An Overview of Kurtöp Morphophonemics[*]

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1. Introduction

Kurtöp is an East Bodish (Tibeto-Burman) language of Bhutan that is still endangered as people shift from the village to centers of commerce outside of the Kurtöp-speaking region. While it has been described to some extent (e.g. Hyslop 2011) there has not been much attempt made to communicate findings of the language to outside fields. Specifically, this article presents an analysis of morphophonology, or sound changes conditioned by word formation, in Kurtöp.

In Linguistics, the term 'phonology' refers to the study of sound systems used in language while 'morphology' refers to the study of morphemes, or meaningful word units. Taken together, *morphophonology* is the study of how sounds change

in words depending on how the words are composed. For example, in English, the plural suffix *-s* is pronounced as [s] when following words that end with sounds like [p], [t], and [k], as in *gaps, pits* and *yaks*. However, when plural *-s* follows words that end with sounds like [ʃ] the suffix is pronounced as [əz] as in *leash**es***. It is important to keep in mind that in linguistics we study the way words are pronounced, rather than the way they are written.

Like all languages, Kurtöp also displays alternations in sounds dependent on word morphology. Before delving into these details, some background information is provided on the language in Section 2. Section 3 is devoted to the phonological alternation present in verbal stems. Section 4 illustrates the morphophonological alternations associated with the perfective morpheme *-pala*. Section 5 offers a brief summary of the article.

2. Background

Kurtöp is spoken in Dungkar, which lies within the political district of Lhüntse, approximately 50 kilometers west of the border with Arunachal Pradesh in India, and 15 kilometers south of the border with Tibet, as shown in Figure 1. We estimate approximately 15,000 speakers of Kurtöp in and outside of Lhüntshe.
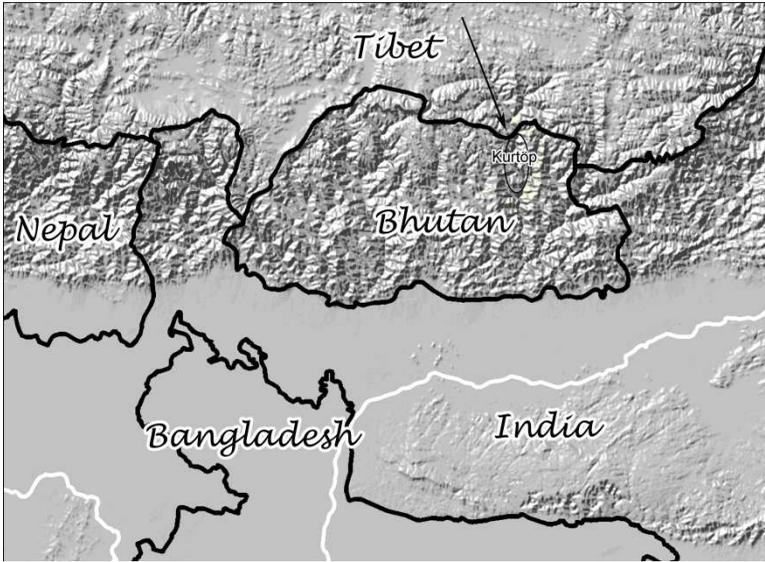
Figure1. Approximate location of Kurtöp homeland in Bhutan

2.1 Genealogy

Kurtöp is considered an East Bodish language. Shafer (1954) appears to be the first to use the term 'East Bodish'. For him the term represented the proto-language from which Dwags, a language spoken southeast of Lhasa, had come. Bradley (1997) proposes that East Bodish is most closely related to Central Bodish (i.e. the Tibetan dialects). Recent work on the East Bodish languages (e.g. Hyslop (2014; 2013) has confirmed that the East Bodish languages are not Tibetic languages but are probably distant cousins of Classical Tibetan.

van Driem (1995) provides an overview of the languages in Bhutan. His proposal situates 19 different Tibeto-Burman languages within six different Tibeto-Burman branches. Two of these, Central and East Bodish, are composed of a handful of languages. The other four are represented by one language each: Tshangla, Lhokpu, Gongduk and Black Mountain Mönpa. Tshangla is spoken by the largest population of

speakers (138,000) and is considered the *lingua franca* of eastern Bhutan. The latter three are spoken by just a few thousand, or less, speakers each. Central Bodish is the sub-branch which contains Tibetan, Dzongkha (the national language of Bhutan) and five other languages spoken in Bhutan (Chocangacakha, Brokpa, Brokkat, Lakha and B'ökha). East Bodish consists of Bumthang, Kheng, Kurtöp, Nupbikha, 'Nyenkha, Chali, Dzala, and Dakpa.

Within East Bodish there is at least one fairly obvious sub-grouping; a handful of languages show enough similarity to be considered part of one large dialect chain consisting of Bumthang, Khen, and Kurtöp. Sometimes described as languages of the 'Bumthang' group, these languages also show considerable similarity with Central Bodish, perhaps more so than other East Bodish languages. The proposed relationship amongst the East Bodish languages is illustrated by figure 2 below.
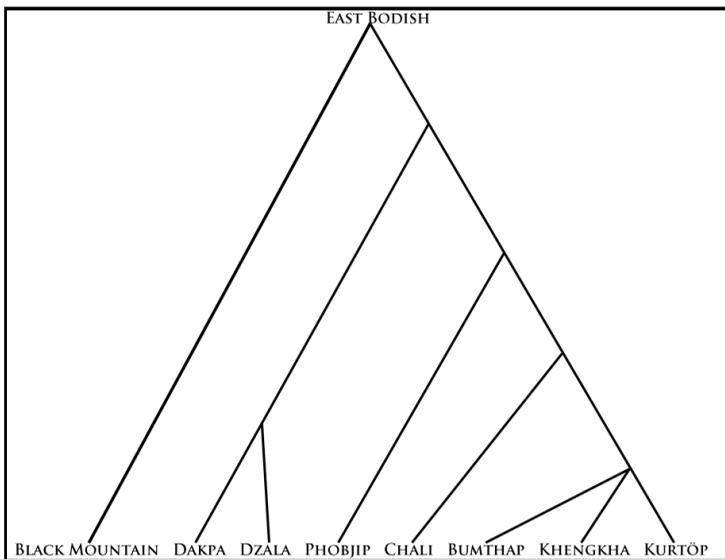

Figure 2. Relationship among East Bodish Languages (Hyslop 2013)

2.2 Phonology

Kurtöp exhibits a three-way contrast in voice (voiceless unaspirated, voiceless aspirated, voiced) at five places of articulation (labial, dental, retroflex, palatal, velar). A set of voiceless unaspirated and voiceless aspirated dental affricates are found, as well as a voiceless and voiced dental fricative. Nasals contrast at four places of articulation (labial, dental, palatal, velar). One rhotic is found[1], two laterals (voiceless and voiced) and two glides (labiovelar and palatal) are also found. The glottal fricative /h/ is found in a few items and a glottal stop is often present word-initially preceding high toned vowels and sometimes as a realization of word-final /k/ though does not appear to possess any phonemic weight.

The phonemes found in Kurtöp are illustrated in figure 3 below.

	labial	dental	retroflex	palatal	velar	glottal
stops	p, ph, b	t, th, d	tr, thr, d	c, ch, j	k, kh, g	
affricates		ts, tsh				
fricatives		s, z		sh		h
nasals	m	n		ny	ng	
laterals		l, lh				
rhotics		r				
glides	w			y		

Figure 3. Kurtöp Phonemes

Figure 4 illustrates the possible onset clusters in Kurtöp and figure 5 shows which of the phonemes may be syllable codas.

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[1] However, see Lowes (2006) for evidence that a contrast amongst multiple rhotics could have recently collapsed.

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pr- pc- pcʰ- pʰr-
br- bɟ- bl-
kw- kʰw- gw-
mr- mj-
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Figure 4. Kurtöp Onset Clusters

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-p -t -k
(-s)   (-h)
-m -n -ng
-r      (-l)
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Figure 5. Kurtöp Coda Consonants[2]

Kurtöp contrasts seven vowels, which are shown in figure 6 below. Note the two front vowels are long and often vary with the corresponding diphthongs. The other two diphthongs are /iu/ and /au/.

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i  y: ~ ui              u
   e   ø: ~ oe          o
             a
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Figure 6. Kurtöp vowels

In open syllables only a contrast is found between short and long vowels. In this article, vowel length is indicated by a circumflex above the vowel (e.g.   â). Tone is also found in Kurtöp. High and low tone contrast following the sonorant consonants and palatal fricative onsets in word-initial

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[2] A set of parentheses indicates the marginal status of the segment as a possible coda consonant. Coda /s/ has not been found for all speakers; some have coda /t/ in its place. Coda /h/ has only been found in a handful of words to date. The coda lateral occurs in only a few words in normal pronunciation (e.g. the name *Chophel*) but may also occur in discourse as the result of deletion of final vowels.

position. Following all other consonants in word-initial position tone is high if the consonant is voiceless and low if the consonant if voiced. For more details on Kurtöp, please refer to Hyslop (2011).

3. Verb Stems

Verb stems adhere to the Kurtöp syllable structure, which is maximally CCVC (Hyslop 2008) with the following possible codas: *-k, -ng, -t, -n, -r, -p, -m,* open syllable. Open syllables can be divided into two sets: those which were historically closed with coda *-l* and those which were not.

Unlike other Bodish languages such as Tibetan (Beyer 1992) and Dakpa (personal field notes) which exhibit alternation in vowel quality of verbal stems, depending on aspectual and other factors, Kurtöp stems exhibit variation only in the realization of stem-final *–k* and voicing of stem-final consonants. The loss of coda *–k* will be first discussed in some contexts in section 3.1 followed by the description of the voicing of stem-final codas in the imperative construction in section 3.2.

3.1 Coda -k

Verb stems with final /k/ lose their coda consonant word-finally. Examples of this alternation are illustrated in (1) below. Note when the verb takes the suffixes *-ta* or *-shang* the stem-final consonant /k/ is present but while the suffixes *-male* or *-wala* (allomorph of -pala, as described below in 4.1) are used the stem-final /k/ is absent and vowel length is found in its place.

(1)
*dra**k**-ta*	*dra**k**-shang*
sound-IMPFCT	sound-PFCTV
*dr**â**-male*	*dr**â**-wala*
sound-FUR	sound-PFCTV

*tsho**k**-ta*	*tsho**k**-shang*
cook- IMPFCT	cook- PFCTV
*tsh**ô**-male*	*tsh**ô**-wala*
cook- FUT	cook- PFCTV

3.2 Imperative Construction

In the Kurtöp imperative construction non-coronal stem-final stops are voiced. That is, /p/ becomes [b] and /k/ is realized as [g]. These alternations are demonstrated below in (2). Note in the first column to the left the verb is illustrated in the imperative, while in the columns to the right displays examples of the verb in other verbal paradigms and as a bare stem. The allomorphy of the imperative suffix is discussed below.

(2)

*pha**b**-e*	*pha**p**-shang*	*pha**p**-ta*	*phap*
bring.down- IMP	bring.down- PFCTV	bring.down- IMPFCT	bring down
*ba**b**-e*	*ba**p**-shang*	*ba**p**-ta*	*bap*
go.down-IMP	go.down- PFCTV	go.down- IMPFCT	go down
*ku**g**-e*	*ku**k**-shang*	*ku**k**-ta*	*kû*
gather-IMP	gather- PFCTV	gather- IMPFCT	gather
*tru**g**-e*	*tru**k**-shang*	*tru**k**-ta*	*trû*
stir-IMP	stir-PFCTV	stir- IMPFCT	stir

To date one verb stem has been found to have irregular morphophonemics when in the imperative construction. The verb *khor* 'take' loses its final -*r* in the imperative construction to give the form *khole*.

3.3 Discussion

This section has illustrated alternations in Kurtöp verbal stems. I have illustrated that Kurtöp stem-final -*k* is lost, with the preceding vowel lengthening, when suffixed with

-wala, and stem-final non-coronal stops (i.e. *-k, -p*) are voiced in the context of the imperative suffix. Note that the former sound change (loss of k leading to long vowel) is familiar within the Tibeto-Burman family. For example, loss of /k/ led to a long vowel with a falling tone in Lhasa Tibetan (DeLancey 2003). Loss of final *-k* in other contexts in Kurtöp has led to a long vowel but no falling tone (Lowes 2006). The voicing of *-k* and *–p* in the environment preceding the imperative suffix (*-e* in both instances) can be seen as the voicing of a stop inter-vocalically. Thus, Kurtöp stem alternations can perhaps be better envisioned as reflecting straight-forward phonological processes, unlike the instances in Classical Tibetan (Beyer 1992) and Dakpa (personal field notes), in which stem alternations are also associated with grammatical differences.

4. Verbal Morphology

Much of Kurtöp verbal morphology does not exhibit morphophonemic alternation, such as the perfective *-shang* and the future/intentional *-male*, for example, which do not change form. In this section, the allomorphy of two verbal suffixes will be described. Namely, we discuss the allomorphy of the perfective suffix *-pala* and the allomorphy of the imperative suffix *-le*.

4.1 Perfective *-pala*

The perfective form *-pala* marks perfective aspect when the speaker has direct evidence of the event; therefore, it tends to be used to refer to first person more than second or third. This suffix has the form *-wala* when following *-k,-ng, -r* and open syllables which were historically closed by a coda *-l*. The alloform *-sala* is found when suffixed to an open syllable which was not historically closed by coda *-l*, and the form remains *-pala* in all other contexts. This allomorphy is illustrated by the data in Table 1 below.

Stem Type	Example Bare Stem	Gloss	Stem with -*pala*
-k	*kuk*	'gather'	*kû-wala*
-ng	*thong*	'drink'	*thong-wala*
-r	*chir*	'chop'	*chir-wala*
historical –l[3]	*phre*	'separate'	*phre-wala*
-t	*dot*	'sleep'	*dot-pala*
-n	*gin*	'put on'	*gin-pala*
-p	*phap*	'bring down'	*phap-pala*
-m	*ngom*	'become drunk'	*ngom-pala*
open syllable	*se*	'die'	*se-sala*

Table 1. Allomorphy of Kurtöp -*pala*

4.2 Imperative -*le*

The imperative suffix -*le* also evidences some morphophonemic alternations. Following non-coronals the form -*e* is found and following open syllables which were not historically closed by -*l* the form -*ye* is used. In all other contexts -*le* remains unchanged. This allomorphy is displayed in Table 2 below.

Stem Type	Example Bare Stem	Gloss	Imperative
-k	*kuk*	'gather'	*kug-e*
-ng	*thong*	'drink'	*thong-e*
-p	*phap*	'bring down'	*phab-e*
-m	*ngom*	'cry'	*ngom-e*
-r	*chir*	'chop'	*chir-le*
historical –l	*phre*	'separate'	*phre-le*

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[3] Because synchronic open syllables in verbs may come from at least two different sources (i.e. open syllable remains open or coda -l is lost and fronts the vowel) a verbal stem in it of itself does not show whether or not a coda –l was present historically. Thus, comparative data is used to discern whether or not the stem had a -*l* coda historically. For example, with regard to the present data, comparison with Classical Tibetan sP+l.b. <spralba> supports the hypothesis that this form had a historically present -*l* final stem.

-t	*dot*	'sleep'	*dot-le*
-n	*gin*	'put on'	*gin-le*
open syllable	*se*	'die'	*se-ye*

Table 2. Allomorphy of Kurtöp *-le*

4.3 Discussion

In this section, I have illustrated that the perfective suffix *-pala* has allomorph *-wala* when following stems with final velars, *-r* or a diachronically present *-l*, and allomorph *-sala* when following stems with synchronic open vowels that did not have a coda *-l* present at a previous stage in the language. The motivation for the allomorphy surrounding *-pala* is less clear than for that associated with the verbal stems. In case of the stem-final velars, it might be best to hypothesize that /p/ > [w] is an assimilation to velar place of articulation, and that the change /p/ > [w] following *r* and *l* is an assimilation in sonority. It is not yet clear what conditions the change /p/ > [s].

The allomorphy of the imperative suffix *-le* is also interesting. If the verbal stem terminates (or terminated, in the case of stems which had an *-l* coda at a previous stage of the language) in a coronal consonant, then there is no change in the form of the imperative. However, following a non-coronal consonant, the *l-* of the imperative will delete. Such restrictions on deletion seem intuitive if we assume two adjacent consonants must agree in coronality in this context. Of further interest is the sound change /l/ > [y]. While it may be considered another example of assimilation in terms of sonority (cf. /p/ > [w] _*l, r* in the case of *–pala*, above), the sound change *l* > *y* has happened elsewhere in the language. Consider, for example, the data in Table 3 below.

Kurtöp	Classical Tibetan	Gloss
yâ	lg.p. <lagpa>	'hand'
yanga	LV. <lnga>	'five'
yam	lm. <lam>	'road'
yô	lug. <lug>	'sheep'
yang	lvs. <langs>	'stand'

Table 3. Examples of Kurtöp *Y* corresponding to Classical Tibetan *L*

5. Summary and discussion

This article has addressed allomorphy in Kurtöp, a Tibeto-Burman language of Bhutan. The full extent of alternations in verbal stems has been described here. Namely, I have illustrated that Kurtöp stem-final -*k* is lost, with the preceding vowel lengthening, when suffixed with -*wala*, and stem-final non-coronal stops (i.e. -*k*, -*p*) are voiced in the context of the imperative suffix.

Morphophonemics of some verbal affixes have also been addressed. I examined morphophonemics of the perfective suffix –*pala* and the imperative suffix -*le*. The former had the allomorph -*wala* following -*k*, -*ng*, -*r*, and old -*l* final stems. If stem was vowel final but did not have a -*l* coda at a previous stage in the language, then the form -*sala* was employed. In all other contexts -*pala* has remained -*pala*.

Most instances of Kurtöp morphophonemics discussed in this article may attribute their alternations to simple phonological processes, such as assimilation and deletion. It was also noted that at least two instances morphophonological alternations are also reflected in historic sound change. That is, the alternation of -*k* with ø and lengthened preceding vowel in verbal stems mirrors the sound change *k* > ø, which has happened elsewhere in the language, triggering a long vowel (Lowes 2006). Also, the alternation of *l* with *y* in the imperative mirrors the sound change *l* > *y*, which was illustrated in Table 3.

This article has not considered morphophonemics of other affixes, such as the negative prefix, locative and genitive suffixes, and other verbal suffixes. These also display allomorphy but are not discussed here. Further investigation of these processes promises to yield interesting results, especially in light of the historic sound changes in other aspects of the language.

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