CONSONANT SOUNDS IN HNARING LUTUV

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1. CONSONANT INVENTORY & DESCRIPTION

Herein we describe the consonant inventory of Lutuv, which consists of approximately 25 sounds. As is common in Chin languages and in Tibeto-Burman more broadly, Lutuv has a three-way contrast between plain (i.e., voiceless unaspirated), aspirated, and voiced stops at the labial and coronal places of articulation and a two-way contrast between plain and voiceless aspirated stops at the velar place of articulation. The sibilant affricates display the same two-way voiceless contrast, while the lateral affricates, lateral and rhotic approximants, and nasals at the labial and coronal places of articulation show a voicing contrast.

Table 1 presents the full set of sounds in a standard consonant chart, and is followed by additional commentary on several sounds of interest. Salient surface variation is indicated in Table 1 (e.g., the voiced rhotic sometimes surfaces as [ʒ] and so it is shown as r~ʒ). Example words and basic information about orthographic conventions are included in Table 2.

		Place of articulation							
		Labial		Coronal		Dorsal		Glottal	
Manner of articulation	Stop	p pʰ	b	t tʰ	d	k kʰ			
	Fricative		v	s	z			h	
	Affricate			t͡s t͡sʰ~t͡ʃ					
	Lateral affricate			t͡l t͡lʰ~t͡ɬ					
	Nasal	m̥	m	n̥	n		ŋ		
	Rhotic			r̥~ʃ	r~ʒ				
	Lateral			l̥~ɬ	l				

Table 1. *Consonants* of *Lutuv***.**

The sounds above comprise the onset inventory of Lutuv. While some Chin languages contain coda contrasts in their synchronic inventories, Lutuv does not. It belongs to the Maraic sub-branch of Chin, in which many languages (including Lutuv) have undergone a process of coda simplification that left only the voiced velar nasal as an allowable coda consonant (Lotven 2021).

Maraic languages also tend to have lost the voiceless velar nasal as an onset consonant (Lotven 2021), so its absence from the Lutuv inventory is expected.

Several comments can be made about observed surface variation. The aspirated sibilant affricate is sometimes produced as aspirated, [t͡sʰ], but may also be produced with a more palatal or post-alveolar articulation, [t͡ʃ]. The aspirated or voiceless lateral affricate also exhibits variability, ranging from an aspirated [t͡lʰ] to a more fricated [t͡ɬ]. This type of variation is not unique to the lateral affricate – rather, it is standard for the sonorants not only in Lutuv but in Chin languages more generally (see Lotven et al. 2020). The voiceless lateral and both rhotics exhibit a great deal of surface variation, often being produced as fricatives or with at least some frication: /l̥/ may surface as something similar to [ɬ], /r/ as something similar to [ʒ], and /r̥/ as something akin to [ʃ].[1] All voiceless sonorants in Lutuv, including not only the lateral and rhotic but the nasals as well, show abundant variation in their surface realizations. Instrumental acoustic analysis in Lutuv has not yet been undertaken, but work by Berkson, Ziegler, and Flego (2022) has begun to establish that voiceless nasals in Chin languages can exhibit many combinations of prevoicing, postvoicing, and aspiration. For example, in the related language Hakha Lai the voiceless nasal /m̥/ can surface as [ᵐm̥], [m̥ᵐ], [ᵐm̥ᵐ], [m̥ʰ], [ᵐm̥ʰ], and more. Anecdotally, we observe similar variability in all Lutuv voiceless sonorants.

2. SAMPLE WORDS

For each consonant, Table 2 provides its representation in IPA and in the orthography that was developed by the community. This table therefore serves as a brief introduction to the Lutuv orthography, or at least the consonantal portions thereof. (For more information about the vowel system of Lutuv, see Bohnert, Berkson, & Par in this volume.) As a matter of course, our Lutuv research group preferentially uses the Lutuv orthography, adding IPA transcriptions in only when relevant (e.g. in phonetic work). We make this choice so that all sample sentences included here and in other publications are of use to a wider audience. Table 2 also includes a sample word for each consonant, presented in both IPA and orthography.[2]

Lutuv is a tonal language. Our analysis of tone in Lutuv is in its infancy, though, and so readers should consider the tone marking contained in Table 2 to be an indication of surface pitch. Three surface pitches are marked: high (á), low (à), and mid (ā). High and low marking can be combined to represent a fall or rise across a syllable, such as in the second syllable of *suokha* [sūōkhə́ə̀], 'one'.

[1] It is possible that /ʃ/ is a marginal phoneme: the voiceless rhotic is represented orthographically as <hr>, but there are a few words that are spelled with <sh> and produced with a voiceless palatal or postalveolar fricative, leading to minimal pairs like *hrie* 'to work' and *shie* 'to be clear'. The two do appear to have slight but reliable phonetic differences. Thus far, we have found <sh> in a very limited number of words, always before a high front vowel. We omit it from the consonant chart for the time being.

[2] To represent moraic structure in IPA transcriptions, we have adopted the convention of using one vowel symbol (or [ŋ]) per mora. The rhyme of a bimoraic (major) syllable is then represented using two symbols, such as in *ki* [kìì] or *kung* [kōŋ̄], and the rhyme of a monomoraic (minor) syllable is represented using only one, such as in the first syllable of *pakaa* [pə̄káá].

Sound		IPA	Orthography	Gloss
IPA	Orth.			
1. p	p	[pāā]	paa	*father*
2. p^h	ph	[əp^{h}āā]	aphaa	*bamboo mat*
3. b	b	[ə báá]	a baa	*narrow*
4. t	t	[tāā]	taa	*small*
5. t^h	th	[t^{h}āā]	thaa	*new*
6. d	d	[dāā]	daa	*stand*
7. k	k	[kə̀ə̀]	ka	*to shoot*
8. k^h	kh	[sūōk^{h}ə́ə̀]	suokha	*one*
9. v	v	[pə̀vàà]	pavaa	*bird*
10. s	s	[sāā]	saa	*flesh/meat*
11. z	z	[zàà]	zaa	*pocket*
12. h	h	[hāā]	haa	*pick up (from ground)*
13. t͡s	c	[t͡sāā]	caa	*dry (for food)*
14. t͡s^h ~ t͡ʃ	ch	[ə t͡s^{h}áà]	a chaa	*to step on*
15. t͡l	tl	[t͡lə̄ə̄]	tla	*to fall over*
16. t͡l^h~t͡ɬ	thl	[pə̄t͡ɬāā]	pathlaa	*drop*
17. m	m	[tsə̄màà]	camaa	*calf (leg)*
18. m̥	hm	[m̥āā]	hmaa	*wound*
19. n	n	[ə̀nàà]	anaa	*water buffalo*
20. n̥	hn	[n̥āā]	hnaa	*leaf*
21. ŋ	ng	[ŋāā]	ngaa	*fish*
22. l	l	[ə lə́ə́]	a la	*to grab*
23. l̥ ~ ɬ	hl	[l̥āā]	hlaa	*song*
24. r ~ ʒ	r	[pə̀rə̀ə̀]	para	*to break (like a computer)*
25. r̥ ~ ʃ	hr	[sūōr̥áá]	suohraa	*ten*

Table 2. *Sample words illustrating the consonant sounds of Lutuv.*

3. NOTEWORTHY OBSERVATIONS & FUTURE DIRECTIONS

In order to be more precise in our description of Lutuv consonants and to contribute to ongoing discussions in the literature, a number of topics will need to be investigated in the future. Those that we are especially interested in include:

1. rampant variation in surface realization of voiceless sonorants;
2. the presence of frication in the laterals and rhotics;
3. the possible marginal contrast between /r̥/ <hr> and /ʃ/ <sh>—in particular, the distribution of these sounds and the acoustic properties thereof;
4. the lateral affricates;
5. and tone, including possible consonant/tone interactions.

Items one through three have been touched on previously herein, but it is worth making a few notes about items four and five.

The lateral affricates are sometimes misperceived as velar (e.g., as [k͡l]/[k͡ɬ]) by non-Chin members of our field methods classes. This misperception is perhaps unsurprising: sound changes from /tl/ > /kl/ or from /kl/ > /tl/ are not uncommon (Blevins and Grawunder 2009). Palakurthy (2019) reports that lateral affricates in Diné bizaad (Navajo) exhibit variation between coronal and velar onsets (/t͡l/ ~ /k͡l/ and also the ejective /t͡ɬ'/ ~ /k͡ɬ'/). The alternation is not salient for Diné speakers as both coronal and velar productions are acceptable (Palakurthy 2019). Anecdotally, however, we tend to get corrected if we produce the lateral affricates in Chin languages (Lutuv, but also Hakha Lai) with velar onsets. While the correction could be based on other factors, it raises questions about whether variation is less present (or more marked) in Chin languages than in Diné bizaad. Future acoustic and articulatory work will help clarify these issues.

Finally, it is also clear that tonal analysis will need to be undertaken in future work. An understanding of the tonal system, once developed, will allow us to raise questions about such topics as whether there are any consonant/tone interactions in Lutuv. These and other points of interest can build on the information provided in this squib, which has established a basic overview of the consonant phones included in Lutuv.

4. REFERENCES

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