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A phonology of Hill (Kone-Tu) Asho

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A PHONOLOGY OF HILL (KONE-TU) ASHO

by

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This thesis, submitted by Daniel Tignor in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This thesis meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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ABBREVIATIONS

1	first person
2	second person
(intr)	intransitive
(n)	noun
NEG	negation
PL	plural
SG	singular
(tr)	transitive
(v)	verb

ABSTRACT

Asho (ISO 639-3: csh) is a Tibeto-Burman language in the Southern Chin branch of Kuki-Chin. It is spoken by about 170,000 people, primarily in western and west-central Myanmar (Simons & Fennig 2018). Although Asho received some early attention in the studies of Tibeto-Burman languages (Houghton 1892; Joorman 1906), it has remained mostly unstudied for the past century. Current data confirm the traditional distinction of two basic dialects of Asho (Hill and Plains), and this paper focuses on the Hill or "Kone-tu" dialect. The Hill dialect has 26 consonants (compared to 29 in the Plains dialect), and both dialects have 14 vowels (11 simple vowels and 3 diphthongs). There is a basic syllable structure of CCVC and two level tones (high and low). A two-tone system is unusual among Kuki-Chin languages, but this research shows how Asho's tone supports and clarifies the subgrouping of Southern Chin languages.

Asho is notable for the numerous commonalities that it shares with Burmese vis-à-vis more closely related Kuki-Chin languages. Most notably, both Asho and Burmese have palatalized velar plosives in front vowel environments and lost place distinctions on syllable-final consonants. The more conservative Hill dialect retains more Kuki-Chin characteristics than the Plains dialect, which has had significant contact with Burmese and shows stronger similarities with Burmese.

CHAPTER 1
INTRODUCTION

In the preface to his 1892 *Essay on the Language of the Southern Chins and Its Affinities*, Bernard Houghton writes, "I play the part here of a simple pioneer going forward and blazing a path; it is for those who come after me to expand the track into a fair and well-engineered roadway for the good of all" (Houghton 1892:2). Perhaps he would be surprised to know that now—over 100 years later—his pioneering trail has sat basically untouched and unused by later explorers. While other sections of the Kuki-Chin language family have been well-documented and well-analyzed, his "Southern Chin" language—now referred to as "Asho"—has been almost completely passed over. The goal of this thesis is to address the century-long gap in Asho research and to re-examine the insights that Asho phonology can provide to the study of Kuki-Chin and Tibeto-Burman languages.

Asho (ISO 639-3: csh; pronounced [ʔəʃɤ́][1]) is a Tibeto-Burman language in the Southern Chin branch of Kuki-Chin. Earlier editions of the *Ethnologue* had estimated an Asho population of just 30,000 people, but the twenty-first edition now suggests there may be closer to 170,000 (Simons & Fennig 2018). The Asho Chin people live in western and central Myanmar, primarily in Rakhine State and Magway Region, but they are also found in Chin State, Bago Region, and Ayeyarwady Region. Figure 1 shows the

[1] Phonetic and phonemic transcriptions in this paper all follow IPA conventions. High tone is marked with an acute accent and low tone with a grave accent. The brief schwa vowel of an unstressed syllable is written with a breve (ə̆).

townships in these states and regions where Asho villages can be found (Nathan Statezni, pers. comm.).

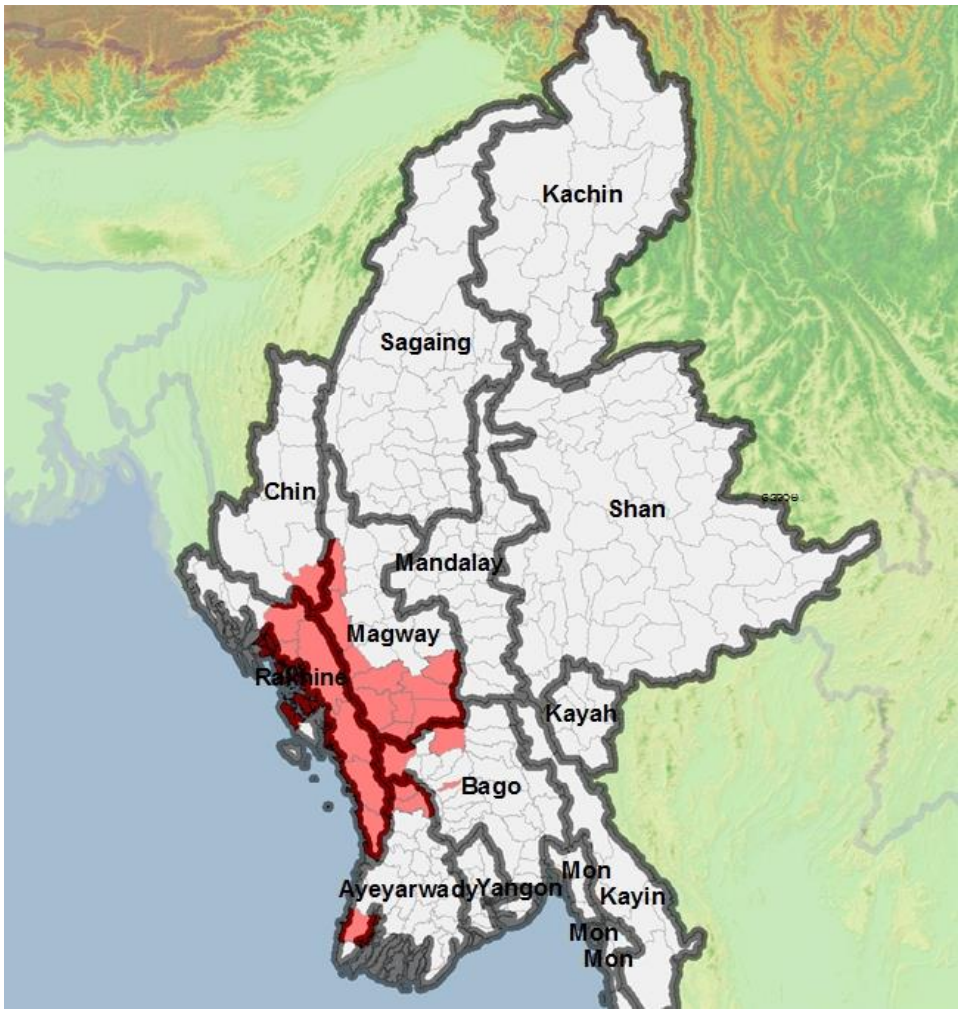

Figure 1. Myanmar townships with an Asho population

1.1 Language Classification

Asho Chin is a Tibeto-Burman language in the Southern Chin group of Kuki-Chin languages. The Asho were one of the first Chin groups encountered by Europeans, and in early English descriptions they were simply referred to as “Chin” (Joorman 1906) or—only slightly more precisely—as “Southern Chin” (Houghton 1892). Although the term “Chin” is now applied to a much larger group of related languages (including

Asho), VanBik (2009:4) has suggested that the term comes specifically from the Asho language. The Asho word for 'person' /kʰlaún/ was previously pronounced with a final velar nasal (/kʰlaúŋ/), which was approximated by the Burmese pronunciation /kʰjaúŋ/. Later Burmese phonological shifts changed /kʰj/ to /tʃʰ/ and pronounced codas with /ŋ/ as [ĩ], resulting in "Chin."[2]

1.1.1 Kuki-Chin classification

Kuki-Chin languages are spoken primarily in Chin State in Myanmar and in Mizoram State in India, although some languages—like Asho—are found outside of those areas. References to the Kuki-Chin group have sometimes included Naga or Southern Naga languages (e.g. Bradley 1997:26–31). However, VanBik distinguishes the Kuki-Chin group from Naga based on Kuki-Chin's distinctive verb-stem alternation and a phonological shift of Proto-Tibeto-Burmese **s* to Proto-Kuki-Chin **tʰ* (2009:9–18).[3]

Peterson (2000:79–81) provides a good summary of the past and present sub-groupings of Kuki-Chin based on phonological and grammatical innovations: Traditionally, Kuki-Chin has been divided into four subgroups—Old Kuki, Northern Chin, Central Chin, and Southern Chin—with Asho falling within the Southern Chin

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[2] VanBik is dismissive of Luce's explanation of "Chin" coming from an archaic Burmese word for "ally" or "comrade" – a root still found in the last syllable of Modern Burmese's /θəŋɛdʒĩ/ 'friend'.

[3] Even so, he notes that the Northen Chin language Tedim maintains **s* in some environments and that the Khumi languages within Southern Chin do not display verb-stem alternation.

Verb-stem alternation is a common feature of Kuki-Chin languages. Many verbs in these languages have two stems, and each stem is used for certain grammatical or semantic purposes. One stem (often labeled "stem I") is typically used for main verbs, while a secondary form ("stem II") is used for subordinate verbs or for focus. See Yip (2004:970–971) and Kee Shein Mang (2006). Although I am not focusing on verb-stem alternation in Asho, there seems to be a fairly small minority of Asho verbs that have retained differing forms for the stems.

group. This grouping can be traced back at least to the early 1900s and was widely assumed throughout the twentieth century. Peterson slightly alters this arrangement by pointing out several shared features between the Northern Chin and Southern Chin branches—joining them into a Periphery branch.

VanBik (2009:23) fleshes out Peterson's revised groupings with regard to a Proto-Kuki-Chin, as seen in Figure 2.

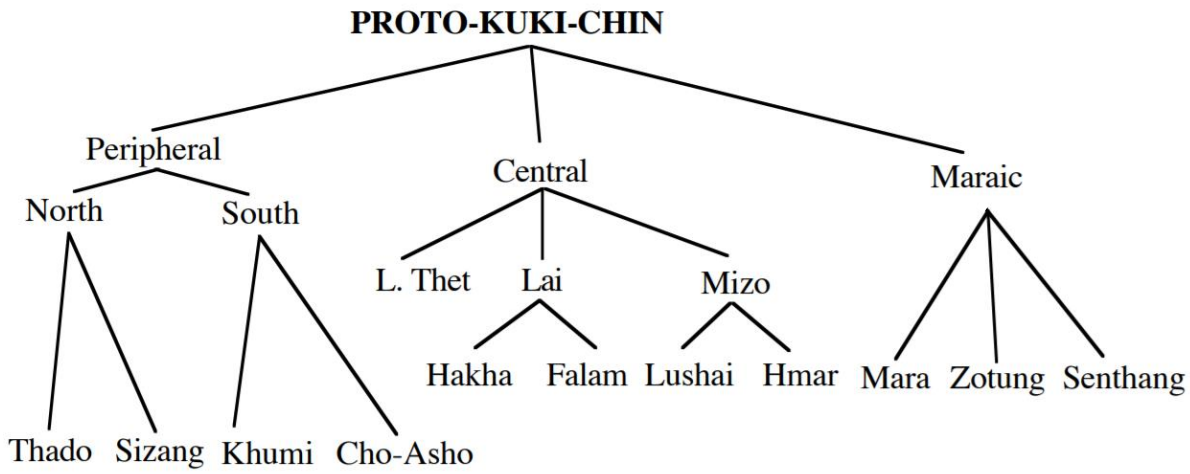

Figure 2. VanBik's schema for Proto-Kuki-Chin

Northern and Southern Chin are joined into a Peripheral group, and Mara and similar languages are separated from Central Chin into their own Maraic group.

1.1.2 Southern Chin classification

The Southern Chin languages can be further divided into a Khumi group and a Cho group, following an initial classification by So-Hartmann (1988). Geographically, the Khumi languages tend to be further west, and the Cho languages toward the east (So-Hartmann 1988:101–102). So-Hartmann makes the separation based on lexical similarity (1988:102), but VanBik points to the Khumi group's lack of verb-stem alternation as another reason for the distinction (2009:34).

Finally, VanBik (2009:37) separates Asho from the Cho languages based on Asho's use of /j/ where /g/ is found in the other Cho languages. The resulting tree, based on So-Hartmann (1988:103) and modified by VanBik (2009:38), is shown in Figure 3:

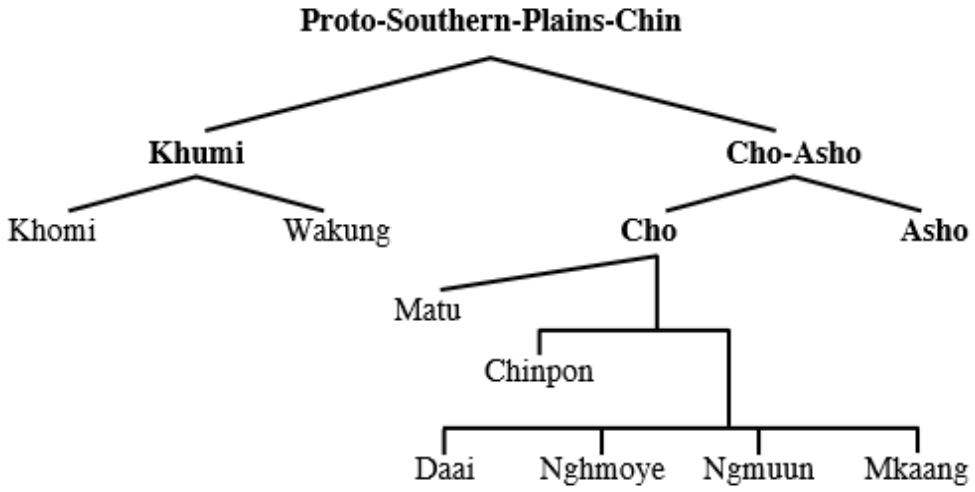

Figure 3. VanBik's classification of Southern Chin languages, based on So-Hartmann (1988)

1.1.3 Asho classification

There are a variety of terms connected with Asho, either as alternate terms for the language or to designate dialects within Asho. Early research referred to the language as simply "Chin" (Joorman 1906), "Southern Chin" (Houghton 1892), or "Plains Chin" (Stern 1962). The *Ethnologue* lists ten alternate names: Ashu, Hyow, Khamaw, Khamoe, Khyang, Kyang, Qin, Saingbaung, Sho, and Shoa (Simons & Fennig 2018). VanBik passes on the names of six mutually-intelligible Asho "dialects" provided by an Asho source: Settu, Laitu, Awttu, Kowntu, Kaitu, and Lauku (VanBik 2009:37–38). The relationship between these various terms is still unclear, and the *Ethnologue* suggests that terms like Hyow probably refer to distinct languages. Recent versions of the *Ethnologue* have added separate language entries for Uppu, Laitu, Sumtu, Songlai, and Mro-Khimi—languages that had earlier been considered dialects of Asho.

Despite the variety of labels, research in Asho has generally divided the language into two primary dialects: a northern "Hill Asho" and a southern "Plains Asho." This division was recognized by Houghton (1892:22, 35), who commented occasionally on lexical differences of the "more Northerly Chin." Condict (1952) also recognized two dialects in his preface to the *Ashö Southern Chin Primer*:

> In Lower Burma there are two dialects of Southern Chin known to the Chins as that on the eastern and that on the western side of the Ireawaddy [sic]. It would be better to speak of them as northern and southern dialects of S. Chin for both can be found west of the river.

As seen in Figure 4, Stern (1962:3) maps the two dialects similarly, labeling an "Eastern" and a "Western" dialect, with the Irrawaddy River as the primary dividing line between the two.

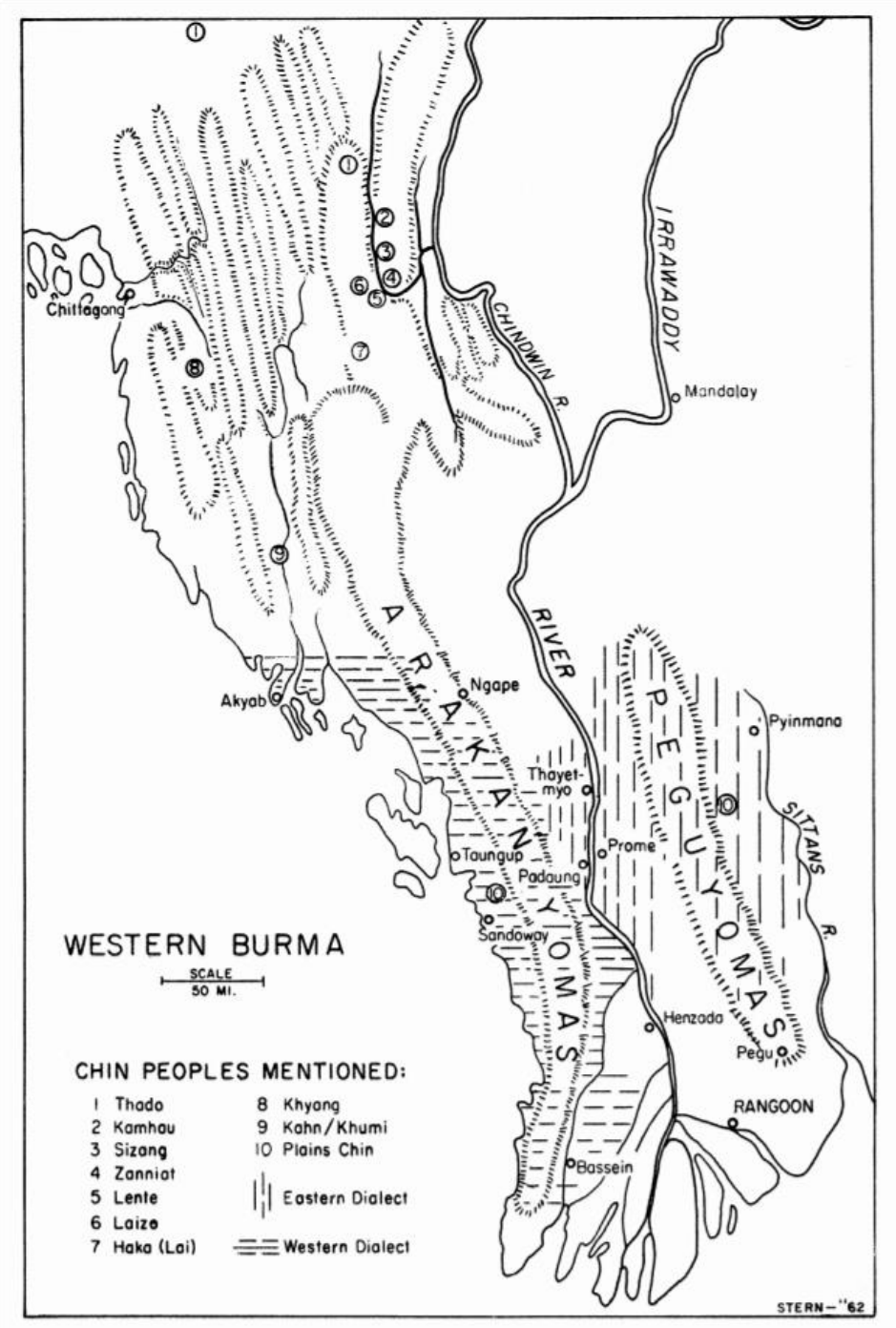

Figure 4. Stern's map of Asho dialects in relation to other Chin groups (Stern 1962:3)

As Condict had noted earlier, the Irrawaddy River forms an imperfect boundary, with the Eastern (or "southern") dialect extending across the river to the area around Thayetmyo.

The Asho that I have met refer to these two groupings as Kone-tu ("hill people") and Ok-tu ("plains people"). Kone-tu refers to Condict's "northern" dialect and Stern's "western," and the Ok-tu are the "southern" or "eastern" dialect. [4] Table 1 summarizes the various dialect names used by different sources.

Table 1. Asho dialect names across sources

Condict (1952)	Northern	Southern
Stern (1962)	Western	Eastern
Endonym	Kone-tu ("hill people")	Ok-tu ("plains people")
Ethnologue	Hill	Plains

In this paper, I will avoid the directional labels and instead adopt the *Ethnologue's* labels based on the endonyms: "Hill" and "Plains."

Having heard speakers from these two dialects as well as from related "Asho" languages, I have found two basic phonological traits shared by the Hill and Plains dialects that distinguish them from nearby languages:

[4] Although Stern's map shows a range of hills ("yomas") in the home area of both dialects, the "Pegu Yomas" are a considerably less prominent range than the "Arakan Yomas."

1. Complete loss of place distinction in syllable final consonants. Some "Asho-group" languages have retained place distinctions in coda consonants, both with stops and with nasals. The dialects in this study have only /ʔ/ and /n/ in syllable final position.
2. A possible phoneme /l/ in the second position of complex onsets, rather than /ɹ/ or /ɾ/. Some varieties use an alveolar flap or approximant in this position, but the varieties under consideration here have a lateral.

Phonologically, the differences between the dialects are not too significant. Plains Asho has added several voiced obstruents (/b/, /d/, /g/, and /z/) in places where the Hill dialect has voiceless phonemes preceded by syllabic nasals. Also, the Hill dialect has dental plosives /t̪ʰ/ and /t̪/ where the Plain dialect has alveolar stops. Vowels are more divergent, and the differences fall along a geographic continuum rather than into two well-defined dialects. There are at least nine vowel phonemes that differ in pronunciation from one edge of the language area to the other extreme. Each of these differences will be discussed in the relevant chapters below.

There are also some lexical differences scattered across the dialects, such as the Hill dialect's form of the realis particle /t̪ɤʔ/ when Plains Asho uses /kɤʔ/. I suspect that grammatical differences form the major distinction between the dialects. Although my research did not focus on collecting grammar data, I did notice that the southern Plains dialect speaker (from the eastern edge of the Asho area) did not use verb agreement prefixes while the speaker of the northern Hill dialect used them consistently. These differences, however, lie beyond the scope of this paper.

Past studies have tended to concentrate on the more prestigious and more easily accessible Plains dialect. This thesis, however, focuses on the more conservative Hill dialect. It also touches on the Plains dialect in places where the dialects diverge.

1.2 Previous Research

The primary published sources for Asho are Houghton (1892)—quoted at the beginning of this chapter—and Joorman (1906). While each of these provide some valuable insights into the language, neither paid much attention to issues like tone. Very little was written about Asho over the next hundred years until recent studies by Otsuka (2014; 2015a; 2015b), which provided an overview of Asho phonology and investigated person marking in Asho. Asho also gets a passing mention in a few places, such as Gvozdanović (1985), which examines numerals cross-linguistically and includes some Asho data. Luce (1985) contains a sampling of Asho word data with valuable insights for understanding lexical tone in Asho.

For this study, I have benefited from phonological descriptions of related languages. Watkins (2013) examines tone in the closely-related Sumtu language. Moving slightly further out into the Cho languages, So-Hartmann (2009)'s grammar of Daai Chin has a chapter on Daai phonology, and K'Cho phonology is mentioned in Kee Shein Mang (2006). Herr (2011) discusses the phonology of Lemi, and Hornéy (2012) looks at the phonology of Mro Khimi—languages in the Khumi group and thus less-related to Asho, but still within Southern Chin.

1.3 Contact with Burmese

Because of their proximity to the (Burmese-speaking) Bamar people, the Asho have had more contact with Burmese than many other Chin groups. Asho speakers have typically lived as a minority in a predominantly Burmese speaking environment, whereas the Kuki-Chin groups within modern Chin State were relatively more isolated. This linguistic contact has had a definite impact on the Asho language. However, since both Asho and Burmese are in the Tibeto-Burman language family, it can be difficult to tease out the direction of the shared features and vocabulary.

Asho consonantal phonology and syllable structure have undergone changes similar to changes in Burmese, presumably due to Asho's exposure to Burmese as a language of wider communication. These changes—discussed in the chapters below—include the loss of place distinctions on syllable-final consonants and the fronting of velar plosives to postalveolar affricates in certain environments (before /j/ in Burmese and before any front vowel in Asho).

1.4 Methodology of the Present Study

The present study is based on multiple elicitation sessions with two Asho Chin speakers in Yangon, Myanmar in 2015. These two speakers came from opposite ends of the Asho area: One consultant was from an Asho village in Ngape Township in Magway Region and spoke the Hill dialect of Asho. The other was from an Asho village in Daik-U Township in Bago Region and spoke the Plains dialect.

Both consultants were male and in their twenties. The mother and father of each consultant were ethnically Asho, and each consultant reported that his parents had primarily used Asho in the home. Each had been raised in the same village as his parents but had been living in Yangon for about the past four years. Both spoke Asho as their first language but were highly bilingual in Burmese (and considering both Asho and Burmese the language they spoke best). Burmese was the shared language used for elicitation.

One of my primary aims in this thesis is showing how Asho phonology has been influenced by its contact with Burmese. With two young Asho speakers who have been educated in Burmese and who are very comfortable with Burmese, there could be some question of just how wide the Burmese influence extends. Has Burmese really affected Asho phonology, or has it just affected these Burmese-educated and highly bilingual consultants? Fortunately, for the significant points of contact discussed in this paper, the data are confirmed by other sources. The loss of coda consonant place distinctions is

observed by Stern (1962:18), and velar palatalization goes back to Houghton (1892:6). As for modern usage, I have had access to recordings from present-day Asho villages that also show that these kinds of changes are widespread. However, for aspects of Burmese influence that may be limited to young, Burmese-educated Asho (e.g. free variation between [j] and [ʒ]), I have attempted to avoid claims that could be overstated.

The primary data collected came from a wordlist with more than 1600 items (Hopple 2008), which is based on SIL's African-Area wordlist (Snider & Roberts 2006) and adjusted for use in Southeast Asia. While this wordlist provided solid evidence for consonant, vowel, and tone phonology, there is less information about tone sandhi or morphophonemics, and as a consequence this thesis focuses less on these areas. In addition to the wordlist data, a brief text was also collected from each consultant as well as a few verbal paradigms.

Recordings and transcriptions from these two consultants were combined with a written copy of the same wordlist, transcribed in the Burmese-based Asho orthography by a member of the Asho Chin National Literature & Culture Central Committee. In the time since the initial data were collected, I have continued interacting with other Asho speakers from different areas to ask further questions and scrutinize analyses.

1.5 Outline of the Present Study

In this thesis, I will begin with a brief overview of Asho's consonants (Chapter 2) and vowels (Chapter 3). Chapter 4 deals with the tone system of Asho, and its implications for the classification of Kuki-Chin languages. Chapter 5 discusses syllable constraints, and Chapter 6 considers some of the ways that Asho—especially the Plains dialect—has been influenced by Burmese. I conclude in Chapter 7 with a brief summary of two of the most significant aspects of Asho phonology addressed in this thesis—the

insight that Asho tone provides for Kuki-Chin classification, and the importance of the influence of Burmese upon Asho.

1.6 Summary of Hill Asho Phonology

The remainder of this thesis will discuss the segmental and supra-segmental phonology of Asho, but a brief overview of my analysis can be given at this point. Hill Asho has a moderately large number of consonants (26) and a large inventory of vowels (11 simple vowels and 3 diphthongs). Consonant phonemes for the Hill dialect are shown in Table 2, and vowel phonemes are given in Figure 5.

Table 2. Asho consonant phonemes in the Hill dialect

	Bilabial	**Alveo-dental**	**Palatal**	**Velar**	**Glottal**
Plosive-Implosive	p p^h ɓ	t̪ $t̪^h$ ɗ		k k^h	ʔ
Nasal	m̥ m	n̥ n	ɲ̊ ɲ	ŋ̊ ŋ	
Fricative		s s^h	ʃ		h ɦ
Approximant	w	ɬ l	j		

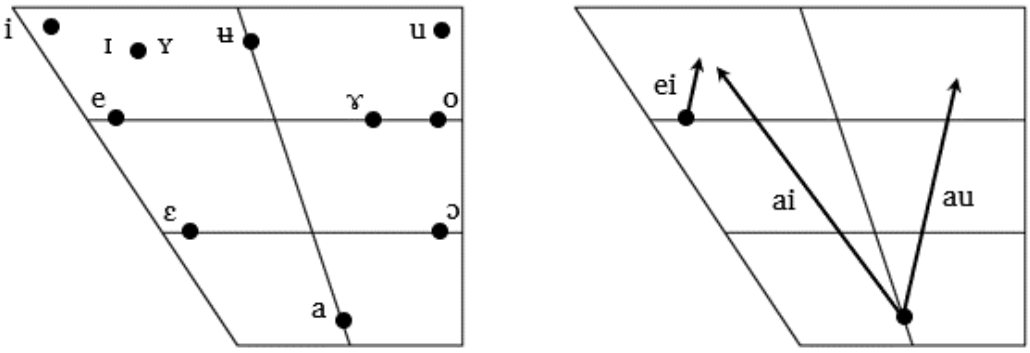

Figure 5. Asho vowel phonemes in the Hill dialect

Asho (in both the Hill and Plains dialects) has only two tones—high and low—which can occur with both open and closed stressed syllables.

Asho syllables fit the pattern C_i (C_m) V (C_f), with an obligatory onset and vowel and optional medial (C_m) and final (C_f) consonants. Unstressed syllables (often referred to as "minor syllables" in Southeast Asian linguistics) cannot occur on a right word edge and consist of only an initial consonant plus a brief schwa vowel (Cə).

CHAPTER 2
CONSONANTS

The Hill dialect of Asho has 26 consonant phonemes, shown in Table 3. Each of these is exemplified below, with minimal sets given for each.

Table 3. Asho consonant phonemes in the Hill dialect

	Bilabial	**Alveo-dental**	**Palatal**	**Velar**	**Glottal**
Plosive-Implosive	p pʰ ɓ	t̪ t̪ʰ ɗ		k kʰ	ʔ
Nasal	m̥ m	n̥ n	ɲ̊ ɲ	ŋ̊ ŋ	
Fricative		s sʰ	ʃ		h ɦ
Approximant	w	ɬ l	j		

All of these except /ɦ/ have an unrestricted distribution in the syllable onset, while /ɦ/ occurs only in the onset of a few grammatical suffixes.

2.1 Plosives and Implosives

Asho has a set of voiceless plosives (aspirated and unaspirated) at each of three places of articulation—bilabial, dental, and velar. (The glottal plosive /ʔ/ is contrasted with the glottal fricative /h/ in 2.3 below.)

There is also a bilabial implosive /ɓ/ and an alveolar implosive /ɗ/, a common occurrence in Southern Chin (and Southeast Asian) languages. The same pair /ɓ/ and /ɗ/ can be found in K'Cho (Kee Shein Mang 2006:14), Daai (So-Hartmann 2009:44), and Mro (Hornéy 2012:11–12), for example. On the basis of the Southern Chin data,

VanBik (2009:64–65) posits **ɓ* and **ɗ* as phonemes of Proto-Kuki-Chin. The absence of a velar implosive /ɠ/ is also typical of Southeast Asian languages that feature implosives.

Examples comparing plosives and implosives at each place of articulation can be seen in (1-3).[5]

(1)	**/p/**		/pʰ/		**/ɓ/**	
a.	pú̱	‘carry on back’	d. pʰú̱	‘fireplace’	g. ɓù̱	‘rice (cooked)’
b.	pá	‘father’	e. pʰá	‘basket for catching fish’	h. ɓá	‘eat with hands’
c.	pɔ̀	‘be abundant’	f. pʰɔ́	‘snake’	i. ɓɔ́	‘return’

(2)	**/t̪/**		/t̪ʰ/		**/ɗ/**	
a.	t̪ú̱ʔ	‘kill’	d. t̪ʰù̱ʔ	‘be deep’	g. ɗú̱	‘die’
b.	t̪ò	‘sharpen’	e. t̪ʰò	‘be sour’	h. n̪ɗó	‘sting (bee)’
c.	t̪á	‘brother (older)’	f. t̪ʰá	‘be new’	i. ɗáʔ	‘deadfall trap’

(3)	**/k/**		/kʰ/	
a.	kú̱	‘porcupine’	d. kʰú̱	‘caterpillar’
b.	kɔ̀n	‘go down’	e. kʰɔ̀n	‘meet, find’
c.	ké [tʃé]	‘tiger’	f. kʰé [tʃʰé]	‘granary’

[5] When it is not relevant to the comparison, I have omitted an initial syllable /ʔə̆/. This is prefixed on many nouns in their standalone form but is not an essential part of the word.

2.1.1 Palatalization

In the Asho dialects considered here, velar plosives are palatalized as postalveolar affricates before front vowels, as in (4).

(4)	a.	kʰì	[tʃʰì]	‘longyi (male)’
	b.	ké	[tʃé]	‘tiger’
	c.	wǎkʰéʔ	[wǎtʃʰéʔ]	‘pheasant’

While this palatalization rule held true for my speakers, it is not applied consistently by all speakers. I have heard Asho speakers (from the Mindon area) pronouncing postalveolar affricates before close front vowels (/i/ and /ɪ/) but not before /e/ or /ɛ/.

While I am considering postalveolar affricates as allophones of velar plosives, there is also some evidence that the postalveolar affricates in Asho are moving toward phonemic status. First, there *are* a few instances (as in 5) of a postalveolar affricate before a non-front vowel, typically in words where the Burmese equivalent also contains a postalveolar affricate.

(5) **Postalveolars before non-front vowels with Burmese cognates**

a.	[tʃʰón]	‘be loose’	(cf. Burmese /tʃʰaŭ̃/)
b.	[tʃaú]	‘fry’	(cf. Burmese /tʃɔ̀/)
c.	[sʰítʃʰaín]	‘song’	(cf. Burmese /θətʃʰĩ/)
d.	[tʃáʔ]	‘be tight’	(cf. Burmese /tʃaʔ/)

Some of these are obviously loanwords (e.g. 5c ‘song’), while for others the relationship is less clear. Regardless, it appears that Burmese bilingualism is encouraging the

pronunciation of postalveolars in situations that would not be expected from the Velar Palatalization rule.[6]

Another argument in favor of treating the affricates as phonemes comes from unstressed minor syllables, where the vowel reduces to schwa (6).

(6)	**Hill Asho**	**Houghton (1982:120)**	
	kəkón [tʃəkón]	kyé-k'o˝n (IPA: [tʃèkʰón])	'shrimp'

At the end of the nineteenth century, Houghton gave the word for 'shrimp' ('prawn' in his list) with a full first syllable and a front vowel /e/, which gave the conditioning needed for the velar palatalization rule. Today, however, the vowel of the first syllable is reduced to the schwa of an unstressed syllable, and /ə/ does not cause palatalization (e.g. in /kʰəjaí/ 'ghost'). Despite the lack of front-vowel conditioning, the initial consonant in 'shrimp' remains a postalveolar affricate, further evidence that these may be on their way to achieving phonemic status.

One final remark about the postalveolar affricates: Through a similar rule, velars in Burmese have also been palatalized as postalveolar affricates. Today, these are normally considered to be distinct phonemes rather than allophones. This parallel with Burmese will be discussed in more detail in Chapter 6.

[6] Another possibility is that these words contain an onset cluster of /kj/ or /kʰj/, and it is the semivowel /j/ that has caused the palatalization.

2.2 Nasals

Asho has nasals at four points of articulation – labial, alveolar, palatal, and velar. At each of these places of articulation there is a voiceless nasal and a voiced nasal, giving eight nasals total.

2.2.1 Bilabial nasals

The examples in (7) show the contrast between the voiceless bilabial nasal /m̥/ and the voiced bilabial nasal /m/.

(7)

/m̥/		/m/	
a. m̥ú	‘stir’	d. mú	‘elephant’
b. m̥aùn	‘tattoo’	e. maùn	‘dream (n)’
c. ʔəm̥ɔ́n	‘truth’	f. ʔəmɔ́n	‘price’

2.2.2 Alveolar nasals

The examples in (8) show the contrast between the voiceless alveolar nasal /n̥/ and the voiced alveolar nasal /n/.

(8)

/n̥/		/n/	
a. n̥í	‘two’	d. ní	‘here’
b. n̥ù̠	‘behind’	e. nù̠	‘female’
c. n̪n̥ɔ́n	‘kiss (v)’	f. n̪nɔ́n	‘be smelly’

2.2.3 Palatal and velar nasals

The palatal and velar nasals are much less common, and (9) and (10) include almost all of the words in my data. For some words, either a palatal or velar nasal was

considered an acceptable pronunciation (e.g. either [ɲè] or [ŋè] for 9e ‘listen’). Examples (9a) and (10a) show contrast between palatal and velar nasals before the same vowel (/a/).

(9)	/n̠̊ʲ/		/ɲ/	
	a. n̠̊ʲáʔ	‘cut’	d. ɲaìn	‘argue’
	b. n̠̊ʲé	‘ashes’	e. ɲè	‘listen’
	c. n̠̊ʲɔ́	‘forget’		

(10)	/ŋ̠̊ʲ/		/ŋ/	
	a. ŋ̠̊ʲá	‘ten’	c. ŋaún	‘eggplant’
	b. ŋ̠̊ʲó	‘fish’	d. ŋò	‘morning’

2.3 Voiceless Fricatives

Asho has three voiceless sibilants, /s/, /sʰ/, and /ʃ/, and a voiceless glottal fricative /h/. The phoneme /sʰ/ is an aspirated voiceless alveolar sibilant, also found in Daai Chin (So-Hartmann 2009:44–45) and in Burmese (Watkins 2001:291). In some Asho dialects /ʂ̠ʲ/ is found for /ʃ/. The preference for /ʂ̠ʲ/ continues in related languages to the west, and this distinction explains the naming difference for the “Hyow” people of Bangladesh and the “Asho” (or “Sho”) of Myanmar. The examples in (11) show the contrast between the three voiceless sibilants.

(11)	/s/		/sʰ/		/ʃ/	
	a. sɔ̀	‘be shriveled’	d. sʰɔ́	‘cow’	g. ʃɔ́	‘blanket’
	b. sò	‘son’	e. sʰò	‘flesh, meat’	h. ʃóʔ	‘walk’
	c. sɛ́	‘trample’	f. sʰɛ̀n	‘join’	i. ʃɛ̀npón	‘corn’

Finally, there is the glottal fricative /h/, which is contrasted with the glottal plosive /ʔ/ in (12). The examples in (12a) and (12c) highlight the contrast between /h/ and the other voiceless fricatives given above in (11).

(12)

/h/		**/ʔ/**	
a. hɛ́	‘choose’	d. ʔé	‘eat’
b. hà	‘gold’	e. ʔá	‘chicken’
c. hó	‘tooth’	f. ʔòʔ	‘drink’

2.4 Voiced Glottal Fricative /ɦ/

The voiced glottal fricative /ɦ/ has a much more restricted distribution than any of the other consonants. It does not appear in the onset of noun or verb syllables, but only in a few grammatical suffixes when preceded by a historical back vowel. Examples (13) and (14) show various forms of the realis and locative suffixes, including examples with /ɦ/ in (13a) and (14a).

(13) **Forms of the realis suffix /-Cʏʔ/**

a. ɬò-ɦʏ́ʔ ‘be far’

b. ɬé-jʏ́ʔ ‘buy’

c. ɬɯ́n-ŋʏ̀ʔ ‘be tall’

d. ɬɔ́ʔ-t̪ʏ́ʔ ‘set free’

(14) **Forms of the locative suffix /-Ca/**

a. kɔ̀-ɦá ‘under’

b. ní-jà ‘here’

c. hɔ́n-ná ‘above’

d. ɗʉ́ʔ-kà ‘inside’

e. n̩klá-lá ‘between’

In (13a), the realis suffix is /ɦɤʔ/ following the back vowel in the verb /ɬò/ ‘be far’. In (14a), the locative suffix is /ɦa/ after /ɔ/.[7]

2.5 Laterals

Asho has a pair of laterals—a voiceless lateral fricative /ɬ/ and a voiced lateral approximant /l/. Examples of contrast are given in (15).

(15)

/ɬ/		/l/	
a. ɬé	‘buy’	d. lé	‘write’
b. ɬò	‘be far’	e. lò	‘come’
c. ɬɔ̀n	‘pour’	f. lɔ̀n	‘road’

[7] The forms of these suffixes (realis and locative listed here, as well as a reflexive suffix) certainly be warrant further examination. In closed syllable roots and /-a/ final roots, the onset of the suffix appears to retain traces of a word’s historically final consonant.

2.6 Approximants

Asho has a voiced labio-velar approximant /w/ and a voiced palatal approximant /j/. Pronunciation of /j/ can sometimes be [ʒ], following a similar pattern of free variation found in Burmese.

(16)

/w/		/j/	
a. weí	'rabbit'	d. jeí	'be heavy'
b. wɔ́	'be left behind'	e. jɔ́	'funeral'
c. waù?	'wildcat'	f. jaú?	'bag'

2.7 Juncture Voicing

When a consonant from the unaspirated series of obstruents (/p/, /t̪/, /k/, /s/) is preceded by a voiced rime in close juncture, it will be voiced. This commonly happens due to a word initial syllabic nasal (discussed in 5.4 below) as in (17a-d), but it also occurs after vowels in multisyllabic words (17e) and tightly linked compounds (17f).

(17) **Juncture voicing**

a.	n̩pá	[m̩bá]	'measles'
b.	n̩t̪aìn	[n̩d̪aìn]	'pull'
c.	n̩ká	[ŋ̩gá]	'step (v)'
d.	n̩sí	[n̩zí]	'salt'
e.	mwɛ̀saìn	[mwɛ̀zaìn]	'face'
f.	sʰɔ́sú	[sʰɔ́zú]	'cow milk' (/sʰɔ́/ 'cow' + /sú/ 'breast, milk')

For loan words with voiced plosives (typically from Pali via Burmese), the Hill dialect of Asho inserts a syllabic nasal to create the environment for voicing on the plosive (18).

(18) **Juncture voicing in Burmese loans**

a.	n̥t̪ù?kʰà?	[n̥d̪ù?kʰà?]	‘suffering’ (Burmese ဒုက္ခ /doʊ?kʰa̰/)
b.	n̥pét̪ín	[m̥béd̪ín]	‘astrology’ (Burmese ဗေဒင် /bèdḭ/)
c.	n̥kú́n	[ŋ̊gú́n]	‘honor’ (Burmese ဂုဏ် /gṵ̰/)

As discussed in the next section, the Plains dialect has developed voiced obstruent phonemes in these situations. In the Plains dialect all of the examples in (17) and (18) would be pronounced as voiced plosives without any preceding nasal.

2.8 Dialect Differences

Consonant phonemes between the Plains and Hill dialects are quite similar, but there are a couple of significant differences. Although the Plains dialect has mostly lost the syllabic nasal, consonants that had followed a nasal still retain voicing (see 2.7 above). This adds phonemes /b/, /d/, /g/, and /z/ to the Plains dialect, as seen in (19).

(19)

	Hill	**Plains**	
a.	n̥pɔ̀n	bɔ̀n	‘be thin’
b.	n̥t̪aìn	dàn	‘pull’
c.	n̥kó	gó	‘twenty’
d.	n̥sʉ̀n	zùn	‘mountain’

Matisoff has observed a straightforward process throughout many Tibeto-Burman languages where prefixes have caused changes in voicing: “A *voiceless C_i could easily assimilate in voicing to a voiced prefix (e.g. *m-)… The prefix might then drop, leaving only the change in voicing of the C_i as a trace of its former presence (2003:15–16).”

This is the exact situation that seems to have occurred in Plains Asho to create voiced obstruents. The prefixed /n-/ has dropped but the syllable-initial consonant remains voiced.

One other minor difference is that the dental stops /t̪/ and /t̪^{h}/ of the Hill dialect are pronounced as alveolar stops /t/ and /t^{h}/ (and /d/) in the Plains dialect. This may reflect an accommodation of the Plains dialect to Burmese, which has alveolar rather than dental plosives.

2.9 Comparison to Earlier Descriptions

Although Houghton (1892) and Joorman (1906) are both focused on Asho grammar, each also provides a brief account of the sounds of Asho. For consonants, the differences from my own description are minor. Neither of them posits a phonemic glottal stop. Both authors list the set of postalveolar affricates as phonemes, with Houghton noting that they are "undoubtedly…a corruption of *ky* and *gy*" (1892:6).[8] Houghton includes /ɠ/ to complete the set of implosives, which I did not find (and which is not typically found in Southeast Asian languages with implosives). Despite Houghton's inclusion of this in his phonemic inventory, I only find one word from his wordlist that includes it (*gʻlo*, apparently a variant of *kʻli*, 'air, wind'). He also has a phoneme that he writes as *ʻy* and describes as the sound at the beginning of 'you', but "aspirated" (1892:10–11). This is probably [j̥] mentioned above as a variant of /ʃ/, but there are no examples of it in his wordlist. Joorman lists *hw*, which may be equivalent to what I have analyzed as /ɦ/. He also includes *r*, possibly for loanwords with [ɹ].

[8] Houghton only gives two of the three in his inventory—*ky* "as 'ch' in 'church'" and *gy* "as 'j' in 'joke'"—yet his wordlist also has *kʻy* in some words.

CHAPTER 3
VOWELS

The Hill dialect of Asho Chin uses 11 simple vowels and 3 diphthongs, as shown in Figure 6.

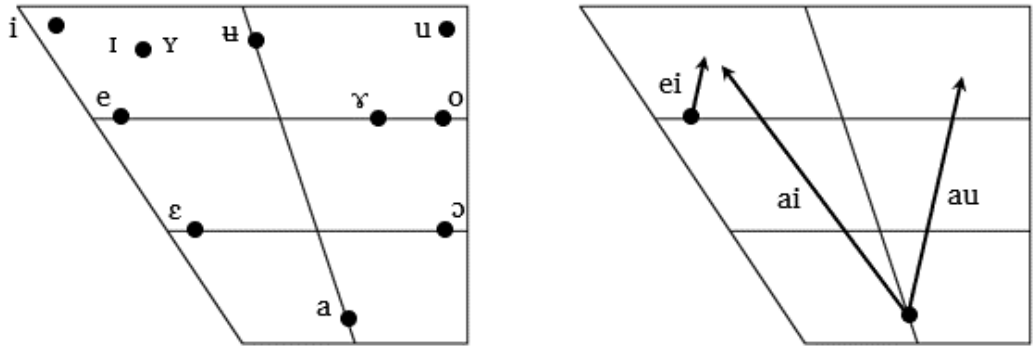

Figure 6. Vowel phonemes of the Hill dialect

There is also a schwa /ə/ that is not included on these charts. It is found in minor (unstressed) syllables, and—as will be discussed in Chapter 5—it has a much briefer duration than the other vowels. For the other vowels, acoustic measurements showed no major variation in duration.

3.1 Front Vowels

There are enough vowels that it is challenging to find minimal pairs for every distinction. Instead, in Table 4 I present a few representative example of front vowels, divided by syllable type.

Table 4. Front vowel examples by syllable type

	Open	**/n/ final**	**/ʔ/ final**
/i/	sʰì ‘oil’ n̥ì ‘longyi (female)’ kʰlí ‘air, wind’	t̪ʰín ‘ginger’ sìn ‘green’ ɬín ‘thorn’	níʔ ‘black’ míʔ ‘eye’
/ɪ/		sín ‘knife’ n̥t̪ʰín ‘liver’ ʔìn ‘house’	sʰíʔ ‘poison’ líʔ ‘shadow, shade’ mlìʔ ‘leech (water)’
/ʏ/		mʏ́n ‘dizzy’ kʰʏ́n ‘cover (v)’ pʏ́n ‘heap’	m̥ʏ̀ʔ ‘bile, gall’ n̥ʏ́ʔ ‘day’
/e/	mé ‘sky’ mè ‘fire’ ké ‘tiger’	sʰén ‘intestinal worm’ pén ‘hut’ sèn ‘be near’	héʔ ‘louse (head)’ kèʔ ‘tumor’ pèʔ ‘give’
/ei/	meì ‘goat’ weí ‘rabbit’ heí ‘east’		
/ɛ/	ʔwɛ̀ ‘crab’ t̪ʰɛ́ ‘fruit’ nɛ̀ ‘soft’	sʰɛ́n ‘red’ mɛ́n ‘rattan’ hɛ̀n ‘silver’	sʰɛ́ʔ ‘joint’ mlɛ́ʔ ‘river’

The distribution of front vowels among the syllable types is somewhat problematic. The vowels /ɪ/ and /ʏ/ do not occur in open syllables, while /ei/ is never found in closed syllables. It would be convenient to try to join two of these as a set of allophones, but the groupings would appear rather arbitrary. Both of the Asho orthographies, for example, link /ɪ/ and /ei/ (while writing /ʏ/ with a distinct grapheme), but the pairing /ei/ and /ʏ/ would also be possible.

Rather than trying to pair Asho vowels from open and closed syllables, I prefer to analyze these as separate phonemes with restrictions on their distribution. As I discuss in section 6.3 below, this same problem occurs in Burmese. Burmese presents a similar (but stronger) split in vowels between open and closed syllables. Given the same choices as with Asho, modern descriptions of Burmese have alternately chosen to link the vowels for the syllable types (Wheatley 2009:726) or to analyze them as distinct

phonemes with syllable type restrictions (Watkins 2001:292–293). This latter approach is how I choose to analyze Asho.

3.2 Central and Back Vowels

Hill Asho has two central vowels /ʉ/ and /a/, and the vowel /ɤ/ can sometimes sound more central than back ([ə]). The other back vowels are /u/, /o/, and /ɔ/. There are also two diphthongs that begin with a central vowel—/au/ and /ai/.

Table 5. Central and back vowel examples by syllable type

	Open		**/n/ final**		**/ʔ/ final**	
/ʉ/	kʉ́	‘porcupine’	sʰʉ́n	‘turtle’	pʉ́ʔ	‘belly’
	lʉ́	‘head’	ɬʉ̀n	‘stone’		
	ʔʉ̀	‘frog’	n̥mlʉ̀n	‘heart’		
/u/	t̪ù	‘water’	t̪ʰún	‘lime’	kúʔ	‘arm’
	ʔù	‘dog’	kún	‘year’	ʔúʔ	‘skin’
	mú	‘elephant’	n̥pʰjùn	‘urine’	n̥m̥lúʔ	‘bury’
/ɤ/	lɤ̀	‘field (dry)’	ɬɤ́n	‘wave (n)’	pɤ́ʔ	‘hole’
	m̥ɤ́	‘sister-in-law’				
	n̥kʰót̪ɤ̀	‘chin’				
/o/	jó	‘bamboo’	jón	‘monkey’	hòʔ	‘shell’
	hó	‘tooth’	jòn	‘plant (n)’	ɓòʔ	‘white’
	mó	‘master’	món	‘gong’	wóʔ	‘pig’
/ɔ/	m̥ɔ̀	‘feather, fur’	hɔ́n	‘bear’	wɔ́ʔ	‘leech (land)’
	sʰɔ́	‘cow’	sʰɔ̀n	‘hair'	n̥sɔ̀ʔ	‘lung’
	pʰɔ́	‘snake’	lɔ̀n	‘road’	ʔɔ́ʔ	‘one’
/a/	hà	‘gold’	nàn	‘village’	hàʔ	‘sharp’
	ʔá	‘chicken’	ʔàn	‘pot’	káʔ	‘cry’
	kʰà	‘termite’	sʰán	‘voice, noise’	m̥áʔ	‘know’
/au/	t̪ʰaú	‘fat’	saún	‘rice (uncooked)’	sʰaúʔ	‘life’
	klaú	‘tendon’	kʰlaún	‘person’	ɬaùʔ	‘ladder’
	paú	‘language’	maùn	‘dream (n)’	waùʔ	‘wild cat’
/ai/	laì	‘field (paddy)’	haìn	‘mosquito’	mlaíʔ	‘grass’
	m̥aí	‘scar’	saín	‘finger’	ɓaìʔ	‘branch’
	n̥aì	‘sand’				

The vowel /ɤ/ is somewhat rare in closed syllables. Additional examples can be cited if the search is expanded to grammatical particles. The various forms of the very frequent realis particle provide numerous examples—/t̪ɤʔ/, /lɤʔ/, /ŋɤʔ/, /jɤʔ/, and /fiɤʔ/.

3.3 Dialect Differences

The Plains dialect has the same total number of vowels as the Hill dialect—11 simple vowels and 3 diphthongs. The vowel phonemes of the Plains dialect are given in Figure 7.

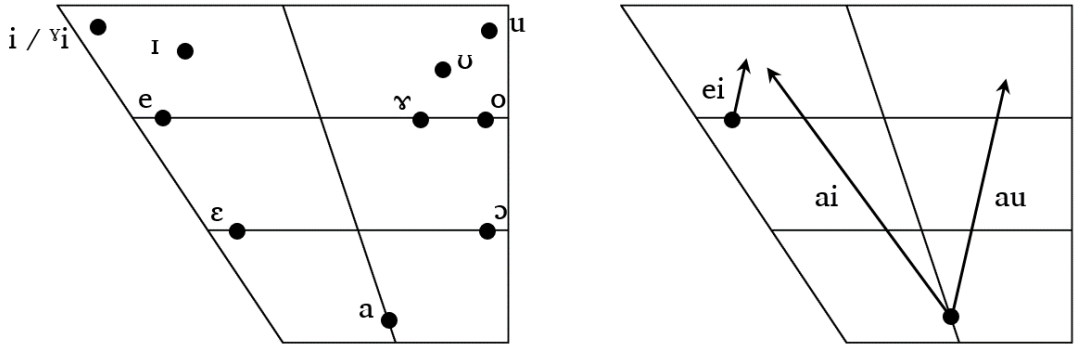

Figure 7. Vowel phonemes of the Plains dialect

The vowel differences between the Hill and Plains dialects occur in specific environments that are not fully apparent by comparing the phoneme charts above. Unlike with consonants, there does not appear to be a sharp line neatly dividing the pronunciation of vowels in the dialects. Each variation exists on a continuum, and a speaker from the middle of the Asho area may have a mix of “Hill” and “Plains” pronunciations. This section discusses each of the distinctions that I observed from each extreme of the Asho area, divided into sets of changes with high-back vowels, high-front vowels, and with the diphthong /ai/.

3.3.1 Dialect differences from the Hill /u/, /ʉ/, and /ʏ/

First of all, there is a set of three differences that in Plains Asho all involve high-back vowels. In the Hill dialect, the sequence /-wi/ of the Plains dialect corresponds to /u/, as shown in (20).

(20)

	Hill	**Plains**	
a.	t̪ù	twì	‘water’
b.	ʔù	ʔwì	‘dog’
c.	mú	mwí	‘elephant’
d.	m̥ú	m̥wí	‘stir’
e.	nú	nwí	‘laugh’

There are at least two exceptions: the Hill dialect retains the unexpected /kʰwì/ ‘story’ and /ʔípwí/ ‘boyfriend/girlfriend’.

The /ʉ/ and /ʏ/ of the Hill dialect are pronounced farther back in the Plains dialect, and are better represented as /u/ and /ʊ/, respectively (21-22). In closed syllables, some words that have /u/ in the Hill dialect may also be pronounced as /ʊ/ in the Plains dialect (22e-f).

(21)

	Hill	**Plains**	
a.	ʔəkʉ́	ʔəkú	‘porcupine’
b.	ʔəlʉ́	ʔəlú	‘head’
c.	n̥mlʉ́	mlú	‘city’
d.	t̪ʰʉ̀	tʰùʔ ~ tʰù	‘be rotten’
e.	ʔəpʉ́	pú	‘carry on one’s back’

(22)

	Hill	Plains	
a.	mýn	mún	‘dizzy’
b.	pýn	pún	‘heap’
c.	n̥ý?	n̥ú?	‘day’
d.	m̥ỳ?	m̥ù?	‘bile, gall’
e.	kù?	kù?	‘arm’
f.	?ùn	?ùn	‘skin’

3.3.2 Dialect differences from the Hill /i/, /ɪ/, and /ei/

The second set of dialect differences has three sets of correspondences. First, the diphthong /ei/ of the Hill dialect is pronounced as /i/ in the Plains dialect.

(23)

	Hill	Plains	
a.	?ăweí	?ăwí	‘rabbit’
b.	meì	?ămì	‘goat’
c.	s^{h}eí	s^{h}í	‘horse, seven’
d.	jeí	jí	‘be heavy’
e.	?ăjeì	?ăjì	‘teak’

In open syllables, the /i/ of the Hill dialect is pronounced in the Plains dialect with velarization on the preceding consonant.

(24)

	Hill	Plains	
a.	n̥sí	zʸí	‘salt’
b.	sʰə̆mí	sʰə̆mʸí	‘child’
c.	ní	nʸí	‘this’
d.	mlì	mlʸì	‘ant’
e.	ʔə̆t̪ʰì	ʔə̆tʰʸì	‘blood’

Finally, in closed syllables, the /i/ of the Hill dialect is pronounced as the diphthong /ei/ in the Plains dialect, as shown in (25).

(25)

	Hill	Plains	
a.	ʔə̆ɬín	ʔə̆ɬeín	‘thorn’
b.	ʔə̆t̪ʰín	ʔə̆tʰeín	‘ginger’
c.	ʔə̆mín	ʔə̆meín	‘name’
d.	ʔə̆míʔ	ʔə̆meíʔ	‘eye’
e.	ʔə̆níʔ	ʔə̆neíʔ	‘black’

One result of this set of differences is that the Hill dialect only has /ei/ in open syllables, and the Plains dialect only has /ei/ in closed syllables.

3.3.3 Dialect differences involving /ai/

The last set of differences does not change any phonemes, but it does affect the pronunciation of some words. In closed syllables (ending with /ʔ/ or /n/), the Hill dialect uses /e/ while /ai/ is used in the Plains dialect, as seen in (26).

(26)	**Hill**	**Plains**	
a.	n̥ɗéʔ	ʔəɗaíʔ	‘ground, earth’
b.	héʔ	haíʔ	‘louse (head)’
c.	péʔ	paìʔ	‘give’
d.	séʔ	saìʔ	‘be narrow’

In open syllables, both the Hill and Plains dialects typically have /ai/ (as in 27a-d), but there are some words (e.g. 27e-h) where the Hill dialect uses /ɛ/.[9]

(27)	**Hill**	**Plains**	
a.	laì	laì	‘field (paddy)’
b.	n̥m̥laí	ʔəm̥laí	‘navel’
c.	paí	paí	‘fly (v)’
d.	saì	saì	‘do, make’
e.	t̥ʰɛ́	tʰaí	‘fruit’
f.	ʔəhɛ̀	ʔəhaì	‘firewood’
g.	nɛ́	naí	‘be few’
h.	plɛ́	plaí	‘be full’

Finally, in closed syllables, when the Hill dialect has /ai/ the Plains dialect has /a/, as in (28).

[9] For other Hill speakers (not focused on for this thesis), the examples in 25a-d would be reduced to /a/, and the words in 25e-h would be reduced to /ɛ/.)

(28)

	Hill	Plains	
a.	ʔəhaìn	ʔəhàn	‘mosquito’
b.	ʔəkaínsaín	kánzàn	‘chest’
c.	mlaíʔ	mláʔ	‘grass’
d.	saìn	sàn	‘be hard, firm’
e.	ʔəm̥wɛ̀nsaín	m̥waìzán	‘face’

The Asho word for ‘face’ in (28e) shows both of these shifts in action. The middle syllable contrasts /ɛ/ and /ai/, and the last syllable shows /ai/ versus /a/.

3.3.4 Summary of dialect differences

In summary, there are ten vowel differences between the Hill and Plains dialects. Table 6 summarizes the correspondences and the environments where they occur.

Table 6. Vowel correspondences between Plains and Hill dialects

Hill	**Plains**	**Environment**
/ʉ/	/u/	all
/ʏ/	/ʊ/	all
/u/	/ʊ/	closed syllables
/u/	/-wi/	open syllables
/i/	/ʸi/	open syllables
/i/	/ei/	closed syllables
/ei/	/i/	open syllables
/e/	/ai/	closed syllables
/ɛ/	/ai/	some open syllables
/ai/	/a/	closed syllables

3.4 Comparison to Earlier Descriptions

The vowel phonemes found in the early publications on Asho by Houghton and Joorman are mostly comparable to the analysis given here. Houghton distinguishes between what seem to be open central and back vowels /a/ and /ɒ/, which I find to be allophones.[10] Houghton and Joorman list a combination /oi/, which shows up in words that in my data are pronounced as /-wɛ/ (/-wai/ in the Plains dialect). I can attest that the /oi/ pronunciation is still used by some present-day Asho speakers in Rakhine State, so perhaps the/-wɛ/ and /-wai/ pronunciations are a recent development due to Burmese influence.[11] Similarly, Joorman also lists /œ/, which corresponds to /-we/ in my data.

[10] He describes them as "a as in 'father'" and "o as in 'don'."

[11] Burmese does not have an /oi/ diphthong. English loanwords with /oi/ (like 'point') have entered Burmese with a /wai/ pronunciation (/pwaĩ/).

CHAPTER 4
TONE

Asho has two level tones—high and low—and this is consistent across the Hill and Plains dialects. Evidence of the two-tone system can be seen in the comparative wordlist of Chin Tone in Luce (1985:II:70-87). Although he never comments on it directly, Luce marks his Asho data with [1] for a high tone and with [2] for a low tone. This same conclusion is reached by Weidert (1987:14–15), although there are several other analyses (discussed below) that have suggested a different number of tones.

The tone distinction can be illustrated by numerous minimal pairs, as seen in (29-34).

(29)	a.	t̪ʰín	‘ginger’
	b.	t̪ʰìn	‘tree’
(30)	a.	saún	‘rice (paddy)’
v	b.	saùn	‘rice (pounded)’
(31)	a.	lɔ́n	‘dance’
	b.	lɔ̀n	‘road’
(32)	a.	n̥í	‘two’
	b.	n̥ì	‘longyi (female)’
(33)	a.	n̥t̪ʰí	‘iron’
	b.	n̥t̪ʰì	‘crest (bird)’
(34)	a.	kɔ́ʔ	‘carry on head’
	b.	kɔ̀ʔ	‘shoot’

4.1 Alternative Proposals

The two-tone system I am proposing is in contrast to several previous proposals, which have suggested a three-tone, four-tone, or five-tone contrast. I believe that the largest source of discrepancy in each of these stems from a failure to properly analyze the glottal stop in syllable codas, mistaking the phonetic coloring of glottalization for phonemic tone.

4.1.1 Houghton's three tones

The earliest tone description comes from Bernard Houghton, who identified three tones in his late-nineteenth century essay. He mentions a high ("acute") tone, a low ("grave") tone, and a rising tone (1892:12):

> The number of tones in Chin is apparently three, namely, the short acute, the heavy grave, and the rising tones; but, partly owing to typographical difficulties, the two last are not mutually distinguished herein. The rising tone is not, however, I think, of frequent occurrence, and in practice little or no inconvenience is experienced by the amalgamation.

Since he was not able to mark all three tones in his book, it is difficult to fully critique his claims. However, there is some reason to be skeptical. His examples of high tone are the words *wŏ* 'pig' and *bŏ* 'white,' which he explains "should be pronounced as though one were about to say *wók*, *bók* ; but stopped short before pronouncing the final *k*" (Houghton 1892:12). That description sounds more like glottal closure than tone, and, in fact, I have analyzed these words as /wó?/ and /ɓò?/, respectively. In my analysis, both end with a glottal stop, but the first is high tone and the second is low tone.

4.1.2 Joorman's five tones

Joorman likewise gives only a brief account of Asho's tonal system, which he explains with five tones: long, rising, falling, checked, and short (1906:4). None of these are marked in his *Chin Grammar*, so not much can be said about them. He says that syllables ending in /n/ tend to either be "long" or "rising" tone. Syllables ending with a vowel (which he confusingly calls "closed syllables") may either be "short" or "long" tone (1906:6). It is possible that his "short" tone refers to vowel reduction in unstressed minor syllables—where the schwa does have a much shorter duration than other vowels (see Chapter 5). The "checked" tone probably refers to syllables with a final /ʔ/, which, as I mentioned with /wóʔ/ and /ɓòʔ/ above, can still carry either a high or low tone.

4.1.3 Gvozdanović's four tones

Gvozdanović has pointed out four tones indicated by the Burmese-based Asho script: "Ashö Chin tones are represented as follows: /^{1} _ʔ/ = low glottalized, /^{2}/ = mid falling, /^{3}/ = high, and /^{3} _ʔ/ = high glottalized" (1985:182). Although her phonetic detail is accurate, these four tones can be reduced to a two-way contrast in tone and another binary contrast in glottalization. That is, what she identifies as a "low glottalized" tone is a low tone syllable with a syllable-final glottal stop, and the "mid falling" is a low tone without a final glottal.

4.2 Asho and Kuki-Chin Tone Patterns

Phases of Pre-Pagan Burma, a posthumous publication of Gordon Luce, introduced the idea of Chin tone patterns. Luce observed that Chin languages tended to group the same words together with the same tones, although the specific tones varied from language to language. For example, low tone words in Mara tended to have high tone cognates in Mizo and rising tone cognates in Falam Lai. Although the tones manifested themselves in different ways in each language, the groupings were consistent across

languages. Luce (1985:I:83) suggested that there were three tone groupings ("patterns") that held across Kuki-Chin languages:

> (i) Three tones, the origin of Tone-Patterns I, II, and III, were once the norm in Chin languages.
>
> (ii) Each of the three tones affected open, nasal and -l/-r finals.
>
> (iii) Tone-Pattern I did not admit a final stop—with the exception of certain -k/-r finals in the northernmost dialects, where the older final was the -r, probably uvular, and not the -k.
>
> (iv) Where Tone Patterns II and III now divide themselves into a and b, the division is not very ancient nor widespread in Chin, but depended on the original presence or absence of a final stop, stopped finals being confined to IIb and IIIb.
>
> (v) The distinction between IIb and IIIb depended on whether the old medial vowel before the stop was short or long.
>
> (vi) The presence of a large number of apparently open finals in IIIb (e.g. 'father', 'mother', 'children', 'fish', 'flesh', 'bird', 'breast', 'horns') points to the loss (as in Archaic Chinese) of a number of sonant plosives (especially –g) after the long vowel.

VanBik (2009:451–454) took Luce's concept and expanded it with additional data. (He also rearranged Luce's classification of patterns I, II, and III into four proto-tones

*1, *2, *3, and *4.) Table 7 recreates Table 164 from VanBik (2009:454), illustrating the tone patterns across Kuki-Chin languages:

Table 7. Tone patterns in Kuki-Chin languages (from VanBik 2009)

PKC Tones	**Mara**	**H. Lai**	**F. Lai**	**Mizo**	**Tedim**	**T. Kuki**	**Khumi**
*1	H	F	H	R	1	F	L ~ Lc
*2	H	L	F	F	1	F	L ~ Lc
*3	M	R	L	L	3	L	L ~ Lc
*4	L	F	R	H	2	H	F ~ R ~ Hc

H = high, L = low, M = mid, F = falling, R = rising, Lc = low-checked, Hc = high-checked

In Tedim, I believe that 1 = rising, 2 = falling, 3 = low.

VanBik's data, however, do not provide much explanation for tone in the Southern Chin group. He includes only one language (Khumi) from the Southern Chin group, and the tones from Khumi are the most divergent from the patterns found everywhere else. Khumi words from all of the first three patterns can have either a low or low-checked tone, and words from the fourth pattern can be falling, rising, or high-checked. (VanBik does use Houghton's Asho data elsewhere in his Proto-Kuki-Chin reconstruction, but chooses to ignore it for reconstructing PKC tone—a sensible move given the problems of Houghton's tone observations mentioned earlier in this chapter.) The question raised by VanBik's data is this: Does the rest of the Southern Chin group follow the pattern of the Northern and Central languages, or is Khumi representative of tone in the Southern group? The data from Asho can provide an answer to that question.

For Proto-Kuki-Chin words that VanBik classifies with tone pattern *1 (Luce's pattern IIIb), I found 22 Asho cognates, 20 of which are low tone.

Table 8. Asho cognates of VanBik's *1 tone pattern

Asho Gloss	**Asho**	**Proto-Kuki-Chin**	**Asho Tone**
'mushroom'	pò	*paa1	L
'claw, fingernail'	(kɣ̀ʔ)t̪ìn	*tin1	L
'nine'	kòʔ	*kua1	L
'blood'	t̪ʰì	*thii1	L
'fruit'	t̪ʰé	*thay1	H
'iron'	n̪t̪ʰí	*thiir1	H
'crab'	ʔwɛ̀	*ʔaay1	L
'dog'	ʔù	*ʔuy1	L
'house'	ʔìn	*ʔim1	L
'hair (head)'	sʰɔ̀n	*sham1	L
'mortar'	sʰùn	*shum1	L
'dream (n)'	maùn	*maŋ1	L
'fire'	mè	*may1	L
'feather, fur'	m̥ɔ̀	*mul1 ≍ *hmul1	L
'tail'	n̥hɤ̆mè	*may1	L
'face'	m̥wèsaìn	*hmaay1	L
'field (paddy)'	laì	*lay1	L
'maggot'	lu̱n	*luŋ1	L
'stone'	lu̱n	*luŋ1	L
'road/path'	lɔ̀n	*lam1	L
'marrow'	n̥kʰlìn	*khlik ≍ *khliŋ1	L

Regarding the two Asho words with a high tone in this group: VanBik (2009:458) notes that 'fruit' is also exceptional in Khumi, which is the only Southern Chin language in his data. This could be a difference that is spread throughout the Southern Chin group. The word /n̪t̪ʰí/ 'iron' is distinguished from /n̪t̪ʰì/ 'crest' (see tone pattern *3 below) only by a difference in tone, and this similarity may have prompted a tonal shift.

The Asho cognates continue to line up within tone pattern *2 (Luce's IIIa). Of the 11 most obvious cognates in Asho, 10 had a low tone. The lone exception is /pá/ 'father', although a word like *pa* or *papa* for 'father' is common enough across languages that it may not mean much for cognates.

Table 9. Asho cognates of VanBik's *2 tone pattern

Asho Gloss	**Asho**	**Proto-Kuki-Chin**	**Asho Tone**
'nest'	ɓʉ̀	*ɓuu2	L
'father'	pá	*paa2	H
'horn'	kì	*kii2	L
'smoke'	(mè)kʰʉ̀	*khuu2	L
'excrement'	ʔɛʔ	*ʔeek2	L
'sesame seed'	sʰì	*tshii2	L
'flesh, meat'	sʰò	*shaa2	L
'buffalo'	nò	*naa2	L
'fish'	ŋò	*ŋaa2 ≍ hŋaa2	L
'bow'	lì	*lii2	L
'leech (water)'	mlìʔ	*liit2 ≍ *hliit2	L

With tone pattern *3 (Luce's II), 19 of 21 Asho words were high tone.

Table 10. Asho cognates of VanBik's *3 tone pattern

Asho Gloss	**Asho**	**Proto-Kuki-Chin**	**Asho Tone**
'rice (cooked)'	ɓʉ́	*ɓu?3	H
'belly'	pú?	*poo3	H
'year'	kún	*kum3	H
'elbow'	ɓɔ́nkí	*ki(i)w3	H
'porcupine'	kʉ́	*sha2-ku?3	H
'thigh'	pʰé	*phay3	H
'crest (bird)'	n̥t̪ʰì	*thi?3	L
'liver'	n̥t̪ʰín	*thin3	H
'one'	ʔɔ́ʔ	*khat3 ≍ *ʔat3 ≍ *hat3	H
'salt'	n̥sí	*tsii3	H
'eye'	mí?	*mik3	H
'female'	nʉ́/nʉ̀	*nuu3	H/L
'two'	ń̥	*ni?3 ≍ *hni?3	H
'bone'	jó	*ru?3	H
'rain (n)'	jó	*rua?3	H
'river'	mlɛ́ʔ	*luuy3	H
'pig'	wó?	*wok3	H
'rabbit'	weí	*sha2-wi?3	H
'night'	ján	*yaan3	H
'moon/month'	kʰló	*khlaa3	H
'sweat'	kʰlɔ́n	*khlan3	H

As mentioned above with tone pattern *1, /n̥t̪ʰì/ 'crest' and /n̥t̪ʰí/ 'iron' are both exceptional—bearing the opposite tone from what is expected. The other exception in tone pattern *3 is /nʉ/ 'female', which in Asho is a suffix whose tone varies depending on what it is affixed to.

The fourth tone pattern—VanBik's *4 or Luce's I—contains a much larger set of reconstructed etyma and also a larger number of Asho cognates. There were 35 Asho cognates for VanBik's *4 words, and all but 1 of these were high tone. The only exception (/hàn/ 'otter') also has an unexpected tone in Hakha Lai and in Khumi (VanBik 2009:493).

Table 11. Asho cognates of VanBik's *4 tone pattern

Asho Gloss	**Asho**	**Proto-Kuki-Chin**	**Asho Tone**
'egg'	ṯwé	*ɗu(u)y4 ≍ *tu(u)y4	H
'bamboo shoot'	ṯwé	*tuay4	H
'tiger'	ké	*kay4	H
'ginger'	ṯʰín	*thiiŋ4	H
'three'	ṯʰún	*thum4	H
'bee'	kʰwé	*khuay4	H
'barking deer'	sʰaù?kʰí	*sha2-khii4	H
'chicken'	ʔá	*ʔaar4	H
'shell'	hóʔ	*hooŋ4	H
'mango'	hwɛ́	*haay4	H
'tooth'	hó	*haa4	H
'hawk'	m̥ú	*muu4 ≍ *hmuu4	H
'name'	mín	*miŋ4 ≍ *hmiŋ4; *min4 ≍ *hmin4	H
'five'	ŋ̊ó	*ŋaa4	H
'pus'	n̥aí	*hnaay4	H
'bamboo'	jó	*rua4	H
'navel' / 'middle'	n̥m̥laí / laí	*laay4	H
'debt'	lé	*lay4-ɓaa4	H
'four'	m̥lí	*lii4	H
'head'	lu̱	*luu4	H
'heart'	n̥mlu̱n	*luŋ4	H
'log'	ṯʰìnɬón	*thiŋ1-luaŋ4	H
'tongue'	mléɓòn	*lay4	H
'otter'	hàn	*hram4	L
'rooster'	ɬú	*hluy4	H
'flea'	ʔùɬí	*ʔuy1-hlii4	H
'thorn'	ɬín	*hliŋ4	H
'bear'	hɔ́n	*wom4	H
'husk'	hóʔ	*waay4	H
'beer'	jú	*yuu4	H
'monkey'	jón	*yooŋ4	H
'air, wind'	kʰlí	*khlii4	H
'person'	kʰlaún	*khlaaŋ4 ≍ *khlooŋ4	H
'tears (n)'	míʔkʰlí	*mik3-khlii4	H
'needle'	pʰɛ́n	*phrim4	H

To summarize: Words that fell into VanBik's Proto-Kuki-Chin tones *1 and *2 show up overwhelmingly as low tone words in Asho. Proto-Kuki-Chin words with tones *3 and *4 are overwhelmingly high tone in Asho. Given this, it is possible to update VanBik's chart with more data from the Southern group, as shown in Table 12:

Table 12. Tone patterns in Kuki-Chin, including Asho

		Maraic	Central			Northern Peripheral		Southern Peripheral	
Luce	**Proto-Kuki-Chin**	**Mara**	**Hakha Lai**	**Falam Lai**	**Mizo**	**Tedim**	**Kuki-Thaadow**	**Khumi**	**Asho**
IIIa	*1	H	F	H	R	R	F	L ~ Lc	L
IIIb	*2	H	L	F	F	R	F	L ~ Lc	L
II	*3	M	R	L	L	F	L	L ~ Lc	H
I	*4	L	F	R	H	L	H	F ~ R ~ Hc	H

The two tones of Asho fall into the expected patterns seen throughout Kuki-Chin. Asho's low-tone words are from VanBik's *1 and *2 patterns, and high-tone words developed from *3 and *4. This particular arrangement is unlike anything else in VanBik's dataset; no other language in his data shows this same two-tone grouping. The Northern Peripheral languages and Mara have combined tones *1 and *2, but nowhere else has a language merged the tones for *3 and *4.

4.3 Implications for the Kuki-Chin Classification

Adding Asho to the previously studied tone patterns offers two important implications for Kuki-Chin classification. First, a distinction in tone between Khumi languages and the rest of Southern Chin would be further evidence for placing Khumi languages in a separate branch of Southern Chin languages. VanBik split the Khumi group out due to their absence of verb-stem alternation—a feature present throughout

the rest of the Kuki-Chin group (2009:34). From this data it would also appear that the Khumi tonal system is fairly divergent from the rest of Kuki-Chin, assuming that the other Cho languages pattern similarly to Asho.

Secondly, the Asho tone data provide one further reason to group Northern and Southern Chin languages into a broader "peripheral" group. Unlike the Central Chin languages, which maintain a distinction between tone patterns *1 and *2, the Chin languages on the periphery have merged *1 and *2 into a single tone. Asho, and perhaps other Southern Chin languages, have gone a step further than the Northern Chin languages and also merged *3 and *4 into one tone.[12]

4.4 Tone and Glottalization

I mentioned above that the primary issue with earlier analyses of Asho Chin tone is that they did not distinguish glottalization and tone. This is a reasonable approach, as tone (or register) in Southeast Asian languages may not be simply a matter of pitch, but a combination of pitch with phonation type and other factors. In Burmese, for example, the four tones are often described as "high," "low," "creaky," and "killed/checked" (Wheatley 2009:727; Watkins 2001:293). The first two are distinguished primarily by pitch, but the second pair are determined more by the state of the glottis than by pitch.

My analysis of Asho, however, is that tone and glottalization are distinct from each another. Words that end with a glottal stop can have either a high or low tone, as seen in the minimal pair of /kɔ́ʔ/ and /kɔ̀ʔ/ given above in (34). And, as shown in various examples from Tables 8-11, words with final glottal stops occur across all four tone

[12] An alternative explanation, suggested by Luce (1985:I:85) and Button (2011:27), is that the Northern "three-tone" pattern was original, with the Central languages splitting one of the tones into two. This does not change the apparent closeness of Northern and Southern languages, but suggests that one group (Central) has split tones while another (Southern) has merged tones.

patterns. The glottal stop also prevents Juncture Voicing (section 2.7 above), which shows that it is clearly a part of the syllable coda. This is illustrated in (35), where /sò/ ‘child’ is combined with animal terms to create a compound for young animals.

(35)	a.	wó?-sò	[wós:ò]	‘piglet’
	b.	meì-sò	[meìzò]	‘kid-goat’

In (35a), the glottal stop in the coda of /wó?/ ‘pig’ is voiceless and thus does not cause the following /s/ to be voiced. If the glottalization of /wó?/ were suprasegmental, one would expect the following /s/ to be voiced as [z], as in (35b).

CHAPTER 5
SYLLABLES

5.1 Major and Minor Syllables

Southeast Asian languages across multiple language families (Tibeto-Burman, Austro-Asiatic, and Tai-Kadai) have often been described as having something variously described as "minor syllables" or "semisyllables" or "presyllables."[13] The choice of terminology varies among the sources, as does the definition of what constitutes a minor syllable. Often they are defined as a syllable with some or most of the following characteristics (Kiparsky 2003:156; Cho & King 2003:187; Herr 2011:38):

- No stress
- No tone
- No vowel
- No coda
- No branching onsets
- Restricted segmental inventory
- Restricted position (e.g. a word edge)

In the Mon-Khmer and Tibeto-Burman languages of Southeast Asia, minor syllables cannot fall on the right word edge, and so they must always be followed by a major syllable. This common disyllabic pattern—a word made up of a minor syllable and a

[13] For an in-depth review of the terminology and features of minor syllables, see Herr (2011:19–40).

major syllable—has been labeled by Matisoff (1973:86) as “sesquisyllabic,” a word composed of one and a half syllables.

The phenomenon of major and minor syllables across Southeast Asia is best understood as analogous to the stress systems found elsewhere. Regarding minor syllables in Cambodian (Khmer), Hayes (1995:262) writes:

> Here, the iamb serves not so much as an algorithm for stress assignment as a template for word structure. Cambodian distinguishes so-called **major** and **minor** syllables, which may plausibly be identified with /–/ and /⏑/ respectively. Major syllables are freely distributed, but minor syllables may only occur when directly followed by a major syllable. All major syllables are stressed, all minor syllables are stressless, and main stress is final. (…) The segmental phonology of Cambodian is iambic in character, in that it includes rules that reduce and shorten vowels of minor syllables, thus reinforcing the durational contrast of the iambic foot.

According to Hayes, major syllables in Khmer are simply stressed syllables and minor syllables unstressed syllables.

This observation concerning Khmer applies equally well across Southeast Asia languages, including Asho Chin. Looking at Southeast Asian languages from several families, Butler (2015:449) analyzed sesquisyllables as disyllables with “word-final prosodic prominence and phonological reduction of the penultimate syllable.” Butler points out that there is nothing which “differentiates sesquisyllables from words that are maximally disyllabic iambs that exhibit a weak-strong pattern.” With this analysis in

mind, I will use “minor syllable” interchangeably with “unstressed syllable,” and “major” with “stressed.”

5.2 Major Syllables

Major syllables in Asho fit within the maximal syllable template [CCVC] with an obligatory onset. A glottal stop in the onset is not only found phrase-initially, but remains even during compounding. For example, the word /n̥t̪ʰí?è?/ ‘rust’ is a compound of the words ‘iron’ /n̥t̪ʰí/ and ‘excrement’ /?è?/, and the glottal stop in the onset of the second word is preserved between the vowels.

The syllable template of Asho could also be described as in (36):

(36) C_i (C_m) V (C_f)

The onset of an Asho syllable consists of an initial consonant (C_i) followed by an optional medial consonant (C_m) that is restricted to only /l/, /j/, and /w/. The nucleus is a simple vowel or diphthong. The optional final consonant (C_f) can only be /?/ or /n/. Examples of each type of syllable are given in (37) and (38).

(37)	a.	kɔ̀	‘have a fever’	CV
	b.	kʰló	‘moon’	CCV
	c.	kɔ̀n	‘go down’	CVC
	d.	kʰlán	‘garden’	CCVC
	e.	kʰlaún	‘person’	CCVC

(38) a. mí ‘be hurt’ CV

b. m̥lí ‘four’ CCV

c. míʔ ‘eye’ CVC

d. mlíʔ ‘be small’ CCVC

e. mlaíʔ ‘grass’ CCVC

5.2.1 Onset (C_i and C_m)

Any consonant can occur in the C_i position of the onset, but the C_m position is restricted to /l/, /j/, and /w/. Medial /l/ and /j/ only occur after certain labial or velar C_i consonants, but /w/ can follow a wider range of phonemes, as shown in Table 13.

Table 13. Possible combinations of initial and medial consonants

	/p/	**/p^h/**	**/ɓ/**	**/m̥/**	**/m/**	**/k/**	**/k^h/**	**/ʔ/**	**/s/**	**/s^h/**	**/h/**	**/l/**	**/ɬ/**
/l/	+	+	+	+	+	+	+						
/j/	+	+	+	+	+								
/w/	+	+	+	+	+	+	+	+	+	+	+	+	+

The absence of /j/ following velars is explained by the same historical palatalization rule discussed in Chapter 2—any occurrence of a velar followed by /j/ is pronounced as a postalveolar affricate. Although neither of my consultants did this, I have heard some speakers insert a medial /j/ between a labial consonant and a front vowel. For example, /ʔəp^{h}én/ ‘needle’ is pronounced as [ʔəp^{h}jén], and /mìnsán/ ‘cat’ is pronounced [mjìnzán] by some speakers.

The phoneme /w/ in C_m position shows a much different distribution than /l/ and /j/. Whereas /l/ and /j/ follow only labials and velars, /w/ occurs after many kinds of C_i consonants (any plosive or fricative, as well as bilabial nasals /m/ and /m̥/).

Furthermore, /l/ and /j/ can be followed by all kinds of vowels, and yet /w/ only occurs before /e/, /ɛ/, and the central vowel /a/ and never before any back vowels.

This unique distribution makes it worth considering whether this is a vowel /u/ rather than a semivowel /w/. However, there are several problems with this alternative analysis. First of all, these potential /u-/ diphthongs (*/ue/, */uɛ/, and */ua/) never occur after a complex onset with medial /l/ or /j/—there are no words like */klué/ or */pjuà/. This is easily explained if this is a medial /w/ that cannot occur with another medial consonant, but difficult to explain as a vowel. There are numerous examples of the other diphthongs that occur after a complex onset, like /k^{h}laún/ ‘person’ or /ʔə̆mjaín/ ‘clan’.

The word for ‘boat’ (39) may have been one exception, at least historically:

(39)	**Joorman (1906:19)**	**Hill Asho**	**Plains Asho**	
	hmlui (IPA: m̥lui)	m̥lú	m̥lú	‘boat’

If Joorman’s transcription is accurate, it would create a problematic CCCV word */m̥lwi/ in my analysis. As (39) shows, however, neither of my consultants pronounced the word as he wrote it. The present pronunciation in the Hill dialect is expected, following the shift from /wi/ to /u/ described in section 3.3.1 above. The Plains dialect normally retains the *Cwi* sequence, but doing so here would create an exceptional CCCV syllable */m̥lwi/. Reducing the combination from /wi/ to /u/ offers the Plains dialect an option for adapting this word to fit changes to the syllable template.[14]

[14] I believe Joorman’s transcription is accurate, as I have heard present day Asho speakers also pronounce this with /ui/. I have not analyzed those dialects in detail, but my impression is that they are avoiding /ml/ onsets by pronouncing a syllabic /m̩/, giving a two syllable word /m̩̥.lwi/.

A second problem with considering this as /u/ rather than /w/ is that it creates a triphthong */uai/ in words like */kʰuaín/ 'permission', which I have analyzed as /kʰwaín/. The result would be a CCVVVC maximal syllable template that never actually has any CCVVVC syllables, only CVVVC and CCVVC.

Although it may not work to analyze this as /u/ in present-day Asho, it does appear that this was historically a vowel. This would explain the differing distribution from other C_m consonants: As a vowel, /u/ could follow any consonant, but could only occur with certain other vowel combinations. In fact, in other Chin languages it is typically analyzed as a vowel and not as a consonant. I think it is significant that, although no other Chin language has been shown to have a *Cw* onset, this *is* a combination that is found in Burmese. The development of a *Cw* onset would be yet another example of Asho phonology following the phonology of the more proximate Burmese and diverging from the other, more isolated Chin languages.

5.2.2 Nucleus (V)

The nucleus of an Asho syllable can be either a simple vowel or one of three diphthongs, /ei/, /au/, or /ai/. Just as it was necessary above to consider analyzing the medial semivowels as vowels, it is worthwhile to entertain the possibility that the second vowel of these diphthongs is actually a coda semivowel /j/ or /w/. This analysis is also problematic, however, because there are examples (e.g. /kʰlaún/ 'person' or /t̪ʰaín/ 'be unripe') where these sequences are followed by a syllable final /-n/ or /-ʔ/. Treating this as a VC combination rather than diphthongs creates an unnecessarily complex coda. This is once again a contrast with most Kuki-Chin languages (which contain cognates with syllable-final /-j/) but a shared development with Burmese.

5.2.3 Coda (C_f)

Closed syllables in Asho can either end in a glottal plosive /ʔ/ or a nasal /n/. Although most Chin languages have a wide array of possible final consonants, these

distinctions have largely been lost in Asho. The final plosives of other Chin languages are all /ʔ/ in Asho, and the various final nasals are all /n/.[15] While I am analyzing this as a homorganic nasal consonant, Asho currently finds itself in an unclear place in the transition between the influence of its Kuki-Chin roots and the influence of Burmese. Although Burmese is sometimes transcribed with a final nasal (e.g. Wheatley 2009), it is more accurate to describe it as vowel nasalization that may be realized as a nasal consonant (i.e. when anticipating the consonant onset of a following syllable). Asho is at present somewhere in between a clear nasal consonant and vowel nasalization. In many utterances from my informants, vowel nasalization was used interchangeably with a clearer nasal consonant in the coda. [16]

Interestingly, Houghton (1892) does list final consonants with place distinctions on many words, indicating that, at that point in the late nineteenth century, Asho still may have preserved some of the Kuki-Chin final stops. Example (40) compares some of Houghton's wordlist (in his own transcription system) showing final stops with the forms in my own data.

[15] Traces of the final stops can still be found in the verbal morphology. What had once been a final /-k/ shows up in the realis marker /kɤʔ/, a form that only follows verbs that end in /ʔ/. For example, VanBik (2009:130) reconstructs a Proto-Kuki-Chin word **thuuk* (IPA: /tʰuːk/) 'deep', which is attested across many present-day Chin languages with a final /k/. In Asho, the word is /t̪ʰùʔ/, but in the realis mood is /t̪ʰùʔ-kɤ́ʔ/.

In addition to /kɤʔ/ for PKC **-k*, the Hill dialect also has realis forms of /t̪ɤʔ/ (PKC **-t* and **-p*) and /lɤʔ/ (PKC **-l* and **-r*) used with certain verbs, additional evidence of the now-neutralized final stops.

[16] In fact, the development in Asho Chin mirrors the shift in Burmese from syllable final nasals /m/, /n/, and /ŋ/ (preserved in the Burmese writing system) to the vowel nasalization used today.

(40)		Houghton (1892)	Present Hill Asho	
	a.	ak‘ling	n̩kʰlìn	‘marrow’
	b.	ak‘laung˝	kʰlaún	‘person’
	c.	a‘lauk	ʔə̆ɬaùʔ	‘ladder’
	d.	hèk	héʔ	‘louse (head)’
	e.	t‘ün˝-kyit	t̪ʰʉ́nkíʔ	‘thirty’
	f.	a‘nu˝t ~ ‘nu˝t	ʔə̆n̥ʏ́ʔ	‘day’

It appears that these distinctions faded during the early part of the twentieth century. For example, no place distinctions are made in the orthography, as seen from an Asho literacy primer from a slightly later time (Samo Hla U 1952). Stern (1962) also observed the weakening of place distinctions in his informant, Samou U Aye:

> Houghton in 1892 distinguished PC final /-m -n -ŋ -t -k/; and in the speech of Samuo [sic] U Aye, who as a boy was Houghton’s contemporary, there are still audible two lightly articulated nasals /-n -ŋ/ and unreleased /-t˺ -k˺ -ʔ˺/, which become released upon and assimilated to a following stop.
>
> The attitude of Samou U Aye toward these final contrasts is notable. Although his articulation was consistent under repetition, he seemed largely unaware of their existence and, when pressed, claimed that their discrimination was not essential to correct pronunciation. In brief, he reacted in each series like a naive speaker to an allophonic distinction in his own language. It is possible that the light articulation of the nasals and the unreleased character of the final stops provides one indication of their weakening.

> A younger relative of Samou U Aye, like him fluent in Plains Chin, Burmese, and English, had lost any audible contrast in her syllable-finals of each series.

In my own data, there were just a few words (exemplified in 41) where the final nasal retained a pronunciation of [ŋ] (although these are transcribed as /n/ in Houghton's wordlist).

(41) a. ʔəmín [ʔəmíŋ] 'name'
b. ʔəlɔ̀n [ʔəlɔ̀ŋ] 'road'

5.3 Minor Syllables

In Asho, minor syllables follow many of the restrictions mentioned above in 5.1. They can only have a single onset consonant followed by a brief schwa vowel (Cə) with no coda. The short duration of the schwa compared to other vowels is illustrated by the spectrograms for /ʔásʰé/ 'star' and /ʔəsʰi/ 'sesame' in Figure 8.

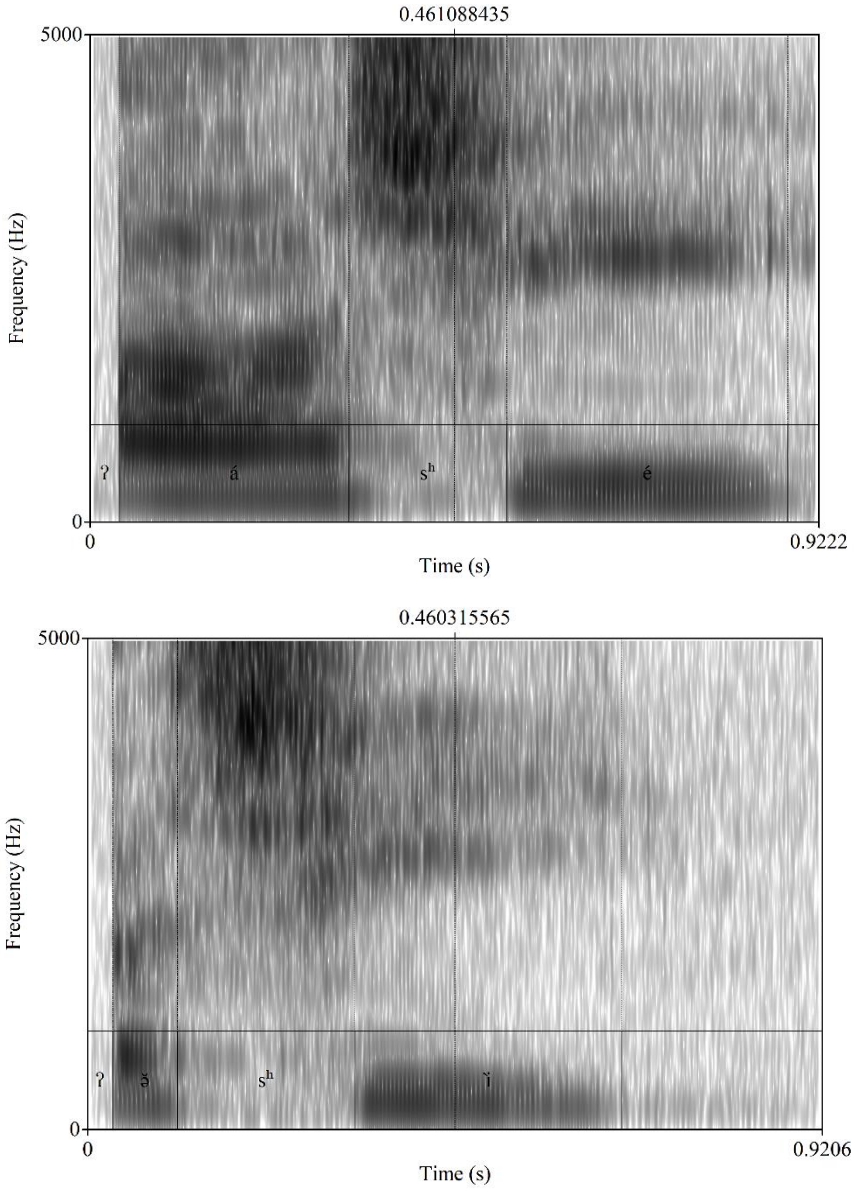

Figure 8. /ʔásʰé/ ‘star’ (above) and /ʔəsʰì/ ‘sesame’ (below)

Minor syllables cannot occur on the right word edge (and thus cannot stand alone), but must be followed by a major syllable. Any consonant can occur in the onset of a minor syllable, as illustrated by (42).

(42) a. pʰə̆ʃò ‘bird’

b. pə̆t̪ò ‘man’

c. kʰə̆ní ‘sun’

d. sə̆naì ‘sand’

e. hə̆m̥é? ‘chili pepper’

Tone on Asho minor syllables warrants further study. Pitch on lexical minor syllables did not seem to be significant. However, high tone syllables that became minor syllables through iambic weakening (5.3.1 below) often retained a high pitch.

5.3.1 Iambic weakening

Asho Chin has an iambic stress pattern, and the Iambic/Trochaic Law (Hayes 1995:79–85) predicts that iambic languages will either lengthen stressed syllables or shorten unstressed syllables in order to increase the durational contrast within a foot. Asho (like most Southeast Asian languages) chooses to reduce unstressed syllables, and it is this process that often generates the frequent minor syllables.

For disyllabic words like those given in (42), the weakening of the first syllable is lexicalized, and the original nucleus is unrecoverable. However, in a compound of two monosyllabic morphemes where the first syllable has undergone weakening, the details of the process are revealed. Syllables that undergo weakening lose vowel place features, coda consonants, and tone. The weakening is inconsistent but is more common in fast or casual speech, as seen in (43).

(43) **Iambic weakening of compounds in casual speech**

a. sʰə̆-nɯ́ ‘cow’ (/sʰɔ́/ ‘cow’ + /nɯ́/ ‘female’)

b. jə̆-haún ‘beer’ (/jɯ́/ ‘beer’ + /haún/ ‘liquid’)

c. nə̆-kì ‘buffalo horn’ (/nò/ ‘buffalo’ + /kì/ ‘horn’)

5.4 Syllabic Nasal

The Hill dialect of Asho has a syllabic nasal, with an allophone /ɦ/ that can occur before sonorants or /h/. My speaker of the Plains Dialect never used a syllabic nasal, either omitting that syllable or substituting the common unstressed syllable /ʔə/. The syllabic nasal assimilates to the place of the following consonant (see also 5.5 below).

Grammatically, this syllabic nasal in the Hill dialect probably stems from an earlier Tibeto-Burman prefix, which has lost much of its semantic function and been lexicalized onto the word with which it occurs. On nouns, it is especially common with body parts (although there are many non-body words where it is present, and many body parts where it is not). A few examples of words where this syllabic nasal shows up in the Hill dialect are given in (44). A phonetic transcription is given to show juncture voicing (44d and 44e) and nasal place assimilation.

(44)	a.	n̥t̪ʰín	[n̥̪t̪ʰín]	‘liver’
	b.	n̥pʰjun	[m̥pʰjùn]	‘urine’
	c.	n̥sʰé	[n̥sʰé]	‘market’
	d.	n̥t̪ɔ́n	[n̥̪d̪ɔ́n]	‘calf (of leg)’
	e.	n̥kón	[ŋ̊gón]	‘be stupid’
	f.	n̥ɗéʔ	[n̥ɗéʔ]	‘ground, earth’
	g.	n̥lʉ́	[l̥lʉ́]	‘head’
	h.	n̥ŋɔ́	[ŋ̊ŋɔ́]	‘warthog’
	i.	n̥hʉ̀	[l̥hʉ̀]	‘open (tr)’

The Burmese-based orthography (typically most reflective of the Plains dialect) includes a grapheme for the nasal in (44c), but not for any of the others.

The nasal also appears before many verbs that have a causative meaning (as in 44i). Without delving into the grammar of the prefix here, it appears to function similarly to the prefix *m-* of Daai Chin, which can likewise appear before names of body parts and before causative/transitive verbs (So-Hartmann 2009:55–56; Matisoff 2003:117–119).

Notice that this syllabic nasal has a different pronunciation than a minor syllable with /n/ in the onset (/nə̆/). For consonants in minor syllables, including /n/, there is always an epenthetic *ə̆* between the consonant and the following syllable. There is no epenthesis with a syllabic nasal, which simply has the sonorant nasal as the nucleus. The spectrograms in Figure 9, despite some background noise on the recording, still provide a clear contrast between the syllabic nasal in /n̩kó/ ‘twenty’ and a minor syllable in /nə̆kó/ ‘rainbow’.

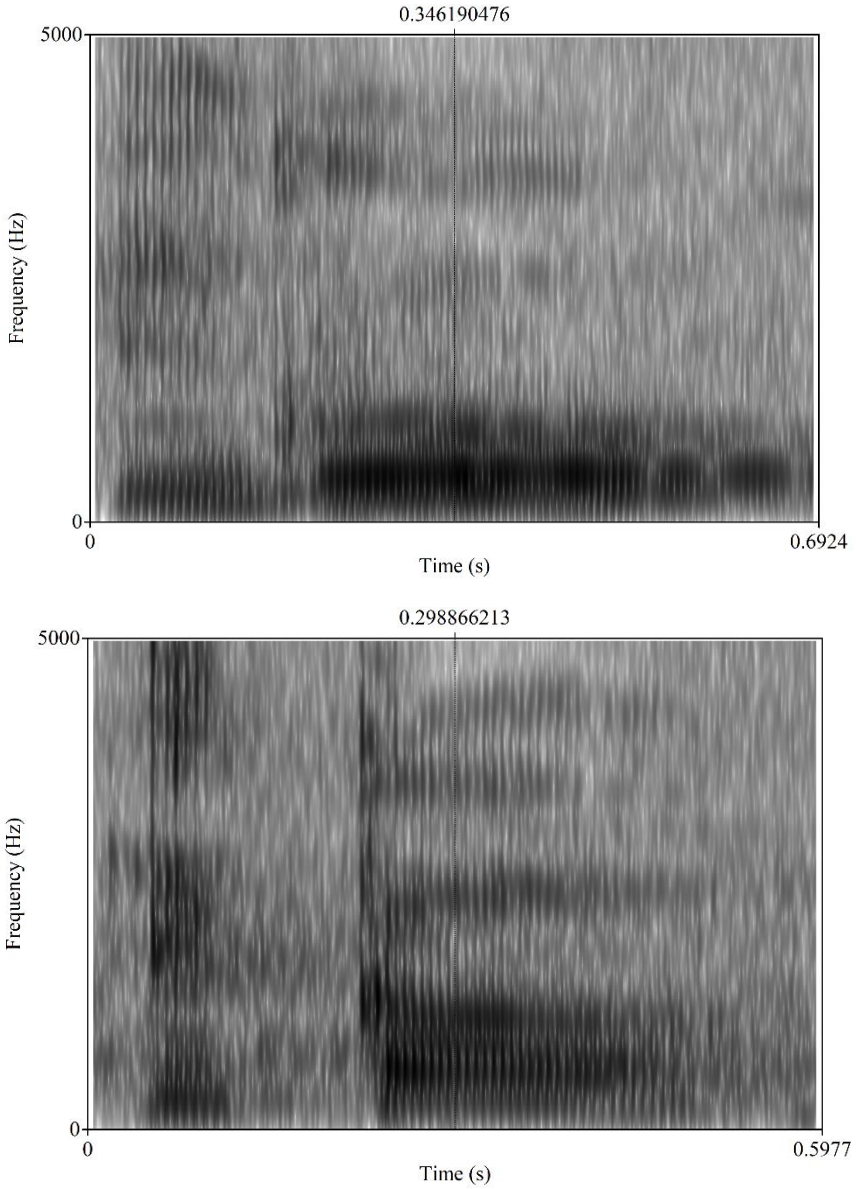

Figure 9. /n̩kó/ ‘twenty’ (above) and /nə̆kó/ ‘rainbow’ (below)

5.5 Assimilation of /ʔ/ and /n/

In compounds or in connected speech, a glottal plosive in a coda may fully assimilate to a following consonant, producing a lengthened form of that consonant.

(45) a. ɓú?-kɤ̀? [ɓúkːɤ̀?] ‘cook (v)’

b. wó?-sò [wósːò] ‘piglet’

A nasal in a syllable rime (i.e. a coda nasal or syllabic nasal) will assimilate to the place of a following consonant. (However, there is obviously no assimilation if a coda nasal is pronounced only as nasalization on the preceding vowel, as discussed above in 5.2.3.) Examples involving the syllabic nasal are in (44) above, and examples with nasal codas are given in (46).

(46) a. waún-ŋɤ̀? [waúŋːɤ̀?] ‘enter’

b. kʰònkʰó [kʰòŋkʰó] ‘grave’

c. ʃánɓòn [ʃámɓòn] ‘corn’

5.6 Summary

The present-day Asho syllable is complicated to describe, due to the external influences that have acted on it. I have described it here as [CCVC], which matches the syllable structure of Burmese. However, there are numerous places where it retains traces of its historical syllable structure—a structure that looks more like other Kuki-Chin languages. The interaction between this historical patterning and the influence of Burmese explains most of the problematic areas, such as the irregular distribution of *Cw-* onsets, the issues with /ui/ vowels for some dialects, and the occasional pronunciation of final nasals as velar nasals. The influence of Burmese on Asho phonology will be discussed more in the next chapter.

CHAPTER 6
TYPOLOGICAL CONSIDERATIONS

Perhaps most interesting about Asho phonology is an observation that has been repeated throughout this paper: In many ways, changes in the phonology of Asho have followed the pattern of Burmese rather than the (genetically) more closely related Kuki-Chin languages.

The commonalities with Burmese are more pronounced in the Plains dialect, which has been in even greater contact with Burmese. Almost anytime that the Plains dialect diverges from the Hill dialect, it does so in a way that shares features with Burmese. This chapter will discuss the most notable commonalities between Asho and Burmese (as described by Wheatley 2009), some of which have already been mentioned in earlier chapters.

6.1 Consonants

There are two significant shifts in Asho consonants that have moved the language closer to Burmese. The first, seen only in the Plains dialect, is the development of voiced plosives. The second is the palatalization of velars, which is found (for at least some speakers) in both the Hill and Plains dialects.

6.1.1 Development of voiced plosives

Southern Chin languages typically do not have voiced plosives, although [b] and [d] may be allophones of the implosives /ɓ/ and /ɗ/. Plains Asho is unique, then, in its

development of /b/, /d/, and /g/, in addition to the implosives /ɓ/ and /ɗ/. Although other Southern Chin languages do not have these voiced plosive phonemes, all three of these are phonemes in Burmese.

6.1.2 Velar palatalization

In Burmese, a comparison of written and spoken forms reveals some of the historical shifts in the language. One shift is seen in the palatalization of velar consonants before /j/, producing postalveolar phonemes /tʃ/, /tʃʰ/ and /dʒ/ (see Wheatley 2009:729). Asho also has palatalization of velar plosives, although it can occur before any front vowel and not only the semivowel /j/. It is also possible that postalveolar affricates in Asho are moving toward phonemic status, as discussed in section 2.1.2 above.

6.2 Vowels

Regarding vowels, there are at least three ways that Asho is similar to Burmese. Neither Asho nor Burmese have contrastive vowel length, and each of them has vowels that are restricted to only occurring in open or closed syllables. The Plains dialect of Asho bears further similarity to Burmese by shifting the Hill dialect's /ʉ/ and /ʏ/ to match Burmese phonemes.

6.2.1 Lack of vowel length

Kuki-Chin languages typically have a low number of vowels but contrastive vowel length. For example, Falam (Central Chin) has five simple vowels and two diphthongs (Khar Thuan 2008:28). Daai (Southern Chin) has seven vowels (So-Hartmann 2009:41–42). But the possibility of long vowels—found in both Falam and Daai—essentially doubles the number of contrastive nuclei. Asho does not have contrastive vowel length, although its 14 vowels still provide about the same number of vowel contrasts as other

Kuki-Chin languages. But this is another example of Asho patterning like Burmese—which does not have vowel length contrasts—rather than other Kuki-Chin languages.

6.2.2 Vowel restrictions in open and closed syllables

Not only does Burmese not have long vowels, but its vowels are restricted to certain syllable types. Table 14 shows one system (Wheatley 2009:726) for pairing the approximately 14 phonetic forms, although it differs somewhat from the pairs used in the orthography.[17]

Table 14. Burmese vowels by syllable type

Open	Nasalized	With final glottal
i	ɪ	ɪ
e	eɪ	eɪ
ɛ		ɛ
a	a	a
ɔ		
	aɪ	aɪ
	aʊ	aʊ
o	oʊ	oʊ
u	ʊ	ʊ

In Burmese, vowels in nasalized or closed syllables tend to be either a diphthong or a more central vowel. Asho does not exhibit quite this degree of separation based on syllable type, but there are some analogous situations. The more central vowels /ɪ/ and /ʏ/ do not occur in open syllables. The Plains dialect also turns the Hill /i/ in closed

[17] I arrive at 14 by counting /a/ in open syllables as distinct from /a/ in closed or nasalized syllables, where it is "slightly more fronted and centralised" (Watkins 2001:293) and could more appropriately be transcribed as /ɐ/.

The orthography groups /eɪ/ with /i/, /aʊ/ with /ɔ/, and /aɪ/ with /o/.

syllables into the diphthong /ei/. While the distinction is less pronounced than in Burmese, Asho does show some preference for centralized or diphthongized vowels in closed syllables.

6.2.3 Movement toward Burmese vowel pronunciation

One other aspect of vowel phonology for Plains Asho also show the influence of Burmese. As discussed in 3.3.1 above, Plains Asho has shifted the pronunciation of the Hill dialects /ʉ/ and /ʏ/ further back to /u/ and /ʊ/. Significantly, Burmese does not have either /ʉ/ or /ʏ/ phonemes, but does have /u/ and /ʊ/. The change in pronunciation in the Plains dialect could easily be explained as movement toward pronunciations that are found in Burmese.

6.3 Syllable Structure

Asho's syllable structure is unlike any other Chin language, but it is identical to the syllable structure of Burmese. Wheatley (2009:725) describes Burmese syllable structure as in (47):

(47) C_i (C_m) V (C_f) T

In Burmese, the initial consonant, vowel, are tone are required, and V can be either a simple vowel or diphthong. The only allowable C_f are /n/ and /ʔ/ (although in Burmese these are debatably analyzed as nasalization and glottalization rather than coda consonants, as Wheatley acknowledges). All of this is equivalent to the description of the Asho syllable given in (35), but quite divergent from other Southern Chin languages. Daai, for example, does not have an obligatory onset and does not have complex onsets. It has also been analyzed with complex codas like /-jʔ/ or /-wʔ/. In all

of these ways, the Asho syllable consistently patterns like Burmese rather than like Daai or other Kuki-Chin languages.

6.4 Summary

Taken individually, each of these similarities could be written off as incidental. Together, however, they point to a general trend: When Asho diverges from other Kuki-Chin languages, it does so in a way that patterns similarly to Burmese. And when the Hill and Plains dialects of Asho are different from each other, typically the Plains dialect is even closer to Burmese. All of this is what is expected based on degree of contact. Asho people have lived closer to Burmese areas than other Chin people have, and the Plains Asho have had greater proximity than the Hill Asho.

CHAPTER 7
CONCLUSION

This thesis has attempted to provide a preliminary overview of the phonology of Asho Chin, building on studies from over a century before. There are two significant observations that I would like to reiterate in conclusion.

First, I showed in Chapter 4 that the two-tone system of Asho—an unusual pattern among Kuki-Chin languages—fits neatly into the tone patterns that Luce (1985) first suggested. It is more similar to the tonal systems of Northern Chin languages than to Central Chin languages, supporting Peterson's grouping of Northern and Southern Chin into a "Peripheral" branch. It also highlights the dissimilarity of Khumi tone and confirms a distinction Khumi and Cho subgroupings within Southern Chin.

Secondly, in many aspects of phonology, Asho shows similarities with Burmese rather than the Kuki-Chin languages that are genetically more closely related. This is evidenced clearly in Asho's palatalization of velar consonants and loss of most coda consonants. The similarities are even stronger within the Plains dialect, where one also finds the development of voiced plosives. Asho's geographical proximity to Burmese-speakers, which is what allowed Asho to be the first Kuki-Chin language to receive linguistic study, has also been one of the most significant factors in the language's development.

APPENDIX

ASHO WORD LIST

The following is a selection of Asho words based on my recordings of the Hill dialect. For words that undergo velar palatalization or juncture voicing, I have given a phonetic transcription in addition to the phonemic transcription.

1	1PL, we	mè
2	1SG, I	kè [tʃè]
3	2PL, you	naùn.mè
4	2SG, you	naùn
5	be able	ʔə.saì.kʰó-ɦɤ̀ʔ
6	abstain	ʔə.ʃón-ŋɤ̀ʔ
7	add	n̩.pʰón-ŋɤ̀ʔ
8	adult	kʰlaún.ɬɛ́n
9	be afraid	ʔə.kí-jɤ̀ʔ [ʔə.tʃí-jɤ̀ʔ]
10	air, wind	kʰlí
11	be alive	hén-ŋɤ̀ʔ
12	all	pwé.pwé
13	ancestor	ʔə.póʔ.ʔə.paìʔ
14	be angry	n̩.mán.póʔ.kɤ̀ʔ
15	ant	mlìn
16	area under house	ʔìn.kɔ̀
17	arm	ʔə.kùʔ
18	armpit	ʔə.ʃaù.kʰó
19	arrow	ʔə.lə̆.t̪ʰɔ̀
20	be ashamed	ʃaúʔ-ʔé-jɤ̀ʔ
21	ashes	mè.ɲaù / mè.n̊é
22	be awake	kʰaíʔ-kɤ̀ʔ
23	axe	póʔ.t̪ʊ́
24	back	ʔə.ɬìn
25	backward	ʔə.n̥ù-ɦá / ʔə.n̥ù-pɔ́ʔ [ʔə.n̥ù-bɔ́ʔ]
26	bag	ʔə.jaúʔ
27	bake in ashes	ʔə.pʰʊ̀n-nɤ̀ʔ
28	bamboo	jó
29	bamboo shoot	ʔə.t̪wé
30	banana	n̥ó.t̪ʰɛ́
31	bark (v)	n̩.naùʔ-kɤ̀ʔ
32	bark (tree)	t̪ʰìn.hóʔ
33	barking deer	sʰaùʔ.kʰí
34	bat	pʰə̆.ɬaùʔ
35	bathe	t̪ù.ʔə.ɬó-ɦé-jɤ̀ʔ
36	beak, bill	ʔə.món
37	bear	ʔə.hón
38	be beautiful	pwé-jé-jɤ̀ʔ
39	bee	kʰwé
40	beer	jú / jə̆.haún

41	behind, back (side)	ʔə̆.n̪ʉ̀-ɦá
42	belch	kʰlí.kwɛ́-jɤ̀ʔ
43	believe	jún-ŋé-jɤ́ʔ
44	bell	sʰèn.lén
45	belly	ʔə̆.pʉ́ʔ
46	bend	kùʔ-kɤ́ʔ
47	beside	n̥.pè-já [m̥.bè-já]
48	betel nut	kón.t̪ʰɛ́
49	between	n̥.klá-lá [ŋ̊glálá]
50	be big	ɬɛ́n-nɤ̀ʔ
51	bile, gall	ʔə̆.m̥ɤ̀ʔ
52	bird	pə̆.ʃò
53	bite	n̥.só-ɦɤ́ʔ [n̥.zó-ɦɤ́ʔ]
54	be bitter	kʰò-ɦɤ́ʔ
55	black	ʔə̆.níʔ
56	bladder	n̥.pʰjùn.ʔúʔ
57	blanket	ʃɔ́
58	bleed	ʔə̆.t̪ʰì.sʰòʔ-t̪ɤ́ʔ
59	be blind	ɓé-jɤ̀ʔ
60	blind person	míʔ.mʉ́
61	blood	ʔə̆.t̪ʰì
62	blow	n̥.m̥ùʔ-t̪ɤ́ʔ / n̥.m̥ùʔ-kɤ́ʔ
63	be blue	pjá-lɤ̀ʔ
64	be blunt	n̥ɔ́-lɤ̀ʔ
65	boar (male pig)	wóʔ.hàn
66	boat	m̥lú
67	body	ʔə̆.pùn
68	boil	ʔə̆.plʉʔ-kɤ́ʔ
69	bone	ʔə̆.jó
70	be born	t̪aùʔ-ʔé-jɤ́ʔ
71	bottom	n̥.sɤ̀ [n̥.zɤ̀]
72	bow (as in greeting)	ʔə̆.lʉ́.kùn-nɤ́ʔ
73	bow (weapon)	ʔə̆.lí
74	bowl	n̥.t̪éʔ [n̥.déʔ]
75	boy	pə̆.t̪ò.só [pə̆.t̪ò.zó]
76	boyfriend, girlfriend	ʔíʔ.pwí
77	brain	ʔə̆.lʉ́n.kʰlòʔ
78	branch	t̪ʰìn.ɓaìʔ
79	break (tr)	ʔə̆.kʰlèʔ-kɤ́ʔ
80	breast	ʔə̆.sú
81	breastbone	ʔə̆.kaín.jó
82	breath	ʔə̆.ʃɔ́.n̥.m̥ló-ɦé-jɤ̀ʔ
83	breathe	ʔə̆.ʃɔ̀.m̥ló.ɦé.jɤ́ʔ
84	brother (older)	ʔə̆.t̪á
85	brother (younger), sister (younger)	nə̆.ʔaú / naú
86	brother-in-law	ʔìn.kwɛ́
87	be brown	ɲɤ́-lɤ̀ʔ
88	buffalo	nò
89	bull (male cow)	sʰə̆.nə̆.sʰʉ́
90	bundle (n)	ʔə̆.póʔ

91	burn (intr), blaze	ʔò-ɦɤ̀ʔ
92	burn (tr)	mè.ʔə̆.sʰɨ́-jɤ̀ʔ
93	bury	n̥.m̥lú?-tɤ̀ʔ
94	buy	ʔə̆.ɬé-jɤ̀ʔ
95	calf (of leg)	n̥.t̪ɔ́n.t̪aú? [n̥.d̪ɔ́n.t̪aú?]
96	calf (young cow)	sʰɔ́.sò [sʰɔ́.zò]
97	cane, rattan	ʔə̆.mén
98	carry in arms	ʔə̆.ɓí-jɤ̀ʔ
99	carry on back	ʔə̆.pʉ́-wɤ̀ʔ
100	carry on head	ʔə̆.kɔ́ʔ-tɤ̀ʔ
101	cat	mìn.sán [mìn.zán]
102	catch	ʔmɔ̀n-nɤ̀ʔ
103	cave	kʰó
104	cemetery	n̥.só [n̥.zó]
105	chest	ʔə̆.kaín.saìn [ʔə̆.kaín.zaìn]
106	chew	n̥.kʰɛ̀n-né-jɤ̀ʔ [ntʃʰɛ̀n-né-jɤ̀ʔ]
107	chick	ʔá.sò [ʔá.zò]
108	chicken	ʔá
109	child, baby	sʰə̆.mí
110	chin	n̥.kʰúʔt̪ɤ̀
111	choose	ʔə̆.hɛ́-jɤ̀ʔ
112	city	n̥.mlʉ́
113	clan	n̥.kʰón
114	clap (hands)	ʔə̆.kùʔ.ɓeí-jé-jɤ̀ʔ
115	claw, fingernail	ʔə̆.kúʔ.t̪ìn
116	close, shut (tr)	n̥.ɓín-ŋɤ̀ʔ.kʰá-lɤ̀ʔ
117	cloud	ʔə̆.mé.seì
118	cobra	pʰə̆.sʰóʔ
119	cockroach	pə̆.kʰaún
120	coconut palm	ʔʉ́n.jón
121	be cold	jón-ŋé-jɤ̀ʔ
122	color	ʔə̆.jaún
123	colt	sʰeí.sò [sʰeí.zò]
124	come	lò-ɦɤ̀ʔ
125	be confused	ʃʉ̀ʔ-kɤ̀ʔ
126	cook	ʔə̆.ɓʉ́ʔ-kɤ̀ʔ
127	cooking pot (earthenware)	n̥.ɗéʔ.ʔàn
128	be cool	jɛ̀-jɤ̀ʔ
129	cool season	sʰíʔ.kʰó
130	corn	ʃàn.ɓón
131	corpse	jòʔ
132	be correct	m̥ɔ́n-nɤ̀ʔ
133	cough	n̥.kʰʉ́-ɦɤ́ʔ
134	count	ʔə̆.sʰɛ̀ʔ-tɤ̀ʔ
135	country, ethnic area	nɛ́
136	cousin	pʉ́ʔ.ʔɔ́ʔ.kaìʔ
137	cover (v)	n̥.kʰɤ́n-nɤ̀ʔ
138	cow	sʰɔ́
139	cow (female)	sʰə̆.nʉ̀
140	crab	ʔə̆.ʔwɛ̀
141	crest (bird)	n̥.t̪ʰì

142	crocodile	ʔə̆.sʰán
143	cry	ká?-t̪ɤ̀ʔ
144	cut (hair)	ʔə̆.jàn-né-jɤ́ʔ
145	cut (tr)	ʔə̆.kʰɔ́-lɤ́ʔ
146	dance	lɔ́n-nɤ̀ʔ
147	be dark (outside)	ʃɯ́n-ŋɤ̀ʔ
148	daughter	sə̆.n̥ɯ́
149	daughter-in-law	n̥.naú.n̥ɯ́
150	day	ʔə̆.n̥ɤ́ʔ
151	be dead	ɗɯ́.n̥ì-jɤ̀ʔ
152	be deaf	ʔə̆.n̥ó.paùn-ŋɤ́ʔ
153	death	ɗɯ́-ɗɤ̀n
154	decide	n̥.sʰún.pʰlá?-t̪ɤ́ʔ
155	decrease (intr)	jɔ̀ʔ-t̪ɤ́ʔ
156	be deep	t̪ʰɯ̀ʔ-kɤ́ʔ
157	die	ɗɯ́-ɦɤ̀ʔ
158	be difficult	keí.kaìn-ŋɤ́ʔ [tʃeí.kaìŋːɤ́ʔ]
159	dig	ʔə̆.sɤ́-ɦɤ̀ʔ
160	be dirty (clothes)	sóʔ.saíʔ-kɤ̀ʔ
161	ditch	n̥.mlón
162	be dizzy	mɤ́n-nɤ̀ʔ
163	do, make	ʔə̆.saì-jɤ́ʔ
164	dog	ʔù
165	door	ɗaùn.kʰó
166	dove	wə̆.kʰó
167	down	ʔə̆.kɔ̀
168	dream	ʔə̆.maùn.taùʔ-ʔé-jɤ́ʔ
169	dress	ʔə̆.wɔ́ʔ-t̪ɤ́ʔ
170	drink	ʔòʔ-kɤ́ʔ
171	drum (n)	sʰàn.plón
172	be drunk (alcohol)	ʔə̆.láʔ.n̥.mwé-jɤ̀ʔ
173	be dry	sá-lɤ̀ʔ
174	dry	ʔə̆.pʰɤ́-ɦɤ́ʔ
175	dust	t̪ə̆.m̥úʔ
176	dwell	ʔòn-nɤ́ʔ
177	ear	ʔə̆.n̥ón.kaùn [ʔə̆.n̥óŋ.gaùn]
178	east	ʔə̆.heí
179	be easy	lweí-jɤ̀ʔ
180	eat	ʔé-jɤ́ʔ
181	egg	t̪wé
182	eggplant	ŋaún.t̪ʰé
183	eggshell	ʔə̆.hóʔ
184	eight	sʰɛ̀ʔ
185	eighteen (18)	ŋ̊á.sʰɛ̀ʔ
186	eighty (80)	sʰɛ̀ʔ.kíʔ [sʰɛ̀ʔ.tʃíʔ]
187	elbow	ɓɔ́n.kí [ɓɔ́n.tʃí]
188	elephant	mú
189	eleven (11)	ŋ̊á.ʔɔ́ʔ
190	be empty	ʔə̆.lɔ́ʔ
191	enter	waún-ŋɤ̀ʔ
192	ewe	t̪ò.nɯ́
193	exchange	ʔə̆.t̪ʰɔ́-lé-jɤ́ʔ / ʔə̆.t̪ʰɔ́-lɤ̀ʔ

194	excrement	ʔèʔ
195	eye	ʔə.míʔ
196	eyebrow	ʔə.míʔ.kʰɯ́
197	eyelid	ʔə.mìʔ.hóʔ
198	face	ʔə.m̥wè.saìn [ʔə.m̥wè.zaín]
199	fail	sʰún-né-jɤ̀ʔ
200	fall	klò-ɦɤ́ʔ
201	be far	ɬò-ɦɤ́ʔ
202	be fast	jaìn-ŋɤ́ʔ
203	fasten, bind (load)	n̥.kʰùn-nɤ́ʔ
204	be fat	t̪ʰaú-wɤ̀ʔ / wàʔ-t̪ɤ́ʔ
205	fat, grease	ʔə.t̪ʰaú
206	father	ʔə.pá
207	father's brother (uncle)	pʰaúʔ
208	father's older sister (aunt)	sí.ɬɛ́n
209	father's younger sister (aunt)	sí.sò [sí.zò]
210	fear (n)	kì-jé-dɤ̃n [tʃì-jé-dɤ̃n]
211	feather, fur, body hair	ʔə.m̥ò
212	feed (animals)	ʔə.hɔ́-lɤ́ʔ
213	fence (n)	són.ján
214	ferment (v)	jɯ́.ʔə.sʰaìn.ŋɤ́ʔ
215	fever	ʔə.kɔ́
216	be few	né-jɤ̀ʔ
217	field (dry)	lɤ̀
218	field (paddy)	ʔə.laì
219	be fierce	ʔə.mán.póʔ-kɤ̀ʔ
220	fifteen (15)	ŋ̊á.ŋ̊ó
221	fifty (50)	haùʔ.kíʔ [haùʔ.tʃíʔ]
222	fig	ʔə.hè.t̪ʰɛ́
223	fill	n̥.pʰlé-jɤ́ʔ
224	finger	ʔə.kùʔ.saín
225	fire	mè
226	firewood	ʔə.hɛ̀
227	fish	ŋò
228	fishhook	n̥.kʰá
229	fishing net	ʔə.wá
230	fist	ʔə.kúʔ.n̥ɤ̃n
231	five	ŋ̊ɔ́
232	five hundred (500)	pʰjà.ŋ̊ó
233	flea	ʔu.ɬí
234	flesh, meat	ʔə.sʰò
235	floor	ʔìn.mlaí
236	flow	t̪ù.lón-ŋé-jɤ́ʔ
237	flower	pàn.pá
238	fly (n)	ʔə.pjɔ̀
239	fly (v)	paí-jɤ̀ʔ
240	foam	t̪ù.wɔ́n
241	fold (v)	n̥.kʰlɛ́ʔ-t̪ɤ́ʔ / n̥.kʰóʔ-kɤ́ʔ
242	food	ʔé.ʔóʔ

243	forget	ʔə.ɲɔ́-ɦɤ̋ʔ / ʔə.ɲɔ́-lɤ̋ʔ
244	forty (40)	m̥lèʔ.kíʔ [m̥lèʔ.tʃíʔ]
245	forward	ʔə.m̥ɔ̀n.kɔ́n-pɔ́ʔ [ʔə.m̥ɔ̀n.gɔ́n-bɔ́ʔ]
246	four	m̥lí
247	fourteen (14)	ŋ̊á.m̥lí
248	friend	n̥ʰaí.pwí / ʔòn.pwí
249	frighten	kó-ɦɤ̀ʔ
250	frog	ʔə.ʔʉ̀
251	front (of something)	ʔə.m̥ɔ́n.kɔ́n-ná [ʔə.m̥ɔ́n.gɔ́n-ná]
252	fruit	n̥ʰìn.n̥ʰé
253	fry	ʔə.tʃaú-ɦɤ̋ʔ
254	be full	plé-jɤ̀ʔ
255	garlic	kʰwɛ̀.sʰón.ɓòʔ
256	get up (from bed)	n̥ʰɤ̀-ɦɤ̋ʔ
257	ghost	kʰə̆.jaí
258	gift	laúʔ.sʰón
259	ginger	ʔə.n̥ʰín
260	girl	nə̆.n̥ò.só [nə̆.n̥ò.zó]
261	give	ʔə.pèʔ-kɤ́ʔ
262	gizzard	ʔə.mlɛ́ʔ
263	go	síʔ-n̥ɤ̀ʔ
264	go down	kɔ̀n-nɤ́ʔ
265	go out	sʰwàʔ-n̥ɤ́ʔ
266	go up	kwɛ́-jɤ̀ʔ
267	goat	meì
268	gold	hà
269	gong	món
270	be good	pwɛ́-jɤ̀ʔ
271	granary	ʔə.kʰé [ʔə.tʃʰé]
272	grandchild, niece, nephew	n̥ʉ̀
273	grass	mlaíʔ
274	grave	kʰùn.kʰó
275	be great, be powerful	ɬɛ́n.mláʔ-n̥ɤ̀ʔ
276	green	ʔə.sìn
277	grind	ʔə.kìʔ-kɤ́ʔ
278	groan (with pain)	kɤ́-ɦé-jɤ̀ʔ
279	ground, earth	n̤.ɗéʔ
280	grow up	ɬɛ́n-lò-ɦɤ́ʔ
281	growl	ŋò-ɦé-jɤ̀ʔ
282	guest, visitor	ʔɛ́.sʰé
283	hair (head)	ʔə.sʰòn
284	handle	ʔə.lén
285	be happy, be joyful	pjɔ́-lɤ̀ʔ
286	be hard, firm	saìn-ŋɤ́ʔ
287	hate	n̤.mún-ŋɤ́ʔ
288	have a fever	kɔ̀-lɤ́ʔ / kɔ̀-ɦɤ́ʔ
289	have, possess	mwé-jɤ́ʔ
290	hawk	ʔə.m̥ʉ́
291	head	ʔə.lʉ́
292	headache	ʔə.lʉ́.meí-jɤ̀ʔ
293	heal (tr), cure (v)	ʔə.kʉ́-ɦé-jɤ́ʔ
294	be healthy, be	kaìn-ŋɤ́ʔ

	well	
295	heap (n)	ʔə.pɤ́n
296	heap up (v)	ʔə.pɤ́n-nɤ́ʔ
297	hear	jaùʔ-kɤ́ʔ
298	heart	n̥.mlɯ́n
299	be heavy	jeí-jɤ̀ʔ
300	heel	ʔə.kʰùn.sɯ́ [ʔə.kʰun.zɯ́]
301	he-goat, billy	meì.hàn
302	heifer	sʰə̆.nə̆.sò [sʰə̆.nə̆.zò]
303	hen	ʔə.nɯ̀
304	here	ní-jà
305	hide oneself	wì-jɤ́ʔ
306	hit, beat	ʔə.kón-ŋɤ̀ʔ
307	hold	kʰéʔ-kɤ́ʔ [tʃʰékːɤ́ʔ]
308	hole	ʔə.pɤ́ʔ / ʔə̆.kʰó
309	honey	kʰwé.haún
310	hoof	kʰə̆.seí
311	hope (v)	ʔə.lɔ̀n.sʰòʔ-ʔé-jɤ́ʔ
312	horn	ʔə.kì [ʔə.tʃì]
313	hornbill	kóʔ.kə̆.laín
314	horse	sʰeí
315	host	ʔìn.mó
316	be hot	ɬóʔ-kɤ̀ʔ
317	hot season	kʰá.kʰó
318	house	ʔìn
319	hundred	pʰjá.lɔ́ʔ / pʰjá.ʔɔ́ʔ
320	be hurt	mí-jɤ́ʔ
321	husband, wife	pə̆.ʃá
322	hut (in the field)	pén
323	be impatient	ʔə.mlɯ́n.sʰaú-lá ʔ
324	in front of, before	ʔə.m̥ɔ̀n.kɔ́n-ná [ʔə.m̥ɔ̀n.gɔ́n-ná]
325	increase	n̪ɯ́-fiɤ̀ʔ
326	insect	pɯ́
327	inside	ʔə.ɗɯ́ʔ-kà
328	be intelligent	pʰlɛ́ʔ-n̪ɤ̀ʔ
329	intestinal worm	ʔə.sʰén
330	intestines	ʔə.kʰɛ́ [ʔə.tʃʰɛ́]
331	iron	n̥.n̪ʰí
332	be itchy	n̥.n̪ʰaúʔ-ʔé-jɤ́ʔ
333	joint	ʔə.sʰɛ́ʔ
334	jump	ɗòn-ŋɤ́ʔ
335	jungle	n̪ʰìn.kʰaún
336	kernel (of corn)	ʔə.ʔú
337	kid (child goat)	meì.sò [meì.zò]
338	kill	ʔə.n̪ɯ́ʔ-kɤ́ʔ
339	kitten	mìn.sán.sò [mìn.zán.zò]
340	knee	n̥.kʰɯ́ʔ.ʔə̆.lɯ́
341	knife	ʔə.sín
342	know	ʔə.m̥áʔ-n̪ɤ́ʔ
343	knuckle	ʔə.kúʔ.sʰɛ́ʔ
344	ladder	ʔə.ɬaùʔ
345	ladle	kʰə̆.pè
346	lamb	n̪ò.só [n̪ò.zó]

347	language	paú
348	laugh	ʔə.nú-jɤ̋ʔ
349	be lazy	ɗɔ̀n-nɤ́ʔ
350	leaf	t̪ʰìn.n̥ó
351	learn	ʔə.sòʔ-ʔé-jɤ́ʔ
352	leech (ground)	ʔə.wɔ́ʔ
353	leech (water)	n̥.mlìʔ
354	left side	kʰè.t̪òn [tʃʰè.t̪òn]
355	leg	ʔə.kʰó
356	lick	ʔə.mlèʔ-ʔé-jɤ́ʔ
357	lie down	t̪ún.mlún-ŋé-jɤ̋ʔ
358	life	ʔə.sʰaúʔ
359	lift	ʔə.t̪á-lɤ̋ʔ / ʔə.t̪á-ɦɤ̋ʔ
360	light (n)	ʔə.wá / ʔə.waín
361	be light (weight)	ʃaùn-ŋɤ́ʔ
362	lime (for betel chew)	t̪ʰún
363	lip	n̥.món
364	listen	ɲè-jɤ́ʔ
365	liver	n̥.t̪ʰín
366	load, burden (n)	kɔ́ʔ-ɗɤ̃n
367	be long	sʰaù-ɦɤ́ʔ
368	longyi (female)	n̥ì
369	longyi (male)	kʰè [tʃʰè]
370	look at	ʃwàʔ-t̪ɤ́ʔ
371	be loose	kʰón-ŋɤ̋ʔ [tʃʰóŋːɤ̋ʔ]
372	be lost, disappear	kʰlṵ́ʔ-kɤ̋ʔ
373	louse (head)	héʔ
374	love	n̥.mláʔ.nò-ɦɤ́ʔ / kʰéʔ-kɤ́ʔ [tʃʰékːɤ́ʔ]
375	lung	n̥.sɔ̀ʔ [n̥.zɔ̀ʔ]
376	mad person	ʔə.jó
377	malaria	haíʔ.kɔ́
378	man	pə̆.t̪ò
379	mango	ʔə.hwé.t̪ʰé
380	be many	nṳ̀-ɦɤ́ʔ
381	mare (female horse)	sʰeí.nṳ̀
382	market (n)	n̥.sʰé
383	marrow	n̥.kʰlìn
384	master	ʔə.mó
385	mat	pʰə̆.ʔí
386	medicine	tə̆.laí
387	middle	ʔə.laí-jà / ʔə.laí.mlṵ́n-ŋà
388	milk (cow) (n)	sʰɔ́.sú [sʰɔ́.zú]
389	mist/fog	t̪ù.pʰṵ́
390	mix (v)	ʔə.n̥ṵ́-ɦɤ̋ʔ
391	money	pé.sá [pé.zá]
392	monkey	jón
393	moon	kʰló
394	morning	ʔə.ŋò
395	mortar	ʔə.sʰùn
396	mosquito	ʔə.haìn

397	mother	ʔə.ʔʉ́
398	mother's brother	pʉ́
399	mother's sister	ṇ.ɗíʔ
400	mountain	ṇ.sʉ̀n [ṇ.zʉ̀n]
401	mouth	haùʔ.kʰó
402	mushroom	ʔə.pò
403	name	ʔə.mín [ʔə.míŋ]
404	be narrow	sèʔ-kɤ́ʔ
405	navel	ṇ.m̥laí
406	be near	sèn-ŋɤ́ʔ
407	neck	ʔə.lə̆.ɓɤ́n
408	need (v)	lʉ́-ɦɤ̀ʔ
409	needle	ʔə.pʰɛ́n
410	NEG	laʔ
411	neighbor	ʔìn.sèn.pwí [ʔìn.zèn.bwí]
412	nest	peʃò.ɓʉ̀
413	new	ʔə.t̪ʰá
414	news	sʰə̆.t̪aún
415	night	ʔə.mʉ́
416	nine	kòʔ
417	nineteen (19)	ŋ̊á.kòʔ
418	ninety (90)	kòʔ.kíʔ [kòʔ.tʃíʔ]
419	nose	ṇ.nə̆.t̪ʰó
420	notice (v)	sʰə̆.t̪í.t̪aùʔ-mí-jɤ́ʔ
421	now	tʉ́.ɦà
422	oil	ʔə.sʱì
423	old	ʔə.pʰɛ́n
424	be old (person)	ʔʉ́-ɦɤ̀ʔ
425	one	ʔɔ́ʔ
426	be open	pwaín-ŋɤ́ʔ
427	open	ṇ.hʉ̀-ɦɤ́ʔ
428	opium	ṇ.pìn [ṃ.bìn]
429	otter	ʔə.hàn
430	outside	ʔə.plaún-ŋá
431	over, above	ʔə.hɔ́n-ná
432	palm	ʔə.kùʔ.pʰón
433	pangolin	sʰə̆.pʰʉ̀
434	papaya	sʰèn.pʰɔ̀.t̪ʰɛ́
435	parrot	ʔə.kì [ʔə.tʃì]
436	be patient	ʔə.mlʉ́n.sʰaù-ɦɤ́ʔ
437	pay	ʔə.mɔ́n.pèʔ-kɤ́ʔ
438	peel (v)	ʔə.hóʔ.ʔə̆.kʰòn-ŋɤ́ʔ
439	person	kʰlaún
440	pick up	ṇ.sʰíʔ-kɤ́ʔ
441	pig	wóʔ
442	pigeon	waùʔ.kʰó
443	piglet	wóʔ.sò
444	pity (n)	mɛ́n.sʰé-ɗɤ̀n
445	plant	ʔə.lìn-ŋɤ́ʔ
446	play	mlaùʔ-ʔé-jɤ̀ʔ/.saíʔ-kɤ̀ʔ
447	pluck (feathers)	ʔə.pʰʉ̀ʔ-kɤ́ʔ
448	poison	ʔə.sʰíʔ
449	be poor	sʰʉ́n.laí-jɤ̀ʔ
450	porcupine	ʔə.kʉ́

451	pot	ʔàn
452	pot (for water)	t̪ùn.sʉ́ [t̪ùn.zʉ́]
453	pound	ʔə̆.naún-ŋɤ́ʔ
454	pour	ʔə̆.lɔ̀n-nɤ́ʔ
455	price	ʔə̆.mɔ́n
456	pull	n̪.t̪aìn-ŋɤ́ʔ [n̪̈.d̪aìŋ-ŋɤ́ʔ]
457	puppy	ʔù.sò [ʔù.zò]
458	pus	ʔə̆.n̥aí
459	push	ɓʉ̀ʔ-kɤ́ʔ
460	put, place	ʔə̆.t̪aùʔ-kɤ́ʔ
461	rabbit	ʔə̆.weí
462	rain (n)	jó
463	rainbow	nə̆.kó.hán
464	rainy season	só.kʰó
465	ram	t̪ò.hàn
466	rat	peʃʉ̀
467	red	ʔə̆.sʰén
468	red pepper	hə̆.mɛ́ʔ.t̪ʰɛ́
469	rejoice	ʔón.mlaú-ɦɤ̀ʔ
470	relative (by blood)	mó.sʰò
471	rest	n̪.ɗɤ̈n-nɤ́ʔ
472	return	ɓɔ́.lò-ɦɤ́ʔ
473	rib	n̪.n̥aúʔ.jó
474	rice (cooked)	ɓʉ́
475	rice (paddy)	saún
476	rice (pounded)	ʔə̆.saùn
477	rice husk	wə̆.kɤ̀
478	be rich	t̪ʰón-nɤ̀ʔ
479	right side	laíʔ.pán
480	ring	kʰwè.síʔ [kʰwè.zíʔ]
481	ringworm	pú
482	be ripe	m̥ín-nɤ̀ʔ
483	river	mlɛ́ʔ
484	road/path	ʔə̆.lɔ̀n [ʔə̆.lɔ̀ŋ]
485	roast	ʔə̆.ɬaú-ɦɤ́ʔ
486	roof	n̪.klʉ̀n [n̪̊.glʉ̀n]
487	rooster	ʔə̆.lú
488	root	t̪ʰìn.jʉ̀n
489	rope	ʔə̆.jwè
490	be rotten	t̪ʰʉ̀-ɦɤ́ʔ
491	be round	pə̆.lún-nɤ̀ʔ
492	rub	ʔə̆.t̪ɤ́ʔ-kɤ́ʔ
493	run	sòn-nɤ́ʔ
494	rust (n)	n̪.t̪ʰì.ʔèʔ
495	be sad	wɔ̀n.nɛ̀-jɤ́ʔ
496	saliva	n̪.sə.t̪ù [n̪.zə.t̪ù]
497	salt	n̪.sí [n̪.zí]
498	be salty	ŋán-nɤ̀ʔ / kʰlún-nɤ̀ʔ
499	sand	sʰə̆.naì
500	sap	ʔə̆.plì
501	say	paú-ɦɤ̀ʔ
502	scar, mark	ʔə̆.wɛ́.t̪wé / ʔə̆.m̥aí
503	scratch oneself	ʔə̆.kʰɔ̀ʔ-t̪ɤ́ʔ
504	sea	paín.laí

505	season	kʰó
506	see	m̥ʉ́-ɦɤ̋ʔ
507	seed (tree)	t̪ʰìn.t̪ʰé.ʔú
508	sell	ʔə.jeí-jɤ̋ʔ
509	set free	ʔə.ɬɔ́ʔ-t̪ɤ̋ʔ
510	seven	sʰeí
511	seventeen (17)	n̥̊á.sʰeí
512	seventy (70)	sʰeí.kíʔ [sʰeí.dʒíʔ]
513	sew	ʔə.kʰwé-jɤ̋ʔ
514	shadow, shade	ʔə.líʔ
515	be shallow	plɤ̋-ɦɤ̋ʔ
516	shame (n)	ʃaúʔ-ʔé-dɤ̃n
517	be sharp	hàʔ-t̪ɤ̋ʔ
518	sharpen	ʔə.t̪ò-ɦɤ̋ʔ
519	shave	ʔə.ján-nɤ̀ʔ
520	sheep	t̪ò
521	she-goat, nanny goat	meì.nʉ̀
522	shin	n̥.t̪ɔ́n.jó [n̥̊.d̪ɔ́n.jó]
523	shine	wá-lɤ̀ʔ
524	shiver	sɔ́ʔ-ʔé-jɤ̀ʔ
525	shoot	ʔə.kʰɔ̀ʔ-t̪ɤ̋ʔ
526	be short (height)	nɛ̀n-nɤ́ʔ
527	be short (length)	swè-jɤ́ʔ
528	shoulder	ʔə.pà
529	shout	hè.paín-ŋɤ̀ʔ
530	show	n̥.pʰlá-lɤ̋ʔ
531	shrimp	kə̆.kón [tʃə̆.kón]
532	be shy	ʃaúʔ-ʔé-jɤ̀ʔ
533	side (of something)	n̥.pè-já [m̥.bè-já] / n̥.ɓén-ŋá [m̥.ɓéŋ-ŋá]
534	silver	hɛ̀n
535	sing	ʔə.haú-ɦɤ́ʔ
536	sister (older)	ʔə.sì
537	sister-in-law	ʔə.m̥ɤ́
538	sit (remain)	ʔɔ̀n-nɤ́ʔ
539	six	sʰóʔ
540	sixteen (16)	n̥̊á.sʰóʔ
541	sixty (60)	sʰóʔ.kíʔ [sʰóʔ.tʃíʔ]
542	skeleton	ʔə.jó.pɤ́n
543	skin	ʔə.ʔùn
544	skull	ʔə.lʉ́.jó / ʔə.lə̆.jó
545	sky	ʔə.mé
546	slave	n̥.mjá
547	sleep	ʔíʔ-t̪ɤ̀ʔ
548	sleeping area	ʔíʔ.dɤ̃n
549	be sleepy	ŋʉ̀-ɦɤ́ʔ
550	be slow	t̪ɔ̀.mú-jɤ́ʔ / t̪ɔ̀.mú-ɦɤ́ʔ
551	be small	n̥.mlíʔ-kɤ̀ʔ
552	smell (tr)	ʔə.náʔ.kʰɔ̀n-nɤ́ʔ
553	be smelly	nɔ́n-nɤ̀ʔ
554	smoke (n)	mè.kʰʉ̀
555	snail	kə̆.kòʔ [tʃə̆.kòʔ.~.kə̆.kòʔ]
556	snake	pʰɔ́

557	sneeze	ṇ.sʰeí-jɤ̋ʔ
558	snore	ṇ.ŋ̊á-lɤ̀ʔ
559	be soft	nɛ̀-jɤ́ʔ
560	sole (of foot)	ʔə.kʰə̆.pʰón
561	son	ʔə.sò
562	son-in-law	ṇ.sʰə̆.maiʔ
563	sorrow	wɔ̀n.nɛ̀-ɗɤ́n
564	soup, broth	ʔɔ̀n.haún
565	be sour	ʈ̤ʰò-ɦɤ́ʔ
566	sow (female pig)	wóʔ.nʉ̀
567	spear	sʰaùʔ.kʰè [sʰaùʔ.tʃʰè]
568	be spicy	ṇ.ʈ̤ʱìʔ-ʈ̤ɤ́ʔ
569	spider	ʔə.kʰɯ́
570	spider web	ʔə.kʰɯ́.ʔìn
571	spill	ṇ.kʰùʔ-kɤ́ʔ
572	spine, backbone	ʔə.ɬìn.jó
573	spit	ṇ.sʰó-ɦɤ́ʔ
574	split	ʔaìʔ-kɤ́ʔ
575	squeeze	ṇ.pʰɛ́ʔ-ʈ̤ɤ́ʔ
576	squirrel	ʔə.ɬè / ʔə.ɬù
577	stab	ʔə.plóʔ-tɤ́ʔ
578	stallion (male horse)	sʰeí.hàn
579	stamp (with foot)	ʔə.kʰó.kʰlʉ̀n-ŋé-jɤ́ʔ
580	stand	ṇ.ʈ̤ɯ́n-ŋɤ̀ʔ [ṇ̤.ɖ̤ɯ́ŋ-ŋɤ̀ʔ]
581	star	ʔə.sʰeí
582	steal	ʔə̆.mjòʔ-ʔé-jɤ́ʔ
583	steer (castrated male cow)	wɔ́n.ʈ̤aún
584	step	ṇ.ká-lɤ́ʔ [ŋ̍.gá-lɤ́ʔ] / ṇ.ká-ɦɤ́ʔ [ŋ̍.gá-ɦɤ́ʔ]
585	stir	ʔə.m̥ú-jɤ́ʔ / ʔə.wè-jɤ́ʔ
586	stomachache, upset stomach	ʔə.pùʔ.meí-jɤ̀ʔ
587	stone	ʔə.lʉ̀n
588	store (up)	ṇ.súʔ-ʈ̤ɤ́ʔ [ṇ.zúʈ̤-ʈ̤ɤ́ʔ]
589	story	kʰwí
590	be straight	pjún-ŋɤ̀ʔ / pjún-nɤ̀ʔ
591	be strong	ʔə.ʔó.ɬɛ́n-nɤ̀ʔ
592	be stubborn	ʔə.lɯ́.saìn-ŋɤ́ʔ
593	stump	ʈ̤ʰín.m̥ù
594	be stupid	ṇ.kón-ŋɤ̀ʔ [ŋ̍.góŋ-ŋɤ̀ʔ]
595	submerge something	ʈ̤ù.néʔ-ʈ̤ɤ̀ʔ
596	subtract, take away	ʔə̆.n̥òʔ-kɤ́ʔ
597	succeed	ʔón.mlaín-ŋɤ̀ʔ
598	suck	ʔə.mjɔ̀n-nɤ́ʔ
599	suffer	ʔə.kʰɔ̀n.lá-lɤ́ʔ
600	sun	kʰə̆.ní
601	swallow	ʔə.mjé-jɤ̀ʔ
602	sweat (n)	ʔə.kʰlɔ́n
603	sweat (v)	ʔə.kʰlɔ́n.sʰòʔ-ʈ̤ɤ́ʔ
604	be sweet	ʈ̤ú-ɦɤ̀ʔ

605	swim	ʈù.jɤ̀-jɤ́ʔ
606	be swollen	pʰlín-ŋɤ̀ʔ
607	tail	ɳ.hə̌.mè [ɦ̩.hə̌.mè]
608	take	ɳ.lɤ́-ɦié-jɤ̀ʔ
609	take out	ɳ.sʰó-ɦɤ́ʔ
610	be tall	ɬú̱n-ŋɤ̀ʔ
611	taste	ʔə̌.sɔ́n-nɤ́ʔ
612	teach	ɳ.sòʔ-paìʔ-kɤ́ʔ [ɳ.zòpːaìkːɤ́ʔ]
613	teacher	sʰə̌.mó
614	teak tree	ʔə̌.jè
615	tears (n)	ʔə̌.míʔ.kʰlí
616	tell about	ɳ.pʰaù-plá-ɦɤ̀
617	ten	ŋ̊á
618	termite	ʔə̌.kʰà
619	that	ʈó
620	there	sú-ɦià
621	they (3p)	nə̌.hɛ́
622	be thick	sʰó-ɦɤ̀ʔ
623	thigh	ʔə̌.pʰé
624	be thin (thing)	ɳ.pɔ̀n-nɤ́ʔ [ɱ.bɔ̀n-nɤ́ʔ]
625	think	ɳ.kʰín.ɗaín-ŋɤ́ʔ [ɳ.tʃʰín.ɗaíŋːɤ́ʔ]
626	be thirsty	ʈù.hà-lé-jɤ́ʔ
627	thirteen (13)	ŋ̊á.ʈʰún
628	thirty	ʈʰú̱n.kíʔ [ʈʰú̱n.dʒíʔ]
629	this	ní
630	thorn	ʔə̌.ɬín
631	thousand	ʈʰón.ŋɔ́ʔ
632	three	ʈʰún
633	throat	ʔə̌.lə̌.kó
634	throw	ʔə̌.wɔ́-ɦɤ́ʔ
635	thumb	ʔə̌.kúʔ.nù̱
636	tie	ʔə̌.kʰùn-ŋɤ́ʔ
637	tiger	ʔə̌.ké [ʔə̌.tʃé]
638	be tight	sé-jɤ̀ʔ / káʔ-ʈɤ̀ʔ
639	time (period)	ʔə̌.kʰín [ʔə̌.tʃʰín]
640	be tired	jaì-jɤ́ʔ
641	toe	ʔə̌.kʰə̌.saín
642	tongue	ʔə̌.mlé.ɓòn
643	tooth	ʔə̌.hó
644	top, up	ʔə̌.hɔ́n
645	towards	pɔ̀
646	trample	ʔə̌.sé-jɤ́ʔ
647	tree	ʈʰìn.jòn
648	tribe, ethnic group	kʰlaún.mjú̱
649	tumor	ʔə̌.kèʔ [ʔə̌.tʃèʔ]
650	turn around (intr)	tɛ́n-né-jɤ̀ʔ
651	turtle	ʔə̌.sʰú̱n
652	tusk	mú.hó
653	twelve (12)	ŋ̊á.n̥í
654	twenty	ɳ.kó [ŋ̇.gó]
655	twenty-eight (28)	ɳ.kó.sʰèʔ [ŋ̇.gó.sʰèʔ]
656	twenty-five (25)	ɳ.kó.ŋ̊ó [ŋ̇.gó.ŋ̊ó]
657	twenty-four	ɳ.kó.m̥lí [ŋ̇.gó.m̥lí]

	(24)	
658	twenty-nine (29)	n̩.kó.kòʔ [ŋ̍.gó.kòʔ]
659	twenty-one (21)	n̩.kó.ʔɔ́ʔ [ŋ̍.gó.ʔɔ́ʔ]
660	twenty-seven (27)	n̩.kó.s^{h}eí [ŋ̍.gó.s^{h}eí]
661	twenty-six (26)	n̩.kó.s^{h}óʔ [ŋ̍.gó.s^{h}óʔ]
662	twenty-three (23)	n̩.kó.t̪^{h}ún [ŋ̍.gó.t̪^{h}ún]
663	twenty-two (22)	n̩.kó.n̥í [ŋ̍.gó.n̥í]
664	twin	n̩.p^{h}leí
665	two	n̥í
666	two hundred (200)	p^{h}jà.n̥í
667	two thousand (2000)	t̪^{h}ón.n̥í
668	be ugly	ʔə̆.jʉ̀ʔ.s^{h}ʉ́-ɦɤ̀ʔ
669	umbilical cord	n̩.m̥laí.jwè
670	uncover	ʔə̆.lín-nɤ́ʔ
671	under, below	ʔə̆.kɔ̀-ɦá
672	undress	ʔə̆.ɬaí-jɤ́ʔ
673	unwrap (v)	n̩.m̥jàʔ-t̪ɤ́ʔ
674	urine	n̩.p^{h}jùn
675	vein	ʔə̆.klaú
676	village	nàn
677	vine	ʔə̆.jún
678	voice, noise, sound	ʔə̆.s^{h}án

679	vomit	mlò-ɦɤ́ʔ
680	vulture	laún.t̪ó
681	waist[18]	ʔə̆.kɛ́n [ʔə̆.dʒɛ́n]
682	wake up	t̪^{h}ɤ̀-ɦɤ́ʔ / k^{h}aíʔ-kɤ̀ʔ
683	walk	ʔə̆.lɔ̀n.ʃɔ́ʔ-kɤ́ʔ
684	wall	ʔə̆.paún
685	want, desire (v)	n̩.lʉ́-ɦé-jɤ́ʔ
686	be warm	ʔúʔ-kɤ̀ʔ
687	warthog	n̩.ŋɔ́
688	wash (clothes)	n̩.s^{h}òʔ-kɤ́ʔ
689	wash (hands)	ʔə̆.pjó-ɦɤ́ʔ
690	water	t̪ù
691	wave (n)	ɬɤ́n
692	be weak	ʔə̆.ʔó.nɛ́-jɤ̀ʔ
693	weave	ʔə̆.t̪aúʔ-kɤ́ʔ
694	west	ʔə̆.nóʔ
695	be wet	t̪ù.só-ɦɤ̀ʔ
696	what	ʔə̆.ɓaún
697	whistle	n̩.m̥jʉ̀-ɦɤ́ʔ
698	white	ʔə̆.ɓòʔ
699	who	n̩.ní
700	be wicked	kóʔ-kɤ̀ʔ
701	be wide	jaú-ɦɤ̀ʔ
702	widow	n̥é.n̥ʉ́

[18] There is not a clear explanation for the voicing on this word.

703	widower	n̥é.pó [n̥é.bó]
704	wild cat	ʔə̆.waùʔ
705	wing	ʔə̆.pʰjá
706	winnow (rice)	ʔə̆.heí-jɤ̀ʔ
707	wipe	ʔə̆.hó-ɦɤ̀ʔ
708	woman	n̥ə̆.t̪ò
709	work (v)	ʔə̆.lùʔ.lùʔ-kɤ̀ʔ
710	wound, sore	ʔə̆.meí.ʔə̆.m̥á
711	wrap up (v)	ʔə̆.ɓé-jɤ́ʔ
712	write	n̤.lé-jɤ́ʔ
713	be wrong	kʰé-jɤ̀ʔ [tʃʰé-jɤ̀ʔ]
714	yawn	n̤.hán-nɤ̀ʔ [ɦ̤.hánːɤ̀ʔ]
715	year	ʔə̆.kún
716	yellow	ʔə̆.ʔwɛ́
717	yesterday	ján.t̪à
718	young man	kʰlaún.mlíʔ / kʰlaún.ʃaùn
719	young woman	hə̆.n̥ʉ́

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