}. \text{tca}^{41}. \text{la}^{44}] & \quad \text{‘list’} \\
\text{[mo}^{24}. \text{ta}^{41}. \text{lo}^{44}] & \quad \text{‘violinist’} \\
\text{[tca}^{332}. \text{ja}^{41}. \text{se}^{44}] & \quad \text{‘hermit’} \\
\text{[koi}^{332}. \text{la}^{41}. \text{kh}^{44}] & \quad \text{‘thin-skinned banana’}
\end{align*}
\]

b) Sub-type 2 (U. W. S)

This type of structure has the unstress on the first syllable, the weak stress on the second syllable and the strong stress on the final syllable.

Example:

\[
\begin{align*}
\text{[tca}^{41}. \text{le}^{44}. \text{lo}^{24}] & \quad \text{‘writer’} \\
\text{[pa}^{41}. \text{lo}^{332}. \text{kham}^{44}] & \quad \text{‘golden Palaung’} \\
\text{[pa}^{41}. \text{la}^{44}. \text{kham}^{44}] & \quad \text{‘golden throne’} \\
\text{[tca}^{41}. \text{la}^{44}. \text{nu}^{44}] & \quad \text{‘money list’} \\
\text{[sa}^{41}. \text{le}^{21}. \text{jau}^{21}] & \quad \text{‘be very dignified’}
\end{align*}
\]

---

1 Trisyllabic words are not common in Shan and are mostly found in words compounded with the nominative words such as, [kon] ‘man’, [mai] ‘tree’, [mak] ‘fruit’ etc.
c) Sub-type 3 (W. W. S)

This type of structure has the weak stress on the first syllable and second syllable and the strong stress on the final syllable.

Example:

- [\(\text{mai}^4\), \(\text{san}^4\), \(\text{kham}^4\)] ‘golden bamboo’
- [\(\text{ma:k}^2\), \(\text{k}^3\), \(\text{kap}^4\)] ‘pear’
- [\(\text{kon}^4\), \(\text{het}^4\), \(\text{na}^4\)] ‘farmer’
- [\(\text{kj}\), \(\text{mun}^2\), \(\text{t\text{c}au}^3\)] ‘monastery’
- [\(\text{pha}^3\), \(\text{hom}^2\), \(\text{puk}^4\)] ‘thick blanket’
- [\(\text{ma:k}^2\), \(\text{ta}^2\), \(\text{kha}^2\)] ‘bitter melon’

### 3.1.2.4 Polysyllabic word

A polysyllabic word contains more than three syllables. The strong stress falls on the final syllable. The weak stress and the unstress are on the non-final syllable. There is one type for this structure (W. W. W. S).²

This type of structure consists of four syllables. The strong syllable is on the final syllable and the weak stress is on the non-final syllable.

Example:

- [\(\text{ma:k}^2\), \(\text{mon}^3\), \(\text{si}^2\), \(\text{ho}^2\)] ‘cashew nut’
- [\(\text{th\text{a}n}^2\), \(\text{pha}^4\), \(\text{sa:m}^2\), \(\text{he}^2\)] ‘Himalayas forest’

In Shan, the stress on syllable and the word boundary are predictable hence the stress on syllable and the word boundary are non-phonemic and it is unnecessary to write them.

---

² There may be some more types but they are formed by combining words and usually they are loanwords from Pali or Burmese, as [\(\text{nok}^4\), \(\text{ki}^2\), \(\text{ka}^4\), \(\text{la}^2\)] (W.W.U.S) ‘mythical bird’, [\(\text{nam}^4\), \(\text{sam}^2\), \(\text{muk}^3\), \(\text{la}^4\), \(\text{la}^2\)] (W.W.U.S) ‘ocean’.
3.2 Syllable

3.2.1 Definition

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

3.2.2 Syllabic Structure

The syllable in Shan, in terms of segment, has at least three and at most five segments. Vowel and tone function as nucleus in syllabic structure while an obligatory initial consonant functions as periphery. A final consonant and a consonant cluster are optional. There are two main patterns in Shan, smooth syllable (ending with vowel and nasal) and checked syllable. Besides, there is one syllabic nasal / m /.

The symbols used in the syllabic pattern are as follows:

C = initial consonant
CC = initial consonant with consonant cluster
N = continuant consonant: / m, n, η, w, j /
S = checked consonant: / p, t, k /
V = vowel
V: = long vowel / a: /
( ) = optional occurrence
T = tone: / 1, 2, 3, 4, 5 /
1 = Rising tone
2 = Low tone
3 = Mid tone
4 = High tone
5 = Falling tone
3.2.2.1 Smooth Syllable C(C)V(:)(N)T

A smooth syllable consists of an obligatory initial consonant as periphery (C), a consonant cluster as an optional (CC), an obligatory short or long vowel (V) (V:), an optional final continuant consonant (N) and a tone (T) as nucleus. There are many types as follows:

a) Sub-type 1 CVT

This type of structure consists of an initial consonant, a vowel or a diphthong and a tone.

Example:

[ wi\textsuperscript{24} ] ‘comb’
[ ha\textsuperscript{21} ] ‘packet’
[ sa\textsuperscript{332} ] ‘shirt’
[ mu\textsuperscript{44} ] ‘hand’
[ t\textsuperscript{41} ] ‘to ask (to do something)’

b) Sub-type 2 CV:T

This type of structure consists of an initial consonant, a long vowel and a tone. The only Shan long vowel is / a: /.

Example:

[ la\textsuperscript{24} ] ‘a yard’
[ la\textsuperscript{21} ] ‘to scold’
[ la\textsuperscript{332} ] ‘late’
[ la\textsuperscript{44} ] ‘donkey’
[ la\textsuperscript{41} ] ‘tea’

c) Sub-type 3 CCVT

This type of structure consists of an initial and a consonant cluster, a vowel and a tone.

Example:

[ pjo\textsuperscript{21} ] ‘happy’
[ khj\textsuperscript{44} ] ‘coax’
d) Sub-type 4 CCV:T$^{1-2,4}$

This type of structure consists of an initial and a consonant cluster, a long vowel and a tone.

Example:

- [ kwa:$^{24}$ ] ‘right side’
- [ kwa:$^{21}$ ] ‘go’
- [ tla:$^{44}$ ] ‘doctrine’
- [ sla:$^{21}$ ] ‘teacher’

e) Sub-type 5 CVNT$^{1-5}$

This type of structure consists of an initial consonant, a vowel, a final continuant consonant and a tone.

Example:

- [ lam$^{24}$ ] ‘black’
- [ khun$^{24}$ ] ‘reverse’
- [ len$^{21}$ ] ‘skillful’
- [ kai$^{21}$ ] ‘chicken’
- [ nau$^{332}$ ] ‘rotten’
- [ wan$^{44}$ ] ‘day’
- [ mon$^{44}$ ] ‘seed’
- [ kan$^{41}$ ] ‘wrestle’

f) Sub-type 6 CV:NT$^{1-5}$

This type of structure consists of an initial consonant, a long vowel, a final continuant consonant and a tone.

Example:

- [ tha:m$^{24}$ ] ‘to ask’
- [ wa:n$^{21}$ ] ‘to scatter’
- [ ka:n$^{332}$ ] ‘stem’
g) Sub-type 7 CCVNT\textsuperscript{1,3-5}

This type of structure consists of an initial consonant and a consonant cluster, a short vowel, a final continuant consonant and a tone.

Example:

- [ kw\text{a}\text{ŋ}\textsuperscript{24} ] ‘confuse’
- [ kh\text{wam}\textsuperscript{332} ] ‘upside down’
- [ kw\text{a}\text{ŋ}\textsuperscript{44} ] ‘smoke’
- [ kj\text{o}\text{ŋ}\textsuperscript{44} ] ‘monastery’
- [ kh\text{wam}\textsuperscript{24} ] ‘soul’


h) Sub-type 8 CCV:NT\textsuperscript{1,3-4}

This type of structure consists of an initial consonant and a consonant cluster, a long vowel, a final continuant consonant and a tone.

Example:

- [ kw\text{a}\text{ŋ}\textsuperscript{24} ] ‘deer’
- [ kw\text{a}\text{ŋ}\textsuperscript{332} ] ‘wide’
- [ kw\text{a}\text{ŋ}\textsuperscript{44} ] ‘buffalo’
- [ kw\text{a}\text{m}\textsuperscript{44} ] ‘language’
- [ kh\text{wam}\textsuperscript{41} ] ‘permission’

3.2.2.2 Checked Syllable C(C)V(:)ST\textsuperscript{2-5}

This type of syllable consists of an obligatory initial consonant (C), a consonant cluster as an optional (CC), a vowel or a long vowel as a nucleus (V) (V:), a final checked consonant (S) and a tone (T). Tone 1 never occurs with this type of syllable. There are many types as follows:
a) Sub-type 1 CVST^2-5

This type of structure consists of an initial consonant, a vowel, a final checked consonant and a tone.

Example:

<table>
<thead>
<tr>
<th>Word</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ put^21 ]</td>
<td>‘to open’</td>
</tr>
<tr>
<td>[ kep^33 ]</td>
<td>‘narrow’</td>
</tr>
<tr>
<td>[ pêt^44 ]</td>
<td>‘short’</td>
</tr>
<tr>
<td>[ mat^44 ]</td>
<td>‘flea’</td>
</tr>
<tr>
<td>[ kap^41 ]</td>
<td>‘tight’</td>
</tr>
</tbody>
</table>

b) Sub-type 2 CV:ST^2-4

This type of structure consists of an initial consonant, a long vowel, a final checked consonant and a tone.

Example:

<table>
<thead>
<tr>
<th>Word</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ pa:k^21 ]</td>
<td>‘one hundred’</td>
</tr>
<tr>
<td>[ ja:p^21 ]</td>
<td>‘difficult’</td>
</tr>
<tr>
<td>[ lat^33 ]</td>
<td>‘to speak’</td>
</tr>
<tr>
<td>[ ?at^44 ]</td>
<td>‘to record’</td>
</tr>
</tbody>
</table>

c) Sub-type 3 CCVST^2-4

This type of structure consists of an initial consonant and a consonant cluster, a vowel, a final checked consonant and a tone.

Example:

<table>
<thead>
<tr>
<th>Word</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ khjət^33 ]</td>
<td>‘salvation’</td>
</tr>
<tr>
<td>[ kwak^44 ]</td>
<td>‘beckon’</td>
</tr>
</tbody>
</table>

d) Sub-type 4 CCV:ST^3

This type of structure consists of an initial consonant, a consonant cluster, a long vowel, a final checked consonant and a tone.

Example:
3.2.2.3 Syllabic nasal / m /

The structure of syllabic nasal is [ m ] MT². It is a deduction form of the negative marker [ ?am²¹ ] ‘not’.

Example:

[ m²¹ 'kwa:²¹ ] ‘don’t go’
[ m²¹ 'het ⁴⁴ ] ‘don’t do’

3.3 Phoneme

3.3.1 Definition

A phoneme is defined as the rank at which the units function in the syllable. It is the lowest rank of the phonological hierarchy and so has no stable structure. The phoneme is as follows.

3.3.2 Phoneme Classes

Shan phoneme consists of three main classes, 1) consonant phoneme 2) vowel phoneme and 3) toneme.

3.3.2.1 Consonant phoneme

The consonant phoneme functions as syllabic periphery. There are 17 consonant phonemes in Shan which can be divided into three categories according to their distribution, 1) initial consonants, 2) consonant clusters and 3) final consonants.

The 17 Shan consonant phonemes are / p, t, k, ?, pʰ, tʰ, kʰ, m, n, ŋ, l, s, c, h, w, j /.

³ [ ph ] is resegmented as one consonant / pʰ / because the non-ambiguous pattern is CVCT : / kin¹ / and if [ pʰ ] is resegmented as / ph /, a non-permissible initial cluster CCC will arise. For the symmetrical
The following table of Shan consonant phonemes shows in the places and manners of articulation of their occurrence. According to the manners of articulation, there are 7 plosives or stops with 4 unaspirated and 3 aspirated, 4 nasals, 1 literal, 3 fricatives and 3 semi-vowels. (see table 1)

Table 1: Shan Consonant phonemes

<table>
<thead>
<tr>
<th>Manners</th>
<th>Places</th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive Voiceless Unaspirated</td>
<td></td>
<td>p</td>
<td>t</td>
<td>k</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Plosive Voiceless Aspirated</td>
<td></td>
<td>p&lt;sup&gt;h&lt;/sup&gt;</td>
<td>t&lt;sup&gt;h&lt;/sup&gt;</td>
<td>k&lt;sup&gt;h&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td></td>
<td>m</td>
<td>n</td>
<td>n&lt;sup&gt;ŋ&lt;/sup&gt;</td>
<td>n&lt;sup&gt;ŋ&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td></td>
<td></td>
<td>s</td>
<td>c</td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>Semi-vowel</td>
<td></td>
<td>w</td>
<td>j</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

pattern [ th ] and [kh] are resegmented as [ t<sup>h</sup> ] and [ k<sup>h</sup> ]. [tc ] is resegmented as one consonant / c / because the consonant clusters in Shan are / j, l, w / and the [ c ] never occurs as cluster or second member consonant.
1) Initial Consonants

All Shan consonant phonemes can occur at the initial position. There are 17 initial consonants. They are / p, t, k, ?, p[^h], t[^h], k[^h], m, n, j, l, s, c, h, w, j/. The examples below are the Shan consonant phonemes as they appear in the initial position.

Example:
/ pa:\ /  [pa:24]  ‘fish’
/ ta:\ /  [ta:24]  ‘eye’
/ ka:\ /  [ka:24]  ‘crow’
/ ?a:\ /  [?a:24]  ‘uncle’
/ p[^h]a:\ /  [pha:24]  ‘wall’
/ t[^h]a:\ /  [tha:24]  ‘to shave’
/ k[^h]a:\ /  [kha:24]  ‘leg’
/ ma:\ /  [ma:24]  ‘dog’
/ na:\ /  [na:24]  ‘thick’
/ ?a:\ /  [a:44]  ‘to meet’
/ la:\ /  [la:24]  ‘a yard’
/ sa:\ /  [sa:24]  ‘Shan paper’
/ ca:\ /  [tca:24]  ‘to speak’
/ ha:\ /  [ha:24]  ‘to search’
/ wa:\ /  [wa:44]  ‘fathom’
/ ja:\ /  [ja:24]  ‘medicine’

The following table shows the co-occurrence of initial consonant and vowel in Shan. It shows that the initial consonant / ?n- / occurs with only a few vowels and it is found mostly in loanwords. The initial consonants / ?-, t[^h]-, n-/ never occur with the diphthong / au/. (see table 2)
Table 2: Distribution of initial consonant and vowel

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>e</th>
<th>e</th>
<th>u</th>
<th>ø</th>
<th>a</th>
<th>a:</th>
<th>u</th>
<th>o</th>
<th>ø</th>
<th>awi</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>t-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>k-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>?-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>pⁿ⁻</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>tⁿ⁻</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>kⁿ⁻</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>m-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>n-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>o</td>
<td>o</td>
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<td></td>
</tr>
</tbody>
</table>

'o' = occurrence  
'x' = non-occurrence

2) Consonant Clusters

There are 3 consonant clusters in Shan that occur as a second member of an initial consonant. They are / l, w, j /.  

Example:  
/ kłaːtʰ / [kłaːtʰʰ] ‘to miss’  
/ kwaː² / [kwaː²¹] ‘to go’  
/ kjo² / [kjo²¹] ‘happy’
The following table shows the co-occurrence of the consonant clusters and vowels. All consonant clusters occur with long vowel /a:/ and some occur with vowels /e, ø, a, ø/. While the vowels /i, e, u, o/ are never occur with the consonant clusters. The consonant clusters aren’t common in Shan colloquial. The consonant clusters /-l, -j/ are mostly found in loanwords. (see table 3)

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>e</th>
<th>e</th>
<th>u</th>
<th>ø</th>
<th>a</th>
<th>a:</th>
<th>u</th>
<th>o</th>
<th>ø</th>
<th>au</th>
</tr>
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<tbody>
<tr>
<td>pl-</td>
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<td>x</td>
<td>x</td>
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<tr>
<td>p&quot;l-</td>
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<td>p&quot;w-</td>
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<td>k&quot;l-</td>
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<td>k&quot;w-</td>
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<td>k&quot;j-</td>
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<tr>
<td>sw-</td>
<td>x</td>
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<td>x</td>
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<td>o</td>
<td>x</td>
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<td>x</td>
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</table>

<table>
<thead>
<tr>
<th>o</th>
<th>=</th>
<th>occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>=</td>
<td>non-occurrence</td>
</tr>
</tbody>
</table>
The consonant clusters are mostly found in loanwords and many Shan speakers pronounce them variously and some do pronounce without cluster sound. There are some points worth noted here.

1) Cluster / -l /

Some Shan speakers pronounce the cluster / -l / separately as two syllables. In the Shan writing system, the / l / cluster is written with a symbol (แ) representing the (ฎ) [ r ] sound. Therefore, sometime cluster / -l / may be heard as cluster / -r /.

Example:
/ tla:⁴ / [taː⁴ laː⁴] or [traː⁴] ‘doctrine’
/ pʰla:⁴ / [phaː⁴ laː⁴] or [phaː⁴] ‘Buddha’
/ kʰlaː² / [khaː⁲ laːⁱ] ro [khraː⁲] ‘be of use’
/ slaː² / [saːⁱ laːⁱ] or [sraːⁱ] ‘teacher’

It should be also noted that the cluster [ sl- ] when spoken quickly, sometime it pronounces as sounds like [ʃ- ], for instance [ tɕau³³² slaː²¹ ] ~ [tɕau³³² jaː²¹] ‘abbot’.

2) Cluster / -w /

Sometime cluster [ -w ] may be zero in its pronunciation but doesn’t effect it meaning.

Example:
[ kwaː²¹ ] ~ [kaː²¹] ‘to go’
[ kwaːŋ³³² ] ~ [kaːŋ³³²] ‘wide’
[ kwaː²⁴ ] ~ [kaː²⁴] ‘right side’
[ swaːŋ⁴⁴ ] ~ [saːŋ⁴⁴] ‘to fill in’
3) Cluster / -j /

This cluster / -j/ is mostly found in Burmese loanwords. When it clusters with / k-/ , some pronounce / kj / as [te-] and when clusters with / kʰ- /, some pronounce / kʰj /, as [ tj- ].

Example:

\[
\begin{align*}
[kjəŋ^{44}] & \sim [tɕəŋ^{44}] & \text{‘monastery’} \\
[kjək^{33}] & \sim [tɕək^{33}] & \text{‘like’} \\
[kjək^{44}] & \sim [tɕək^{44}] & \text{‘to jump’} \\
[khjət^{33}] & \sim [tʃət^{33}] & \text{‘salvation’} \\
[khjə^{44}] & \sim [tʃə^{44}] & \text{‘coax’}
\end{align*}
\]

3) Final Consonants

There are 8 final consonants in Shan that occur at the final position. They are / -p, -t, -k, -m, -n, -ŋ, -w, -j /.

Example:

\[
\begin{align*}
\text{/ kap}^{5} / & \quad [\text{kap}^{41}] & \text{‘tight’} \\
\text{/ kat}^{5} / & \quad [\text{kat}^{41}] & \text{‘be proof’} \\
\text{/ kak}^{5} / & \quad [\text{kak}^{41}] & \text{‘bridle’} \\
\text{/ kam}^{5} / & \quad [\text{kam}^{41}] & \text{‘support’} \\
\text{/ kan}^{5} / & \quad [\text{kan}^{41}] & \text{‘wrestle’} \\
\text{/ kaŋ}^{5} / & \quad [\text{kaŋ}^{41}] & \text{‘frame’} \\
\text{/ kaw}^{5} / & \quad [\text{kaw}^{41}] & \text{‘owl’} \\
\text{/ kaj}^{5} / & \quad [\text{kai}^{41}] & \text{‘industrious’}
\end{align*}
\]

The following table shows the co-occurrence of the final consonant and vowel. The central vowels / a, a:/ occur with every final consonant. While the diphthong / au/ never occurs with any final consonants. (see table 4)

---

4 Here the / -ʔ / is not interpreted as a final consonant because the glottal constriction occurs with the low tone and falling tone in open syllables. Therefore, it is predictable.
3.3.2.2 Vowel phoneme

The vowel phonemes function as the nucleus in the syllable. There are 11 vowels, 10 monophthongs and 1 diphthong. The vowel length in Shan is non-contrastive except for the central low vowels /a, a:/^5^ When the vowels occur in open syllable with tones 1, 2, and 3, they are slightly long, in contrast when the vowels occur in checked syllables with tone 4 and 5, they are slightly short. The following table shows the tongue position and tongue height of Shan vowels. (see table 5)

---

^5^ In such dialects as Shan, Lü, White Tai, Wu-ming etc., the distinction of the short and long vowel (written ā and a) may be due to the quality of the vowel, as no other vowels show a contrastive length distinction (Li, 1977).
Table 5: Shan vowel phonemes

<table>
<thead>
<tr>
<th>Monophthongs</th>
<th>Tongue Position</th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td>i</td>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td>e</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>ε</td>
<td>a</td>
<td>a:</td>
</tr>
<tr>
<td>Diphthong</td>
<td></td>
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</tbody>
</table>

1) Monophthong

Of all Shan vowels there are 10 monophthongs. They are /i, e, ε, u, o, a, a:; u, o, o/. The examples below are the Shan vowels as they occur with consonants.

Example:

/ki^3/ [kʰi^332] ‘bloom’
/ke^2/ [kʰi^232] ‘few’
/ke^2/ [kʰi^232] ‘old’
/kə^4/ [kʰu^44] ‘familiar with’
/kə^1/ [kʰə^44] ‘salt’
/kən^4/ [kʰən^44] ‘handle’
/ka^1/ [kʰə^24] ‘crow’
/ku^3/ [kʰu^332] ‘to borrow’
/ko^1/ [kʰo^24] ‘fear’
/kə^1/ [kʰə^24] ‘clump’
2) Diphthong

There is one diphthong in Shan vowels. It is /au/. The only Shan diphthong /au/ never occurs with any final consonants.

Example:

/³pʰau¹/ [phau²⁴] ‘who’
/³tɕau³/ [tɕau³³²] ‘right’

Here, in this research the final vowels [-i] and [-u] are interpreted as final consonants /-j/ and /-w/ respectively as in the words /kaj¹/ ‘far’ and /kaw¹/ ‘I’ because of the syllable structure and for economical reasons. The two final vowels can occur after the long vowel [a:]. If they are interpreted as /-i/ and /-u/, the non-permissible syllable structure CVVV will arise. And since these two final vowels can follow various vowels, if they are treated as the final vowels, a large number of diphthongs will arise. Finally the consonants /j/- and /w-/ also occur as initials so interpreting the final vowels as /-j/ and /-w/ is more economical than interpreting them as vowels.

In contrast, the final vowel /-u/ is interpreted as a diphthong /au/ because it follows only the short vowel [a] and the consonant /u/ does not exist in the Shan phonological system. It is more economical to treat the final vowel /-u/ as a vowel instead of positing a new consonant /u/.

3.3.2.3 Toneme

The toneme functions as a nucleus in syllable. There are five contrasting tones in open syllable and four tones in checked syllable. They are rising, low, mid, high and falling tones.

Tone 1: [♀] a rising tone
Tone 2: [♀] a low tone or low falling with slightly glottal constriction at the end
Tone 3: [♀] a mid level tone with slightly glottal constriction at the end
Tone 4: [♀] a high tone
Tone 5: [♀] a high falling tone with glottal constriction at the end
The following table shows the five contrasting tones in Shan. The meaningful words with five tones are selected as examples below. Tone 1 never occurs in checked syllable.

Table 6: Shan tonemes

<table>
<thead>
<tr>
<th>Tone 1: Rising</th>
<th>Tone 2: Low falling</th>
<th>Tone 3: Mid level</th>
<th>Tone 4: High level</th>
<th>Tone 5: High falling</th>
</tr>
</thead>
<tbody>
<tr>
<td>ka: 24 (crow)</td>
<td>ka: 21 (guava)</td>
<td>ka: 332 (dance)</td>
<td>ka: 44 (car)</td>
<td>ka: 41 (trade)</td>
</tr>
<tr>
<td>kaw 24 (I)</td>
<td>kaw 21 (old)</td>
<td>kaw 332 (nine)</td>
<td>kaw 44 (disturb)</td>
<td>kaw 41 (owl)</td>
</tr>
<tr>
<td>pu 24 (crab)</td>
<td>pu 21 (grandfather)</td>
<td>pu 332 (carpenter bee)</td>
<td>pu 44 (white mouse)</td>
<td>pu 41 (betel leaf)</td>
</tr>
<tr>
<td>kən 24 (cherry)</td>
<td>kən 21 (former time)</td>
<td>kən 332 (lump)</td>
<td>kən 44 (roost)</td>
<td>kən 41 (dip up)</td>
</tr>
<tr>
<td>pək 21 (peel)</td>
<td>pək 34 (return)</td>
<td>pək 44 (short)</td>
<td>pək 41 (area of houses)</td>
<td></td>
</tr>
</tbody>
</table>

As the tonal system plays quite an important role in Tai family language, for it can be used as one criteria in Tai dialects classification. Here, therefore, the Gedney’s tonal box and Praat Program (V.5.1.00) are used in analyzing the Shan tonal system.

William J. Gedney’s tonal box (1972) is widely known and used by many Tai linguists in tonal analyzing. It is a twenty-box table and each box contains three or four words. There are sixty four test words. As known to all, in tonal checking Gedney has divided the Pro-tai initial consonants at the time of tonal splitting into four groups according to their phonetic feature as: 1) Voiceless affricative, *s, hm, ph, etc 2) Voiceless unaspirated stop, *p, etc 3) Glottal stop, *ʔ, ʔb, etc and 4) Voiced sound *b, m, l, z, etc respectively. The ABC columns represent the proto tones of open
syllables and the DS and DL columns are the proto tones of checked syllables. (The Shan words used in tonal checking are given in Appendix B p.111).

Following is the Shan tones as appear in Gedney’s tonal box (see table 7). Shan is a bipartition or two ways splitting as A234-4 and B = DL. The same way of splitting is true to Tai Lue, Red Thai, White Tai, Black Tai, Zhuang etc.

Table 7: Shan tones as appear in Gedney’s tonal box

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>DS</th>
<th>DL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>24</td>
<td>21</td>
<td>332</td>
<td>44</td>
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</tr>
<tr>
<td>3</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(2)</td>
</tr>
<tr>
<td>4</td>
<td>44</td>
<td>33</td>
<td>41</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4)</td>
<td>(3)</td>
<td>(5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tone 1: A 1 2 3  
Tone 2: B 1 2 3, DL 1 2 3  
Tone 3: B 4, C 1 2 3, DL 4  
Tone 4: A4, DS 1 2 3  
Tone 5: C 4, DS 4

Praat (version 5.1.00) is a program to confine the auditory judgment of tone characteristics. It was developed by Paul Boersma and David Weenink of the Institute of Phonetic Sciences, University of Amsterdam, Netherlands. Importantly, it is downloadable for free from the website: [http://www.fon.hum.uva.nl/praat/download_win.html](http://www.fon.hum.uva.nl/praat/download_win.html).
The Gedney’s basic words for tonal checking are used with Praat in tonal analyzing. The following figures are the results of each tone in Shan.

Chart 1 represents a rising tone. It starts at low or mid low, slightly falls and rises to mid high. It appears at A123 in Gedney’s tonal box.

Chart 2 represents a falling tone. It starts at mid or mid low and falls to low with slightly glottal constriction at the end in open syllable. It appears at B 1 2 3 and DL 1 2 3 in Gedney’s tonal box.
Chart 3 represents a mid tone. It starts at mid level and slightly falls at the end. It has slightly glottal constriction at the end in open syllable. It appears at B 4, C 1 2 3 and DL 4 in Gedney’s tonal box.

Chart 4 represents a high tone. It starts at high and stays at the level or slightly falls. It is slightly short in checked syllable. It appears at A4 and DS 1 2 3 in Gedney’s tonal box.
Chart 5 represents a high falling tone. It starts at mid high and falls down to mid low or low. It is slightly short in checked syllable. It appears at C 4 and DS 4 in Gedney’s tone box.

3.4 Formation Statement

In this section, the phonetic feature of consonant phonemes, vowel phonemes and tonemes will be described with their phonetic features.

3.4.1 Phonetic Features of Consonant

/p/ is a voiceless unaspirated bilabial plosive. It is realized as follows:

[ p ] is a voiceless unaspirated bilabial plosive in the syllable initial position and as the first member in consonant cluster with / -l, -w, -j /.

[ p̄ ] is a voiceless unaspirated bilabial palatalized plosive before the front vowels / i, e, ē /.

[ p̂ ] is an unexploded voiceless unaspirated plosive in the syllable final position.

6 The palatalized sounds in Shan, which is caused from the influence of the front vowels / i, e, ē / are instable, some pronounce it clearly but some do not.
Example:

/ pa\textsuperscript{1} /  \[\text{pa}^{24}\]  ‘fish’
/ pa:j\textsuperscript{1} /  \[\text{pa:i}^{24}\]  ‘top or end’
/ pan\textsuperscript{1} /  \[\text{pan}^{24}\]  ‘to give’
/ pɔŋ\textsuperscript{4} /  \[\text{pɔŋ}^{44}\]  ‘rise, blister’
/ pɔm\textsuperscript{1} /  \[\text{pɔm}^{24}\]  ‘fake’
/ pa:k\textsuperscript{2} /  \[\text{pa:k}^{21}\]  ‘one hundred’
/ pap\textsuperscript{5} /  \[\text{pap}^{41}\]  ‘book’
/ lip\textsuperscript{4} /  \[\text{lip}^{44}\]  ‘vacant’
/ əp\textsuperscript{5} /  \[\text{ŋop}^{41}\]  ‘upside down’
/ pet\textsuperscript{3} /  \[\text{p}^{33}\text{t}\]  ‘throw away’
/ plaːt\textsuperscript{3} /  \[\text{plaː}^{33}\]  ‘slip’
/ pŋɔŋ\textsuperscript{4} /  \[\text{pŋɔŋ}^{44}\]  ‘tube’
/ pjaː\textsuperscript{5} /  \[\text{pjaː}^{41}\]  ‘to show’
/ pwaːŋ\textsuperscript{5} /  \[\text{pwaːŋ}^{41}\]  ‘enlighten (as Buddha)’

/t/ is a voiceless unaspirated alveolar plosive. It is realized as follows:

[\text{t}]\text{ is a voiceless unaspirated alveolar plosive in the initial position and as the first member in consonant cluster with }/-l, -w/.

[\text{t}^\text{w}]\text{ is a voiceless unaspirated alveolar labialized plosive before the back vowel }/\text{ɔ}/.

[\text{t}^\text{’}]\text{ is an unexploded voiceless unaspirated plosive in the syllable final position.}

Example:

/ ta\textsuperscript{1} /  \[\text{ta}^{24}\]  ‘eye’
/ taj\textsuperscript{4} /  \[\text{tai}^{44}\]  ‘Shan’
/ tɔŋ\textsuperscript{1} /  \[\text{t}^{\text{w}}\text{ŋ}^{24}\]  ‘leaf’
/ ten\textsuperscript{4} /  \[\text{ten}^{44}\]  ‘candle’
/ tum\textsuperscript{4} /  \[\text{tum}^{44}\]  ‘ceiling’
/ k / is a voiceless unaspirated velar plosive. It is realized as follows:

[ k ] is a voiceless unaspirated velar plosive in the syllable initial position and as the first member in consonant cluster with /-l, -w, -j/.

[ k³ ] is a voiceless unaspirated velar palatalized before the front vowels / i, e, e /.

[ k' ] is an unexploded voiceless unaspirated plosive in the syllable final position.

Example:

/ tək³ /  [tək³³]  ‘box’
/ tap⁴ /  [tap⁴⁴]  ‘liver’
/ tut⁵ /  [tut⁴¹]  ‘to draw’
/ kat⁴ /  [kat⁴⁴]  ‘cold’
/ mit³ /  [mit³³]  ‘knife’
/ sut⁴ /  [sut⁴⁴]  ‘mosquito net’
/ la:t³ /  [la:t³³]  ‘to tell’
/ tla:⁴ /  [tla:⁴⁴]  ‘doctrine’
/ twa:k³ /  [twa:k³³]  ‘calculate’
/ kwæŋ¹ /  [kwæŋ²⁴]  ‘confuse’
/ kwæn⁴ /  [kwæn⁴⁴]  ‘smoke’
/ kwaːm⁴ /  [kwaːm⁴⁴]  ‘language’
/ kwæj¹ /  [kwæj²⁴]  ‘swing’
/ kjø² /  [kjø²¹]  ‘happy’
/ kjøk³ /  [kjøk⁻³³]  ‘like’
/ kjaːŋ⁵ /  [kjaːŋ⁴¹]  ‘practice’

/ ? / is a voiceless unaspirated glottal plosive. It is realized as follows:

[ ? ] is a voiceless unaspirated glottal plosive in the syllable initial position.

Example:

/ ?ɑː³ /  [ɑː³³]  ‘to open’
/ ?u³ /  [u³³²]  ‘father’
/ ?oːj³ /  [oːi³³²]  ‘sugar cane’
/ ?ɛw¹ /  [ɛu²⁴]  ‘waist’
/ ?uŋ¹ /  [uŋ²⁴]  ‘mud’
/ ?on³ /  [on³³²]  ‘weak, soft’
/ ?oːm¹ /  [oːm²⁴]  ‘bottle, jar’
/ ?ek² /  [ek⁻²¹]  ‘yoke’
/ ?ut⁴ /  [ut⁻⁴⁴]  ‘to close’
/ ?up² /  [up⁻²¹]  ‘to talk’

/ pʰ / is a voiceless aspirated bilabial plosive. It is realized as follows:

[ pʰ ] is a voiceless aspirated bilabial plosive in the syllable initial position and as the first member in consonant cluster with /-l, -w, -j/.

[ pʰ] is a voiceless aspirated bilabial palatalized before the front vowels / i, e, e /.
[ ph ] has one free variation with [ f ], a voiceless labio-dental fricative. This free variation is not restricted in its occurrence but its occurrence in some words is probably from the influence of Thai.

Example:

\[
\begin{align*}
\text{/ph\textsuperscript{i}1/} & \quad [\text{ph}\textsuperscript{i}24] & \text{‘spirit’} \\
\text{/ph\text{a}:w\text{2}/} & \quad [\text{pha}:\text{u}\text{21}] & \text{‘scatter around’} \\
\text{/ph\text{a}u\text{1}/} & \quad [\text{phau}\text{24}] & \text{‘who’} \\
\text{/ph\text{a}:\text{\textae}\text{4}/} & \quad [\text{pha}:\text{\textae}\text{44}] & \text{‘empty’} \\
\text{/ph\text{a}:\text{i}\text{1}/} & \quad [\text{phai}\text{23}] & \text{‘sharp’} \\
\text{/ph\text{un}\text{4}/} & \quad [\text{phun}\text{44}] & \text{‘fire wood’} \\
\text{/ph\text{i}m\text{4}/} & \quad [\text{phim}\text{44}] & \text{‘decant as water’} \\
\text{/ph\text{u}k\text{4}/} & \quad [\text{phuk}\text{44}] & \text{‘to practice’} \\
\text{/ph\text{e}t\text{4}/} & \quad [\text{phet}\text{44}] & \text{‘spicy hot’} \\
\text{/ph\text{e}p\text{5}/} & \quad [\text{phep}\text{41}] & \text{‘flat’} \\
\text{/ph\text{a}:\text{\textae}\text{i}\text{4}/} & \quad [\text{phja}:\text{\textae}\text{i}\text{44}] & \text{‘Indra God’} \\
\text{/ph\text{j}\text{\textae}\text{2}/} & \quad [\text{phj\text{e}1}\text{21}] & \text{‘dilute’} \\
\text{/ph\text{l}a:\text{\textae}\text{4}/} & \quad [\text{phla}\text{44}] & \text{‘Buddha’} \\
\text{/ph\text{a}:\text{\textae}\text{5}/} & \quad [\text{pha}\text{41}] & \text{‘recite mantra’} \\
\text{/ph\text{a}:\text{i}\text{4}/} & \quad [\text{phai}\text{44}] & \text{‘fire’} \\
\text{/ph\text{o}n\text{1}/} & \quad [\text{phon}\text{24}] & \text{‘fire’} \\
\text{/ph\text{a}:\text{i}\text{5}/} & \quad [\text{pha}\text{41}] & \text{‘sky’}
\end{align*}
\]

\[
\text{/th/} \quad \text{is a voiceless aspirated alveolar plosive. It is realized as follows:}
\]

[ th ] is a voiceless aspirated alveolar plosive in the syllable initial position and as the first member in consonant cluster with /-w/.  

[ th\text{w} ] is a labialized before the back vowel / \text{o} /.

Example:

\[
\begin{align*}
\text{/th\text{\textae}2/} & \quad [\text{th}\text{w}\text{\textae}21] & \text{‘to row (a raft)’} \\
\text{/th\text{a}:\text{i}\text{1}/} & \quad [\text{thai}\text{24}] & \text{‘plough’} \\
\text{/th\text{e}w\text{1}/} & \quad [\text{theu}\text{24}] & \text{‘line’}
\end{align*}
\]
/ tʰoŋ¹ / [thon²⁴] ‘bag’
/ tʰɔn¹ / [thɔn²⁴] ‘to pull out’
/ tʰɛm¹ / [them²⁴] ‘help or fill’
/ tʰɔk² / [thɔk²¹] ‘pour out’
/ tʰɔt⁴ / [thɔt⁴⁴] ‘to scold’
/ tʰɔp⁴ / [thɔp⁴⁴] ‘to meet’
/ tʰwa:k³ / [thwa:k³³] ‘leave monkhood’

/ kʰ / is a voiceless aspirated velar plosive. It is realized as follows:

[kʰ] is a voiceless aspirated velar plosive in the syllable initial position and as the first member in consonant cluster with /-l, -w, -j/.

[kʰᵊ] is a voiceless aspirated velar plosive palatalized before the front vowels / i, e, e/.

Example:

| / kʰɔ⁴ / | [khɔ⁴⁴] | ‘neck’ |
| / kʰaj³ / | [khai³³²] | ‘narrate’ |
| / kʰa:w¹ / | [khau²⁴] | ‘white’ |
| / kʰau³ / | [khau³³²] | ‘desire’ |
| / kʰen³ / | [kh'eŋ³³²] | ‘tense or tighten’ |
| / kʰun⁴ / | [khun⁴⁴] | ‘return’ |
| / kʰom¹ / | [khom²⁴] | ‘bitter in taste’ |
| / kʰek² / | [kh'ek²¹] | ‘guest’ |
| / kʰut⁴ / | [khu⁴⁴] | ‘to dig’ |
| / kʰap⁵ / | [kha⁴¹] | ‘arrange’ |
| / kʰla:² / | [kla:²¹] | ‘be of use’ |
| / kʰwa:n¹ / | [khwa:n²⁴] | ‘ax’ |
| / kʰwa:k³ / | [kha:k³³²] | ‘widen’ |
| / kʰjo⁴ / | [khjo⁴⁴] | ‘coax’ |
| / kʰjɔt³ / | [khjɔt³³] | ‘salvation’ |
/m/ is a voiced bilabial nasal. It is realized as follows:

[m] is a voiced bilabial nasal in the syllable initial position and as the first member in the consonant cluster with /-j/.

[m] is a voiced bilabial nasal in the syllable final position.

[m'] is a voiced bilabial nasal palatalized before the front vowels /i, e, e/.

Example:

/maː²/ [maː²] ‘soak in liquid’
/məŋ⁴/ [məŋ⁴⁴] ‘country’
/moːj¹/ [moi²⁴] ‘fog’
/mɛw⁴/ [mɛu⁴⁴] ‘cat’
/mau²/ [mau²¹] ‘new’
/mɑːn⁴/ [maːn⁴⁴] ‘pregnant’
/mom²/ [mom²¹] ‘ripen by covering’
/mək²/ [mək⁻²¹] ‘flower’
/mɔt⁵/ [mot⁻⁴¹] ‘ant’
/maːp³/ [maːp⁻³³] ‘blaze’
/hom³/ [hom⁻³²] ‘shade’
/kum⁴/ [kum⁻⁴¹] ‘firm’
/mjeːt³/ [mjeːt⁻³³] ‘noble’
/mja⁵/ [mja⁻⁴¹] ‘emerald’

Note: The consonants /m/ and /w/ can be interchangeable in words corresponding to /b/ in standard Thai.

Example:

/maː²/ ~ /waː²/ ‘shoulder’
/maːw²/ ~ /waːw²/ ‘young unmarried man’
/mau¹/ ~ /wau¹/ ‘ticket or leaf’
/mɑːn³/ ~ /waːn³/ ‘village’
/n/ is a voiced alveolar nasal. It is realized as follows:

\[ n \] is a voiced alveolar nasal in the syllable initial position and in the syllable final position.

Example:

\[ /\text{na}:^3 / \quad [\text{na}:^{32}] \quad \text{‘face’} \]

\[ /\text{na}:^1 / \quad [\text{na}:^{24}] \quad \text{‘skin’} \]

\[ /\text{na}:^3 / \quad [\text{na}:^{332}] \quad \text{‘here’} \]

\[ /\text{neu}^1 / \quad [\text{neu}^{24}] \quad \text{‘sticky’} \]

\[ /\text{nau}^4 / \quad [\text{nau}^{44}] \quad \text{‘inside’} \]

\[ /\text{non}^4 / \quad [\text{non}^{44}] \quad \text{‘soft’} \]

\[ /\text{nim}^1 / \quad [\text{nim}^{24}] \quad \text{‘still’} \]

\[ /\text{nuk}^4 / \quad [\text{nuk}^{44}] \quad \text{‘dull’} \]

\[ /\text{net}^3 / \quad [\text{net}^{33}] \quad \text{‘hurry’} \]

\[ /\text{nap}^5 / \quad [\text{nap}^{41}] \quad \text{‘to count’} \]

\[ /\text{tan}^1 / \quad [\text{tan}^{24}] \quad \text{‘solid’} \]

\[ /\text{?un}^1 / \quad [\text{?un}^{24}] \quad \text{‘swallow’} \]

\[ /\text{kən}^5 / \quad [\text{kən}^{41}] \quad \text{‘dip up’} \]

\[ /\text{tʰən}^2 / \quad [\text{tən}^{21}] \quad \text{‘forest’} \]

/ŋ/ is a voiced palatal nasal. It is realized as follows:

\[ n \] is a voiced palatal nasal in the syllable initial position. It is found mostly in Pali and Burmese loanwords.

Example:

\[ /\text{na}:^4 / \quad [\text{na}:^{44}] \quad \text{‘to meet’} \]

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7 Only a few words with the /ŋ- / phoneme are found in Shan. The words with this phoneme are Burmese and Pali loanwords. It is believed that it possibly has changed from /n/ to /j/ as in Thai, e.g

\[ /\text{jin}^4 / \text{‘woman’} \] and \[ /\text{ja}^1 / \text{‘medicine’} \] and it reintroduced into Shan language again in the form of loanwords.
/ŋən²/ [ŋən²]  ‘intellect’ (Pali)
/ŋəp⁴/ [ŋəp⁴]  ‘to grab’
/ŋəm⁵/ [ŋəm⁴]  ‘poor in quality’ (Burmese)

/ŋ/ is a voiced velar nasal. It is realized as follows:

[ŋ] is a voiced velar nasal in the syllable initial and final position and as the first member in consonant cluster with /-w/.

Example:

/ŋən⁴/ [ŋən⁴]  ‘sesame’
/ŋən⁴/ [ŋən⁴]  ‘similar’
/ŋεw¹/ [ŋεw²⁴]  ‘fear (being lonely)’
/ŋau³/ [ŋau³³]  ‘mud’
/ŋən⁵/ [ŋən⁴]  ‘gardener’s trowel’
/ŋon⁵/ [ŋon⁴¹]  ‘poison’
/ŋam¹/ [ŋam²⁴]  ‘to grasp’
/ŋak³/ [ŋak³³]  ‘to open’
/ŋet⁵/ [ŋet⁴¹]  ‘to grasp (the throat)’
/ŋip³/ [ŋip³³]  ‘grip or compress as chop sticks’
/kəŋ⁴/ [kəŋ⁴⁴]  ‘chin’
/təŋ⁴/ [təŋ⁴⁴]  ‘remember’
/nuŋ³/ [nuŋ³³]  ‘to wear’
/pəŋ⁴/ [pəŋ⁴⁴]  ‘straw’
/tuŋ⁴/ [tuŋ⁴⁴]  ‘flag or long banners’
/kəŋ⁵/ [kəŋ⁴¹]  ‘frame’
/ŋwa:⁵/ [ŋwa:⁴¹]  ‘sound of buffalo’

/l/ is a voiced alveolar lateral. It is realized as follows:

[l] is a voiced alveolar lateral in the syllable initial position and as the second member in consonants cluster with /p-, t-, k-, pʰ-, kʰ-, s-/.

[lʷ] is a voiced alveolar lateral labialized before the back vowel /o/.
Example:

/ li¹ / [li²⁴] ‘good’
/luj⁴ / [lui⁴⁴] ‘swim’
/ lew⁴ / [leu⁴⁴] ‘sword’
/ lau¹ / [lau²⁴] ‘where’
/ leŋ⁴ / [leŋ⁴⁴] ‘light, bright’
/ løn¹ / [løn²⁴] ‘moon’
/ laːm¹ / [laːm²⁴] ‘cooked in bamboo tube’
/luk⁵ / [luuk⁴¹] ‘deep’
/lap⁴ / [lap⁴⁴] ‘asleep’
/ lɔt³ / [lɔt³³] ‘escape’
/ plæːt³ / [plæːt³³] ‘slip’
/ klæːt³ / [klæːt³³] ‘to miss’
/ tlaː⁴ / [tlaː⁴⁴] ‘Dhamma’
/ pʰlaː⁴ / [phlaː⁴⁴] ‘Buddha’
/kʰlaː² / [kʰlaː²¹] ‘be of use’
/ slaː² / [slaː²¹] ‘teacher’

/s/ is a voiceless alveolar fricative. It is realized as follows:

[s] is a voiceless alveolar fricative in the syllable initial position and as the first member in consonant cluster with / -l, -w /

[sʷ] is a voiceless alveolar fricative labialized before the back vowel / ɔ /.

Example:

/ sə¹ / [sə²⁴] ‘tiger’
/saːw⁴ / [saːu⁴⁴] ‘twenty’
/saj⁴ / [sai⁴⁴] ‘fish trap’
/sau¹ / [sau²⁴] ‘pure, clear’
/sen¹ / [sen²⁴] ‘sound’
/sen⁴ / [sen⁴⁴] ‘size, kind’
/ c / is a voiceless unaspirated palatal fricative. It is realized as follows:

[tc] is a voiceless unaspirated fricative in the syllable initial position.

[tcw] is a voiceless unaspirated fricative labialized before the back vowel / c /.

Example:

/ cau / [tcaw] ‘mind’
/ caw / [tcaw1] ‘morning’
/ caj / [tcawi] ‘to help’
/ can / [tcan] ‘hate’
/ cuu / [tcuu] ‘lead’
/ cum / [tcum] ‘flow out’
/ cek / [tcek] ‘to distribute’
/ cot / [tco] ‘buffalo cart’
/ cep / [tcep] ‘pain’

/ h / is a voiceless glottal fricative. It is realized as follows:

[ h ] is a voiceless glottal fricative in the syllable initial position.

Example:

/ ha / [hau] ‘to look for’
/ hew / [heu] ‘trap’
/ haj / [haw] ‘hang up’
/ hau / [hau] ‘to give’
/ hin / [hin] ‘bell’
/ hon / [hon] ‘walk backward’
/ w / is a voiced bilabial semi-vowel. It is realized as follows:

[ w ] is a voiced labial semi-vowel in the syllable initial and final position and as the second member in consonant cluster with / p-, t-, k-, pʰ-, tʰ-, kʰ-, ŋ-, s- /.

Example:

/ wi⁴ / [wi⁴⁴] ‘hand fan’
/ wa:j⁴ / [wa:j⁴⁴] ‘be over’
/ wau¹ / [wau²⁴] ‘leaf’
/ weŋ⁴ / [weŋ⁴⁴] ‘town’
/ wen¹ / [wen²⁴] ‘to jump’
/ wək³ / [wək³³] ‘monkey’
/ wu:t⁵ / [wu:t⁴¹] ‘cast away’
/ wep³ / [wep³³] ‘flatten’
/ na:w¹ / [na:w²⁴] ‘fever’
/ new¹ / [neu²⁴] ‘sticky’
/ pwa:ŋ⁵ / [pwa:ŋ⁴¹] ‘enlighten as Buddha’
/ twa:k³ / [twa:k³³] ‘calculate’
/ kwa:ŋ³ / [kwa:ŋ³³] ‘wide’
/ pʰwa⁵ / [phwa¹⁴] ‘recite manda’
/ tʰwa:k³ / [tʰwa:k³³] ‘to leave (monkhood)’
/ kwa:¹ / [kwa:²⁴] ‘right side’
/ ŋwa⁵ / [ŋwa⁴¹] ‘sound of buffalo’
/ swa:ŋ⁴ / [swa:ŋ⁴⁴] ‘fill in’
/ j / is a voiced palatal semi-vowel. It is realized as follows:

\[ j \] is a voiced palatal semi-vowel in the syllable initial and final position and as the second member in consonant cluster with / p-, k-, pʰ-, kʰ-, m-/.  

Example:

- / jaː / [jaː^2] ‘medicine’
- / jɔj / [jɔi^4] ‘tuft’
- / jau / [jau^2] ‘large’
- / jaːw / [jaːu^4] ‘long’
- / jɔŋ / [jɔŋ^2] ‘mad’
- / jin / [jin^4] ‘hear’
- / jam / [jam^4] ‘wet’
- / jak / [jak^4] ‘pinch’
- / jut / [jut^3] ‘to stretch out’
- / jep / [jep^4] ‘to sew’
- / luŋ / [luŋ^4] ‘swim’
- / lɔŋ / [lɔŋ^4] ‘mountain’
- / pjɔŋ / [pjɔŋ^4] ‘tube’
- / kjaŋ / [kjaŋ^4] ‘practice’
- / p^ʰjaː / [phjaː^4] ‘Indra God’
- / kʰjɔ / [khjɔ^4] ‘to coax’
- / mjɔt / [mjɔt^3] ‘noble’

### 3.4.2 Consonants Contrast

The consonant phonemes in Shan can be grouped according to their places and manners of articulation. The following examples show the contrasting of the consonants. They come with the same vowel and tone.

#### 1) Places of Articulation Contrast

- / taː / ‘eye’
/ kaːl/ ‘crow’
/ ʔaːl/ ‘aunt’ (younger sister of father)

/ pʰ / - / tʰ / - / kʰ /  
/ pʰaːl/ ‘foliage’
/ tʰəl/ ‘to slice’
/ kʰəl/ ‘you (both)’

/ m / - / n / - / ŋ / - / ŋ /  
/ maːl/ ‘come’
/ naːl/ ‘paddy field’
/ ŋaːl/ ‘to meet’
/ ŋaːl/ ‘sesame’

/ s / - / c / - / h /  
/ saːl/ ‘be mildewed’
/ caːl/ ‘rough’
/ haːl/ ‘we (both)’

/ w / - / j /  
/ waːl/ ‘say’
/ jaːl/ ‘grass’

2) Manners of Articulation Contrast

/ p / - / / pʰ / - / m / - / w /  
/ piːl/ ‘year’
/ pʰiːl/ ‘spirit’
/ mii/ ‘bear’
/ wii/ ‘comb’

/ t / - / / tʰ / - / n / - / l / - / s /  
/ taːl/ ‘port’
/ tʰaːl/ ‘to wait’
/ naːl/ ‘face’
/ laːl/ ‘late’
/ saːl/ ‘salad’

/ ŋ / - / c / - / j /  
/ ŋəŋ/ ‘banyan tree’
/ cəŋ/ ‘to pull down’
/ jəŋ/ ‘crazy’
/ k / - / kʰ / - / ŋ /  / kau̯³ / ‘blister’
/ kʰau̯³ / ‘desire’
/ ŋau̯³ / ‘mud’
/ ? / - / h /  / ?u² / ‘cradle’
/ hu² / ‘be wrinkled’

3) Final Consonants Contrast
/ -m / - / -n / - / -ŋ /  / kʰem¹ / ‘needle’
/ kʰen¹ / ‘enemy’
/ kʰen¹ / ‘chopping board’
/ -w / - / -j /  / taw³ / ‘ash’
/ taj³ / ‘to lighten’
/ -p / - / -t / - / -k /  / lap⁺⁴ / ‘asleep’
/ lat⁺⁴ / ‘short cut’
/ lak⁺⁴ / ‘post’

3.4.3 Phonetic Features of Vowel

1) Front Vowels
/ i / is a high front unrounded vowel. It is realized as [ i ], a high front unrounded vowel.
Example:
/ mi¹ / [m³i²⁴] ‘bear’
/ pi² / [p³i²¹] ‘flute’
/ ci² / [tɕi²¹] ‘to roast’
/ ti⁵ / [ti⁴¹] ‘to arrest’
/ kin¹ / [k³i²⁴] ‘to eat’
/ nim¹ / [nim²⁴] ‘be still’
/ kin³ / [k³i³²²] ‘to roll’
/ lik³ / [li³⁴³] ‘letter’
/ mit³ / [m³i³³] ‘knife’
/ lip⁴ /  [lipʰ⁴]  ‘raw’
/ piw¹ /  [pʰiu²]  ‘blow away’

/ e / is a mid front unrounded vowel. It is realized as [e], a mid front unrounded vowel.

Example:
/ ce³ /  [tɛe⁴³]  ‘paper’
/ se⁴ /  [se⁴⁴]  ‘slim’
/ kʰeŋ³ /  [kʰeŋ³³²]  ‘tighten’
/ men¹ /  [mʰen²⁴]  ‘stink’
/ tem¹ /  [tem²⁴]  ‘full’
/ nek⁴ /  [nekʰ⁴⁴]  ‘to press’
/ ?et⁴ /  [ʔetʰ⁴⁴]  ‘one’
/ kep⁴ /  [kʰepʰ⁴⁴]  ‘to pick’
/ hew² /  [heu¹^1]  ‘wilt’

/ e / is a low front unrounded vowel. It is realized as [ɛ], a low front unrounded vowel. It is slightly lower than [e].

Example:
/ teŋ¹ /  [teŋ²⁴]  ‘cucumber’
/ sen² /  [sɛn²¹]  ‘scream’
/ tem³ /  [tem³³²]  ‘to write’
/ kek⁴ /  [kʰekʰ⁴⁴]  ‘fake’
/ net³ /  [net³³]  ‘hurry’
/ tep⁴ /  [tɛpʰ⁴⁴]  ‘to cut’
/ pʰew⁴ /  [phʰeu²⁴]  ‘arrive’
/ɛ/ is in free variation with [e] in syllable with zero final consonant.

Example:

/ me̡⁶ / [m̩e̥e̡³³²] ~ [m̩e̥e̡³³²] ‘mother’
/ te⁴ / [t̩e̥⁴¹] ~ [t̩e̥⁴¹] ‘real’
/ pe⁴ / [p̩e̥⁴¹] ~ [p̩e̥⁴¹] ‘goat’

2) Central Vowels

/ɯ/ is a high central unrounded vowel. It is realized as [ɯ], a high back unrounded vowel.

Example:

/ kʰɯ̩² / [khɯ̩²¹] ‘to brew’
/ mu⁴ / [mu̩⁴⁴] ‘hand’
/ kuŋ² / [kuŋ²¹] ‘suitable’
/ ŋuŋ⁴ / [ŋuŋ⁴⁴] ‘money’
/ kum⁴ / [kum⁴⁴] ‘firm’
/ tuuk⁴ / [tuuk⁴⁴] ‘to fight’
/ pʰuut² / [phuut²¹] ‘tight’
/ lup³ / [lup³³] ‘follow after’

/ɔ/ is a mid central unrounded vowel. It is realized as [ɔ], a mid central unrounded vowel.

Example:

/ kʰɔ̩¹ / [khɔ̩²⁴] ‘you (both)’
/ mɔ⁴ / [mɔ⁴⁴] ‘return’
/ ?ɔj³ / [ʔɔj³³²] ‘eldest sister’
/ məŋ⁴ / [məŋ⁴⁴] ‘country’
/ lɔn¹ / [lɔn²⁴] ‘moon’
/ lɔm³ / [lɔm³³²] ‘smooth’
/ pʰɔk² / [phɔk²¹] ‘white’
/ lɔt³ / [lɔt³³] ‘blood’
/a/ is a short low central unrounded vowel. It is realized as [a], a short low central unrounded vowel.

Example:

/aŋ¹/ [aŋ²⁴] ‘back’
/kaj¹/ [kai²⁴] ‘far’
/can¹/ [tcan²⁴] ‘to pull’
/kaw¹/ [kau²⁴] ‘I, me’
/lak⁴/ [lak⁴⁴] ‘post’
/mat⁴/ [mat⁴⁴] ‘flea’
/tap⁴/ [tap⁴⁴] ‘liver’

/aː/ is a long low central unrounded vowel. It is realized as [aː], a long low central unrounded vowel. It is the only Shan vowel which is clearly contrasting in vowel length.

Example:

/paː¹/ [paː²⁴] ‘fish’
/laː⁴/ [laː⁴⁴] ‘donkey’
/maj¹/ [maːi²⁴] ‘to mark’
/laːw¹/ [laːu²⁴] ‘star’
/kaŋ²/ [kaŋ²¹] ‘bow’
/pʰəːn⁴/ [pʰəːn⁴⁴] ‘barking deer’
/kam³/ [kam³³²] ‘freeze’
/hak³/ [hak³³³] ‘root’
/laːt³/ [laːt³³] ‘to talk, tell’
/kaːp²/ [kaːp²¹] ‘sheath of the large bamboo’
3) Back Vowels

/u/ is a high back rounded vowel. It is realized as [u], a high back rounded vowel.

Example:

/pu¹/  [pu²⁴]  ‘crab’
/nu¹/  [nu²⁴]  ‘mouse’
/?u²/  [?u²¹]  ‘cradle’
/kui¹/  [kui²⁴]  ‘cotton’
/sun¹/  [sun²⁴]  ‘high’
/?un²/  [?un²¹]  ‘warm’
/tum¹/  [tum²⁴]  ‘log’
/cuk⁴/  [tęuk⁻⁴⁴]  ‘to stand’
/lut³/  [lut⁻³³]  ‘to miss’
/kup⁴/  [kup⁻²⁴]  ‘Shan hat’

/o/ is a mid back rounded vowel. It is realized as [o], a mid back rounded vowel.

Example:

/ko¹/  [ko²⁴]  ‘afraid’
/wo⁴/  [wo⁴⁴]  ‘ox’
/toj⁴/  [toi⁴⁴]  ‘to look’
/toŋ³/  [toŋ⁻³³²]  ‘field’
/son¹/  [son²⁴]  ‘garden’
/kom²/  [kom²¹]  ‘mud’
/cok⁴/  [tęok⁻⁴⁴]  ‘dive into pocket’
/hot⁴/  [hot⁻⁴⁴]  ‘shrink’
/kop⁵/  [kop⁻⁴¹]  ‘pair’
/ ɔ / is low back rounded vowel. It is realized as [ɔ], a low back rounded vowel.

Example:

\[
\begin{align*}
/ \text{mɔ}^3 & / \quad [\text{mɔ}^{332}] & \text{‘pot’} \\
/ \text{tɔ}^5 & / \quad [\text{tɔ}^{41}] & \text{‘to carry’} \\
/ \text{ɕɔ}^3 & / \quad [\text{tɕɔ}^{332}] & \text{‘to help’} \\
/ \text{kɔŋ}^1 & / \quad [\text{kɔŋ}^{24}] & \text{‘drum’} \\
/ \text{nɔŋ}^1 & / \quad [\text{nɔŋ}^{24}] & \text{‘worm’} \\
/ \text{pʰɔŋ}^5 & / \quad [\text{pʰɔŋ}^{41}] & \text{‘unite’} \\
/ \text{lɔk}^2 & / \quad [\text{lɔk}^{21}] & \text{‘frighten’} \\
/ \text{lɔt}^2 & / \quad [\text{lɔt}^{21}] & \text{‘tube’} \\
/ \text{kʰɔp}^2 & / \quad [\text{kʰɔp}^{21}] & \text{‘rim, edge’}
\end{align*}
\]

4) Diphthong

/ au / is a diphthong gliding from a short low central unrounded vowel [a] to a high central unrounded vowel [u]. It occurs without any final consonants.

It has one free variation [au] ~ [ai].

Example:

\[
\begin{align*}
/ \text{kʰau}^3 & / \quad [\text{kʰau}^{332}] \sim [\text{khai}^{332}] & \text{‘desire’} \\
/ \text{cau}^1 & / \quad [\text{tɕau}^{24}] \sim [\text{tɕai}^{24}] & \text{‘mind’} \\
/ \text{cau}^3 & / \quad [\text{tɕau}^{332}] \sim [\text{tɕai}^{332}] & \text{‘true’} \\
/ \text{cau}^4 & / \quad [\text{tɕau}^{44}] \sim [\text{tɕai}^{44}] & \text{‘to visit’} \\
/ \text{cau}^5 & / \quad [\text{tɕau}^{41}] \sim [\text{tɕai}^{41}] & \text{‘to use, order’} \\
/ \text{mau}^4 & / \quad [\text{mau}^{44}] \sim [\text{mai}^{44}] & \text{‘you’} \\
/ \text{sau}^1 & / \quad [\text{sau}^{24}] \sim [\text{sai}^{24}] & \text{‘clear’} \\
/ \text{pʰau}^1 & / \quad [\text{phau}^{24}] \sim [\text{phai}^{24}] & \text{‘who’} \\
/ \text{tau}^3 & / \quad [\text{tai}^{332}] \sim [\text{tai}^{332}] & \text{‘below’} \\
/ \text{hau}^3 & / \quad [\text{hau}^{332}] \sim [\text{hai}^{332}] & \text{‘give’}
\end{align*}
\]
### 3.4.4 Vowels Contrast

The vowel phonemes in Shan can be grouped according to the tongue positions and tongue height. The following examples show the contrasting of the vowels. They come with the same consonant and tone.

#### 1) Vowel Heights Contrast

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/ - /e/- /e/</td>
<td>/kin¹/</td>
<td>‘to eat’</td>
</tr>
<tr>
<td>/ken¹/</td>
<td>‘to roll’</td>
<td></td>
</tr>
<tr>
<td>/ken¹/</td>
<td>‘unlucky’</td>
<td></td>
</tr>
<tr>
<td>/uu/- /ə/- /a:/</td>
<td>/muu⁴/</td>
<td>‘hand’</td>
</tr>
<tr>
<td>/ma⁴/</td>
<td>‘return’</td>
<td></td>
</tr>
<tr>
<td>/ma:⁴/</td>
<td>‘to come’</td>
<td></td>
</tr>
<tr>
<td>/u/- /o/- /ɔ/</td>
<td>/kuu⁴/</td>
<td>‘teacher’</td>
</tr>
<tr>
<td>/kuo⁴/</td>
<td>‘goods’</td>
<td></td>
</tr>
<tr>
<td>/kuɔ⁴/</td>
<td>‘neck’</td>
<td></td>
</tr>
</tbody>
</table>

#### 2) Vowel Positions Contrast

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/- /uu/- /u/</td>
<td>/ti¹/</td>
<td>‘strike’</td>
</tr>
<tr>
<td>/tuu¹/</td>
<td>‘stubborn’</td>
<td></td>
</tr>
<tr>
<td>/tu¹/</td>
<td>‘door’</td>
<td></td>
</tr>
<tr>
<td>/e/- /ə/- /o/</td>
<td>/pe¹/</td>
<td>‘divide’</td>
</tr>
<tr>
<td>/pə¹/</td>
<td>‘foliage’</td>
<td></td>
</tr>
<tr>
<td>/pɔ¹/</td>
<td>‘husband’</td>
<td></td>
</tr>
<tr>
<td>/ε/- /a:/ - /ɔ/</td>
<td>/me³/</td>
<td>‘mother’</td>
</tr>
<tr>
<td>/ma:³/</td>
<td>‘crazy’</td>
<td></td>
</tr>
<tr>
<td>/mo³/</td>
<td>‘pot’</td>
<td></td>
</tr>
<tr>
<td>/a/- /a:/</td>
<td>/lam¹/</td>
<td>‘black’</td>
</tr>
<tr>
<td>/lə:m¹/</td>
<td>‘to roast’</td>
<td></td>
</tr>
<tr>
<td>/auu/- /uu/</td>
<td>/caur³/</td>
<td>‘true’</td>
</tr>
<tr>
<td>/cur³/</td>
<td>‘name’</td>
<td></td>
</tr>
</tbody>
</table>
3.4.5 Phonetic Features of Toneme

1) Tone 1: Rising tone

It is a raising tone. It starts at mid low and rises to mid high (24). It occurs only in open syllable with final /-m, -n, -ŋ, -j, -w/ but never occurs with checked final /-p, -t, -k/. This tone is marked with number 1.

Example:

/ taː¹ / [taː²⁴] ‘eye’
/kʰo¹ / [kʰo²⁴] ‘bridge’
/laj¹ / [lai²⁴] ‘to flow’
/laːw¹ / [kaːu²⁴] ‘star’
/teŋ¹ / [teŋ²⁴] ‘cucumber’
/sen¹ / [sen²⁴] ‘a hundred thousand’
/nim¹ / [nim²⁴] ‘be still’
/pʰaʊ¹ / [phau²⁴] ‘who’

2) Tone 2: Low tone

It is a low tone or low falling. It starts at mid-low and falls to a low level with a slight glottal constriction at the end in open syllables (21). This tone is marked with number 2.

Example:

/ te² / [te²¹] ‘begin’
/kʰi² / [kʰi²¹] ‘to ride’
/ku² / [ku²¹] ‘bed’
/ka² / [ka²¹] ‘dirty’
/kaj² / [kai²¹] ‘chicken’
/caj² / [caːj²¹] ‘spend money’
/kʰaːw² / [kʰaːu²¹] ‘news’
/pʰeŋ² / [phᵉŋ²¹] ‘be even’
/ken² / [kᵉŋ²¹] ‘hard’
/\textit{tʰəm^2} / [\textit{thʰəm^{21}}] ‘listen’
/\textit{tek}^2 / [\textit{tek^{21}}] ‘broke’
/\textit{tet}^2 / [\textit{tet^{21}}] ‘quiet’
/\textit{mip}^2 / [\textit{mip^{21}}] ‘to press’
/\textit{saur}^2 / [\textit{saur^{21}}] ‘to fill in’

3) Tone 3: Mid tone

It is a mid level tone. It starts at mid level and stays at the same level and falls slightly with a glottal constriction at the end in open syllable (332). In checked syllable, it starts at mid level and stays the same level (33). This tone is marked with number 3.

/\textit{ha}^3 / [\textit{ha^{332}}] ‘five’
/\textit{so}^3 / [\textit{so^{332}}] ‘shirt’
/\textit{kʰaw}^3 / [\textit{khau^{332}}] ‘rice’
/\textit{koj}^3 / [\textit{koi^{332}}] ‘banana’
/\textit{ma:j}^3 / [\textit{ma:i^{332}}] ‘widow’
/\textit{nuŋ}^3 / [\textit{nuŋ^{332}}] ‘one’
/\textit{kem}^3 / [\textit{kêm^{332}}] ‘cheek’
/\textit{lak}^3 / [\textit{lêk^{33}}] ‘to choose’
/\textit{mit}^3 / [\textit{mit^{33}}] ‘knife’
/\textit{kep}^3 / [\textit{kêp^{33}}] ‘narrow’
/\textit{tau}^3 / [\textit{tau^{332}}] ‘below’

4) Tone 4: High tone

It is a high level tone. It starts at mid high level and stays at the same level (44). This tone is marked with number 4.

Example:
/\textit{ca:r}^4 / [\textit{tca^{44}}] ‘rough’
/\textit{mu}^4 / [\textit{mu^{44}}] ‘hand’
/\textit{toj}^4 / [\textit{toi^{44}}] ‘to look’
5) Tone 5: High falling tone

It is a high falling tone. It starts at mid-high and quickly falls down to a low level (41). It has a glottal constriction at the end in open syllable. This tone is marked with number 5.

Example:

/ ma^5 / [ma^41] ‘horse’
/ ca^5 / [tca^w3^41] ‘spoon’
/ ha^5 / [ha^41] ‘tired’
/ naj^5 / [nai^41] ‘this’
/ nadj^5 / [nai^41] ‘small’
/ caw^5 / [tcau^41] ‘early’
/ ca:p^5 / [tca:pa^41] ‘elephant’
/ jin^5 / [jin^41] ‘craving desire’
/ pem^5 / [pjem^41] ‘side of the body’
/ luk^5 / [luk^41] ‘deep’
/ tuit^5 / [tu:ta^41] ‘to pull’
/ nop^5 / [nop^41] ‘up side down’
/ cau^5 / [tcau^41] ‘to use’
3.4.6 Tonemes contrast

1) Toneme in Open Syllable

There are five tones in open syllable. The following examples are the meaningful words with the same environment, initial consonant, vowel and/or final consonant except the tone.

a) /saj¹/  ‘line’
   /saj²/  ‘shaken’
   /saj³/  ‘compensate’
   /saj⁴/  ‘sand’
   /saj⁵/  ‘left’

b) /kʰə¹/  ‘hook’
   /kʰə²/  ‘dirty’
   /kʰə³/  ‘syllable’
   /kʰə⁴/  ‘neck’
   /kʰə⁵/  ‘disease’

c) /tɔŋ¹/  ‘leaf’
   /tɔŋ²/  ‘four kyats’
   /tɔŋ³/  ‘crave’
   /tɔŋ⁴/  ‘copper’
   /tɔŋ⁵/  ‘stomach’

2) Toneme in Checked Syllable

There are four tones in checked syllables. As mentioned above, the first tone will never occur in checked syllable. Again, the phenomenal of example words below are the same environment except tone.

a) /kɛp²/  ‘husk’
   /kɛp³/  ‘narrow’
   /kɛp⁴/  ‘flat thing’
   /kɛp⁵/  ‘short period’
b) pok² / ‘to peel’
   pok³ / ‘return’
   pok⁴ / ‘shorty (height)’
   pok⁵ / ‘area of houses’

Conclusion

This chapter has discussed the phonological rank; phonological word, syllable and phoneme which consist of consonants, vowels and tones respectively. The phonetic features and the contrast of phonemes are also studied. The next chapter is concerned with the morphology of Shan.
CHAPTER IV
MORPHOLOGY

Introduction

In the previous chapter, the Shan Phonological system had been studied. This chapter deals with the Shan morphological system. The focus is on word formation, i.e. how new words are formed in the Shan language.

As a monosyllabic language, the basic words are in the form of one word one syllable. Therefore, new words are formed by compounding word to word without changing their original forms. There are four main processes of word formations i.e. nominalization, compounding, reduplication and expressive respectively. The word classes will not be discussed here, as they are lexical categories. The focus of this chapter is on the principle devices for forming words.

4.1 Nominalization

Nominalization is “a noun derived from a member of another lexical category” (Trask 1993:183). Here, a derived noun from a verb, adjective and noun. Generally, in Shan, there are three words /kaːn¹, lɔŋ³, taŋ⁴/, which added to a verb or an adjective to form noun. The lexical meaning of /kaːn¹/ is ‘work’, /lɔŋ³/, is ‘account of or case’ and /taŋ⁴/ is ‘way or manner’. Their usages are as follows:

1) /kaːn¹/ ‘work or labour’

/kaːn¹/ lexically means work or labour and it is used as an added word to a verb or noun to form noun.

Example:

/kaːn¹/ + Verb

/kaːn¹ luʔ⁵ pʰun⁵/ ‘resistance’
/ kann¹ kaⁿ⁵ kᵃⁿ¹ /¹ ‘trading’
/ kann¹ kap⁴ sup² / ‘communication’
/ kann¹ leŋ⁵ toŋ⁵ / ‘livelhood’

/ kann¹ / + Adjective
/ kann¹ jaw² / ‘important work’

/ kann¹ / + Noun
/ kann¹ mœŋ⁴ / ‘politics’
/ kann¹ ℓuŋ⁴ / ‘finance’
/ kann¹ phœŋ⁴ kʰew¹ / ‘diplomacy’

2) / leŋ² / ‘account or case’
/ leŋ² / lexically means account of or case and it is used as an added word to a verb or adjective to form noun.

Example:
/ leŋ² / + Verb
/ leŋ² jum² jam¹ / ‘belief’
/ leŋ² tʰaŋ² haŋ³ / ‘freedom’
/ leŋ² kʰuŋ³ jaw² / ‘development’
/ leŋ² tu⁴ kam¹ / ‘moral’
/ leŋ² jum² to¹ / ‘self-confidence’

/ kann¹ / + Adjective
/ leŋ² ?on¹ mo⁴ / ‘riot’
/ leŋ² jaw² / ‘importance’

¹ Sometimes, the added word can be repeated as / kann¹′ kaⁿ⁵ kann¹ kʰaŋ¹/. 
3) / taŋ⁴ / ‘way or manner’

/ taŋ⁴ / lexically means way or manner and it is used as an added word to a verb or adjective to form noun.

Example:

/ kæn¹ / + Verb

/ taŋ⁴ het⁴ / ‘action’
/ taŋ⁴ kin¹ / ‘food’
/ taŋ⁴ last³ / ‘way of speaking’
/ taŋ⁴ mə⁴ / ‘wisdom’
/ taŋ⁴ hawk⁵ / ‘love’
/ taŋ⁴ caŋ⁴ / ‘hatred’
/ taŋ⁴ həŋ³ li¹ / ‘beauty’

/ kæn¹ / + Adjective

/ taŋ⁴ tau³ / ‘South or beneath’
/ taŋ⁴ sun¹ / ‘height’
/ taŋ⁴ jau² / ‘size’
/ taŋ⁴ waj⁴ / ‘speed’
/ taŋ⁴ kaŋ¹ / ‘distance’
/ taŋ⁴ pʰə:n¹ / ‘poverty’

4.2 Compounding

Compounding is “the process of forming a word by combining two or more existing words” (Trask 1993:53). The compounding in Shan are superordinate-subordinate compound, class term compound, word class compound and semantic compound. Compounding plays an important role in forming new words in Shan, therefore, the usage of the compound words will also be studied.
4.2.1 Superordinate-subordinate Compound

Besides the above nominalization, there are some superordinate words added to subordinate words such as a noun, a verb or an adjective, indicating the same type of things. Here are some examples of the superordinate words: / kon⁴/ ‘denotes to a man or his profession’, / ma:k²/ ‘denotes to fruit or rounded object’, / ton³/ ‘denotes to tree or plant’, / caw³/ or / ca:n³/ ‘denotes to owner or career’ etc. The examples of some superordinate words are as follows:

1) / kon⁴/ ‘denotes to a human or his profession’

/kon⁴/ lexically means human and it is used as a superordinate word added to a noun, a verb or an adjective indicating human or his profession.

Example:

/kon⁴/ + Noun
/kon⁴ ma:n⁴/ ‘citizen’
/kon⁴ wan³/ ‘villager’
/kon⁴ tʰən²/ ‘guerrilla’

/kon⁴/ + Verb
/kon⁴ ca:w⁵/ ‘servant’
/kon⁴ ka:s⁵/ ‘trader’
/kon⁴ ha:p²/ ‘porter’

/kon⁴/ + Adjective
/kon⁴ ləm¹/ ‘layman’
/kon⁴ lən¹/ ‘adult’
/kon⁴ jən²/ ‘insane person’
/kon⁴ num²/ ‘young person’
2) / ma:k^2/ ‘denote to fruit or any rounded object’

/ ma:k^2/ lexically means fruit or rounded object and it is used as a superordinate word added to a noun indicating fruit-like object.

Example:

/ ma:k^2 / + Noun
/ ma:k^2 moŋ^3 / ‘mango’
/ ma:k^2 pʰaː^3 / ‘lemon’
/ ma:k^2 laŋ^4 / ‘jackfruit’
/ ma:k^2 naŋ^1 / ‘football’
/ ma:k^2 kʰəŋ^2 / ‘spinning top’
/ ma:k^2 kəŋ^3 / ‘bullet’
/ ma:k^2 pəŋ^4 lom^4 / ‘balloon’

3) / ton^3 or ton^3 maj^5/ ‘denote to tree or plan’

/ ton^3/ lexically means trunk or tree and it is used as a superordinate word added to a noun indicating tree-like or plan.

Example:

/ ton^3 / + Noun
/ ton^3 maj^5 sak^4 / ‘teak tree’
/ ton^3 ma:k^2 cək^4 / ‘orange tree’
/ ton^3 ma:k^2 pa:w^5 / ‘coconut tree’
/ ton^3 kʰaw^3 / ‘rice plan’
/ ton^3 ?əj^3 / ‘sugar cane’
/ ton^3 pek^2 / ‘pine tree’

4) / ca:w^3/ ‘denotes to owner or career’

/ ca:w^3/ lexically means owner or career and it is used as a superordinate word added to a noun indicating owner or career.

Example:
/ caw³ / + Noun
/ caw³ naː⁴ /  ‘farmer’
/ caw³ taː³ /  ‘ferryman’
/ caw³ kun² /  ‘merchant’
/ caw³ kaː⁴ /  ‘driver’
/ caw³ pʰaː⁵ /  ‘prince’
/ caw³ kʰok⁵ /  ‘miller’

4.2.2 Class Term Compound

Compound word can be formed by class term² and their classified nouns. The classifiers as / ti³ / ‘denotes to place or spot’, / ?an¹ / ‘denotes to things’ are used as an example here.

1) / ti³ /  ‘denotes to place or spot’
/ ti³ / lexically means place or spot and it is used as a class term added to a word indicating place or spot.

Example:
/ ti³ / + Verb
/ ti³ naŋ³ /  ‘sitting place’
/ ti³ ju² /  ‘abode’
/ ti³ puŋ³ /  ‘place of refuge’
/ ti³ jəŋ⁴ maŋ¹ /  ‘goal’
/ ti³ ?ok² nək³ /  ‘toilet’
/ ti³ jɪp⁴ /  ‘handle’
/ ti³ kaŋ¹ /  ‘work place’

/ ti³ / + Adjective
/ ti³ kaw² /  ‘original place’

² Class terms are classifiers which are parts of lexicalized compound (DeLancey, 1986).
/\text{ti}^3\ + \text{Adverb} \\
/\text{ti}^3 \text{nan}^3 / \\
\text{‘there’}

/\text{ti}^3\ + \text{Preposition} \\
/\text{ti}^3 \text{tau}^3 / \\
\text{‘beneath’}

2) /\text{\textipa{?an}^1} / \\
\text{‘denotes to thing’}

/\text{\textipa{?an}^1}/ \text{lexically means things and it is used as a class term added to an adjective, verb and preposition to indicate thing. It is a common classifier as well.}

\text{Example:}

/\text{\textipa{\textipa{?an}^1}}\ + \text{Adjective} \\
/\text{\textipa{\textipa{?an}^1} li}^1 / \\
\text{‘good thing’}

/\text{\textipa{\textipa{?an}^1} p^{\textipa{h}it}^4 / \\
\text{‘wrong thing’}

/\text{\textipa{\textipa{?an}^1 lem}^1 / \\
\text{‘pointed thing’}

/\text{\textipa{\textipa{?an}^1 paw}^2 / \\
\text{‘empty thing’}

/\text{\textipa{\textipa{?an}^1 nan}^5 / \\
\text{‘that one’}

/\text{\textipa{\textipa{?an}^1 nuu}^3 / \\
\text{‘one thing’}

/\text{\textipa{\textipa{?an}^1}}\ + \text{Verb} \\
/\text{\textipa{\textipa{?an}^1 kuit}^4 / \\
\text{‘remainder’}

/\text{\textipa{\textipa{?an}^1}}\ + \text{Preposition} \\
/\text{\textipa{\textipa{?an}^1 lau}^1 / \\
\text{‘which one?’}

\textbf{4.2.3 Word Class Compound}

\text{The word class compound is a combination of the same or different word class, such as, noun, verb, adjective and preposition. Based on syllable types, the word class compound is sub-categorized into two types i.e. disyllabic compound and trisyllabic compound. More than three syllables are}
uncommon in Shan origin, though it might be found. Below are the examples of disyllabic and trisyllabic compound words.

4.2.3.1 Disyllabic Compound

1) Noun + Noun

/waːn³ məŋ⁴/ ‘country’
(village + country)

/ten⁴ kʰaj¹/ ‘candle’
(candle + fat)

/nəm⁵ nom⁴/ ‘milk’
(water + breast)

/pə³ me³/ ‘parents’
(father + mother)

/hən⁴ maj⁵/ ‘wooden house’
(house + wood)

2) Noun + Verb

/mə:⁵ təŋ²/ ‘pack horse’
(horse + load)

/pʰaː³ sə²/ ‘bed sheet’
(cloth + lay)

/həŋ⁴ hən⁴/ ‘school’
(building + study)

/luk⁴ nən⁴/ ‘bedroom’
(room + sleep)

3) Noun + Adjective

/lin¹ new¹/ ‘clay’
(clay + sticky)

/luk³ ʔon²/ ‘children’
(child + small)
/ lɔj¹ suŋ¹ / ‘high mountain’  
(mountain + high)

/ pʰaː³ Hora¹ / ‘monk robe’  
(cloth + yellow)

/ kon⁴ tʰaʊ² / ‘old man’  
(man + old)

4) Noun + Preposition

/ waːn³ nok³/ ‘country side’  
(village + outside)

/ kʰoŋ⁴ na¹/ ‘heaven’  
(country + above)

/ kon⁴ nau⁴/ ‘insider’  
(man + inside)

/ taj⁴ na¹/ ‘Chinese Shan’  
(Shan + North)

/ can⁵ taur³/ ‘down stair’  
(level + below)

5) Preposition + Noun

/ nau⁴ weŋ¹/ ‘downtown’  
(inside + town)

/ nɔk³ məŋ⁴/ ‘foreign country’  
(inside + country)

/ taur³ lin¹/ ‘underground’  
(below + clay)

/ lən¹ hɔn⁴/ ‘backyard’  
(back + house)
4.2.3.2 Trisyllabic Compound

1) Noun + Noun + Noun

/ nam⁵ nom⁴ wo⁴/ ‘cow milk’
(water + breast + cow)

/ mɔk⁵ mɔ³ nam⁵/ ‘flower vase’
(flower + pot + water)

/ nam⁵ mɔ⁵ saj⁴/ ‘sand well’
(water + well + sand)

/ saj¹ kʰɔ⁴ kʰam⁴/ ‘gold necklace’
(string +neck + gold)

/ ho¹ məŋ⁴ lɛŋ⁴/ ‘dawn’
(head + country + bright)

2) Noun + Noun + Verb

/ na⁵ mu¹ sa³/ ‘minced pork salad’
(meat + pig + salad)

/ kon⁴ na³ ki³/ ‘joyful man’
(man + face + blossom)

3) Noun + Noun + Adjective

/ nam⁵ neŋ³ kʰom¹/ ‘plain tea’
(water + tea + bitter)

/ na³ ta¹ lek⁵/ ‘underprivileged’
(face + eye + small)

4) Noun + Verb + Noun

/ nam⁵ tok⁴ ta:t⁷/ ‘water fall’
(water + fall + castcade)

/ kʰaw³ tam¹ ɲa⁴/ ‘pounded glutinous rice mixed with sesame seeds’
(rice + pound + sesame)
4.2.4 Semantic Compound

Again, in the studying of compound words, the semantic is one way in approaching them. The meaning of compound words play a significant role such as: with the same meaning, related meaning and pair meaning. Semantic compound words are created to be used for literary stylistics or aesthetic function. It is also used in spoken.

1) Compound word with the same or related meaning

The compound words which their meaning are the same or related consisting of two words with the same word class. The first 8 lines in the examples below are the same meaning.

Example:

/ lu⁵ lew¹/  ‘to break’
/ man³ kum⁴/  ‘firm’
/ kʰaj³ naːw¹/  ‘ill’
/ jau² loŋ¹/  ‘big’
/ sə⁴ pjɔ²/  ‘happy’
/ mə² caːn³/  ‘tired of’
/ pau⁵ tʰaː³/  ‘to wait’

3 The compound word with the same meaning or similar meaning is, sometimes, formed with a loanword, as / sə⁴ pjɔ²/. The word / sə⁴/ is a Shan word and the word / pjɔ²/ is a Burmese loanword but they have the same meanings ‘happy’.
/ muŋ³ mɔŋ⁴/ ‘to hope’
(look out + hope)
/ lat² mai³/ ‘hot’
(hot + burn)
/ hu³ han¹/ ‘to understand’
(know + see)
/ ko¹ he¹/ ‘afraid’
(afraid + untamed)
/ cep⁴ sep²/ ‘pain’
(hurt + smart as wound)
/ lik³ laj⁴/ ‘letter’
(letter + writing)
/ li¹ nəːm⁴/ ‘good’
(good + beautiful)
/ kat⁵ kʰen²/ ‘brilliant’
(clever + skillful)
/ pɔŋ² cɛŋ³/ ‘to understand’
(through + bright)
/ hai⁵ mək³/ ‘be wicked’
(bad + evil)
/ tuːt⁵ can¹/ ‘to pull’
(pull + draw)
/ kjɔk⁴ wen¹/ ‘to jump’
(jump + leap)
/ nям⁴ tʰəŋ⁴/ ‘wealth’
(money + gold)

2) Compound word with the opposite meaning

The compound word with the opposite meaning are used together to generalize the meaning of thing. Both words weaken their original meanings and create a new meaning.
Example:

/ pi³ naŋ⁵/ ‘relative’
(elder sibling + younger sibling)
/kwaː⁴ maː⁴/ ‘to travel’
(to go + to come)
/ num² tʰaw³/ ‘age’
(younger + old)
/ lek⁵ jau²/ ‘size’
(small + large)
/ po³ me³/ ‘parents’
(father + mother)

In addition, when the above compound words are used there is some changes of their positions. Here, I would like to give two compound words usage as an example.

When compound words are used with another word, each word of compound follows that word as follows:

Example:

/ li¹ naːm⁴/ = / haːŋ³ li¹ haːŋ³ naːm⁴/ ‘beautiful’
/waːn³ məŋ⁴/ = / kon⁴ waːn³ kon⁴ məŋ⁴/ ‘citizen’
/lɪk³ laŋ⁴/ = / hen⁴ lik³ hen⁴ laŋ⁴/ ‘learning’
/haj³ naː⁴/ = / het⁴ haj³ het⁴ naː⁴/ ‘cultivate field’
/lat² maj³/ = / taːŋ⁴ lat² taːŋ⁴ maj³/ ‘worry’
/lat³ jaːŋ¹/ = / ?aːp² lat³ ?aːp² jaːŋ¹/ ‘bleeding’
/lip⁴ leŋ¹/ = / pʰat² lip⁴ pʰat² leŋ¹/ ‘be apart’

Some compound words with related meaning from the above can be repeated each syllable again to intensify their meanings.

Example:

/ hat⁴ hat⁴ haːn¹ haːn¹/ ‘brave’
/ let⁴ let⁴ seː⁴ seː⁴/ ‘intelligent’
Sometimes, two compound words are used together and their positions are interchanged. It makes sound rhyming and beautiful in style. It is used both in written and spoken.

Example:

\[
/\text{p}\text{o}\text{n}^{3} \text{c}a\text{u}^{1}+/ + / \text{c}e\text{n}^{3} \text{l}e\text{n}^{4}/ = / \text{p}\text{o}\text{n}^{2} \text{c}e\text{n}^{3} \text{l}e\text{n}^{4} \text{c}a\text{u}^{1}/ \\
/\text{c}o^{3} \text{p}a\text{n}^{1}/+ + / \text{p}u^{2} \text{m}o\text{n}^{2}/ = / \text{c}o^{3} \text{p}u^{2} \text{p}a\text{n}^{1} \text{m}o\text{n}^{2}/ \\
/\text{k}h\text{a}j^{3} \text{n}a:\text{w}^{1}/+ + / \text{j}a\text{u}^{2} \text{l}o\text{n}^{1}/ = / \text{k}h\text{a}j^{3} \text{j}a\text{u}^{2} \text{n}a:\text{w}^{1} \text{l}o\text{n}^{1}/ \\
/\text{t}\text{o}\text{n}^{3} \text{s}a\text{j}^{3}/+ + / \text{m}a\text{j}^{3} \text{l}a\text{t}^{2}/ = / \text{t}\text{o}\text{n}^{3} \text{m}a\text{j}^{3} \text{s}a\text{j}^{3} \text{l}a\text{t}^{2}/ \\
/\text{c}a\text{u}^{1} \text{s}a\text{j}^{3}/+ + / \text{l}a\text{m}^{1} \text{k}a\text{m}^{2}/ = / \text{c}a\text{u}^{1} \text{l}a\text{m}^{1} \text{s}a\text{j}^{3} \text{k}a\text{m}^{2}/ \\
/\text{m}\text{u}\text{m}^{5} \text{w}a\text{n}^{4}/+ + / \text{l}i^{1} \text{\&}a\text{m}^{4}/ = / \text{m}\text{u}\text{m}^{5} \text{l}i^{1} \text{w}a\text{n}^{4} \text{\&}a\text{m}^{4}/ \\
/\text{n}a^{3} \text{t}a^{1}/+ + / \text{h}\text{\&}n^{4} \text{je}^{4}/ = / \text{n}a^{3} \text{h}\text{\&}n^{4} \text{t}a^{1} \text{je}^{4}/ \\
/\text{s}\text{o}\text{n}^{1} \text{h}e\text{n}^{4}/+ + / \text{\&}i^{3} \text{l}a\text{j}^{4}/ = / \text{h}e\text{n}^{4} \text{\&}i^{3} \text{s}\text{o}\text{n}^{1} \text{l}a\text{j}^{4}/ \\
/\text{s}\text{o}\text{p}^{4} \text{k}o\text{n}^{3}/+ + / \text{s}\text{o}\text{m}^{5} \text{w}a\text{n}^{1}/ = / \text{s}\text{o}\text{p}^{4} \text{w}a\text{n}^{1} \text{k}o\text{n}^{3} \text{s}\text{o}\text{m}^{5}/ \\
/\text{m}\text{u}\text{n}^{3} \text{t}o\text{j}^{4}/+ + / \text{k}a\text{j}^{3} \text{j}a:\text{w}^{4}/ = / \text{t}o\text{j}^{4} \text{j}a\text{w}^{4} \text{m}\text{u}\text{n}^{3} \text{k}a\text{j}^{1}/ \\
\]
4.3 Reduplication

Reduplication is defined as “The morphological phenomenon in which some morphological material is repeated within a single form for lexical or grammatical purposes” (Trask 1993:231). The word class which is repeated can be an adverb or an adjective as found in Shan. There are three main types of reduplication as follows:

4.3.1 Imitative Reduplicated word

Imitative reduplication is a word imitating the sound of nature or onomatopoeia. The examples below are the adverb that modifies the preceding verb.

Example:
/ $k^3d'$ $k^6i^k4$ $k^6i^k4$/ ‘laughing sound’
/ $haj^3$ $ja:3$ $ja:3$/ ‘crying sound’
/ $nam^5$ $jo6$ $cik^4$ $cik^4$/ ‘water drop sound’
/ $m^6$ $mon^4$ $mon^4$/ ‘Shan drum sound’

4.3.2 Emphatic Reduplicated word

Emphatic reduplication is an adverb used in modifying the preceding verb to emphasize its meaning. No part of the word is changed.\(^4\)

Example:
/ $nam^1$ $nam^1$/ ‘many’
/ $kaj^1$ $kaj^1$/ ‘far away’
/ $hu:n^1$ $hu:n^1$/ ‘long time’
/ $tik^4$ $tik^4$/ ‘constantly’
/ $la:j^4$ $la:j^4$/ ‘slowly’
/ $lek^5$ $lek^5$/ ‘small’
/ $kam^4$ $kam^4$/ ‘again and again’

\(^4\) Exceptionally, there is one word / $jaw^5$ $jaw^j$/ which means ‘finish or completeness’. The tone of second word changes from ‘5’ to ‘3’.
4.4 Expressive

Expressive, in Shan, is a word (a monosyllabic or disyllabic word) which follows the word showing the attitude of the speaker toward a particular thing, i.e. might be negative or positive. Generally, it is used when people speak with less patience. Usually, the expressive word does not have a meaning. In case it has, its original meaning will lost in the expressive context. Based on syllable types, expressive, here, is classified into two types, i.e., monosyllabic expressive and disyllabic expressive.

4.4.1 Monosyllabic Expressive

A monosyllabic expressive is a word added for the significance of the preceding word. The preceding word and the expressive have the same consonant and tone except the vowel. The table below shows how the vowel sound in the preceding word determines what vowel sound would follow in the expressive.
Table 8: The preceding vowel determines the following vowel in Expressive

<table>
<thead>
<tr>
<th>Preceding Vowels</th>
<th>Vowels of expressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>a:</td>
</tr>
<tr>
<td>e</td>
<td>ø</td>
</tr>
<tr>
<td>ε</td>
<td>i</td>
</tr>
<tr>
<td>a</td>
<td>i</td>
</tr>
<tr>
<td>a:</td>
<td>i</td>
</tr>
<tr>
<td>ø</td>
<td>e</td>
</tr>
<tr>
<td>o</td>
<td>aj</td>
</tr>
<tr>
<td>u</td>
<td>a:</td>
</tr>
<tr>
<td>uu</td>
<td>a:</td>
</tr>
<tr>
<td>ø</td>
<td>a:</td>
</tr>
<tr>
<td>au</td>
<td>i</td>
</tr>
<tr>
<td>aj</td>
<td>i</td>
</tr>
<tr>
<td>aj</td>
<td>i</td>
</tr>
</tbody>
</table>

Example:

/ het⁴ høt⁴/  ‘to do’
/ tem³ tim³/  ‘to write’
/ tam¹ tim¹/  ‘to crash’
/ ta:⁴ ti⁴/   ‘to wear or pain’
/ kʰa:t² kʰit²/  ‘be broken’
/ mø⁴ me⁴/   ‘noisy’
/ tʰu¹ tʰa:¹/  ‘to brush’
/ tʰɔt⁴ tʰaːt⁴/  ‘to scold’
/ paj¹ pi¹/   ‘to walk’
/ ñit⁴ ñɔt⁴/  ‘small amount’
/ tuu¹ ta:¹/  ‘be obstinate’
/ pʰau¹ pʰi¹/  ‘who’
/ lau¹ li¹/   ‘where’
4.4.2 Disyllabic Expressive

The disyllabic expressive in Shan refers to the disyllabic words following the preceding word (here only adjective is found). The vowel of disyllabic expressive conveys the positive or negative feeling of the speaker. The examples below show that the vowels /i, e, ə/ indicate positive meanings while the vowels /a, u, ü, ɔ/ represent the negative meanings and the vowel /ɛ/ appears as neutral. Again, the disyllabic expressive in Shan can be divided into two kinds as follows:

1) Related Expressive

The syllables in the relative expressive have the same vowel, tones and final consonant, except their initial consonant. The vowel in the expressive indicates the positive or negative of the preceding word.

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ lɔŋ¹ kɛn⁴ ɲɛn⁴/</td>
<td>/ lɔŋ¹ kəŋ⁴ ɲəŋ⁴/</td>
</tr>
<tr>
<td>/ kʰɛw¹ kiw⁴ ɲiw⁴/</td>
<td>/ kʰɛw¹ kəw⁴ ɲəw⁴/</td>
</tr>
<tr>
<td>/ lɛŋ¹ ɕɔŋ⁴ hɔŋ⁴/</td>
<td>/ lɛŋ¹ caŋ⁴ haŋ⁴/</td>
</tr>
<tr>
<td>/ kʰa:w¹ sɔt² ʃɔt²/</td>
<td>/ kʰa:w¹ sut² lut²/</td>
</tr>
<tr>
<td>/ lam¹ kɔm⁴ ɲɔm⁴/</td>
<td>/ lam¹ kum⁴ ɲum⁴/</td>
</tr>
<tr>
<td>/ kam² ʃɔt² ʃɔt²/</td>
<td>/ kam² ʃut² tut²/</td>
</tr>
<tr>
<td>/ pi⁴ ʃɔt⁴ ʃɔt⁴/</td>
<td>/ pi⁴ ʃut⁴ tut⁴/</td>
</tr>
<tr>
<td>/ jɔm¹ kɔŋ³ ɲɔŋ³/</td>
<td>/ jɔm¹ kɛŋ³ ɲɛŋ³/</td>
</tr>
<tr>
<td>/ naŋ³ tɔk⁴ ʂɔk⁴/</td>
<td>/ naŋ³ tuk⁴ suk⁴/</td>
</tr>
<tr>
<td>/ naː¹ kʊm² tʊn²/</td>
<td>/ maŋ¹ tʰep² ʃep²/</td>
</tr>
<tr>
<td>/ saŋ¹ kɔŋ³ ɲɔŋ³/</td>
<td>/ suŋ¹ kɔŋ³ ɲɔŋ³/</td>
</tr>
</tbody>
</table>

2) Duplicated Expressive

The syllables of the duplicated expressive have the same consonant, vowel and tone. The vowel in the expressive indicates the positive or
negative of the preceding word. The examples, the vowels /e, œ/ appear in the positive meaning while the vowels /aː, u, o, uː/ appear in the negative meaning.

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘cold’</td>
</tr>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘soft’</td>
</tr>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘smooth’</td>
</tr>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘sticky’</td>
</tr>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘hot’</td>
</tr>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘rough’</td>
</tr>
<tr>
<td>/很少 /</td>
<td>/很少 /</td>
<td>‘very black’</td>
</tr>
</tbody>
</table>

**Conclusion**

So far in this chapter, the four main types of forming of new words i.e. nominalization, compounding, reduplication and expressive are studied. The focus is put on the compounding as it is one of the most common forming new words in Shan.
CHAPTER V
CONCLUSION AND SUGGESTION

5.1 Conclusion

This research has confined its study within the phonological system and morphological system of the Shan of Keng Tung. The phonological topic starts with phonological word, syllable and ends with phoneme with its components: consonants, vowels and tones. For the morphological topic, the new word formation methods have been discussed.

5.1.1 Phonological word

The word in Shan bears stressness; strong stress (S), weak stress (W) and unstressed (U) respectively. The monosyllabic word and the final syllable in multisyllabic word always bears the strong stress as its component while the weak stress and the unstressed fall on non-final syllables.

5.1.2 Syllabic structure

The syllabic structure in Shan has two main types, 1) Smooth syllable which ends with vowel and nasal consonant, 2) Checked syllable is the syllable which ends with checked consonants / -p, -t, -k /. The former comprises with 8 sub-type syllables and the latter consists of 4 sub-type syllables. Apart from these two main types, there is another syllabic nasal / m /.

5.1.3 Phoneme

1) The Shan of Keng Tung has 18 consonant phonemes / p, t, k, ?, pʰ, tʰ, kʰ, m, n, ɲ, ŋ, l, s, c, h, w, j /, which all of them can be appeared in the initial
position and 8 of them / -p, -t, -k, -m, -n, -ŋ, -w, -j / are found in the final position. The 3 consonant clusters are / l, w, j /.

2) There are 11 vowels of the Shan, 10 monophthongs / i, e, u, o, a, a:, u, o, ə / and 1 diphthong / au /. Out of all Shan vowels, only two central low vowels / a, a: / are contrasting in vowel length.

3) There are five contrasting tonemes in smooth syllable. They are 1) a rising tone 2) a low tone 3) a mid tone 4) a high tone and 5) a falling tone. The rising tone never occurs in checked syllable.

5.1.4 Morphology

As Shan is a monosyllabic language and its word formation methods are done with nominalization, compounding, reduplication and expressive. These methods are the characteristics of the Shan in forming new word.

Besides the small difference of phonemes, the Shan of Mae Sai and Mae Hong Son have more loanwords from Thai while Keng Tung Shan have loanwords from Burmese especially the words related to politics and technology.

In comparison with the previous studies, I hope to fine some initial consonants and tones which define the characteristics of Keng Tung Shan as mentioned in Hypothesis. By viewing the whole research, it found that there are a few minor differences, such as: the syllabic / m / is found both in Keng Tung Shan and Tai Yai of Mae La Noi, Mae Hong Son Province but the syllabic / m / of Keng Tung is a reduction form of / ?am^2 / while Tai Yai of Mae La Noi is a reduction form of / ma:` / ‘not’. The phoneme / b / at the initial position of Tai Yai, Mae Hong Son is not found in Keng Tung Shan. The phoneme / n / of Keng Tung Shan and Tai Yai of Mae La Noi is not found in Tai Aw of Mae Sai. Therefore, the number of initial consonants of Tai Aw, Mae Sai is 16, Keng Tung Shan is 17 and Tai Yai of Mae La Noi is 18 respectively. The tones of Keng Tung Shan and Tai Yai of Mae La Noi are 5 in number while Tai Aw of Mae Sai are 6. The 3^rd tone (High falling with glottal as: / kʰaw / ‘rice’, / na: / ‘face’) and the 5^th tone (High slightly falling with glottal as: / pi / ‘older sibling’, / luk / ‘son’) are merged into the 3^rd tone (Mid slightly falling)
of Keng Tung Shan. The major difference among the three Shan languages is their loanwords. Undoubtedly, the Shan of Mae Sai and Mae La Noi have more loanwords from Thai or Khammuang while the Shan of Keng Tung have more Burmese loanwords, especially, the technical term i.e. words related to politics, technology and so on.

5.2 Suggestion

1) As this research is the study of phonological system and morphological system of the Shan of Keng Tung. Therefore the grammar which deals with full characteristics of the Shan is worth to study.

2) As the Shan is the language is spoken all over the Shan State in general, there is no particular place is acknowledged as standard Shan. Different parts of the Shan State have their influence from different languages spoken in neighbouring areas in different ways. For instance, the Eastern Shan of Keng Tung has more influence from Thai, while the Southern Shan has more Burmese influence and Northern Shan along China border has more influence from Chinese. Therefore, a comparative study of vocabulary comparative from all parts of the Shan language should be carried out in order to find foreign influences on the Shan language in modern day.

3) Tones in Shan are various both in numbers and features from areas to areas. Even the modern Shan writing system may gives five or six tones in number. The tonal comparison of all Shan spoken in the Shan State as a whole should be studied. This will provide a clear picture of each group of Shan in Shan State.

4) Shan, Ahom, Phake, Khamti and Tai Nue (Chinese Shan) share quite close writing system and they are believed to have come from the same source. When times gone by, those writings have been developing to fit the modern need. The most important process that these writings underwent was modernization, i.e. to have enough symbols represented every single sound existed in the languages. The methods
of modernizing may differ from one language to another. Therefore, a comparison of these modern writings is interesting to study.
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APPENDIX
APPENDIX A

SHAN ORTHOGRAPHY

Introduction

To a nation, a writing system is as important as the language they speak and the religion they believe in. The Shan who call themselves Tai have their own writing system for hundreds of years. It is believed that Shan had developed their writing system from Devanagari. However, some believe that it may have derived from Mon or Burmese which are believed to have come from Pallava scripts. Among the Tai family, the related writing to Shan is Tai Nur, Tai Khamti, Ahom and Phake scripts. The writing here is the new Shan writing system which was developed in 1949.

Shan words consist of at least three components and at most five components, initial consonant, vowel and tone as obligation and secondary consonant and final consonant are optional.

1.1 Shan Consonants

Modern Shan writing or new Shan writing consists of 18 consonants\(^1\), 11 vowels and 5 tones, unlike Thai and Burmese, which have more alphabets symbols than the actual sounds that existed in the languages.

---

\(^1\) Some Shan readers may give 19 alphabets of Shan with $\phi$ / f / added, but it is only an allophone of $\epsilon$ / ph / therefore, it is excluded here.
## Shan 18 Consonants

<table>
<thead>
<tr>
<th>Symbol</th>
<th>/IPA/</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ə</td>
<td>/ k /</td>
<td>as k in sky</td>
</tr>
<tr>
<td>ө</td>
<td>/ kh /</td>
<td>as k in king</td>
</tr>
<tr>
<td>ɔ</td>
<td>/ η /</td>
<td>as ng in singer</td>
</tr>
<tr>
<td>ө</td>
<td>/ c /</td>
<td>as g in agent</td>
</tr>
<tr>
<td>ө</td>
<td>/ s /</td>
<td>as s in sing</td>
</tr>
<tr>
<td>ʄ</td>
<td>/ ɲ /</td>
<td>as ny in canyon</td>
</tr>
<tr>
<td>ө</td>
<td>/ t /</td>
<td>as t in star</td>
</tr>
<tr>
<td>ө</td>
<td>/ th /</td>
<td>as t in tear</td>
</tr>
<tr>
<td>ʄ</td>
<td>/ n /</td>
<td>as n in nine</td>
</tr>
<tr>
<td>ə</td>
<td>/ p /</td>
<td>as p in speak</td>
</tr>
<tr>
<td>ө</td>
<td>/ ph /</td>
<td>as p in peak</td>
</tr>
</tbody>
</table>
II. Secondary consonants

Out of 18 initial consonants, 3 of them can be secondary consonant or consonant clusters. Note that the 3 secondary consonants transform their forms when follow the initial consonants as given below:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Transformed form</th>
<th>/IPA/</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ʔ</td>
<td>~ ʔ</td>
<td>/kj-/</td>
<td>ʔʔʔ</td>
</tr>
<tr>
<td>r</td>
<td>~ ɾ</td>
<td>/tr-/</td>
<td>ɾɾɾ / ɾɾɾ</td>
</tr>
<tr>
<td>ʘ</td>
<td>~ ʘ</td>
<td>/kw-/</td>
<td>ʘʘʘ</td>
</tr>
</tbody>
</table>

III. Final Consonants

Out of 18 consonants, 8 of them appear as final consonants. These final consonants can be divided into two main groups: a) smooth syllable which ends with continuant consonants (-m, -n, -ŋ, -j, -w) and b) checked syllable which ends with checked consonants (-p, -t, -k). The final consonants are not released in Shan. They always mark with devowelizer sign ( \( \varepsilon \) ).

a) Smooth syllable with continuant consonants

<table>
<thead>
<tr>
<th>Symbol</th>
<th>/IPA/</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ʘ</td>
<td>-m</td>
<td>as m in com</td>
<td>ʘʘʘ</td>
</tr>
<tr>
<td>ʘʘ</td>
<td>-n</td>
<td>as n in can</td>
<td>ʘʘʘ</td>
</tr>
</tbody>
</table>
b) Checked syllable with checked consonants

<table>
<thead>
<tr>
<th>Symbol</th>
<th>/IPA/</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>o (♂)</td>
<td>/ʊ/</td>
<td>as ng in sing</td>
<td>ʊĕ́</td>
</tr>
<tr>
<td>o (♂)</td>
<td>/w/</td>
<td>as w in cow</td>
<td>förder</td>
</tr>
<tr>
<td>q (♀/♀)</td>
<td>/j/</td>
<td>as ai in Tai</td>
<td>ờ́ / ờ́q́́</td>
</tr>
</tbody>
</table>

1.2 Vowels

In Shan, there are 11 vowels, 10 monophthongs and 1 diphthong. Only /a, aa/ are distinctive in vowel length. When monophthongs were followed by final consonant, their forms are changed. The transformed forms are shown in blanket. The diphthong never appears with any final consonants. The positions of the Shan vowels added to an initial consonant appear at all directions, in front / -e- , ɛ- /, at the back / -}\, / on the top / ɔ , ɛ , ɛ́ / below / ɪ , ɪ́ / in front and back / ɛ́- / below and above / ɔ́, ɔ́k , ɔ́t /.

a) Monophthongs

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Transformed form</th>
<th>/IPA/</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ə́</td>
<td>( - ) (no form)</td>
<td>/a/</td>
<td>ə́ə́</td>
</tr>
<tr>
<td>ə́</td>
<td>( -a )</td>
<td>/a:/</td>
<td>ə́ / ə́ə́</td>
</tr>
<tr>
<td>ə́</td>
<td>( ə́ )</td>
<td>/i/</td>
<td>ə́ / ə́ə́</td>
</tr>
</tbody>
</table>

2 In some Shan readers, the /-w/, /-j/ final consonants are interpreted in vowel and the number of vowels increases to 23 or 25 when the short /i, u/ are counted.
Shan is a tonal language and tones play an important role. Linguists use tonal splitting as one of the criteria in Tai dialects classification. There are five tones in the Shan language but only four marks are available.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tone 1: - (unmarked)</td>
<td>Rising tone</td>
<td>Ⴅ / ႤႥ</td>
</tr>
<tr>
<td>Tone 2: - ,</td>
<td>Low tone</td>
<td>ႣႥ / ႥႥ</td>
</tr>
<tr>
<td>Tone 3: - ;</td>
<td>Mid tone</td>
<td>ႣႥ / ႥႥ</td>
</tr>
<tr>
<td>Tone 4: - :</td>
<td>High tone</td>
<td>ႥႥ / ႥႥ</td>
</tr>
<tr>
<td>Tone 5: - .</td>
<td>Falling tone</td>
<td>Ⴄ / ႥႥ</td>
</tr>
</tbody>
</table>

### 1.3 Tonemes

b) Diphthong

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ⴇ / Ⴇ</td>
<td>auu / Ⴇ / Ⴇ</td>
<td></td>
</tr>
</tbody>
</table>
1.4 Numerals

Shan count 10 digits number system. Each number has its own symbol. The superscript number at phonetic symbol represents a tonal mark.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>/IPA/</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>１</td>
<td>/ nuŋ³ /</td>
<td>1</td>
</tr>
<tr>
<td>２</td>
<td>/ sən¹ /</td>
<td>2</td>
</tr>
<tr>
<td>₃</td>
<td>/ sa:m¹ /</td>
<td>3</td>
</tr>
<tr>
<td>４</td>
<td>/ si² /</td>
<td>4</td>
</tr>
<tr>
<td>５</td>
<td>/ ha:³ /</td>
<td>5</td>
</tr>
<tr>
<td>６</td>
<td>/ hok⁴ /</td>
<td>6</td>
</tr>
<tr>
<td>７</td>
<td>/ cet⁴ /</td>
<td>7</td>
</tr>
<tr>
<td>８</td>
<td>/ pet² /</td>
<td>8</td>
</tr>
<tr>
<td>９</td>
<td>/ kaw³ /</td>
<td>9</td>
</tr>
<tr>
<td>１０</td>
<td>/ sip⁴ /</td>
<td>10</td>
</tr>
</tbody>
</table>

1.5 Punctuation

In Shan writing, there are only two punctuations.

Ⅰ (one stroke) equivalent to comma (, ) in English.
Ⅱ (two strokes) equivalent to full stop (.) in English.

1.6 Transcribed Consonants

When many foreign words are introduced to Shan, another 4 extra consonants are created for transcribing foreign sounds that do not exist in Shan.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>/IPA/</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>~</td>
<td>/ f /</td>
<td>as g in game</td>
</tr>
<tr>
<td>®</td>
<td>/ b /</td>
<td>as b in boy</td>
</tr>
</tbody>
</table>
Conclusion

As a conclusion, I like to present the table of the combination of consonant, vowel and tone in Shan. Each box contains a Shan writing and its pronunciation transcribed in international phonetic alphabets (IPA). The first Shan alphabet oph / k / and tone 1 (unmarked tone) are used as an example, thought tone 1 with final checked consonants are meaningless in Shan words (the last three rows). All the tones below are tone 1 therefore the superscript tone number marker will not be marked in phonetic description. The first 6 rows are open syllables and the last 3 rows are the checked syllables.

<table>
<thead>
<tr>
<th>Shan Writing</th>
<th>Phonetic Description</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ə / d /</td>
<td>as d in do</td>
<td></td>
</tr>
<tr>
<td>ə / θ /</td>
<td>as th in thin</td>
<td></td>
</tr>
</tbody>
</table>
### The Combination of Shan Consonant and vowel

<table>
<thead>
<tr>
<th>V</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>F C</td>
<td>/a/</td>
<td>/aa/</td>
<td>/i/</td>
<td>/e/</td>
<td>/u/</td>
<td>/o/</td>
<td>/ə/</td>
<td>/ʊ/</td>
<td>/ʊ/</td>
<td>/au/</td>
</tr>
<tr>
<td>-</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
</tr>
<tr>
<td></td>
<td>/ka/</td>
<td>/kaa/</td>
<td>/ki/</td>
<td>/ke/</td>
<td>/ku/</td>
<td>/kə/</td>
<td>/kʊ/</td>
<td>/kʊ/</td>
<td>/kau/</td>
<td>/</td>
</tr>
<tr>
<td>-m</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
</tr>
<tr>
<td></td>
<td>/kam/</td>
<td>/kaam/</td>
<td>/kim/</td>
<td>/kem/</td>
<td>/kom/</td>
<td>/kəm/</td>
<td>/kʊm/</td>
<td>/kʊm/</td>
<td>/kəm/</td>
<td>/</td>
</tr>
<tr>
<td>-n</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
</tr>
<tr>
<td></td>
<td>/kan/</td>
<td>/kaan/</td>
<td>/kin/</td>
<td>/ken/</td>
<td>/kom/</td>
<td>/kəm/</td>
<td>/kʊm/</td>
<td>/kʊm/</td>
<td>/kəm/</td>
<td></td>
</tr>
<tr>
<td>-ŋ</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
</tr>
<tr>
<td></td>
<td>/kanj/</td>
<td>/kaanj/</td>
<td>/kinj/</td>
<td>/kenj/</td>
<td>/knŋ/</td>
<td>/kəŋ/</td>
<td>/kʊŋ/</td>
<td>/kʊŋ/</td>
<td>/kəŋ/</td>
<td></td>
</tr>
<tr>
<td>-w</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
</tr>
<tr>
<td></td>
<td>/kaw/</td>
<td>/kaaw/</td>
<td>/kiw/</td>
<td>/kew/</td>
<td>/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-p</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
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<tr>
<td></td>
<td>/kap/</td>
<td>/kaap/</td>
<td>/kip/</td>
<td>/ kep/</td>
<td>/kup/</td>
<td>/kəp/</td>
<td>/kʊp/</td>
<td>/kʊp/</td>
<td>/kəp/</td>
<td></td>
</tr>
<tr>
<td>-t</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
<td>”ø”</td>
</tr>
<tr>
<td></td>
<td>/kat/</td>
<td>/kaat/</td>
<td>/kit/</td>
<td>/ket/</td>
<td>/kut/</td>
<td>/kət/</td>
<td>/kʊt/</td>
<td>/kʊt/</td>
<td>/kət/</td>
<td></td>
</tr>
<tr>
<td>-k</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
<td>ø ø</td>
</tr>
<tr>
<td></td>
<td>/kak/</td>
<td>/kaak/</td>
<td>/kik/</td>
<td>/kek/</td>
<td>/kuk/</td>
<td>/kək/</td>
<td>/kʊk/</td>
<td>/kʊk/</td>
<td>/kək/</td>
<td></td>
</tr>
</tbody>
</table>

**V** = Vowels  
**F C** = Final Consonants
## APPENDIX B

### GEDNEY AND SWADESH WORDLIST

1. Gedney’s Wordlist for Tonal Checking

<table>
<thead>
<tr>
<th>English</th>
<th>/IPA/</th>
<th>Shan</th>
</tr>
</thead>
<tbody>
<tr>
<td>ear</td>
<td>/ hu:!/</td>
<td>ꚰ</td>
</tr>
<tr>
<td>leg</td>
<td>/ kʰa:!/</td>
<td>ꚰ ་</td>
</tr>
<tr>
<td>head</td>
<td>/ ho:!/</td>
<td>ꚰ མ</td>
</tr>
<tr>
<td>year</td>
<td>/ pi:!/</td>
<td>ꚰ ་</td>
</tr>
<tr>
<td>eye</td>
<td>/ ta:!/</td>
<td>མ  ་</td>
</tr>
<tr>
<td>to eat</td>
<td>/ kin:!/</td>
<td>མ ་</td>
</tr>
<tr>
<td>to fly</td>
<td>/ win:!/</td>
<td>མ ་</td>
</tr>
<tr>
<td>red</td>
<td>/ len:!/</td>
<td>མ ་</td>
</tr>
<tr>
<td>star</td>
<td>/ la: w:!/</td>
<td>མ ་</td>
</tr>
<tr>
<td>hand</td>
<td>/ mui^4</td>
<td>མ ་</td>
</tr>
<tr>
<td>water buffalo</td>
<td>/ kwai:^4</td>
<td>མ ་</td>
</tr>
<tr>
<td>ricefield</td>
<td>/ na:^4</td>
<td>མ ་</td>
</tr>
<tr>
<td>egg</td>
<td>/ kʰaj^2</td>
<td>་ ་</td>
</tr>
<tr>
<td>to split</td>
<td>/ pʰa:^2</td>
<td>་ ་</td>
</tr>
<tr>
<td>knee</td>
<td>/ kʰaw^2</td>
<td>་ ་</td>
</tr>
<tr>
<td>forest</td>
<td>/ pa:^2</td>
<td>་ ་</td>
</tr>
<tr>
<td>chicken</td>
<td>/ kaj^2</td>
<td>་ ་</td>
</tr>
<tr>
<td>old</td>
<td>/ ke^2</td>
<td>་ ་</td>
</tr>
<tr>
<td>English</td>
<td>Pali</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>shoulder</td>
<td>ओँ,</td>
<td></td>
</tr>
<tr>
<td>young man</td>
<td>ओँद,</td>
<td></td>
</tr>
<tr>
<td>to scold</td>
<td>ओँत,</td>
<td></td>
</tr>
<tr>
<td>older sibling</td>
<td>ओँ;</td>
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<tr>
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<td>dry field</td>
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<td>shirt</td>
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<tr>
<td>to kill</td>
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<td>fever</td>
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<td>five</td>
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<td>aunt</td>
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<td>rice seedlings</td>
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<td>to boil</td>
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<td>village</td>
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<td>flea</td>
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<tr>
<td>cooked, ripe</td>
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<tr>
<td>vegetable</td>
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</table>
frog / kop\(^4\) / กิ้ง
liver / tap\(^4\) / ตัว
to hurt / cep\(^4\) / ต่อ
fishhook / met\(^4\) / เม็ด
unripe / lip\(^4\) / ลิป
the chest / ?ok\(^4\) / อก
bird / nok\(^5\) / นก
to tie up / mat\(^5\) / แมท
to steal / luk\(^5\) / ลูก
broken, torn / k\(^h\)at\(^2\) / แตก, ร้าว
gums / hok\(^2\) / จมูก

to carry on a shoulder pole / ha:p\(^2\) / สะพาย
lungs / pøt\(^2\) / ปอด
wing / pik\(^2\) / ปีก

to pound / tøk\(^2\) / ต่อย
sunshine / let\(^2\) / เลิศ

to bath / ?ap\(^2\) / อาบ
flower / møk\(^2\) / มือ
knife / mit\(^3\) / มีด

(one’s) son / luk\(^3\) / เด็ก
blood / lat\(^3\) / 血
outside / nok\(^3\) / นอก
## 2. Swadesh Wordlist

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<thead>
<tr>
<th>English</th>
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<th>Shan</th>
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<tr>
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<td>/ kaw(^1)/</td>
<td>ນໝ</td>
</tr>
<tr>
<td>you (singular)</td>
<td>/ mau(^4)/</td>
<td>ນັໝ</td>
</tr>
<tr>
<td>he</td>
<td>/ man(^4)/</td>
<td>ນໝົ</td>
</tr>
<tr>
<td>we</td>
<td>/ haw(^4)/</td>
<td>ນໝັ</td>
</tr>
<tr>
<td>you (plural)</td>
<td>/ su(^1)/</td>
<td>ນັໝ</td>
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<tr>
<td>they</td>
<td>/ kʰaw(^1)/</td>
<td>ນິ</td>
</tr>
<tr>
<td>this</td>
<td>/ naj(^5)/</td>
<td>ນິ</td>
</tr>
<tr>
<td>that</td>
<td>/ nan(^3)/</td>
<td>ນໝິ</td>
</tr>
<tr>
<td>here</td>
<td>/ naj(^3)/</td>
<td>ນິ</td>
</tr>
<tr>
<td>there</td>
<td>/ nan(^3)/</td>
<td>ນໝິ</td>
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<tr>
<td>who</td>
<td>/ pʰau(^1)/</td>
<td>ນິ</td>
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<td>what</td>
<td>/ san(^1)/</td>
<td>ນິ</td>
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<tr>
<td>where</td>
<td>/ tʰ lau(^1)/</td>
<td>ນິໝ</td>
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<td>when</td>
<td>/ mo(^3) lau(^1)/</td>
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<td>how(^6)</td>
<td>/ cʰən(^5) huu(^1)/</td>
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<td>not</td>
<td>/ ?am(^2)/</td>
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<td>all</td>
<td>/ tan(^4) mot(^4)/</td>
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<td>many</td>
<td>/ nam(^1)/</td>
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<tr>
<td>some</td>
<td>/ kam(^3) pʰən(^3)/</td>
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<tr>
<td>few</td>
<td>/ ?e(^2)/</td>
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<tr>
<td>other</td>
<td>/ tan(^2) ?an(^1)/</td>
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<tr>
<td>one</td>
<td>/ nən(^3)/</td>
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\(^{1}\) Initial yod  
\(^{2}\) Initial velar  
\(^{3}\) Initial front  
\(^{4}\) Initial retroflex  
\(^{5}\) Initial palatal  
\(^{6}\) Initial alveolar
two / səŋ¹ /
three / sə:m¹ /
four / sɪ² /
five / ha:³ /
big / jau² /
long / ja:w⁴ /
wide / kwaŋ³ /
thick / na:¹ /
heavy / nak⁴ /
small / lek⁵ /
short / pɔt⁴ /
narrow / kep³ /
thin / maŋ¹ /
woman / me³ jin⁴ /
man (adult male) / kon⁴ caŋ⁴ /
man (human being) / kon⁴ /
child / luk³ ʔɔn² /
wife / me⁴ /
husband / pʰo¹ /
mother / me³ /
father / po³ /
animal / sat⁴ /
fish / pa:¹ /
bird / nok⁵ /
dog / ma:1 / ฉุ

louse / haw1 / จ๊ะ
snake / ṇu4 / งี่
worm / ṇa:n1 / ฉุก

tree / ton3 maj5 / ตอง
crane / tʰən2 / ตัน
class / kin2 maj5 / กิ้น
corneal / maak2 maj5 / แม็ก
corn / ma:n4 / แม่น
leaf / mau1 / ฉวน
root / ha:k3 / หัก
corner / pək2 maj5 / ปัก
cornerstone / mə:k2 / เมก
grass / jə:3 / เก
corner / cə:k3 / เก
skin / naŋ1 / นัง
corned / ne5 / นัง
corned / lət3 / เลต
bone / lup2 / ลูป
corned / man4 / เมน
corned / kʰa:j2 / เก
horn / kʰa:w1 / เก

tail / ha:n1 / เก

feather / kʰon1 nok5 / เก
hair / k^h_on^1 ho^1 /
head / ho^1 /
ear / hu^1 /
eye / ta:^1 /
nose / k^h_u^4 laŋ^1 /
mouth / sop^4 /
tooth / k^h_ew^3 /
tongue / lin^5 /
fingernail / nep^5 mu^4 /
foot / tin^1 /
leg / k^h_a:^1 /
knee / k^h_aw^2 /
hand / mu^4 /
wing / pik^2 /
belly / təŋ^5 /
guts / saŋ^5 /
neck / k^h_ɔ^4 /
back / laŋ^1 /
breast / ?ok^4 /
heart / ho^1 cau^1 /
liver / tap^4 /
drink / sot^5 /
eat / kin^1 /
bite / k^h_op^4 /
suck / lut² / ọọ̀dọ,
spit / nam⁵ laaj⁵ / ọọ̀dọ̀
vomit / ha:k³ / ọọ̀dọ,
blow / toj² / ọọ̀
breathe / tʰoj³ cau¹ / ọọ̀dọ̀ọ̀
laugh / kʰó¹ / ọọ̀
see / han¹ / ọọ̀
hear / yin⁴ / ọọ̀ọ̀
know / hu⁵ / ọọ̀
think / won⁵ / ọọ̀ọ̀
smell / sew¹ / ọọ̀ọ̀
fear / ko¹ / ọọ̀
sleep / nɔn⁴ / ọọ̀ọ̀ọ̀
live / lip⁴ / ọọ̀ọ̀
die / taj⁴ / ọọ̀
kill / hɛm¹ / ọọ̀
fight / tuk⁴ / ọọ̀ọ̀
hunt / la:³ / ọọ̀
hit / pɔ⁵ / ọọ̀ọ̀
cut / tep⁴ / ọọ̀ọ̀
split / pʰ⁴ / ọọ̀ọ̀
stab / jep³ / ọọ̀ọ̀
scratch / kʰit² / ọọ̀ọ̀
dig / kʰut⁴ / ọọ̀ọ̀ọ̀
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<td>ค่อยฝง</td>
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<td>fly (v.)</td>
<td>/ win¹/</td>
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<tr>
<td>walk</td>
<td>/ paj¹/</td>
<td>ที่</td>
</tr>
<tr>
<td>come</td>
<td>/ ma:⁴/</td>
<td>ณัฐ</td>
</tr>
<tr>
<td>lie</td>
<td>/ pet⁵/</td>
<td>นุ่น</td>
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<tr>
<td>sit</td>
<td>/ naŋ³/</td>
<td>อ่าน</td>
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<tr>
<td>stand</td>
<td>/ cuk⁴/</td>
<td>คุก</td>
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<tr>
<td>turn</td>
<td>/ waŋ²/</td>
<td>วาน</td>
</tr>
<tr>
<td>fall</td>
<td>/ tok⁴/</td>
<td>ตก</td>
</tr>
<tr>
<td>give</td>
<td>/ pan¹/</td>
<td>ผ่าน</td>
</tr>
<tr>
<td>hold</td>
<td>/ jip⁴/</td>
<td>จิป</td>
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<tr>
<td>squeeze</td>
<td>/ mip²/</td>
<td>ฝี</td>
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<td>rub</td>
<td>/ lup³/</td>
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<td>wash</td>
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<td>wipe</td>
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<td>pull</td>
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<td>push</td>
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<td>throw</td>
<td>/ wuut⁵/</td>
<td>วุ้น</td>
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<tr>
<td>tie</td>
<td>/ maŋ⁵/</td>
<td>แนก</td>
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<tr>
<td>sew</td>
<td>/ jep⁵/</td>
<td>นิป</td>
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<tr>
<td>count</td>
<td>/ nap⁵/</td>
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<tr>
<td>say</td>
<td>/ lat⁴/</td>
<td>ฉัน</td>
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<td>sing</td>
<td>/ hɔŋ⁵/</td>
<td>ฮัง</td>
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<td>play</td>
<td>/ len³/</td>
<td>สิน</td>
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float / pʰu⁴ /
flow / laj¹ /
freeze / kaːm³ /
swell / pʰe⁴ /
sun / taː¹ wan⁴ /
moon / lən¹ /
star / laːw¹ /
water / nam⁵ /
rain / pʰon¹ /
river / me³ nam⁵ /
lake / nəŋ¹ /
sea / pəŋ² laj² /
salt / kə¹ /
stone / hin¹ /
sand / saj⁴ /
dust / pʰun² /
earth / lin¹ /
cloud / mək² kum³ /
fog / moj¹ /
sky / təŋ⁵ faː⁵ /
wind / lom⁴ /
snow / moj¹ /
ice / nam⁵ kʰe⁴ /
smoke / kwan⁴ /
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<td>fire</td>
<td>/ faj⁴</td>
<td>สีไฟ</td>
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<tr>
<td>ashes</td>
<td>/ taw³</td>
<td>สีดิน</td>
</tr>
<tr>
<td>burn</td>
<td>/ maj³</td>
<td>สี</td>
</tr>
<tr>
<td>road</td>
<td>/ taŋ⁴</td>
<td>สีดิน</td>
</tr>
<tr>
<td>mountain</td>
<td>/ laŋ¹</td>
<td>สี</td>
</tr>
<tr>
<td>red</td>
<td>/ leŋ¹</td>
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<tr>
<td>green</td>
<td>/ kʰew¹</td>
<td>สี</td>
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<tr>
<td>yellow</td>
<td>/ laŋ¹</td>
<td>สี</td>
</tr>
<tr>
<td>white</td>
<td>/ kʰaːw¹</td>
<td>สี</td>
</tr>
<tr>
<td>black</td>
<td>/ lam¹</td>
<td>สี</td>
</tr>
<tr>
<td>night</td>
<td>/ kʰam³</td>
<td>สี</td>
</tr>
<tr>
<td>day</td>
<td>/ wan⁴</td>
<td>สี</td>
</tr>
<tr>
<td>year</td>
<td>/ pi¹</td>
<td>สี</td>
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<tr>
<td>warm</td>
<td>/ ?un²</td>
<td>สี</td>
</tr>
<tr>
<td>cold</td>
<td>/ kat⁴</td>
<td>สี</td>
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<tr>
<td>full</td>
<td>/ tem¹</td>
<td>สี</td>
</tr>
<tr>
<td>new</td>
<td>/ mau²</td>
<td>สี</td>
</tr>
<tr>
<td>old</td>
<td>/ kaw²</td>
<td>สี</td>
</tr>
<tr>
<td>good</td>
<td>/ li¹</td>
<td>สี</td>
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<tr>
<td>bad</td>
<td>/ haŋ⁵</td>
<td>สี</td>
</tr>
<tr>
<td>rotten</td>
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</tr>
<tr>
<td>dirty</td>
<td>/ woŋ²</td>
<td>สี</td>
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<td>straight</td>
<td>/ suŋ³</td>
<td>สี</td>
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<tr>
<td>round</td>
<td>/ mon⁴</td>
<td>สี</td>
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</table>
sharp / pʰaːj̩/ ကြာ
dull / ?u²/ စိုး
smooth / ləm³/ စိုမြူ
wet / jam⁴/ ဝက်
dry / hɛn³/ ဒို
correct / men³/ စိုးကျက်
near / cam¹/ ကျွန်
far / kaj¹/ ကျွန်
right / kwə³/ ကျွန်
left / saj⁵/ ကျွန်
at / ti³/ ကျွန်
in / nau⁴/ ကျွန်
with / tan⁴/ ကျွန်
and / le³/ ကျွန်
if / pə⁴/ ကျွန်
because / kəp³ pə³/ ကျွန်
name / cu⁴/ ကျွန်
# APPENDIX C
## GLOSSARY

<table>
<thead>
<tr>
<th>English</th>
<th>/IPA/</th>
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<tr>
<td>afraid</td>
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<td>ကုတ်</td>
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<td>aim at</td>
<td>/ŋa:¹/</td>
<td>ကျွန်</td>
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<td>alms bowl cover</td>
<td>/pʰa:¹ sa⁵ pit³/</td>
<td>ကြမ်းချောင်;</td>
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<td>/mot⁵/</td>
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<td>ခြယ်</td>
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<td>/kʰap⁵/</td>
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<td>ash</td>
<td>/taw³/</td>
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<td>ask</td>
<td>/tʰa:m¹/</td>
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<td>asleep</td>
<td>/lap⁴/</td>
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<td>aunt (younger sister of father)</td>
<td>/ʔa:¹/</td>
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<td>/kʰwa:n¹/</td>
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<td>/laŋ¹/</td>
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<td>bag</td>
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<td>banana</td>
<td>/koj³/</td>
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<td>banyan tree</td>
<td>/ʔoŋ²/</td>
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<td>be even</td>
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<td>be mildewed</td>
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<td>belt</td>
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<tr>
<td>bitter (in taste)</td>
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<td>bitter melon</td>
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clever      / let⁴ /  ကလေးးကျွန်း
close       / ?uṭ⁴ /  ကလေးးကျွန်း
cloud       / mok² kum³ /  မိုးကိုးကျွန်း
clamp       / kọ¹ /  ကလေးးကျွန်း
coax        / kʰjo⁴ /  ကလေးးကျွန်း
cold        / kat⁴ /  ကလေးးကျွန်း
comb        / wi¹ /  ကလေးးကျွန်း
come        / maː⁴ /  ကလေးးကျွန်း
compensate  / saːj³ /  ကလေးးကျွန်း
confuse     / kwan¹/  က်ဆို့
continue    / sup² /  က်ဆို့
cooked (in bamboo tube)  / laːm¹ /  က်ဆို့
copper      / tɔŋ⁴ /  ကရိုးကျွန်း
cotton      / kuij¹ /  ကရိုးကျွန်း
count       / nap⁵ /  ကရိုးကျွန်း
country     / məŋ⁴ /  ကရိုးကျွန်း
crab        / pu¹ /  ကရိုးကျွန်း
cradle      / ?u² /  ကရိုးကျွန်း
crave       / tɔŋ³ /  ကရိုးကျွန်း
craving desire  / jin⁵ /  ကရိုးကျွန်း
crazy       / jɔŋ² /  ကရိုးကျွန်း
crow        / kaː¹ /  ကျွန်း
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fear / ko¹ / ɕi
fever / naːw¹ / ɕi
few / ke² / ɕi
field / toŋ³ / ɕi
fight / tuŋ⁴ / ɕi
fill in / saur² / ɕi
fire wood / pʰun⁴ / ɕi
fire / pʰaj⁴ / ɕi
firm / kum⁴ / ɕi
fish trap / saj⁴ / ɕi
fish / paː¹ / ɕi
five / ha³ / ɕi
flag or long banners / tuŋ⁴ / ɕi
flatten thing / kep⁴ / ɕi
flat / pʰep⁵ / ɕi
flea / mat⁴ / ɕi
flow / laj¹ / ɕi
flower / mək² / ɕi
flute / pi² / ɕi
fog / moj¹ / ɕi
foliage / pʰa¹ / ɕi
follow after / luŋ³ / ɕi
forest / tʰən² / ɕi
four kyats / tɔŋ² / စားတင်
garden / son¹ / ရုပ်တင်
gardener’s trowel / ᶲ၄ / ရုပ်တင်
give / pən¹ / ပူစ်
go / kwaː² / ကြား
goat / pə⁵ / ကြား
gold / kʰ⁴ / ကြား
golden bamboo / maɪ⁵ səŋ⁴ kʰ⁴ / စိုက်ဖိုး
golden throne / pa⁵ laːŋ² kʰ⁴ / စိုက်ဖိုး
good / ɫi¹ / ကြား
goods / kʰ⁴ / ကြား
grab / ᶦကပ⁴ / စိုက်ဖိုး
grasp (the throat) / ᶸेत⁵ / တာတံ
grasp / ɳəm⁴ / တာတံ
grass / jaː⁴ / စိုက်ဖိုး
grip as chop sticks / ɳɪp³ / တာတံ
guest / kʰèk² / စိုက်ဖိုး
hand fan / wi⁴ / တာတံ
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hang up / ဆေးး / စိုက်ဖိုး
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new / maui² / చె, 
news / kʰaːw² / అనే, 
nine / kaw³ / కుడు; 
noble / mjet³ / ప్రముఖ;

O
old / ke² / ఎడ, 
one hundred / paːk² / అప్పుల;
one / nun³ / ఒన్ను; 
open / put² / పూర్త; 
owl / kaw⁵ / కుడు; 
ox / wo⁴ / ఓడ;

P
packet / hɔ² / పాక; 
paddy field / naː⁴ / పాడీ; 
pain / cep⁴ / చపే; 
pair / kop⁵ / కొడు; 
paper / ce³ / పాపరు; 
pear / ma:k² kɔ³ kap⁴ / పార్శు, పాపరు; 
peel / pɔk² / పాక; 
pick / kep⁴ / కేపు; 
pinch / jɑk⁴ / జంతు; 
plant / sɔm³ / పాండు; 
plough / tʰaːj¹ / తోండరు; 
poison / ɳon⁵ / బిందు; 
poor (quality) / jaːm⁵ / పుపుడు;
port / taːt/  ฮ่ง
post / laːk/  ฮก
pot / mɔt/  ฮฎ
pour out / tʰɔk/  ฮก
practice / kjaːŋ/  ฮง
pregnant / man/  ฮง
press / mip/  อพ.
pull down / cɔŋ/  อง.
pull out / tʰɔn/  อง.
pull / can/  อง.
pure / sau/  อ ง.
quiet / tet/  อง.
rain / pʰon/  ออง.
raw / lip/  ออง.
real / te/  ออง.
recite (manda) / pʰwa/  ออง.
record / ?aːt/  ออง.
remember / tɔŋ/  ออง.
return / kʰun/  ออง.
reverse / khun/  ออง.
rice / kʰaw/  ออง.
rice man / kon sə tʰe/  ออง.
ride / kʰi/  อัง.
right side / kwaː/  อัง.
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<td>/ pʰau¹ /</td>
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<tr>
<td>Wide</td>
<td>/ kwaŋ³ /</td>
<td>တော၊</td>
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<tr>
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<tr>
<td>Widow</td>
<td>/ maŋ³ /</td>
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<td>/ hew² /</td>
<td>ချင်၊</td>
</tr>
<tr>
<td>Wing</td>
<td>/ pik² /</td>
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<td>Worm</td>
<td>/ nɔn¹ /</td>
<td>အိုင်၊</td>
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<td>Wrestle</td>
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<td>မောင်၊</td>
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<td>/ təm³ /</td>
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<tr>
<td>Writer</td>
<td>/ ca⁵ le⁴ /</td>
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<td>Year</td>
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<td>Yoke</td>
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<td>You</td>
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<td>Young unmarried man</td>
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</tbody>
</table>
BIOGRAPHY

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