

Lhowa Phonology: A Typological Perspective

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ABSTRACT

Lhowa exhibits a large inventory of forty-one consonant phonemes. In terms of points of articulation, it contains seven types of consonants, viz., labial, dental, alveolar, retroflex, palatal, velar and glottal. In terms of manner of articulation, it presents seven types of consonants, viz., stops, nasals, affricates, fricatives, trills, laterals and approximants. In terms of voicing, there are two types of consonant phonemes, viz., voiceless and voiced. Lhowa has voiceless unaspirated, voiceless aspirated, voiced murmured and voiceless murmured sounds. It exhibits a distinct consonant distribution. Lhowa has eight basic and two fronted vowels. There are four diphthongs. Lhowa displays a moderately complex syllable structure. It presents a canonical structure of the syllable in which V is obligatory and other constituents, (Ci, initial consonant), (X, voiced palatal approximant), and (Cf, final consonant) are optional. Lhowa permits only five types of syllable patterns. Each syllable is intrinsically high or low. It exhibits simple tone system. The high vs. low tone is distinguished only on the first syllable of a word. In Lhowa, like in Lhasa Tibetan, compound words demonstrate four types of tone melodies, viz., HH, LH, LL and HL.

Keywords: *consonant clusters, fronted vowels, retroflex, phonological oppositions, murmured, high tone*

Introduction

This paper analyzes the phonology in Lhowa from a typological perspective. Lhowa (ISO *loy*) is a Central Bodish (viz., Tibetan) language. This language is alternatively known as Loke (viz., a language spoken in the west). It is a mother tongue of people who have been living along the upper Kali Gandaki River since time immemorial. The places where they are living are generally referred to as Upper Mustang. Spoken as mother tongue by 3,029 speakers (CBS, 2012), Lhowa has been categorized as 6a (Vigorous) according to Eppele et al. (2012). Around 97% speakers reside in Mustang,

1.8% in Tanahun and 1.5% in Kathmandu (CBS, 2013). However, in 2021 Census, the total number of mother tongue speakers amounts to 2348 (NSO, 2023). This language is used orally by all the generations and is being learned by the children as their first language (Regmi et al., 2017; Regmi, 2021). Lhowa is an autoglotonym. Till date, except a cursory listing of sounds in dictionary and writing style, no in-depth linguistic attempt has been made to determine the basic sounds (viz., consonants and vowels), syllable structure and supra-segmental features including tone in Lhowa. Regmi et al. (2023) is also a descriptive study.



This paper is organized into four sections. In Section 1, we provide some sociolinguistic information about the Lhowa language. Section 2 presents the research methodology employed in the study. In Section 3, we present results and discussion. In this section, we determine the consonant phonemes, their distribution in , consonant clusters and vowel phonemes in the language. We also briefly discuss the structure of the syllable and look into the tone pattern including typological perspective. In section 4, we summarize the findings of the paper.

Research Methodology

This study has used Basic Linguistic Theory (Dixon, 2010, pp. 264-88) as the model for the description and analysis of phonology. Some insights from Maddieson (2013a-e) have been taken for typological perspective. In this study, we have used both primary and secondary data. The primary data were collected in the field. The primary data were recorded and transcribed by using IPA in the presence of the consultants. The secondary data (i.e., especially gleaned from dictionary and writing guides) were cross-checked with other native speakers of Lhowa. Minimal pairs have been basically used to identify both consonant and vowel phonemes in the language.

Table 1

Consonant Phonemes in Lhowa

Manner of articulation	Labial	Dental	Alveolar	Retroflex	Palatal	Velar	Glottal
Stops							
Vl. unaspirated	p	t		ʈ		k	
Vl. Aspirated	ph	th		ʈʰ		kh	
Vd. unaspirated	b	d		ɖ		g	
Murmured	pʱ	tʱ		ɖʱ		kʱ	
Nasals							
Voiced	m	n			ɲ	ŋ	
Murmured	mʱ	nʱ			ɲʱ	ŋʱ	
Affricates							
Vl. unaspirated			ts				
Vl. Aspirated			tsh				
Vd. unaspirated			dz				
Murmured			tshʱ				

Results and Discussion

Consonant Hhonomes

Gurung Lowa and Gurung Lowa (2068 BS/2011) has identified 38 consonants in Lhowa. They include six velars /k, kh, g, kʰ, ŋʱ, ŋ/, two palatals /j, jʰ/, ten alveolars /ts, tsh, dz, tʃʰ, s, sʰ, r, rʰ, l, lʰ/, four retroflexes /ʈ, ʈʰ, ɖ, ɖʱ/, six dentals/ t, th, d, tʰ, n, nʰ/, seven labials /p, ph, b, pʰ, m, mʰ, w/, two glottals /h, h/ and one conjunct letter /tshy/. However, Lhowa presents a set of forty-one consonant phonemes. Maddieson (2013a) has categorized the languages of the world in terms of the size of the set of consonants. Based on Maddieson (2013a), the consonant inventories in Lhowa may be categorized as large since it contains more than thirty four consonants. Moreover, it has exhibited more complex consonants like murmured consonants (viz., murmured stops, nasals, affricate, fricative, trills, laterals and approximants), lateral fricative and voiceless retroflex fricative as it has a large inventories of consonants (Maddieson, 2013a). Table 1 lists the consonant phonemes in Lhowa (There are two voiceless glottal fricatives, viz., h & ʰ. The first one indicates aspiration and second on indicated <ʰ> murmured).

Manner of articulation	Labial	Dental	Alveolar	Retroflex	Palatal	Velar	Glottal
Fricatives							
Voiceless			s	ʂ			h fɦ
Murmured			ʃɦ				
Trills/taps							
Voiced			r				
Murmured			rɦ				
Laterals							
Voiced			l				
Murmured			lɦ				
Lateral fricative			ɭ				
Approximants							
Voiced	w				j		
Murmured					jɦ		

Table 1 shows that Lhowa contains a total of thirty-four consonant phonemes. They are classified in terms of place and manner of articulations. There are seven types of consonants in terms of places of articulation. They are labial, dental, alveolar, retroflex, palatal, velar and glottal. There are seven types of consonant phonemes in terms of manner of articulation. They are stops, nasals, affricates, fricatives, trills, laterals and approximants. Lhowa has both voiceless and voiced consonants. Besides, it registers both aspirated and unaspirated phonemes. Like Thakali (Regmi et al, 2020), Lhowa contains voiced murmured and voiceless murmured consonants.

Phonological Oppositions in Consonants

Labial Stops

Lhowa has four labial stops, viz., /p/, /ph/, /b/ and /pɦ/. Of these phonemes, /p/ is a voiceless labial unaspirated stop. The phoneme /ph/ is a voiceless labial aspirated stop. The phoneme /b/ is a voiced bilabial stop whereas /pɦ/ is a bilabial murmured stop. They show phonological oppositions in terms of aspiration and murmur only in word-initial position as in (1).

1. Labial Stops: /p/, /ph/, /b/, /pɦ/

- /pak/ 'flour of parched corn of barley'
/phak/ 'domesticated pig'

- /bak/ 'part, portion, share, section'
/pɦak/ 'a kind of colour'

Dental Stops

Lhowa contains four dental stops, viz., /t/, /th/, /d/ and /tɦ/. The phoneme /t/ is described as a voiceless dental unaspirated stop. The phoneme /th/ is a voiceless dental aspirated stop. The phoneme /d/ is a dental voiced stop whereas /tɦ/ is a dental murmured stop. They show phonological contrast in terms of aspiration and murmur in word-initial position only as in example (2).

2. Dental stops: /t/, /th/, /d/, /tɦ/

- /ta/ 'horse'
/tha/ 'tip of the thumb to that of the middle finger'
/da/ 'bow, arrow, dart'
/tɦa/ 'slowly, gently, carefully, quietly'

Retroflex Stops

Lhowa presents four retroflex stops: /ʈ/, /ʈɦ/, /ɖ/, /ɖɦ/. The phoneme /ʈ/ is a voiceless retroflex unaspirated stop while /ʈɦ/ is a voiceless retroflex aspirated stop. The phoneme /ɖ/ is a voiced retroflex unaspirated stop whereas the phoneme /ɖɦ/ is a retroflex murmured stop. They show phonological contrast in word-initial position only as in (3).

3. Retroflex Stops: /ʈ/, /ʈʰ/, /ɖ/, /ɖʰ/

- /ʈi/ ‘milk boiled down till nearly solid’
- /ʈhi/ ‘ten thousand, bedstead’
- /ɖi/ ‘female yak’
- /ɖhi/ ‘dagger, knife’

Velar Stops

Lhowa registers four velar stops: /k/, /kh/, /g/ and /kʰ/. The phoneme /k/ is described as a voiceless velar unaspirated stop whereas /kh/ is a voiceless velar aspirated stop. The phoneme /g/ is a voiced unaspirated stop whereas the phoneme /kʰ/ is a murmured velar stop (viz., low tone). They present phonological contrast in terms of aspiration and murmur in word-initial position only as in example (4).

4. Velar stops: /k/, /kh/, /g/, /kʰ/

- /ki/ ‘dog’
- /ku/ ‘image, idol’
- /khi/ ‘year of dog’
- /khu/ ‘load, burden, weight’
- /-gy/ ‘suffix to force the action of verb while asking question’
- /-gu/ ‘suffix denoting a particular one’
- /kʰi/ ‘what kind, what’
- /kʰu/ ‘nine, boat, ship’

Nasals

In Lhowa, there are two types of nasals: clear and murmured. There are four clear or plain nasal phonemes. They are /m/, /n/, /ɲ/ and /ŋ/. The phoneme /m/ is a bilabial nasal and /n/ is an alveolar nasal. The phoneme /ɲ/ is a palatal nasal whereas the phoneme /ŋ/ is a velar nasal. There are four murmured nasals, viz., /mʱ/, /nʱ/, /ɲʱ/ and /ŋʱ/. Of these phonemes, /mʱ/ is a bilabial murmured nasal and /nʱ/ is a murmured alveolar nasal. The phoneme /ɲʱ/ may be described as a murmured palatal nasal whereas the phoneme /ŋʱ/ is a murmured velar nasal.

The clear nasal phonemes present phonological contrast among themselves as in example (5a). The clear nasals are in oppositions with their murmured counterparts as in example (5b). All

such oppositions appear in word-initial positions only as in (5a and 5b).

(5) a. Nasals: /m/, /n/, /ɲ/, /ŋ/

- /ma/ ‘wound, bruise, sore’
- /na/ ‘nose, day after tomorrow’
- /ɲa/ ‘fish’
- /ŋa/ ‘five’

b. /mʱ/, /mʱi/; /nʱ/, /nʱi/; /ɲʱ/, /ɲʱi/; /ŋʱ/, /ŋʱi/

- /ma/ ‘wound, bruise, sore’
- /mʱa/ ‘ghee’
- /na/ ‘nose, day after tomorrow’
- /nʱa/ ‘blackness, darkness’
- /ɲa/ ‘fish’
- /ɲʱa/ ‘wooden measurement instrument’
- /ŋa/ ‘five’
- /ŋʱa/ ‘1SG’

Alveolar Affricates

Lhowa has four alveolar affricates: /ts/, /tʃ/, /dz/ and /tʃʰ/. The phoneme /ts/ is a voiceless alveolar unaspirated affricate while /tʃ/ is a voiceless alveolar aspirated affricate. The phoneme /dz/ is a voiced alveolar affricate whereas the segment /tʃʰ/ is a murmured alveolar affricate. They show phonological contrast in terms of aspiration and murmur in word-initial position only as in example (6).

(6) Alveolar Affricates: /ts/, /tʃ/, /dz/, /tʃʰ/

- /tsa/ ‘grass’
- /tʃa/ ‘salt’
- /dza/ ‘description’
- /tʃʰa/ ‘rock’

Fricatives

Lhowa presents five fricatives: /s/, /ʃ/, /ʂ/, /h/ and /ɦ/. The phoneme /s/ is a voiceless alveolar fricative whereas /ʃ/ is a voiceless retroflex fricative. In the same way, /ʂ/ is a murmured alveolar fricative whereas /h/ is a glottal fricative. The voiceless alveolar fricative /s/ shows phonological contrast with /ʃ/, /ʂ/ and /h/ in word-initial position as in example (7).

- 7. Fricatives: /s/, /ʃ/, /sf/, /f/**
 /sa/ ‘clay, earth, land, soil, ground, flour’
 /ʃa/ ‘hair of the head’
 /ʃia/ ‘nettle, day of the week’
 /saŋ/ ‘corner’
 /haŋ/ ‘expression for sudden realization of something bad’

Similarly, /h/ a non-sibilant glottal fricative shows a phonological contrast with /fi/ in word-initial position as in (8).

- 8. Glottal Fricatives: /h/, /fi/**
 /haba/ ‘fraud’
 /fiaba/ ‘rice’

Liquids (Laterals and Trills)

In Lhowa, the alveolar lateral phoneme /l/ presents contrasts with lateral fricative /ʎ/ and lateral murmured fricative /ʎi/ as in example (9).

- 9. Lateral and Trill: /l/, /ʎ/, /ʎi/**
 /la/ ‘wages’
 /ʎa/ ‘god, master, lord’
 /ʎia/ ‘accent, uphill, upward slope’

Similarly, the murmured lateral /ʎi/ shows a phonological opposition with the murmured trill /rʎi/ only in the word-initial position as in (10).

- 10. Laterals: /ʎi/, /rʎi/**
 /ʎiap/ ‘talk’
 /rʎiap/ ‘water current’

The trill /r/ presents an opposition with the murmured trill /rʎi/ only in the word-initial position as in (11).

- 11. Trills: /r/, /rʎi/**
 /rok/ ‘soul’
 /rʎok/ ‘friend’

Approximants

The bilabial approximant phoneme /w/ presents phonological contrast with palatal approximant /j/ only in word-initial position as in (12).

- 12. Approximants: /w/, /j/**
 /-wa/ ‘nominalizing suffix’
 /ja/ ‘rust’

In Lhowa, the clear palatal approximant /j/ presents phonological contrast with the murmured palatal approximant phoneme /jʎi/ as in (13).

- 13. Approximants: /j/, /jʎi/**
 /ja/ ‘rust’
 /jʎia/ ‘also’

Distribution of Consonant Phonemes

The consonant phonemes are distributed in word initial, intervocalic and word final. Table 2 presents the distribution of consonants in different positions in Lhowa.

Table 2

Distribution of Consonant Phonemes in Different Positions in Lhowa

	#-	v-v	-#
p	/pau/ ‘skin’	/padepa/ ‘proud’	/kup/ ‘buttocks’
ph	/phu/ ‘cave’	-	-
b	/bu/ ‘insect’	/khaba/ ‘silent’	-
ph	/pʎe/ ‘cat’	-	-
t	/ta/ ‘horse’	-	-
th	/tha/ ‘loom’	-	-
d	/da/ ‘bow’	/khada/ ‘white scarf’	-
tʃi	/tʃia/ ‘slowly’	-	-
t	/tai/ ‘blessing’	/mfioʎa/ ‘vehicle’	/phuʎ/ ‘foot’

	#-	v-v	-#
tʰ	/tʰa/ 'eagle'	-	-
ɖ	/ɖiu/ 'seed'	/mfedɑ/ 'separate'	-
tʰi	/tʰia/ 'enemy'	-	-
ts	/tsa/ 'grass'	/hotsek/ 'complete'	-
tsh	/tsha/ 'salt'	/khatsha/ 'pungent'	-
dz	/dzaba/ 'soft'	/kudza/ 'supervisor'	-
tshfi	/tshfia/ 'rock'	-	-
r	/riŋ/ 'cloud'	/keri/ 'straight'	/par/ 'picture'
rʰi	/rʰi/ 'hill'	-	-
l	/la/ 'wages'	/tʰielu/ 'surplus'	/bil/ 'receipt'
lʰi	/lʰia/ 'uphill'	-	-
ɭ	/ɭa/ 'god'	-	-
m	/ma/ 'wound'	/kumu/ 'thief'	/lʰiam/ 'road'
n	/nak/ 'pus'	/bani/ 'habit'	/ken/ 'uvula'
ɲ	/ɲa/ 'fish'	-	-
ŋ	/ŋa/ 'five'	/laŋa/ 'large pan'	/paŋ/ 'lap'
mʰi	/mʰia/ 'ghee'	-	-
nʰi	/nʰiaktʰi/ 'plants'	-	-
ɲʰi	/ɲʰia/ 'wooden measurement instrument'	-	-
ŋʰi	/ŋʰia/ 'blackness'	-	-
s	/sa/ 'clay'	/sfisa/ 'drunk'	-
sʰi	/sʰiaŋ/ 'copper'	-	-
/ʂ/	/ʂa/ 'hair'	-	-
h	/haba/ 'fraud'	-	-
ʰi	/ʰaba/ 'rice'	-	-
j	/ja/ 'rust'	/tʰoje/ 'partner'	-
jʰi	/jʰiaŋ/ 'again'	-	-
w	/waŋ/ 'religious fair'	/kewa/ 'incarnation'	-
k	/kaba/ 'tongs'	/paku/ 'sheep skin'	/mik/ 'eyes'
kh	/khak/ 'kindness'	/tʰukhaŋ/ 'bathroom'	-
g	/go/ 'head'	/kegu/ 'door'	-
kʰi	/kʰiawa/ 'dance'	-	-

Table 2 shows that all the consonant phonemes occur in the word-initial position. However, the consonant segments /p/, /t/, /r/, /l/, /m/, /n/, /ŋ/ and /k/ only occur in all positions, viz., word

initial, inter-vocalic and word final. Similarly, the segments /p/, /b/, /d/, /ɖ/, /d/, /ts/, /tsh/, /dz/, /r/, /l/, /m/, /n/, /ŋ/, /s/, /y/, /w/, /k/, /kh/ and /g/ occur in intervocalic positions whereas the segments /ph/, /

pfi/, */t/*, */th/*, */dʰ/*, */dʱi/*, */rʰi/*, */lʰi/*, */ʎ/*, */ɲ/*, */mʰi/*, */nʰi/*, */ɲʰi/*, */ŋʰi/*, */sʰi/*, */ʂ/*, */h/*, */jʰi/* and */kʰi/* are generally restricted to morpheme initial position.

Consonant Clusters

The Tibeto-Burman languages present consonant clusters only in root-initial position (Benedict, 1972; Matisoff, 2003). Lhowa exclusively realizes consonant clusters within the syllable. Such

realization is seen only in syllable initial position. Only the segments */k/*, */kh/*, */g/*, */ts/*, */tsh/*, */dz/*, */tʃi/*, */mʰi/*, */s/* and */sʰi/* take part as the first C (consonant) and only the segment */j/*, a voiced palatal approximant, may participate as the second C for the syllable initial CX clusters in Lhowa. Table 3 presents consonant cluster patterns in Lhowa.

Table 3

Consonant Cluster Patterns in Lhowa

S.N.	C ₁	C ₂	Examples	
1.	Velar stops	k	j	kja ‘wall’
		kh	j	khjakpa ‘frozen’
		g	j	gjakam ‘peach’
2.	Alveolar affricates	ts	j	tsjiŋ ‘urine’
		tsh	j	tshja ‘couple’
		dz	j	dzja ‘rainbow’
		tʃi	j	tʃija ‘feather’
3.	Nasals	mʰi	j	mʰjau ‘sound of cat’
4.	Fricatives	s	j	sja ‘meat, flesh’
		sʰi	j	sʰja ‘oily, greasy’

Table 3 shows that velar stops (viz., */k/*, */kh/*, */g/*), alveolar affricates (viz., */ts/*, */tsh/*, */dz/*, */tʃi/*), murmured labial nasal (viz., */mʰi/*) and fricatives (viz., */s/* and */sʰi/*) partake as the first C (consonant) with the phoneme */j/*, a palatal approximant as the second C for making the syllable initial CX

clusters in Lhowa. This is a common feature of the Tibeto-Burman languages.

Vowel Phonemes

There are twelve segmental monophthongs in Lhowa. Table 4 provides an inventory of monophthongs in Lhowa.

Table 4

Inventory of Monophthongs in Lhowa

	Front		Central	Back
	Unrounded	Rounded	Unrounded	Rounded
High	i i:	y		u u:
Mid	e e:	ø		o o:
Low			a a:	

Table 4 shows that there are twelve monophthongs: */i/* (short high-front unrounded), */i:/* (long high-front unrounded), */y/* (high-front rounded), */u/* (short high-back rounded), */u:/* (long high-back

rounded), */e/* (short mid-front unrounded), */e:/* (long mid-front unrounded), */ø/* (mid-front rounded), */a/* (short low-central unrounded), */a:/* (long low-central unrounded), and */o/* (short

mid-back rounded) and /o:/ (long mid-back rounded). The distinctive nasalized vowels are absent in Lhowa.

Phonological Oppositions in Vowels

The monophthongs generally show the phonological oppositions in terms of height, front-back positions, roundedness and length in Lhowa.

a. Height Oppositions

Lhowa presents the oppositions for the vowels in terms of height as in (14).

- 14. a. /i/ vs. /e/
 - /lfi/ ‘cannabis’
 - /lfe/ ‘luck, fate’
- b. /u/ vs. /o/
 - /lu/ ‘song’
 - /lo/ ‘cough’
- d. /i/ vs. /a/
 - /ki/ ‘dog’
 - /ka/ ‘command’
- e. /e/ vs. /a/
 - /le/ ‘and, as well’
 - /la/ ‘wages’

b. Front-back Oppositions

Lhowa presents the oppositions for the vowels in terms of front-back position as in (15).

- 15. a. /i/ vs. /u/
 - /lfi/ ‘cannabis’
 - /lfu/ ‘Tibetan radish’
- b. /e/ vs. /o/
 - /lfe/ ‘luck’
 - /lfo/ ‘year, age’
- c. /a/ vs. /o/
 - /lfa/ ‘wages’
 - /lo/ ‘cough’

c. Roundedness Oppositions

Lhowa presents the oppositions for the high-front /i/ and mid-front /e/ in terms of roundedness as in (16).

- (16) a. /i/ vs. /y/
 - /lfi/ ‘cannabis’
 - /lfiy/ ‘body’
- b. /e/ vs. /ø/
 - /tʃe/ ‘life-time’
 - /tʃø/ ‘colour’

d. Length Oppositions

Lhowa presents the oppositions for high-front unrounded /i/, mid-front unrounded /e/, low-central unrounded /a/, mid-back rounded /o/ and high-back rounded /u/ in terms of length as in (17).

- 17. a. /i/ vs. /i:/
 - /tʃi/ ‘colour’
 - /tʃi:/ ‘account’
- b. /e/ vs. /e:/
 - /dʒe/ ‘witch, spirit’
 - /dʒe:/ ‘rice’
- c. /a/ vs. /a:/
 - /ka/ ‘command’
 - /ka:/ ‘beautiful’
- d. /u/ vs. /u:/
 - /lfu/ ‘song’
 - /lfu:/ ‘water field’
- e. /o/ vs. /o:/
 - /tʃo/ ‘main’
 - /tʃo:/ ‘search’

Distribution of Monophthongs

The monophthongs are found being distributed in different positions. Table 5 presents the distribution of the monophthongs in Lhowa.

Table 5
Positional Distribution of Monophthongs in Lhowa

Monophthongs	Word initial	Word medial	Word final
i	+	+	+
i:	+	-	-
y	+	+	+

Monophthongs	Word initial	Word medial	Word final
e	+	+	+
e:	-	-	+
ø	+	+	+
a	+	+	+
a:	+	-	+
o	+	+	+
o:	+	-	-
u	+	+	+
u:	-	-	+

Table 5 shows that the short monophthongs occur word-initially word-medially and word-finally. However, long and rounded vowels can occur

only word-finally. Table 6 presents the positional distribution of the primary monophthongs with examples in Lhowa.

Table 6

Positional Distribution of the Monophthongs in Lhowa

	Word initial		Word medial		Word final	
i	/idzi/	‘elder sister’	/khimdze/	‘neighbor’	/ki/	‘dog’
i:	-	-	-	-	/tsi:/	‘account’
y	/yʈa/	‘hair’	/rfhyk/	‘landslide’	/lŋy/	‘body’
e	/ewa/	‘evaluated’	/kek/	‘sound’	/lŋe/	‘luck’
e:	-	-	-	-	/qe:/	‘rice’
ø	/øhøøhø/	‘sound of a cough’	/kjøn/	‘effect, influence’	/tshø/	‘colour’
a	/aŋ/	‘power’	/kaŋ/	‘bone		
marrow’	/ka/	‘command’				
a:	/a:/	‘bad’	-	-	/ka:/	‘beautiful’
o	/oŋ/	‘yes’	/kor/	‘jacket’	/go/	‘head’
o:	-	-	-	-	/tso:/	‘search’
u	/uŋ/	‘honorific term’	/kuk/	‘under’	/ku/	‘image’
u:	-	-	-	-	/lŋu:/	‘water field’

Altogether Lhowa has a set of 12 vowels (five short, five long and two front rounded). Thus, Lhowa may be categorized as having a large set of vowels (Maddieson, 2013b). In terms of consonant-vowel ratio, Lhowa may be classified as average as it has

41 consonants and 10 vowels (Maddieson, 2013c).

Diphthongs

Diphthong is a gliding vowel in the articulation in which there is a continuous transition from one

position to another. However, there is no change in case of pure vowels. A diphthong starts from a pure vowel and reaches an approximate value of a vowel indicated by the second element. There are four diphthongs in Lhowa. They are: ai, au, oi and iu. The low-central vowel /a/ forms a cluster with high front vowel /i/ and high back vowel /u/. The mid-back vowel /o/ forms a cluster with the high front vowel /i/. Similarly, the high front vowel /i/ goes for clustering with the high-back vowel /u/. Following are examples:

18. ai /kai/ ‘cup’
 au /kau/ ‘cloth tied around the west’
 oi /koi/ ‘tape, bandage’
 iu /kiu/ ‘male dog, sprout, shoot’

Syllable Structure

Lhowa is a tonal language. However, in Lhowa, morphemes or words are the domain of pitch contrasts. Thus, in Lhowa, the canonical structure

of the syllable at the maximum may be presented excluding the tone as in (19).

19. (Ci) (X) V (Cf)

The canonical structure of the syllable in Lhowa shows that V (i.e., nucleus) is obligatory. The other constituents (Ci, initial consonant), (X, a palatal approximant), and (Cf, final consonant) are optional. Lhowa shows only five types of syllable patterns as in (20).

20. a. V /a/ ‘also’
 b. VC /aŋ/ ‘power, right’
 c. CV /ka/ ‘command’
 d. CVC /kup/ ‘buttocks, bottom’
 e. CXVC /tsjiŋ/ ‘urine’

In example (20e), the word tsjiŋ ‘urine’ has the syllable structure consisting of (C) (X) V (C). Figure 1 presents a maximum canonical structure of the syllable in Lhowa.

Figure 1

Maximum Canonical Syllable Structure in Lhowa

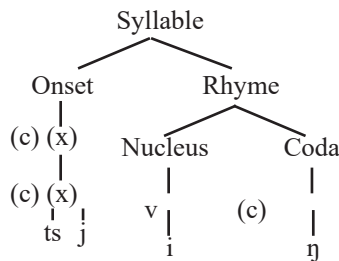


Figure 1 shows that Lhowa permits a single consonant after the nucleus and two consonants before the nucleus as in (20f). Maddieson (2013d) has classified such languages as having a moderately complex syllable structure.

Tones

In Lhowa, like in Lhasa Tibetan (DeLancey, 2003, p.272) each syllable is intrinsically high or low. In Lhowa, tone (viz., pitch variation) is used to distinguish lexical meaning. Lhowa, like Lhasa Tibetan (DeLancey, 2003,p.272), exhibits a word tone system. The high vs. low tone is distinguished only on the first syllable of a word. Like Lamjung Yolmo (Gawne, 2016, p33), Lhowa presents a

binary high/low lexical tone. Lhowa presents a number of minimal pairs. Some of them are presented as in (24).

24. [ká] ‘command, order’
 [ka] ‘saddlebags’
 [khú] ‘load, burden’
 [gu] ‘denoting a particular one’
 [ŋá] ‘five’
 [ŋa] ‘first person singular’
 [tsá] ‘grass’
 [tsa] ‘rock’
 [tú] ‘baby’
 [tu] ‘boat’

[ná]	‘nose’
[-na]	‘if’
[má]	‘wound’
[ma]	‘ghee’
[rá]	‘hair’
[ra]	‘goat’
[lá]	‘wages’
[la]	‘accent’
[sá]	‘earth’
[sa]	‘nettle’

Maddieson (2013e) has classified such language showing a two-way basic contrast usually between high and low levels as having a simple tone system. Besides, Lhowa demonstrates different tone melodies in some compound words and certain derived and inflected verb forms. We briefly discuss high tone, low tone and tone melodies in Lhowa as follows:

High Tone

In Lhowa, the words with a voiceless obstruent on the onset on the first syllable are generally uttered with a high tone. In other words, tone is generally high following voiceless obstruent (viz., stops and affricates) as in (25).

25. [kái]	‘cup’
[khá]	‘mouth’
[tsá]	‘grass’
[tshá]	‘salt’
[tsjhá]	‘couple’
[típ]	‘monkey’
[thá]	‘eagle’
[tá]	‘horse’
[tháktso]	‘heavy’
[pá]	‘curry with sauce’
[phák]	‘pig’

The words with a sonorant on the first syllable are also generally uttered with a high tone as in (25).

26. [má]	‘wound’
[ná]	‘upstairs’
[yá]	‘rust’
[lá]	‘wages’

Low Tone

In Lhowa, the words with voiced stops (viz., /g/, /dz/, /d/, /d/ and /b/) on the first syllable are intrinsically uttered with a low tone as in (27).

27. [gap]	‘down’
[dzaba]	‘soft, tender’
[daki]	‘woolen bag’
[da]	‘bow’
[badzu]	‘saliva’

The words beginning with murmured sound segments are uttered with a low tone to distinguish lexical meaning in Lhowa as in (28).

28. [kha]	‘saddle bags’
[ɣha]	‘1SG’
[ɳha]	‘fish’
[nhaŋ]	‘house, home’
[mha]	‘ghee’
[tshha]	‘rock’
[tʰha]	‘enemy’
[tʰaŋbu]	‘ago’
[phi]	‘calf’
[jʰakka]	‘branch’
[rha]	‘goat’
[lha]	‘accent, uphill’
[sha]	‘nettle’

Examples (25-28) evidently point out that there are two basic tones: low tone and high tone. In writing, high tone remains unmarked. The low tone is marked.

Tone Melodies

Lhowa does not show tonal sandhi. In Lhasa Tibetan compound words and certain derived and inflected verb forms demonstrate different tone melodies (DeLancey, 2003, p.272). They include HH (high followed by high), LH (low followed by high), LL (low followed by low) and HL (high followed by low). In Lhowa, like in Lhasa Tibetan, compound words present different tone melodies. They are briefly discussed as follows:

a. HH (High Followed by High)

In Lhowa, if the first syllable is intrinsically high, the following syllable is also uttered with a high tone as in (29).

29. a. *ká náŋgin* ‘to give command’
 b. *ká nádzuŋ* ‘gave command’
 c. *ká nóŋ* ‘Give command!’
 d. *káŋba kyáŋgin* ‘to sit with feet stretched out’
 e. *káŋbi thí* ‘bottom of feet’
 f. *kábu thói* ‘dry, drought’
 g. *kámma mínđu* ‘comet’
 h. *kárma kátsiŋ* ‘morning star’
 i. *kí nám* ‘recreation, entertainment’

b. LH (Low Followed by High)

In Lhowa, if the first syllable is intrinsically low, the following syllable in certain derived and inflected verb forms may be uttered with a high tone as in (30).

- (30) a. *sháŋtu táŋgin* ‘fight for food’
 b. *sháma kjágin* ‘deliver food’
 c. *sháma tékkin* ‘offer food’
 d. *sháma lúkkin* ‘put food on plate’
 e. *sháma lúkkin* ‘put food on plate’
 f. *shíngu púkkin* ‘form a rainbow around the sun’

c. LL (Low Followed by Low)

In Lhowa, if the first syllable is intrinsically low, the following syllable in particular derived and inflected verb forms may be uttered with a low tone as in (31).

- (31) a. *shap shap* ‘careful’
 b. *shamba shogin* ‘build a bridge’
 c. *sháma shogin* ‘prepare food’
 d. *shashiji* ‘unpressed’

d. HL (High Followed by Low)

In Lhowa, if the first syllable is essentially high, the following syllable in compounds and certain derived and inflected verb forms may be uttered with a low tone as in (32).

- (31) a. *káku tshíygin* ‘spell’
 b. *káлле khakwa* ‘difficult’
 c. *kída huŋgin* ‘have fun’
 d. *kútti tsháŋgin* ‘to send, dispatch’
 e. *kúdo jhokkin* ‘to make thread’

It is to be noted that like Tibetan, Lhowa is more a pitch-accent language than a true tone language. Lhowa contains word accents in which one syllable in a word or morpheme is more prominent than the others. However, the syllable in which accent is placed is indicated by a contrasting pitch (high vs. low tone). In English, the accentuated syllable is indicated by loudness.

Typological Perspective

Lhowa, which has been identified as a mother tongue of Nepal, is yet supposed to be a dialect of Lhasa Tibetan, a central Bodish language. However, due to contact Lhowa has shared many phonological features with Thakali, Chhantyal and Nepali because of migration, music and media impact (Gautam, 2021). Unlike in Lhasa Tibetan (DeLancey, 2003, pp. 271-72), Lhowa presents murmured stops like in Thakali (Regmi et al., 2020) and Chantyal (Noonan, 2003, p.317) and Denjongke (Yliniemi, 2019). Lhasa Tibetan, unlike Lhowa presents palatalized velar stops. Unlike in Lhasa Tibetan, Lhowa presents alveolar murmured affricate and lateral fricative. Similarly, unlike in Lhasa Tibetan, Lhowa presents two secondary vowels (viz., front rounded vowels) marginally, viz., y (i.e., close-front rounded vowel) and ø (i.e., close mid front rounded vowel). However, in Lhowa, like in Lhasa Tibetan, compound words and certain derived and inflected verb forms demonstrate four types of tone melodies, viz., HH (high followed by high), LH (low followed by high), LL (low followed by low) and HL (high followed by low).

Conclusion

This paper presents some typologically interesting features of segmental and suprasegmental sounds and syllable structure in Lhowa. Lhowa displays a large inventory of 41 consonant phonemes. Such phonemes show contrasts in seven places of articulation, viz., labial, dental, alveolar, retroflex, palatal, velar and glottal. There are seven types of consonant phonemes in terms of manner of articulation. They comprise stops, nasals, affricates, fricatives, trills, laterals and approximants. There are two types of consonant phonemes, viz., voiceless and voiced in terms of voicing. In terms

of aspiration, Lhowa has two types of consonant phonemes, viz., aspirated and unaspirated. The major types of consonants comprise voiceless unaspirated, voiceless aspirated, voiced murmured and voiceless murmured. It exhibits a distinct consonant distribution and consonant cluster. Lhowa contains twelve monophthongs of which two are front rounded vowels. Except front rounded vowels, other vowels present length contrast. In terms of consonant-vowel ratio, Lhowa may be classified as average. There are four diphthongs in Lhowa. Lhowa displays a moderately complex syllable structure. It consists of V (i.e., nucleus) and the other constituents. The nucleus is obligatory. Other constituents, which are optional, consist of Ci (initial consonant), X (glide or liquid), and Cf (final consonant). Lhowa permits only five types of syllable patterns. In Lhowa, tone (viz., pitch variation) is used to distinguish lexical meaning. Lhowa exhibits a word tone system. The high vs. low tone is distinguished only on the first syllable of a word. In Lhowa, compound words demonstrate different tone melodies. They may include HH (high followed by high), LH (low followed by high), LL (low followed by low) and HL (high tone followed by low). An instrumental analysis is required for the further confirmation of the physical properties of the sounds in Lhowa.

References

- Benedict, P. (1972). *Sino-Tibetan: A conspectus*. Cambridge University Press.
- Central Bureau of Statistics/CBS. (2013). *National population and housing census 2011: Mother tongue*.
- DeLancey, S. (2003). Lhasa Tibetan. In Graham Thurgood, & Randy J. LaPolla (Eds.), *The Sino-Tibetan Languages* (pp.270-287). Routledge.
- Dixon, R.M.W. (2010). *Basic linguistic theory: Methodology* (Vol. 1). Oxford University Press.
- Eppele, J. W., Paul, Lewis, M. P., Regmi, D. R., & Yadava, Y.P. (Eds.). (2012). *Ethnologue: Languages of Nepal*. Linguistic Survey of Nepal and SIL International.
- Gautam, B.L. (2021). *Language contact in Nepal: A study on language use and attitudes*. Palgrave: Macmillan.
- Gawne, L. (2016). *A sketch grammar of Lamjung Yolmo*. The Australian National University.
- Gurung Lhowa, P. D., Gurung Lhowa, & G. L. (2011). *Lhowa bhasa pathan tatha lekhan shaili* (Reading and writing style of the Lhowa language). Himalayan Indigenous Society, Nepal.
- Himalayan Indigenous Society (HIS) Nepal. (2011). *Lhowa bhasa pathan tatha lekhan shaili* (Lhowa language reading and writing style).
- Lhomi, C. C., & Lhomi, S. (Eds.). (2010). *Lowa alphabet*. Himalayan Indigenous Society (HIS) Nepal.
- Lhowa, R., & Lhomi, C. C. (2015). *Lhowa-Nepali-English dictionary*. NFDIN.
- Maddieson, I. (2013a). Consonant inventories. In Matthew S. Dryer, & Martin Haspelmath (Eds.). *The world atlas of language structures online*. Max Planck Institute for Evolutionary Anthropology. <http://wals.info/chapter/1>
- Maddieson, I. (2013b). Vowel quality inventories. In Matthew S. Dryer, & Martin Haspelmath (Eds.). *The world atlas of language structures online*. Max Planck Institute for Evolutionary Anthropology. <http://wals.info/chapter/2>
- Maddieson, I. (2013c). Consonant-vowel ratio. In Matthew S. Dryer, & Martin Haspelmath (Eds.). *The world atlas of language structures online*. Max Planck Institute for Evolutionary Anthropology. <http://wals.info/chapter/3>
- Maddieson, I. (2013d). Syllable structure. In Matthew S. Dryer, & Martin Haspelmath (Eds.). *The world atlas of language structures online*. Max Planck Institute for Evolutionary Anthropology. <http://wals.info/chapter/12>
- Maddieson, I. (2013e). Tone. In Matthew S. Dryer, & Martin Haspelmath (Eds.). *The world atlas of language structures online*. Max Planck Institute for Evolutionary Anthropology. <http://wals.info/chapter/13>

Matisoff, J. A. (2003). *Handbook of proto-Tibeto-Burman: System and philosophy of Sino-Tibetan reconstruction*. University of California Press.

National Statistics Office/NSO. (2023). *Population by mother tongue and sex, NPHC 2021*. https://censusnepal.cbs.gov.np/results/files/caste/Mother_Tongues_NPHC_2021.xlsx.

Noonan, M. (2003). Chantyal. In Graham Thurgood, and Randy J. LaPolla (Eds.), *The Sino-Tibetan Languages* (pp.315-335). Routledge.

Regmi, D. R., Regmi, A., & Gauchan, O.P. (2020). *A grammar of Thakai*. LINCOS GmbH.

Regmi, D. R., Regmi, A., & Gurung, J. G. (2023). *A grammar of Lhowa*. LINCOS GmbH

Regmi, D. R. (2021). *A sociolinguistic survey of the languages of Nepal: A synopsis*, Volume I: Tibeto-Burman Languages. LINCOS GmbH.

Regmi, D.R., Gautam, B.L., & Regmi, A. (2017). *A Sociolinguistic survey of Lhowa - Report to Linguistic Survey of Nepal* (LinSuN), Central Department of Linguistics, Tribhuvan University, Kathmandu.

Yliniemi, J. (2019). *A descriptive grammar of Denjongke (Sikkimese Bhutia)*. (Doctoral dissertation).University of Helsinki, Helsinki, Finland.

Notes:

1. In 2021 Census, this language has been designated as Lhopa which is considered as derogatory for the speech community.
2. Moreover, in this Census, Lhowa has been enumerated in two different names as Lhopa with 2348 as mother tongue speaker and Llowa with 624 as mother tongue speakers.
3. We would like to express our thankfulness to the three consultants, viz., Mr. Jamyang Gelek

Gurung (from Ghiling), Mr. Pema Chhiring Lama (from Ghiling) and Mr. Tamding Gurung (from Lomanthang) for their help in providing primary data.

4. It is to be noted that Noonan (2003,p.317) while describing the basic consonants in Chantyal used murmured stop with voiceless onset for the sounds like /pʰ/, /tʰ/ and murmured stop with voiceless aspirated onset for the sound like /tʰʰ/. There may be some problems regarding such sounds as single sounds theoretically. However, in this preliminary investigation, we have followed Noonan (2003) as an approach to describe such sounds in Lhowa. Yliniemi (2019, p.32) has also described such sounds in Denjongke (Sikkimese Bhutia) as ‘breathy’.
5. The symbols used to indicate aspiration, <h> and murmured <ʰ> do not correspond to glottal fricative /h/ and /ɦ/, separate consonants listed in Table 1.
6. In Lhowa, the labial murmured approximant /wʰ/ has not been attested yet. This may be indeed a gap in the inventory of the phonemes.
7. For minimal pairs, we have collected data mainly from Lhowa (Gurung) and Lhomi (2015) and cross-checked with the native speakers in the field.
8. The basic sounds which are uttered with a low tone have been referred to as murmured ones in this study.
9. A high tone is denoted with an acute accent (´) whereas a low tone is left unmarked in this paper.

Abbreviations

ERG: Ergative

1SG: First person singular

3SG: Third person singular

NPST: Non-past

