

## Worlds of knowledge in Central Bhutan: Documentation of 'Olekha

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**1. Introduction**<sup>1</sup> A re-emergence in language documentation has brought with it a recent recognition of the potential contributions which collaboration with other disciplines has to offer linguistics. For example, ten chapters of the recently published *Oxford Handbook of Linguistic Fieldwork* (Thieberger 2012) were explicitly devoted to cross-discipline collaboration. Among the topics covered were ethnomathematics, geography, astronomy, biology, and ethnobotany.

Linguists who work in ethnobiology can make important observations about our interactions with the natural world, as has been persuasively argued by Si (2011). In a separate publication, Si (2013) shows that the Solega people of southern India possess an unusually rich knowledge of honeybees and their practices, despite not being beekeepers. Of course, the importance of these sorts of studies has been noted outside of linguistics for some time. The current study has grown from discussions with a biologist for a collaborative project.

Elsewhere, linguistics—in particular historical linguistics—has been recognized for its role in making inferences about cultural and social practices of past societies. Recently, Epps (2015) updates and substantiates claims that historical linguistics can make important contributions to our understanding of the culture and social practices of people who spoke a proto-language. For example, Epps (2015) considers comparative vocabulary in Nadahup and based on what is reconstructable (and what is not) infers that speakers of Proto-Nadahup most likely did not rely on domesticated plants (with the exception of tobacco). Blust (1995) uses historical-linguistic methods in order to make inferences about the physical environment, material culture, crops, domesticated animals, and subsistence and food preparation practices, among other aspects of the life and location of Proto-Austronesian speakers. As another example,

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Anthony (2007) argues that lexical reconstruction provides evidence that Proto-Indo-European speakers made use of wheeled carts and domesticated sheep, and Mallory (1991) demonstrates that we can attribute stockbreeding to the Proto-Indo-European community based in part on the fact that forms for 'sheep,' 'cattle,' 'goat,' and 'pig' can be reconstructed in the proto-language. Linguistic paleontology has been particularly successful in providing insights into the Proto-Austronesian-speaking culture's natural environment and material culture (including crops and domesticated animals, metals, clothing, cultural practices, etc.) based on lexical reconstructions (see, for example, Blust 1995).

In a related study, Brown (1999) examines 77 lexical items from nearly 200 Native American languages in order to make inferences about the cultural impact of European contact. Rather than look to reconstructions, this study examined words for items which were known to come through European contact (such as 'rice,' 'chicken,' 'soap,' and 'Saturday') and examined how the languages acculturated the item lexically. The conclusions included the observation that different sociolinguistic patterns correlated with different acculturation patterns. In the case of both Blust's (1995) and Brown's (1999) studies, a language's lexicon led to inferences about a culture's past social history.

Linguistic paleontology has also been put to some use in the Tibeto-Burman language family. Bradley (1997), for example, compares crop terms in the Burmic subgroup (Lisu, Sani, Lahu, Nosu, Akha, Burmese), specifically identifying terms for 'grain' (as a general term), 'rice,' 'millet (*Setaria* and *Panicum*),' 'sorghum,' 'buckwheat,' 'barley,' 'wheat,' 'Job's tears,' and 'maize.' Of these, Bradley (1997) proposes that 'rice,' 'Setaria millet,' and 'sorghum' can be confidently reconstructed to Proto-Burmic and therefore used by speakers of the proto-language. See also Southworth (2005), Mallory (1991), several papers in Bown & Evans (2015) and references therein for other noteworthy studies.

Linguists working on language documentation, especially those in projects with interdisciplinary collaborations, have the potential to make significant advances in many subdisciplines, including those fields whose focus of study is prehistory. This article aims to combine basic collaborative documentation with linguistic paleontology. While linguistic paleontology looks to lexical items in order to make inferences about past societies, this article's aims are more modest; I propose a slightly different methodology and yield less concrete, though interesting results. Specifically, in addition to looking at the lexical items themselves, the findings presented here also indicate that the *phonologies* of different domains may also be suggestive of ethno-linguistic prehistory.

This article reports on lexical and phonological findings from different lexical domains in the 'Olekha language. 'Olekha is a variety of the Black Mountain language, which has been described as a Tibeto-Burman isolate (van Driem 2011) and as such its placement within the larger Tibeto-Burman family is a matter of considerable interest. When we examine the semantic domains of kinship, agriculture, and local plants in a comparative context we make some interesting observations; these are the focus of this article.

This article has the following outline. The ethnolinguistic situation in Bhutan is introduced in §2, including an overview of the 'Olekha language and basic ethnographic practices of those who speak it. In §3, I provide an overview of the language. In §4, I present the data, with a section each on core vocabulary, kinship, domesticated plants and animals, and foraged plants. In §5, I consider possible interpretations of the data and offer a conclusion in §6. Namely, we will see that 'Olekha kinship terms are a mixture of native terms plus borrowings, that agriculture terms are exclusively borrowed from Tibetic or East Bodish languages, and that a range of domesticated and wild plants show different tendencies, ranging from terms which appear to be shared across all of Bhutan to terms which are unique in each language, including 'Olekha. Finally, we notice that in the domain of wild plants, we find sounds in 'Olekha not reported elsewhere in any Bhutanese language to our knowledge. Out of a sample of approximately 500 words, these sounds (/ʎ/ and /ɸ/) only occur in words for native plants.

## 2. Background

**2.1 The ethnolinguistic situation of Bhutan** There has been relatively very little research in Bhutan in all fields. Archaeology, ethnography, and linguistics are no exception to this. Nonetheless, a few studies have been conducted and some of these are laid out here. This section presents an overview of the current state of the art of Bhutanese ethnolinguistic prehistory. For other ethnographic studies relating to Bhutan, refer to Huber (2013, 2014, 2015a–d).

In a recent archaeological study, Meyer et al. (2009) reported evidence of human inhabitation in northwestern Bhutan as early as  $4280 \pm 130$  cal BP (calibrated years before present based on radiocarbon dating). This idea is consonant with the general idea that the earliest inhabitation of Bhutan was in 2000 BCE (e.g., Chakravarti 1979 and the National Museum in Paro, Bhutan). Unaware of the archaeological evidence in northwestern Bhutan, sources such as Chakravarti (1979) and the Library of Congress (Savada 1993) cite the presence of stone tools and weapons, megaliths, large stone structures, and absence of Neolithic mythological legends as evidence of inhabitation in 2000 BCE. According to the Library of Congress (Savada 1993), there is evidence in Bhutanese and Tibetan chronicles that a kingdom variously called *Lhomon* or *Monyul* was located in the area that is now modern-day Bhutan, existing between 500 BCE and 600 CE. *Lho* is a Tibetan word meaning 'south,' *mon* may mean 'without religion' or be a generic ethnolinguistic term for non-Tibetans and non-Indians,<sup>2</sup> and *yul* means 'country.' Thus, the general understanding of *Lhomon* and *Monyul* is that they are Tibetan expressions denoting a sort of inferior race of people in the south.

<sup>2</sup>Jäschke ([1881] 2007:420) defines མོན་ <mon> as 'general name for the different nations living between Tibet and the Indian plain' while the Dictionary put out by the Dzongkha Development Commission (DDC 2007) defines མོན་ <mon> as མོན་རང་ཡོན་ཉན་མ་རྩ་བའི་གཡུ་མ། <chos.dang.yon.tan.ma.dar.bai.gyus> 'a valley where religion and knowledge have not been diffused'.

However lacking rigorous archaeological study may be on prehistoric sites in Bhutan, recent genetic work in Nepal and Bhutan (Kraaijenbrink et al. 2007; Parkin et al. 2006), it seems, has led to the discovery of genetic markers that are specifically correlated to the spread of Tibeto-Burman populations in Asia. Su et al. (2000) suggest that the modern 'Bodic' and 'Baric' Tibeto-Burman<sup>3</sup>-speaking populations moved into the Himalayas about 5000-6000 years ago. The genetic data and archaeological evidence, under the interpretation put forth in van Driem (2008), suggest that Bhutan could have been inhabited only recently by Tibeto-Burman speakers (around 4000 years ago), as populations from Kharro, in Tibet, spread into Bhutan.

Buddhism arrived in Bhutan in the 7th century CE, imported directly from Tibet under the orders of the Tibetan king Srongtsen Gampo, who constructed the J'ampa Lhakhang<sup>4</sup> and Kichu Lhakhang in Bhutan. Both remain revered as the holiest of sites in Bhutan. Soon after, in 747 CE, the Indian Buddhist saint Padmasambhava (known as Guru Rimpoche in Bhutan) came to Bhutan, leaving behind a rich and fascinating folklore that today dominates Bhutan's colorful ideas regarding origins of the local culture.

Shortly after the arrival of Buddhism, Bhutan lacked a central government but instead consisted of small and independent monarchies, each ruled by a *Deb Raja*. Forces from Tibet continued to come into Bhutan and by the 11th century much of Bhutan was inhabited by Central Tibetan-speaking forces, pushing the indigenous inhabitants further south into remote pockets. The independent kingdoms continued warring until Ngawang Namgyal (referred to as Zh'apdrung in Bhutan) came from Tibet in 1616 and unified the country. Several wars with Tibet ensued after Zh'apdrung's death, and Bhutan's borders grew and shrank as parts of land were taken from and recaptured by neighboring regions. Notably, Bhutan had acquired the portion of India immediately south of the current border, referred to as the Bengal and Assamese Duars. Britain became involved, and war ensued for five months between 1864-1865 (Rennie 1866), with the eventual result that the Duars were returned to India in exchange for an annual payment from India to Bhutan.<sup>5</sup>

Finally, in 1907, Sir 'Ugen Wangchuk emerged as the first King of Bhutan and a peaceful monarchy was instituted for one hundred years. The fourth king, His Majesty Jigme Singye Wangchuk, introduced a constitutional monarchy in 2008.

There have been very few ethnographic studies of any Bhutanese cultures to date (Sharma 2005, Giri 2004, Prien 2015, Schrempf 2015, Huber 2013, 2015a, 2015b, 2015c, 2015d, forthcoming being some notable exceptions). Bhutan, though sparsely populated (with just over 700,000 inhabitants at the current estimate), is surprisingly diverse in language and culture. With the exception of recent Nepalese immigrants,<sup>6</sup>

<sup>3</sup>The terms 'Bodic' and 'Baric' should be understood to be areal groupings rather than genetic groupings within Tibeto-Burman. See, for example, Hyslop (2014b).

<sup>4</sup>The term *Lhakhang* means 'temple' in Dzongkha, Bhutan's national language.

<sup>5</sup>The history outlined until this point has been based on my interviews in Bhutan and reflects the general understanding of most educated Bhutanese.

<sup>6</sup>The Nepalese immigrants, who primarily inhabit the southern border areas of Bhutan, speak Nepali and often various Tibeto-Burman languages indigenous to Nepal.

the languages of Bhutan all fit into the Tibeto-Burman family. But within Tibeto-Burman, the nineteen languages<sup>7</sup> are understood to belong to six sub-families.

Western Bhutanese are identified as 'Ngalop and speak Dzongkha, the national language. Dzongkha is easily identified as a Tibetic language (i.e., a language that has derived from Old Tibetan according to Tournadre 2014). Aberrant varieties of Dzongkha are also spoken by the northern nomads in the Laya and Lunana areas. Chocangaca is the most conservative Central Bodish language in Bhutan, having retained many phonological features characteristic of older forms of Tibetan but lost in most modern Tibetic languages, including Dzongkha (cf. Tournade & Rigzin 2015). Because of the similarity of Chocangaca to Classical Tibetan, and the designation of Classical Tibetan as the liturgical language, Chocangaca enjoys a special privileged status as compared to its geographic neighbors.

East Bodish languages comprise the family of languages with the most internal diversity in the Kingdom of Bhutan. Ranging from south central Bhutan to the north-east corner of the country, the East Bodish languages include Khengkha, 'Nyenkha, Bumthap, Kurtöp, Chali, Dzala, and Dakpa. See Hyslop (2013a, 2013b, 2014a) for more details about East Bodish.

In the southwestern Samtshi district, the Lhokpu are one of the oldest groups in Bhutan. They speak an unclassified Tibeto-Burman language, though van Driem (2001: 804) tentatively notes that the Lhokpu language appears to be closer to the Kiranti languages of Nepal than to the neighboring Lepcha. The Lhokpu have also resisted being converted to Buddhism, still inter their dead (van Driem 2001; Sharma 2005), and evidence a matrilineal and matrilocal social organization (Sharma 2005). Interestingly, van Driem (2001: 804-805) hypothesizes that the Lhokpu language may in fact be a substrate to Dzongkha and speculates that perhaps most of 'Ngalop Bhutanese are actually of mixed Lhokpu and 'Ngalop ancestry. This claim is also supported by the fact that matrilineality is the norm throughout most (if not all) of Bhutan, and matrilocality is so common that a usual question asked of a married couple in Bhutan in Dzongkha is *'maba züzu 'ing na* '(Did you) enter as a husband?' or *'nama züzu 'ing na* '(Did you) enter as a wife?' Also, there is a word in Dzongkha and other Bhutanese languages to refer to husbands of sisters (*'mâro*) but not wives of brothers.

Gongduk is another language of Bhutan that does not appear to have any other close relatives, though it has been classified as Tibeto-Burman. Gongduk is spoken in a secluded corner of the Kheng district in south central Bhutan. Little is known about the group of Gongduk speakers, except for what has been published of their language in van Driem (2001 and van Driem (2013), though van Driem (2001: 870) also speculates that Gongduk may be a substrate in the 'Greater Bumthang' languages (i.e., Bumthang, Kurtöp, Khengkha) and perhaps may itself be a mixed language with a non-Tibeto-Burman substrate, representing an even older population in Bhutan.

<sup>7</sup>George van Driem, having completed the first linguistic survey of Bhutan, tentatively identifies 19 different Tibeto-Burman languages in the Kingdom (van Driem 1998). This figure will likely be larger once more extensive documentation work takes place on known languages and mutual intelligibility is better understood. It remains entirely likely that more languages are waiting to be identified in Bhutan, given the difficulties inherent to language survey and documentation work.

Perhaps the largest linguistic group in Bhutan is the Sharchop (lit. 'easterners' in Dzongkha) who speak Tshangla. This language has been well-described by Erik Andvik (Andvik 1999, 2003, 2010). Tshangla is also spoken in adjacent Arunachal Pradesh, where it is often called Central Monpa. Chakravarti (1979) speculates that the current Tshangla-speaking population is representative of an old Austroasiatic-speaking population, perhaps related to the contemporary Khasi population in Shillong. To my knowledge there is no evidence for this, linguistic or otherwise.

The approximate location of Bhutan's Tibeto-Burman languages is illustrated in Figure 1.



**Figure 1.** The Tibeto-Burman language map of Bhutan. The small black shape in the southwest corner of the country, near Chhukha, indicates the approximate location where Lepcha is spoken; the adjacent blue shape denotes Lhokpu and the small green circle, just south of Zhemgang, is the approximate location of Gongduk. Central Bodish languages are illustrated with purple shapes. Dzongkha (and its many dialects) are indicated with a large shape in the western portion of the country. Chocangaca is spoken toward the east. The small blue circle illustrates approximate areas where Black Mountain Mönpa is spoken. Other blue shapes, starting in the south and moving clockwise into Arunachal Pradesh, represent Khengkha, 'Nyenkha, Bumthang, Kurtöp, Dzala and Dakpa, respectively. The pink shapes illustrate where Tshangla is spoken (adapted from van Driem 1998 to reflect my own research).

**2.2 'Olekha and its speakers** 'Olekha is the variety of Black Mountain Mönpa spoken in Rukha village of south central Wangdi (Figure 2). Black Mountain Mönpa,

called Monkha in Bhutan, is an obvious Tibeto-Burman language but remains unclassified within the family. Other than van Driem (1995a), which presents the complex conjugational verbal morphology, the language is undescribed. Black Mountain is spoken in at least six villages, one of which is Rukha, shown in Figure 2. The variety of Black Mountain Mönpa spoken in Rukha is referred to as 'Olekha, and is the focus of this study. The following observations and subsequent data were collected over the course of two trips to Rukha in 2010 and 2012.

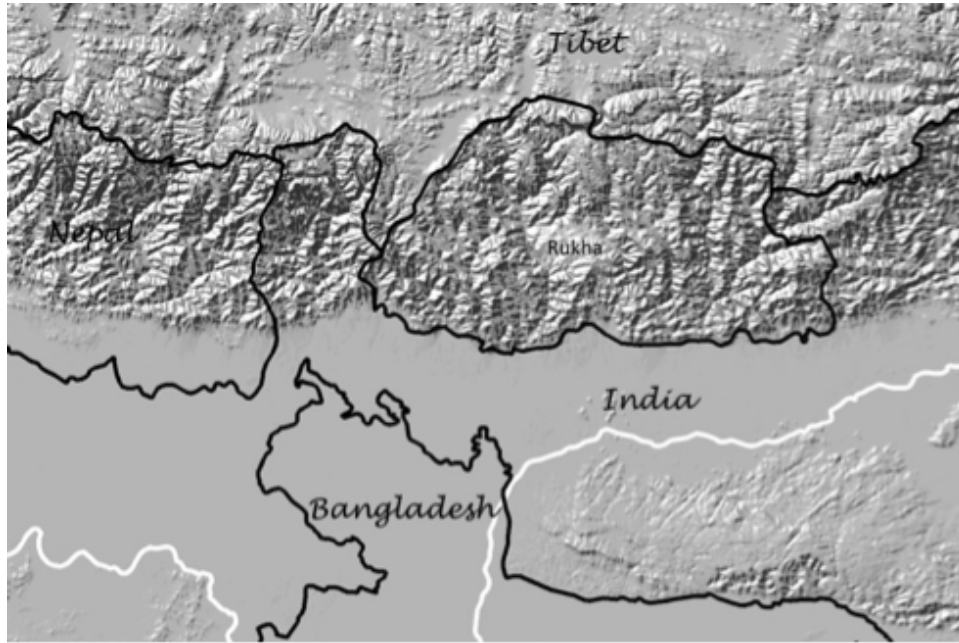


Figure 2. Approximate location of Rukha

Rukha, a village of about fifteen households, is located at approximately 27°12.91' N, 90°11.09' E and has an elevation of nearly 1400m. It is a nine-hour walk from the nearest road head. The people traditionally practiced shifting cultivation in the hills surrounding the valley they live in now, but switched to sedentary agriculture in the 1980s. Crops they used to grow consisted of dry purple rice, several varieties of both red and white dry rice, several millets, green and red taro, corn, barley, wheat, and both bitter and sweet buckwheat. In addition to this, they also foraged for other plants and tubers. Extra crops were buried in holes dug in the side of the hill and subsequently covered with dirt and leaves, stored for later use. Many of these crops have vanished completely from the contemporary lifestyle and the storage holes are now completely abandoned; their remnants, however, are still present in the surrounding hillsides.

Traditional burials involved placing the body into a square dug into the ground. The body would be extracted when the monastic body appeared for cremations (often the greater part of a year after the death), at which point a mass cremation would be carried out.

The monastic body used to own the land in the valley where the 'Olekha speakers now live, and there is likely a long history of contact between the monastic body (historically and today a body of considerable influence) and 'Olekha speakers. As is reported elsewhere in Bhutan, there used to be a heavy tax imposed on the inhabitants of Rukha, which is reduced today.

Unlike mainstream groups in Bhutan, it appears that traditional marriage practices were primarily patrilocal, with the woman moving into the man's house. These marriages were often arranged, a practice which was still common in many communities in Bhutan just a few decades ago. Within the context of Bhutan, the inhabitants of Rukha also embrace a unique belief system which attributes rainbows to an evil force. One is not advised to look or point at rainbows; doing the latter will result in a bent finger.

The Olekha language, along with their traditional lifestyle, is extremely endangered in Rukha. In the population of approximately 100–150 people, only one woman would report herself as a fluent, native speaker. She is in her 80s. There are two semi-speakers in their mid-40s through mid-50s who learned the language from their grandparents. Although they are first-language Dzongkha speakers, they appear to have native-like comprehension of 'Olekha and near-fluent production. In addition, there are several other middle-aged villagers who appear to have passive understanding of the language but do not claim any ability to produce the language.

The data presented here were collected from the three speakers mentioned above. In the event that data were collected from one of the two younger semi-speakers, the forms were always confirmed by the older, native speaker.

**2.3 Methodology** This study endeavored to be a collaborative project between linguists and botanists and began as such in design. The original plan called for a local botanist to travel with the team to the field and identify the plants on site. Unfortunately, circumstances beyond our control prevented the botanist from making any trips to the field to date. A revised plan was devised as follows. The field team walked with one of the semi-speakers (the elderly native speaker was unable to travel far) in the village and jungles surrounding villages and discussed the plants we happened across. We videotaped the speaker explaining the significance of the plant, its purpose, and how it was processed. We recorded details of the plant's location, including geographic coordinates and elevation. We photographed each plant in its entirety and then took additional photographs to show bark/stem, roots, flowers (if relevant), and leaves. The botanist, who is Bhutanese and has local expertise, was fairly confident she could identify the plants with this information. However, we have as of yet been unable to confirm any with her, and are currently seeking another collaborator. As a result, we do not have scientific names for many of the specimens.

I shared the linguistic data we collected with the other speakers by showing the videos and photographs and confirming the name in 'Olekha, as well as recording details about use and importance. In total, we have just over seventy such terms. In some cases (less than five), speakers disagreed about either the name of the plant or its use. We have not included these terms in our study.



The other data presented here were generated via standard practice in documentary linguistics, combining naturally collected data with elicitation. Due to the small number of speakers and the age of the native speaker we worked with, there is a bias in our database towards elicited data. However, all forms presented here have been cross-checked with at least one additional speaker.

There remain many gaps in the linguistic data, and especially in the botanical data. For additional linguistic data, we are limited to what can be collected given the small pool of speakers to work with, but are nonetheless endeavoring to continue to collect and analyze as much natural speech as possible. There is a significant lack in the botanical data, including—but not limited to—confident identification and scientific names for many specimens, detailed information about bioresources, classification of vegetation belt and biozone, provenance of major and minor crops, and time of their domestication. With regard to these latter two points, it is possible that some of this information is not yet known. No doubt an ethnobiologist would also be able to make use of the data already collected and future data to make inferences that also advance the field of ethnobiology. I hope in the future these shortcomings will be addressed through a new collaboration and future fieldtrips; in the meantime, the data collected through the existing framework has, I argue, proved to be useful for the purposes argued in this paper, and as a starting point for future studies.

### 3. Overview of the language

**3.1 Phonology** Before presenting the lexical data from the different domains of kinship, agriculture and plants, it will be useful to present a phoneme inventory and a few additional basic properties of the language. It is important to point out that much of the analysis remains preliminary at present, given the difficulty in working with one elderly native speaker. While some topics should be explored in greater depth (for example, tone, as discussed below), the current findings will have to suffice; they may be all we will ever know of the Olekha language. Refer to the appendix for examples of some of these phonemes.

Consonants are shown in Table 1 and vowels in Table 2.

**Table 1.** 'Olekha consonant phonemes

	labial	dental	retroflex	palatal	velar	uvular	glottal
stops	p, p <sup>h</sup> , b	t, t <sup>h</sup> , d	ʈ, ʈ <sup>h</sup> , ɖ	c, c <sup>h</sup> , ɟ	k, k <sup>h</sup> , g		ʔ
affricates		ts, ts <sup>h</sup> , dz					
fricatives		s, z		ç		ʁ	h
nasals	m	n		ɲ	ŋ		
laterals		l, ɭ					
rhotics		r					
glides	w			j			

In terms of suprasegmental features, 'Olekha also has tone, vowel length, nasalization, and glottalization. Minimal pairs showing the contrast for tone, vowel length,

**Table 2.** 'Olekha vowel phonemes

i	y	u
e	ø	ɤ
ɛ		ɔ
		ɑ

and nasalization are few but can be found. Nasalization may be limited to borrowings. Tonal minimal pairs show contrastive tone following sonorant initials, a system which is reminiscent of East Bodish languages (e.g., Hyslop 2013a). However, there is also evidence of contrastive tone in other context; for example, *tɔ* 'cooked rice' contrasts with *tɔ́* 'horse.' This is a feature that warrants further research and as such is most likely underrepresented in the present study.

There are other suprasegmental features in the language that remain underdescribed in this work and warrant further study. Glottal stops and/or glottalized vowels or syllables are a prominent feature in the language. At times these were heard as simple glottal stops, especially in slow speech. At times the same contrast was heard as a glottalized vowel or a glottalized vowel with high pitch and greater intensity, as if the vowel were also stressed. We also heard stress without glottalization, in which case it is characterized by a slight increase in intensity, pitch, and vowel length. Given the current endangered situation of the language, more in-depth acoustic work is unlikely, however needed it may be.

**3.2 Morphosyntax** In terms of morphosyntax, 'Olekha appears to be a fairly typical Tibeto-Burman language of the region. Canonical word order is AOV or SV, the language has postpositions rather than prepositions, and has mostly verbal suffixes rather than prefixes. Negation is the exception to this, handled by way of a prefix *ma-*. Case-marking is handled by postpositions and an ergative marker (=si). 'Olekha has numeral classifiers (o used with inanimates and *goŋ* with animates). Unlike the Central Bodish and East Bodish languages, however, 'Olekha has a complex system of conjugational verbal morphology which indexes S arguments and, in the case of transitive verbs, indexes both A and O (van Driem 1995a). See data in the appendix for further examples and information.

**4. Lexicon** Different domains of the 'Olekha lexicon present different comparative pictures. Some domains, such as pronouns, show 'Olekha to be unique within the context of Bhutan, while other domains, such as numerals, show a close relationship to a major language. This section briefly examines different domains in comparison with data currently available.

**4.1 Core vocabulary** Basic lexical items in 'Olekha present a mixed picture. The pronouns are quite unique in the Bhutanese context; numerals are almost entirely East Bodish while body parts and natural landscape terms are mostly Tibetan and East Bodish. These are discussed briefly in turn below.

**Table 3.** 'Olekha personal pronouns in the Bhutanese context<sup>8</sup>

	'Olekha	Tibetic	East Bodish	Tshangla	PTB
1.sg	<i>kø</i>	Dz. <i>ŋe</i>	PEB <i>*ŋa</i>	<i>jaŋ</i>	<i>*ŋa-y</i> ('1st; self')
1.pl	<i>a'nək</i>	Dz. <i>ŋéce</i>	Krt. <i>net</i>	<i>ai</i>	
2.sg	<i>iŋ</i>	Dz. <i>c<sup>b</sup>ø</i>	Krt. <i>wit</i>	<i>nan</i>	<i>*na-ŋ</i> 'thou'
2.pl	<i>iŋ'nək</i>	Dz. <i>c<sup>b</sup>e</i>	Krt. <i>nin</i>	<i>nai</i>	
3.sg	<i>'hoŋma</i> (m); <i>'hoŋme</i> (f)	Dz. <i>k<sup>b</sup>o</i> (m); <i>mo</i> (f)	Krt. <i>k<sup>b</sup>it</i>	<i>rok</i>	<i>*ʔa</i> 'pronoun (3rd person)'
3.pl	<i>ho'ŋoŋ</i>	Dz. <i>k<sup>b</sup>õ</i> (m); <i>mõ</i> (f)	Krt. <i>bot</i>	<i>'rokte</i>	

Within the Bhutanese context, the 'Olekha personal pronouns appear quite distinct. While first-person pronouns beginning with plosives are found elsewhere in Tibeto-Burman languages, they are not present in Bhutan's major languages. The first-person plural pronoun *anək* '1.PL' could perhaps be related to the Tshangla first person plural once we analyze *-nək* as a plural marker. Other than that possible link, an obvious connection cannot be made between 'Olekha personal pronouns and those found in Bhutan's major languages.

**Table 4.** 'Olekha person pronouns in the Bhutanese context

	'Olekha	Tibetic	East Bodish	Tshangla	PTB
'one'	<i>dek</i>	Dz. <i>ci:</i>	PEB <i>*thek</i>	<i>t<sup>b</sup>ur</i>	<i>*tyak</i> ⌘ <i>g-t(y)ik</i>
'two'	<i>nø</i>	Dz. <i>ji</i>	Krt. <i>zon</i>	<i>'niktsiŋ</i>	<i>*g/s-ni-s</i>
'three'	<i>sam</i>	Dz. <i>sum</i>	PEB <i>*sum</i>	<i>sam</i>	<i>*g-sum</i>
'four'	<i>blø</i>	Dz. <i>zi</i>	PEB <i>*ble</i>	<i>p<sup>ɕ</sup>i</i>	<i>*b-ləy</i>
'five'	<i>lŋ</i>	Dz. <i>ŋé</i>	PEB <i>*lana</i>	<i>ŋa</i>	<i>*l/b-ŋa</i>
'six'	<i>wok</i>	Dz. <i>du:</i>	PEB <i>*grok</i>	<i>k<sup>b</sup>uŋ</i>	<i>*d-k-ruk</i>
'seven'	<i>ji</i>	Dz. <i>dyn</i>	PEB <i>*nis</i>	<i>zum</i>	<i>*s-ni-s</i>
'eight'	<i>jit</i>	Dz. <i>gæ:</i>	PEB <i>*gyat</i>	<i>jen</i>	<i>*b-r-gyat</i> ⌘ <i>b-g-ryat</i>
'nine'	<i>dog</i>	Dz. <i>gu</i>	PEB <i>*dOgO</i>	<i>gu</i>	<i>*s-kwa</i>
'ten'	<i>c<sup>b</sup>e</i>	Dz. <i>cu't<sup>b</sup>a:m</i>	Krt. <i>c<sup>b</sup>e</i>	<i>se</i>	<i>*ts(y)i(y)</i> ⌘ <i>tsyay</i>

Even the native speaker we consulted in Rukha was not able to count in 'Olekha beyond twenty, making further comparison difficult. Nonetheless, a comparison of numerals one to ten is offered in Table 4. Forms for 'one,' 'four,' 'five,' 'seven,' 'eight,' 'nine,' and 'ten' are clearly very close to those found in East Bodish. Note that the Kurtöp form for 'ten' (*c<sup>b</sup>e*) is possibly borrowed from the archaic Dzongkha form

<sup>8</sup>Data are represented in the IPA. Tone is marked only in the cases where I am certain it is a distinctive feature and stress is marked where it was clear. Because it was not obvious that tone and stress were necessarily features of every word they are not marked on every word; it is very likely that these features are underreported in our data. Proto-Tibeto-Burman (PTB) forms are extracted from the Sino-Tibetan Etymological Dictionary and Thesaurus (stedt.berkeley.edu). Tshangla data are primarily from Andvik (2010) but are also supplemented with data from our fieldwork. Proto-East Bodish (PEB) forms are from Hyslop (2014a, 2015). All other data are from my field notes.

*khepche*, which literally meant 'half-twenty' (Hyslop 2013b). Forms for 'two' and 'three' are similar to Dzongkha and/or Tshangla while 'six' appears to be distinct.

**Table 5.** 'Olekha body part terms in the Bhutanese context

	'Olekha	Tibetic	East Bodish	Tshangla	PTB
'hand/arm'	<i>lok</i>	WT <i>lagpa</i>	Krt. <i>ja:</i>	<i>gadaŋ</i>	* <i>g-l(y)ak</i>
'blood'	<i>kək</i>	Dz. <i>tʰa:</i>	Krt. <i>ka:</i>	<i>zi</i>	* <i>s-bywəy</i>
'nose'	<i>ná</i>	Dz. <i>'hɛpɛ</i>	PEB * <i>ná</i>	<i>nawuŋ</i>	* <i>s-na</i> ⚡ <i>s-na:r</i>
'heart'	<i>néŋ</i>	Dz. <i>bĩ ~ dubĩ</i>	PEB * <i>néŋ</i>	<i>tʰiŋlom</i>	
'tooth'	<i>ʔa</i>	Dz. <i>so</i>	PEB * <i>kwa</i>	<i>ɛa</i>	* <i>swa</i> or <i>s-wa</i>
'hair'	<i>gu'luŋ</i>	Dz. <i>tʃʰɛ</i>	PEB * <i>kra</i>	<i>tsʰam</i>	* <i>tsam</i> ⚡ <i>sam</i>
'head'	<i>pɛ</i>	Dz. <i>guto</i>	Krt. <i>'gujuŋ</i>	<i>ɛaɽaŋ/kektəŋ/wu</i>	* <i>d-bu-s</i>
'face'	<i>ek</i>	Dz. <i>dō</i>	Krt. <i>ɟúr</i>		

Body-part terms present a mixed picture, as shown in Table 5. The word for 'hand/arm,' for example, appears to be a Tibetic borrowing while the words for 'blood,' 'nose,' and 'heart' are most likely borrowed from East Bodish. 'Olekha 'tooth' also perhaps falls into this category, though the possible correspondence with the East Bodish forms is less convincing. The word meaning 'hair' is slightly more complex, seemingly cognate with the East Bodish word for 'head.' The other words presented here, 'head' and 'face,' are completely unique in the Bhutanese context. The former is possibly a reflex of another Proto-Tibeto-Burman reconstruction: #1242 \**pil* proposed by Matisoff (see the STEDT database<sup>9</sup>) while the latter has no known cognates elsewhere in the family.

Words pertaining to the natural world tend to show 'Olekha to be unique in the Bhutanese context. The 'Olekha words for 'salt' and 'water' appear to be cognate with the Dzongkha reflexes. Given that the Dzongkha terms are innovative (cf. the PTB forms) it seems likely that these have been borrowings into 'Olekha. Other words, like 'stone,' 'wind,' 'rain,' and 'fire' are clearly cognate with forms in other Bhutanese languages, all of which seem to be reflexes of forms reconstructed to Proto-Tibeto-Burman. The forms for 'earth' and 'ash' present a more complex picture. The form for 'earth' may eventually be found to be a reflex of PTB \**sa*, if we can find eventual evidence for a *s* > *tʰ* sound change in 'Olekha.

**4.2 Kinship** Kinship terminology in Bhutan in general is remarkable for its lack of variation across the Bhutanese languages. In addition to terms for 'mother' and 'father,' which one might expect to be similar across several unrelated languages, terms for children, aunts, uncles, and nieces and nephews are remarkably alike as one travels from the western edge to the eastern edge of the country. Consider the data in Table 7.

<sup>9</sup><http://stedt.berkeley.edu/>

**Table 6.** Some 'Olekha natural world terms in the Bhutanese context

	'Olekha	Tibetic	East Bodish	Tshangla	PTB
'salt'	<i>ts<sup>h</sup>a</i>	Dz. <i>tshe</i>	Krt. <i>ts<sup>h</sup>e</i>	<i>int<sup>h</sup>a</i>	* <i>gryum</i>
'water'	<i>cø</i>	Dz. <i>chu</i>	PEB * <i>khwe</i> /* <i>tsbi</i>	<i>ri</i>	* <i>rwa-s</i>
'rain'	<i>gø</i>	Dz. <i>tʃa:p</i>	Krt. <i>jy</i>	<i>ɲamsu</i>	* <i>r-wa</i> ⚭ <i>s-wa</i> ⚭ <i>g-wa</i>
'wind'	<i>lø</i>	Dz. <i>lúmə</i>	Krt. <i>jilun</i> / Kh. <i>lón</i> / He <i>ɲilu</i> / Dk. <i>ɣɔt</i>	<i>ridi</i>	* <i>g-ləy</i>
'earth'	<i>t<sup>h</sup>abak</i>	Dz. <i>sə</i>	Krt. <i>sə</i>	<i>sa</i>	* <i>sa</i>
'ash'	<i>t<sup>h</sup>æk<sup>h</sup>u</i>	Dz. <i>g<sup>h</sup>ot<sup>h</sup>e</i>	Krt. <i>t<sup>h</sup>ewa</i> / Dkp. <i>bla</i>	<i>misur</i>	
'stone'	<i>lon</i>	Dz. <i>do</i>	PEB * <i>gor</i>	<i>lun</i>	* <i>r-lun</i> ⚭ <i>k-luk</i>
'fire'	<i>e'mik</i>	Dz. <i>mi</i>	Krt. <i>gemi</i>	<i>mi</i>	* <i>mey</i>

**Table 7.** Some 'Olekha kinship terms in the Bhutanese context

Olekha	English	Central Bodish	East Bodish	Tshangla	PTB
<i>ɔpɔ</i>	'father'	Dz. <i>ɛpɛ</i>	Krt. <i>ɛpɛ</i>	<i>apa</i>	* <i>p<sup>w</sup>a</i>
<i>ɔmɔ</i>	'mother'	Dz. <i>vi</i>	Krt. <i>ɛmɛ</i>	<i>ama</i>	* <i>ma-n</i>
<i>bosa</i>	'son'	Dz. <i>bu</i>	Krt. <i>bo</i>	<i>zamin</i>	* <i>t<sup>s</sup>a-n</i> ⚭ <i>za-n</i>
<i>bumet</i>	'daughter'	Dz. <i>bum</i>	Krt. <i>bumi</i>	<i>za</i>	
<i>ɔzɔk</i>	'uncle' (MB)	Dz. <i>ɛzɛ</i>	Krt. <i>ɛçɛɲ</i>	<i>adzan</i>	* <i>zryan</i> ⚭ <i>ryan</i>
<i>ɔmdzɔk</i>	'aunt' (MZ)	Dz. <i>ɛmcu</i> (Shâ region)	Krt. <i>ɛmin</i>	<i>azim</i> (younger), <i>amt<sup>h</sup>ɛ<sup>h</sup>i</i> (older)	
<i>ɔgɔ</i>	'uncle' (FB)	Dz. <i>ɛku</i>	Krt. <i>ɛku</i>	<i>aku/ap<sup>h</sup>ɛi</i>	
<i>ɔani</i>	'aunt' (FZ)	Dz. <i>ɛni</i> (Shâ region)	Krt. <i>nene</i>	<i>ani</i>	* <i>ney</i> ⚭ <i>ni(y)</i>
<i>tana</i>	'grandfather'	Dz. <i>ɛge</i>	Krt. <i>meme</i>	<i>memi</i>	
<i>ɔɛpɛɲ</i>	'grandmother'	Dz. <i>ɛɲge</i>	Krt. <i>ɛijɛ</i>	<i>abi</i>	* <i>p<sup>w</sup>a-n</i> ⚭ <i>b<sup>w</sup>a-n</i>
<i>daba</i>	'nephew'	Dz. <i>tsbo:</i>	Krt. <i>tsbau</i>	<i>tsbau</i>	
<i>dabet</i>	'niece'	Dz. <i>tsbem</i>	Krt. <i>tsbemi</i>	<i>tsbamo</i>	
N/A	'wife's sister's husband'	Dz. <i>má:ro</i>	Krt. <i>má:ro</i>		

'Olekha kinship terms for 'father,' 'son,' 'daughter,' and both terms for 'uncle' and 'aunt' are clearly cognate with the Dzongkha and East Bodish counterparts. The term for 'mother' appears more like the East Bodish and Tshangla counterpart, but it is worth pointing out that *ama* can also be found in Dzongkha for 'mother,' though it is not the most common form of the word. Of course, we also note that 'mother,' 'father,' 'uncle (mother's brother),' and 'aunt' (father's sister) are also reconstructed to PTB, with 'Olekha being obvious reflexes of those forms.

The terms that address relations beyond the nuclear family are unique in the Bhutanese context. The word for 'grandfather' (*tana*) is not clearly cognate with reflexes in other Bhutanese languages, though it is perhaps worth pointing out that Bruhn (2014) has reconstructed *\*C<sub>o</sub>-ta:y* in Proto-Northern Naga. Although 'Olekha *ṭe'peŋ* 'grandmother' is unlike forms in other Bhutanese languages, perhaps it is a reflex of PTB *\*p<sup>w</sup>a-n*  $\bowtie$  *b<sup>w</sup>a-n*. Note, importantly, that the stress pattern in this word is different than the stress pattern of the other kinship terms. While all the other forms in Table 5 have word-initial stress, 'grandmother' has word-final stress. Given that word-initial stress is also a feature of Dzongkha and the East Bodish languages, it seems plausible the kinship terms 'mother,' 'father,' 'sister,' 'brother,' and both sets of 'aunt' and 'uncle' were borrowed from Dzongkha, while the word for 'grandmother,' representing an original stress pattern, is an older term in the language.

On the surface, the 'Olekha terms for 'niece' and 'nephew' also appear unique in the context of Bhutan. It is interesting to note that the term for 'nephew' ends with a second syllable *ba*, perhaps related to a -pa suffix found to associate with masculinity throughout the language family (from PTB *\*p<sup>w</sup>a* 'man'), while niece ends with *et*, a form found in some feminine terms throughout Bhutan, for example in Bumthang *bumet* 'daughter' (van Driem 1995b). Finally, while Dzongkha and the East Bodish languages share a word for the *máro* relation (husbands of sisters), that relation is not named among the 'Olekha-speaking community. This lack of terminology is perhaps linked to the fact that the people themselves are not reported to practice matrilineal marriage practices in either the present or the past.

**4.3 Domesticated plants and animals** A brief foray into the domesticated plant and animal terminology in 'Olekha also shows a close relationship with Tibetan and East Bodish languages. Consider the data in Table 8.

Some lexical items, such as 'butter,' are clearly reflexes of the same form across all languages in Bhutan, while others are shared in both Tibetan and East Bodish but not Tshangla (such as 'cow'). Other forms, such as 'cat' and 'milk,' are clearly cognate with East Bodish rather than the Tibetan reflexes. The majority of words seem to have been borrowed from Dzongkha, including 'sheep,' 'bull,' 'calf,' 'egg,' 'whey,' and 'cheese.' The form for 'calf,' in particular, deserves further comment. The Dzongkha form is morphologically complex, with *-cu* being a suffix that means 'small,' specifically used to refer to young animals (for example, *dom* is 'bear' while *domcu* is 'cub' and *phop* is 'pig' while *phocu* is 'piglet'). This is not a productive morpheme in 'Olekha; rather it only occurs in words that have been borrowed from Dzongkha.

**Table 8.** 'Olekha domesticated animals and their products in the Bhutanese context

Olekha	English	Central Bodish	East Bodish	Tshangla	PTB
<i>tfylɔ</i>	'dog'	Dz. <i>rotʃi</i>	Krt. <i>kʰwi</i>	<i>kʰu</i>	* <i>d-kʷəy-n</i>
<i>lu</i>	'sheep'	Dz. <i>lu:</i>	Krt. <i>jo:</i>	<i>fifa</i>	* <i>luk</i>
<i>no:</i>	'cow'	Dz. <i>no:</i>	Krt. <i>nor</i>	<i>wa</i>	
<i>lən</i>	'bull'	Dz. <i>lən</i>	Krt. <i>beri</i>	<i>toka / watoka</i>	
<i>botʃuŋ</i>	'calf'	Dz. <i>bo:cu</i>	Krt. <i>baʃe</i>	<i>wa daza</i>	
<i>'kygy</i>	'chicken'	Dz. <i>bʒem</i>	Krt. <i>kʰewə</i>	<i>goga</i>	* <i>k-rak</i>
<i>kygy ʔpɔla</i>	'rooster'	Dz. <i>bʒepθ</i>	Krt. <i>kʰeteling</i>	<i>lapo / goga</i> <i>lapa</i>	
<i>gondo</i>	'egg'	Dz. <i>gondo</i>	Krt. <i>kʰauti</i>	<i>gotʰam</i>	* <i>d(i/u)l</i>
<i>datsʰu</i>	'whey'	Dz. <i>da:tʰu</i>	Krt. <i>ɕurkʰu</i>	<i>taro / tactʰu</i>	
<i>datsʰi</i>	'cheese'	Dz. <i>da:tsʰi</i>	Krt. <i>pʱrum</i>	<i>pʱrum</i>	
<i>dzu</i>	'milk'	Dz. <i>óm</i>	Krt. <i>ju</i>	<i>nu</i>	
<i>zimbila</i>	'cat'	Dz. <i>bʒili</i>	Krt. <i>jimbule</i>	<i>dani</i>	
<i>mɔ:</i>	'butter'	Dz. <i>ma:</i>	Krt. <i>mer</i>	<i>mar</i>	

In fact, Table 8 only shows two words which are not obvious borrowings from other Bhutanese languages: these are the reflexes for 'chicken' and 'rooster.' Note that, like the East Bodish and Tshangla reflexes, the 'Olekha forms appear to be reflexes of PTB. Those terms are likely native 'Olekha words and not recent borrowings.

Within the domain of domesticated plants, we can identify a subset of terms which appear to be reflexes of a root also found in other Bhutanese languages, and those which are clearly unique to 'Olekha. We will consider the first set, which are possible borrowings, in Table 9.

The word for 'orange' is almost identical in all Bhutanese languages for which we have data. Given the near match of the fronted vowel in the first syllable, the 'Olekha reflex *tshelu* appears to be a borrowing from Dzongkha *tshælu* 'orange,'<sup>10</sup> rather than East Bodish or Tshangla. Similarly, the 'Olekha reflex for 'wheat' would also be a direct borrowing from Dzongkha, though it should be pointed out that 'Olekha does not allow for coda *-r* and thus its absence in the 'Olekha form is not definitive proof of a Dzongkha source. Removing the first word of the Dzongkha reflex for 'Perilla Sp.,' we see a nearly identical form across all four languages, consisting of a dental nasal onset, low vowel and labial final. It seems likely the 'Olekha form has been borrowed, probably from an East Bodish language.

The first syllable of the 'Olekha forms for 'barley' and 'mustard' appear very similar to Dzongkha and East Bodish (in the case of 'barley') reflexes. The words for 'turnip' in 'Olekha, Dzongkha, and Kurtöp are quite similar, consisting of a palatal glide followed by a non-low back vowel and nasal. Note, however, that the nasal in Kurtöp is the onset of the second syllable, while in 'Olekha and Dzongkha it serves

<sup>10</sup>The change *a* > *æ* in the environment *\_l* is a common development in Dzongkha.

as the coda of the first syllable. Dzongkha and 'Olekha also share a second syllable. A similar pattern is observed for 'mustard,' in which the initial syllable is almost identical in both the 'Olekha and Dzongkha reflexes.

**Table 9.** 'Olekha (borrowed) domesticated plants in the Bhutanese context

Olekha	English	Central Bodish	East Bodish	Tshangla	PTB
<i>ts<sup>b</sup>elu</i>	'orange'	Dz. <i>ts<sup>b</sup>elu</i>	Krt. <i>ts<sup>b</sup>elu</i>	<i>ts<sup>b</sup>alu</i>	
<i>ka:</i>	'wheat'	Dz. <i>ka:</i>	Krt. <i>ker</i>	<i>boŋ</i>	
<i>nám</i>	'Perilla sp.'	Dz. <i>zĩmtsi nép</i>	Krt. <i>ném</i>	<i>nam</i>	
<i>náp<sup>h</sup>a</i>	'barley'	Dz. <i>na:</i>	Krt. <i>nēs</i>	<i>p<sup>h</sup>emun</i>	
<i>pekoŋ</i>	'mustard'	Dz. <i>pæge</i>	Krt. <i>jengker</i>	<i>membra</i>	
<i>jun<sup>h</sup>dola</i>	'turnip'	Dz. <i>óndo</i>	Krt. <i>jumēŋ</i>	<i>donai</i>	
<i>kokpa</i>	'garlic'	Dz. <i>tfego</i> ( <i>gop</i> 'onion')	Krt. <i>c<sup>b</sup>ec<sup>h</sup>u</i>	<i>lam</i>	* <i>swa-n</i> (onion/ garlic)
<i>lap<sup>h</sup>u<sup>h</sup>la</i>	'radish' <sup>11</sup>	Dz. <i>lep<sup>h</sup>u</i>	Krt. <i>muje</i>	<i>mule</i>	
<i>máma</i>	'bitter buck-wheat'	Dz. <i>bjɔ:</i>	PEB * <i>branma</i>	<i>k<sup>h</sup>ala</i>	
<i>tfara:ma</i>	'sweet buck-wheat'	Dz. <i>gere</i>	Krt. <i>cere</i>	<i>guntsun</i>	
<i>tfɔ:la</i>	'banana'	Dz. <i>ɲa:ɬe</i>	Krt. <i>cele</i>	<i>laisi</i>	* <i>s-ɲak</i>
<i>kuly:ma</i>	'nettle'	Dz. <i>yɬæ</i>	Krt. <i>kuli</i>		

Considering the words for 'buckwheat,' we again see that Dzongkha, Kurtöp and Tshangla have different forms. The 'Olekha reflexes appear similar to those found in Kurtöp, perhaps suggesting they are a relatively old borrowing from an East Bodish language. In the forms for 'banana' and 'nettle,' we also see that the 'Olekha forms are most similar to the Kurtöp reflexes, again perhaps indicating an older borrowing from an East Bodish language.

There is also a substantial portion of the domesticated plant lexicon for which there are no obvious cognates in other Bhutanese languages, some of which are shown in Table 10. Other than 'fiddlehead,' 'Sichuan pepper,' 'okra,' and 'chili,' it might be worthwhile to point out these crops have relatively low prestige in Bhutan. In terms of grains, only rice is considered to be eaten by high-class people; maize, millets, and tubers are the staple of low classes. Interestingly, two of the crops represented in Table 10, madder and cotton, were historically harvested as part of tax collection to the Bhutanese government.

Although it is clear 'Olekha has unique names for the crops represented in Table 10, it is important to note that not all of these have necessarily been used by

<sup>11</sup>Note the 'Olekha form differs from the Dzongkha form in that it appears to have a suffix *-ŋla*. This formative occurs on several words, but it was not possible to determine if it was a synchronic morpheme or simply a coincidence.



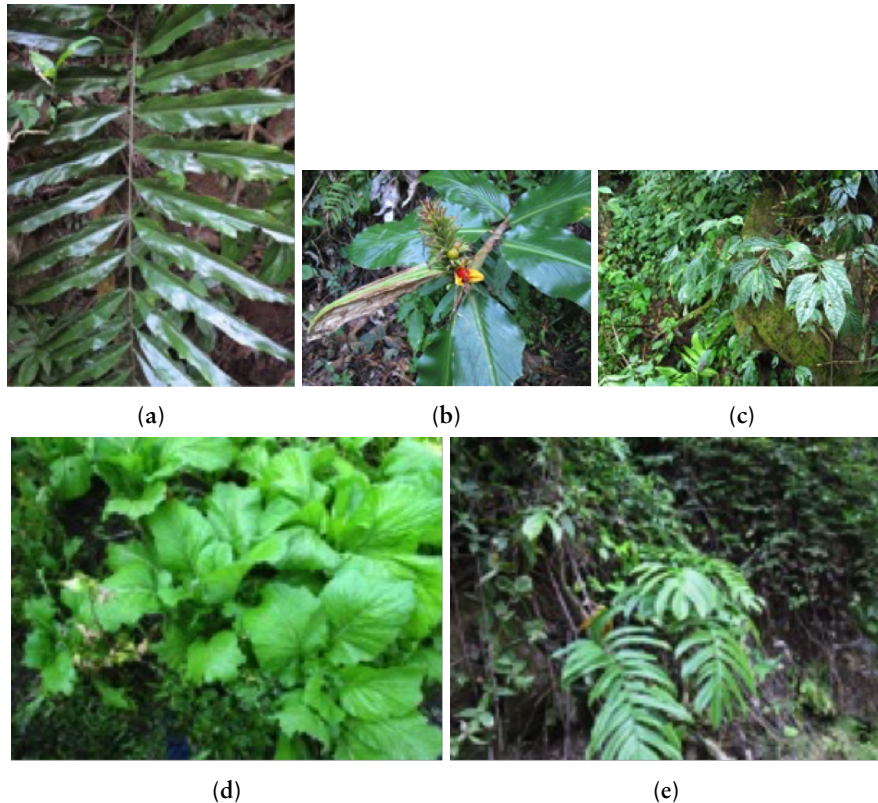
the 'Olekha-speaking community in prehistory. Chilis and maize, for example, were brought into Bhutan only in the 1500s. Despite their relatively recent introduction into the country, it appears each language developed its own words for these foods. The history of the other crops in Table 10 in Bhutan is as of yet unknown.

**Table 10.** 'Olekha (indigenous) domesticated plants in the Bhutanese context

Olekha	English	Central Bodish	East Bodish	Tshangla	PTB
<i>tʃe:ma</i>	'fiddle-head'	Dz. <i>nɛke</i>	Krt. <i>jimɛ</i>	<i>dawai</i>	
<i>ʃo:</i>	'Sichuan Pepper'	Dz. <i>tʃiɲe</i>	Krt. <i>cʰɛwɛ</i>	<i>ʃi</i>	
<i>ʔe'pʰɪt</i>	'cotton'	Dz. <i>kɛpɛ</i>	Krt. <i>kɛmpɛ</i>	<i>mo</i>	* <i>b-la</i>
<i>wo:</i>	'taro'	Dz. <i>ɖou</i>	Krt. <i>byo</i>	<i>bozoŋ</i>	* <i>m-n(w)ay</i> (yam/taro); * <i>grwa</i> (yam/potato)
<i>bakbaʔla</i>	'banana flower'	Dz. <i>ɓom</i>			
<i>sitmela</i>	'madder'	Dz. <i>tsø</i>	Krt. <i>tsʰut</i>		
<i>to:li</i>	'okra'	Dz. <i>ólɛ tʃʰoto</i>	Krt. <i>óla cʰoto</i>		
<i>ŋoʔjoŋ</i>	'cucumber'	Dz. <i>ɣøntʃu</i>	Krt. <i>kewɛn</i>		
<i>'pandala</i>	'eggplant'	Dz. <i>dolom</i>	Krt. <i>dolom</i>	<i>bantʰo</i>	
<i>'kafalo</i>	'chili'	Dz. <i>éme</i>	Krt. <i>bɛnggɛɛ</i>	<i>solu</i>	
<i>keɲʃaŋ</i>	'pumpkin'	Dz. <i>kekuru</i>	Krt. <i>brumɕɛ</i>	<i>brumɕa</i>	* <i>ma:y</i>
<i>kombula</i>	'finger millet' ( <i>Eleusine coracane</i> )	Dz. <i>kʰe:</i>	Krt. <i>tʰe</i>	<i>jaɲra</i>	
<i>dombu</i>	'maize'	Dz. <i>gæzɛ</i>	Krt. <i>bɛkɕʰukpɛ</i>	<i>teɲma / aɛam</i>	
<i>ʔamet</i>	'Foxtail millet' ( <i>Setaria italica</i> )	Dz. <i>ptʰɛm</i>	Krt. <i>rɛm</i>		

**4.4 Local plants** The final lexical domain considered in this article is the wild plants which are harvested and used by the 'Olekha-speaking community. Presented here is only a limited set of data. We are unaware of any terms in other Bhutanese languages for these plants, and as such we do not present any comparative data. Speakers did not have separate terms for these in Dzongkha, but Dzongkha speakers from other regions had never heard of these plants. Our working assumption is that other groups in Bhutan do not (or no longer) make use of these plants.

The *duŋtoŋla* (Figure 3a) plant grows in the jungles surrounding Rukha. The stem can be harvested for food, but for at least some people makes the mouth itch. The main artery is used in making brooms. The leaves of the *doka* plant (Figure 3b) are useful in wrapping butter for storage and transport, but otherwise it is of little use, though speakers do appreciate its flowers. *Damburu* (Figure 3c) leaves are harvested to be used in cooking; they are added to curries to improve taste. The plant with the spinach-like leaves, *sxoŋla* (Figure 3d), is also used in cooking and added to curries to improve taste. The final plant, *dokili* (Figure 3e), is fed to pigs.



**Figure 3.** Plant species: (a) *duŋtoŋla*, (b) *doka*, (c) *damburu*, (d) *sxoŋla*, and (e) *dokili*

**5. Interpretations** Although the data is set is small, we can make some observations about the role of borrowing in the 'Olekha lexicon. Figure 4 summarizes the source of the 'Olekha lexical items considered in this study, coding whether forms are indigenous or borrowed from Tibetic or East Bodish. Where words have no similarity with other languages, I assume they are indigenous. If words look similar to an East Bodish language but not to Dzongkha, I assume they have been borrowed from an East Bodish language. If words look similar to Dzongkha but not to an East Bodish language, I assume they have been borrowed from Dzongkha. If words look similar to both languages, I assume they have been borrowed but am not confident

of the source.<sup>12</sup> It is possible the 'indigenous' words have indeed been borrowed but the source is not known. However, this seems unlikely and, in any case, the fact that they have not been borrowed from a (modern) mainstream Bhutanese language does set them apart from the other words. It is also possible that the 'borrowed' words are simply due to native speakers forgetting the local word and replacing it with a Dzongkha counterpart. This is perhaps more plausible, though given that words were cross-checked with different speakers, it would mean that all speakers consulted had forgotten a local word for these items. This in itself would also be an interesting fact as well as an important distinction between those words which have been labeled as 'indigenous.'

Tshangla appears to have played no role in the development of the 'Olekha lexicon. Given the relative geographic distance of this speech community from the region where 'Olekha is spoken, this is not surprising.

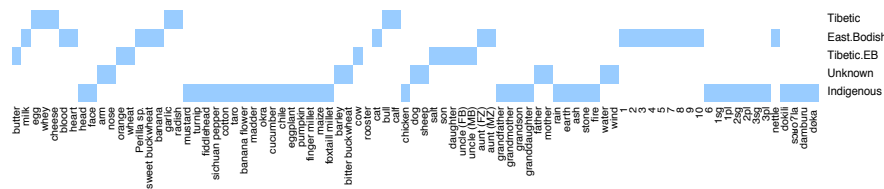


Figure 4. Source of 'Olekha lexicon

We see that numerals are East Bodish, with the exception of 'six,' which is indigenous. Other words from East Bodish are 'milk,' 'blood,' 'heart,' *Perilla Sp.*, 'sweet buckwheat,' 'banana,' 'nettle,' 'cat,' and 'aunt' (from both sides of the family). Borrowings which are clearly Tibetic (most likely from Dzongkha) are 'egg,' 'whey,' 'cheese,' 'garlic,' 'radish,' 'bull,' and 'calf.' There is a subset of words which are probably borrowed, though it is not clear whether the source is Tibetic or East Bodish, since forms for both groups are similar. It is possible that the source language is East Bodish and Tibetic has borrowed the form; it is possible that the source language is Tibetic and the form has been borrowed into East Bodish; or it is possible that the form belongs to a parent language shared by both Tibetic and East Bodish. Whatever the ultimate origin, these words have likely been borrowed into 'Olekha. The words that belong to this group are 'milk,' 'wheat,' 'orange,' 'cow,' 'uncle' (both sides), 'son,' 'daughter,' and 'salt.' Words whose origin is not certain are 'nose,' 'arm,' 'wind,' 'water,' 'mother,' 'father,' 'dog,' 'sheep,' 'barley,' and 'bitter buckwheat.' Finally, words of clearly indigenous origin are the numeral 'six,' the pronouns, 'head,' 'face,' 'rain,' 'earth,' 'ash,' 'stone,' 'fire,' 'grandfather,' 'grandmother,' 'grandson,' 'granddaughter,' and 'chicken;' a wide range of domesticated crops such as 'mustard,' 'cotton,' 'eggplant,' and 'foxtail millet,' to name just a few; and all foraged plants.

Turning to the form of the words in these different groups, we can make a few interesting observations about their phonologies. Words that have been borrowed

<sup>12</sup>Of course, the ideal methodology here would involve an understanding of historical phonology versus contact phonology. However, we do not yet have enough data—nor enough reliable Proto Tibeto-Burman reconstructions—to be confident.

and words for which the source of the word is unknown present sounds that are typical for other languages of Bhutan, such as cardinal vowels or front-rounded vowels; voiced, aspirated, and voiceless stops at several places of articulation; and voiced and voiceless fricatives. Words that are clearly indigenous have two remarkable features. First, the central vowel /ɤ/ is found only in words which are not borrowed (such as 'chicken'). Second, the uvular fricative is also only found in indigenous words (e.g., *sɔʁoʔla*). There are other observations as well, such as a tendency for more indigenous words to have glottal stops and non-initial stress. However, these features are not found exclusively in non-native words.

**6. Conclusions** 'Olekha is a highly endangered language that has a unique history in Bhutan. Very little is known about the language, the ethnography, or the social history of the people. We are unlikely to learn much more in the future due to the near-extinct state of the language. However, by examining different domains of the language, especially in collaboration with a botanist who can help with identification and help guide relevant elicitation and data collection, we can maximize our efforts to understand the social history of the people who speak 'Olekha. Although this paper (necessarily) presents minimal data, I argue the results are intriguing and indicative that such a methodology could prove useful in the future.

Specifically, we have examined data from different semantic domains (such as kinship, the natural world, numerals, domesticated and wild plants and animals) and considered it in both comparative and phonological contexts. When we compare the 'Olekha data with neighboring languages we can identify a group of words which are obviously indigenous and separate these from a group of words which have probably been borrowed from neighboring languages. The words which are likely borrowings include numerals (except six), 'aunt' and 'uncle' (from both sides), 'daughter,' 'son,' 'bull,' 'calf,' 'cat,' 'garlic,' 'banana,' 'sweet buckwheat,' *Perilla sp.*, 'wheat,' 'orange,' 'heart,' 'blood,' 'cheese,' 'whey,' 'egg,' 'milk,' and 'butter.' Following the inferences set forth in linguistic paleontology, we might assume that many of these concepts have been introduced from neighboring communities, especially those which refer to agricultural economy. Eventually, we may be able to definitely identify the source of these borrowings, as well as evidence that may help us identify different layers of borrowings.

Obviously, however, not all the borrowed words would directly represent an acquired or adapted technology, since the people who speak 'Olekha would have had indigenous ways to discuss sons, daughters, and various body parts. The indigenous words tend to be pronouns and lexical items that reference domesticated (e.g., foxtail millet, finger millet, maize, pumpkin, chili, eggplant, and many others) and foraged crops. It should be noted that some of these domesticated crops are recent to Bhutan; chili and maize, for example, being crops from the Americas, could not have been in Bhutan for more than 500 years. It is interesting that in these cases 'Olekha speakers have used their own words for these crops rather than borrow a term from a neighboring language. Indigenous words also belong to domains such as kinship

(grandparents and grandchildren) and natural world ('fire' and 'stone,' for example), as would be expected.

When we considered the phonology of the words in these different domains we notice intriguing differences. Notably, the central vowel /ɤ/ is absent in borrowed words but present in native words. The fact that this phoneme is not reported in the other languages considered in this study seems to fit with the notion that it is indigenous to 'Olekha and therefore unlikely to occur in borrowed words. The other sound present only in indigenous words was the uvular fricative /ɣ/, also not found in other languages considered in this study. If we were to consider the different lexical domains together and without regard to comparison with other languages we might miss this interesting observation. More importantly, if we had ignored foraged plants (as one tends to do when working without a botanist collaborator), we would have missed the uvular fricative entirely. These different domains of language and language use, it thus seems, have much to tell us about the social history of people who speak these languages; as such, collaborations with experts in related fields should be encouraged when possible.

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### Abbreviations

1	First person
2	Second person
3	Third person
AGR	Agreement
ANIM	Animate
CL	Classifier
COMP	Comparison
DIST	Distal
Dkp.	Dakpa
Dz.	Dzongkha
ERG	Ergative
f	Feminine
FEM	Feminine
Krt.	Kurtöp
IMP	Imperative
LOC	Locative
m	Masculine
MASC	Masculine
NF	Non-final
NMZ	Nominalizer
PROG	Progressive
WT	Written Tibetan



## Appendix: Grammatical and lexical sketch

### Personal Pronouns

	Singular	Plural
1	<i>kø</i>	<i>anɔk</i>
2	<i>iŋ</i>	<i>iŋnɔk</i>
3	<i>hoʔma</i> (m); <i>hoʔme</i> (f)	<i>hoʔoŋ</i>

**Noun phrases** Adjectives follow nouns; classifiers precede numbers and follow nouns; but it is not clear what the order of the adjective is with respect to the classifier/numeral. Classifiers are required when counting. The form *goŋ* is used for animate entities while *o* is used for inanimates.

- (1) *phɔ*      *kokʃala*  
       monkey red  
       ‘red monkey’
- (2) *phɔ*      *goŋ-dek*  
       monkey CL:ANIM-one  
       ‘one monkey’

### Case markers

- =*si*            ‘ERGATIVE’  
 =*ŋa*           ‘LOCATIVE’  
 =*gi*           ‘GENITIVE’ (also perhaps recorded =*kw*; =*gi* is almost certainly borrowed from Dzongkha recently)

- (3) *hoʔme=si* *hoʔme=ŋa* *bo-he-go*  
       3.FEM=ERG 3.FEM=LOC give-PROG-AGR.3  
       ‘She is giving her (something)’

### Comparison

- NP.STD COMP NP ADJ (COP), where (it appears) the marker of comparison agrees with the standard of comparison. It is not clear the extent to which the copula is really optional. Note that an alternate analysis would be that what I am calling ‘adjective’ here may in fact be a verb, so that comparison could be achieved by either an adjective plus copula or a verb.
- (4) *hoʔma wadi* *tuʔm bɔmbo*  
       3.MASC COMP DIST big  
       ‘That one is bigger than him’

- (5) kʰga-ɔmʌ wadi kaga picika tekʌ  
 chicken-female COMP chicken small COP  
 'The chicken is smaller than the hen'
- (6) kʌ wokŋa kuŋga ɔmbo  
 1 COMP Kuenga big  
 'Kuenga is bigger than me'

### Copulas

- *nek*

- Translates into Dzongkha *dû* (existential); perhaps borrowed from Proto East Bodish \**nak* 'to be at' (> existential copula in several languages)

- *neka* (used for first person)

- (7) kʌ ɔmbala nekŋa  
 1 big COP  
 'I am big'

- *neku* (used for non-first person)

- (8) hoʔme ɔmbala neku  
 3.FEM big COP  
 'She is big'

- *teku* (used for non-first person)

- Translates into Dzongkha *'immä* (mirative equational)

- (9) hoʔme picika tekʌ  
 3.FEM BIG COP  
 'She is small'

- *da*

- Translates into Dzongkha *'ing* (equational); used with nominalizer in forming future (a construction found widely in Bhutan)

- (10) kʌ ɖubo da  
 1 Bhutanese COP  
 'I am Bhutanese'

- (11) kʌ é-ŋam da  
 1 slice-NMZ COP  
 'I am going to slice'

## The verb

- neg-stem-aspect-agreement

## Perfective aspect

- There are at least four perfective suffixes:
  - *-nindo, -ninda, -nina*
  - *-leŋa, -laŋ*
  - *-coŋa* (1), *-coŋgo* (2, 3)
  - *-dindu*
- Imperfective/progressive verbal aspect is indicated by *-k<sup>be</sup>~t<sup>be</sup>-p<sup>be</sup>-be*, with the final consonant of the verb conditioning the allomorph (assimilation to place, with *-be* being used if the verb stem ends in a vowel):

<i>kø se<sup>b</sup>eng</i>	'I am dying'
<i>kø m<sup>ɔ</sup>kk<sup>b</sup>eng</i>	'I am looking'
<i>kø boŋk<sup>b</sup>eng</i>	'I am staying'
<i>kø tha<sup>n</sup>t<sup>b</sup>eng</i>	'I am pulling'
<i>kø sy<sup>t</sup>t<sup>b</sup>eng</i>	'I am killing'
<i>kø cu<sup>p</sup>p<sup>b</sup>eng</i>	'I am flying'
<i>kø ko<sup>l</sup>om si<sup>m</sup>p<sup>b</sup>eng</i>	'I am closing the door'

- Future tense is encoded by *-ŋam da*, translated as *-ni 'ing* (infinitive + copula) in Dzongkha. It is therefore possible that *-ŋam* is a nominalizer and *da* is a copula, at least diachronically if not synchronically. The initial consonant of *-ngam* assimilates to the place of articulation of the preceding consonant:

<i>kø la:ŋamda</i>	'I will come'
<i>kø m<sup>ɔ</sup>kŋamda</i>	'I will look'
<i>kø ɕeŋŋamda</i>	'I will say'
<i>kø cu<sup>p</sup>mamda</i>	'I will fly'
<i>kø sy<sup>t</sup>namda</i>	'I will kill'
<i>kø ko<sup>l</sup>m si<sup>m</sup>mamda</i>	'I will close the door'

## Person

- First person A/S is encoded in the verb with the suffix *-ŋ(a)*. Third person is encoded in the verb with the suffix *-ga* (which is *-go* for the younger speaker).
- The clearest example comes from the imperfective/progressive:

<i>kø la:beŋa</i>	'I am coming'
<i>bo<sup>?</sup>ma la:bega</i>	'He is coming'

- There is also evidence for the difference to be encoded in copulas:

(12) *kø bɔmbala nakŋa*  
 1 big COP  
 'I am big'

(13) *iŋ bɔmbala nakga*  
 2 big COP  
 'You are big'

### Verb stems

- Some 'Ole verbs evidence stem alternations. For example: *ba~bu* 'give' and *za~ca~zu~zy* 'eat'.

(14) *hoʔme=si kø=ŋa ba-he-ya*  
 3=ERG 1=LOC give-PROG-??  
 'she is giving it to me'

(15) *bujonje*  
 give.IMP  
 'give!'

(16) *ma-za*  
 NEG-eat  
 'didn't eat'

(17) *zyninde*  
 'have you eaten?'

(18) *zu-lo*  
 eat-IMP  
 'eat!'

### Other

- *-sa* appears to be a non-final marker, used in clause-chaining:

(19) *çonj-sa gø-lago*  
 run-NF go-??  
 'ran away'

### Lexicon

#### Nouns:

<i>minonj</i>	'people'	<i>ŋɔk</i>	'language'
<i>ósa</i>	'clothing'	<i>ça</i>	'meat'
<i>cydola</i>	'dough'	<i>cø</i>	'water'
<i>tʰabak</i>	'earth'	<i>pibi</i>	'flour/powder'
<i>mi:</i>	'house'	<i>conba</i>	'seedling'

<i>søn</i>	'seed'	<i>toksi</i>	'hoe'
<i>zobiŋ</i>	'sickle'	<i>zabalo</i>	'food'
<i>ʃp</i>	'tea'	<i>yɔpʰok</i>	'bone'
<i>pe:</i>	'head'	<i>guluŋ</i>	'hair'
<i>ʃu</i>	'milk'	<i>seŋ</i>	'tree'
<i>lɔk</i>	'hand/arm'	<i>tibila</i>	'smoke'
<i>tokpʰi</i>	'rope'	<i>ámik</i>	'fire'
<i>tɔ</i>	'cooked rice'	<i>jeŋ</i>	'hole'
<i>peloŋ</i>	'forehead'	<i>ʃaba</i>	'lips'
<i>ná</i>	'nose'	<i>mokʃoŋ</i>	'cheek'
<i>nágidō</i>	'nostril'	<i>á</i>	'tooth'
<i>lí</i>	'tongue'	<i>kʰaba</i>	'mouth'
<i>ʃorok</i>	'beard'	<i>mik</i>	'eye'
<i>mamcuk</i>	'chin'	<i>ék</i>	'face'
<i>nokʰo</i>	'front of neck'	<i>loduŋ</i>	'Adam's apple'
<i>tagok</i>	'back of neck'	<i>náktar</i>	'ear'
<i>koŋba</i>	'shoulder'	<i>áŋdek</i>	'grinder'
<i>dzumo</i>	'fingernail'	<i>theɸja</i>	'thumb'
<i>pʰepuŋ</i>	'body hair'	<i>kili</i>	'elbow'
<i>zom</i>	'unhusked rice'	<i>kɔge</i>	'village'
<i>suma</i>	'straw'	<i>cokçi</i>	'pole to tie animal to'
<i>coŋ</i>	'thrashed rice'	<i>lébik</i>	'edible leaf'
<i>wu</i>	'bamboo mat'	<i>soŋbiŋ</i>	'large wooden mortar'
<i>can</i>	'flattened grain'	<i>zɔ</i>	'puffed rice'
<i>gohe</i>	'betel nut'	<i>lim</i>	'money'
<i>se</i>	'alcohol'	<i>loŋ</i>	'stone'
<i>léle</i>	'goat'	<i>pɔk</i>	'pig'
<i>kiçikma</i>	'flea'	<i>simpa?</i>	'tick'
<i>sek</i>	'lice'	<i>sekcy</i>	'nit'
<i>woŋ</i>	'pipsa fly'	<i>wor(a)ma?</i>	'fly'
<i>ʃepja</i>	'black fly'	<i>baɸcem</i>	'spider'
<i>pemeka</i>	'ant'	<i>tekçila</i>	'squirrel'
<i>pat</i>	'leech'	<i>cɔ:bela</i>	'leopard cat'
<i>kola</i>	'eagle'	<i>køca</i>	'brother-in-law (wife's brother)'
<i>moga</i>	'husband'	<i>áksang</i>	'belt'
<i>den</i>	'mat'	<i>netʰok</i>	'pillow'
<i>te:gila</i>	'ladder'	<i>tambek</i>	'veranda'
<i>lê</i>	'mountain'	<i>luŋba</i>	'valley'

## Numerals:

<i>dek</i>	'one'
<i>nø</i>	'two'
<i>sam</i>	'three'
<i>blø ~ bølø</i>	'four'
<i>lɔŋ</i>	'five'
<i>wok</i>	'six'
<i>ɲi</i>	'seven'
<i>ʃit</i>	'eight'
<i>dogɔ</i>	'nine'
<i>c<sup>h</sup>e</i>	'ten'

## Demonstratives:

<i>mɔ</i>	'down there'
<i>jɔ</i>	'up there'
<i>tɔ</i>	'over there'

## Adjectives:

<i>picika</i>	'small'
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## Verbs:

<i>nɔ</i>	'hurt'	<i>la:</i>	'come'	<i>gø</i>	'go'	<i>k<sup>h</sup>o</i>	'bend down'
<i>boŋ</i>	'stay/sit'	<i>éŋ</i>	'say'	<i>tok</i>	'grind'	<i>zaŋ</i>	'listen'
<i>mɔk</i>	'look'	<i>ɕoŋ</i>	'run'	<i>se</i>	'die'	<i>za</i>	'eat'
<i>pø</i>	'sleep'	<i>syt</i>	'kill'	<i>sat</i>	'stand up'	<i>toŋ</i>	'drink'
<i>cang</i>	'jump'	<i>ro</i>	'chase'				

## Adverbs:

<i>zepa</i>	'slowly'
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## Time adverbials:

<i>dirik</i>	'today'	<i>daje?</i>	'yesterday'
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## Question words:

<i>gaija</i>	'where'	<i>ádetla</i>	'what'	<i>kapmi</i>	'who'
<i>gɔst</i>	'how much'				