Nepalese Linguistics

CONTENTS

LITERARY TRANSLATION AS REGENERATION OF TEXTS

Bal Ram Adhikari

Interpretation and regeneration of a text are the two facets of translation. This article explores the generative facet of translating a literary text. It draws commonalities and differences between literary writing and literary translation while exploring the linguistic dimensions of creativity manifested in the generation of a translated text.

Keywords: Regeneration, reproduction, transcreation, permutation, weaving

1 Background

Reading and writing are the two complementary strands of translation which are intertwined with each other in a spiral way. That is, translation amounts to the double helix of reading and writing. Reading in translation is primarily an act of interpreting a source text. Interpretation, according to Ricoeur (1976), is the totality of guessing, understanding, and comprehending a text at different levels of reading with different purposes and the corresponding degrees of intensity. By principle, reading is source-text oriented. The translator as a reader reads and re-reads the text to extract the meanings.

Reading feeds into writing in translation. Writing has to do with the regeneration of a target text based on the strength of interpretation. By principle, regeneration is target language oriented. The translator as a writer prewrites, writes and rewrites what he/she has interpreted from the source text. In practice, writing in its rudimentary form begins from the first reading of the source text itself and reading continues in the writing process of the target text too. That is, reading and writing form the complementary processes of translation, one contributing to the other. By implication, translation has its life in the duality of reading and writing. In this article I approach translation of literary texts from the vantage of writing.

2 Translation as (re)generation of texts

Writing is a generative and regenerative process. A writer relies on varied resources which can be broadly categorized as the intangible and the tangible. Linguistic signs, literary devices, cultural concepts, and the writer's semantic and encyclopedic knowledge at his/her disposal amount to the intangible resources while the texts already in existence are the tangible resources. By nature, such resources are limited but the potential number of texts generated from them is unlimited. That is, writing becomes the process of transforming the limited and the finite into the unlimited, and the infinite. The act of writing turns out to be a text-generating process and the writer acts as its controller, manipulator or (re)generator.

Writing as a generative process brings noble texts into existence. To use an organic metaphor, writing procreates a text conceived in the mind of the writer. The text conceived by the writer and awaiting for its birth is called internal creative text (Singh, 2010, p. 6). Each act of writing is *re*generative at the same time. No text is unique nor does it match with any other texts in its entirety. No text is unique because it is generated from the semiotic and experiential resources shared by other writers too. The writer thus originates the text not "the work of signification" (Venuti, 1995, p.18). Here, by signification Venuti (1995) means linguistic and cultural resources employed for communication. To extend this argument further, the writer recycles the materials to regenerate what has already been generated by other writers. Conversely, no text is imitative in its entirety, since every text is different from the one that came before it (Paz, 1971, p.154). Paz's (1971) postulation implies that each text is unique because it has its own distinctive character.

Translation shares the core features of generative process inherent in writing. The translator as a

writer regenerates a text based on his/her reading of the source text. Like a writer, the translator manipulates the linguistic, cultural and experiential resources already manipulated by other text producers. Like any piece of writing, a translated text is unique and repetitive at the same time. Each translation is unique in that it does not resemble any text in its entirety produced before or being produced at the same time in any other languages. Like any act of writing, translation writing is generative and regenerative. It is generative because the number of translations that can be produced from a single source text is unlimited. It is regenerative because the translator generates a text in a different language based on the already-generated text. Conversely, it is derivative because translation in its essence presupposes the presence of a text in a different language on which the translator relies.

In spite of the shared commonalities, translation writing differs from source language writing in some respects. The source text writer is free to make use of varied textual and non-textual resources. The form and content of the source text is determined by the single agent, the writer. The writer enjoys the liberty in the manipulation of textual resources. By contrast, translation writing is reworking on the single textual resource of meaning and form. The content and context of the text are already fixed. There are two conspicuous agents i.e. writer and translator involved in the production of a translated text. Furthermore, the translation writer is bound to manipulate the textual resources judiciously. The constraint in the manipulation of textual resources is conspicuously noticeable in translation writing. The constraint experienced by the translation writer is aptly observed by Mukherjee as the translator "cannot subtract from the original, and he adds only at great peril (1994, 138). To stress out the differences between original writing and translation writing, I quote from my Translatorial:

> While writing, I'm monolingual, mono-cultural, unidirectional, and most of all I am confined to a single pragmatic compass, whereas while translating, I am acting to be overtly bilingual, bi-cultural, […], two-directional and more importantly I try to transcend the single pragmatic world to enter another one, which is often alien to my language and culture. (2011, p.55)

The point being made is that, despite its being akin to source text writing, translation writing is more challenging, more expansive, more conscious and more responsible than the former. Benjamin argues that "no poem is intended for the reader, no picture for the beholder, no symphony for the listener" (1923, p. 15). Should we follow Benjamin's Romanticist postulation, literary writing is atelic for its lack of clearly articulated purpose, and clearly defined target group, while literary translation by its very nature is telic for its transmitting function? By implication, translation writing is the act of converting the atelic into the telic.

2.1 Translation as regeneration

Translation is a regenerative process whereby a text in one language is replaced by a text in another language. It is a process whereby a new text is formed or created; the process whereby the old text is revitalized in another language. A text undergoes physical and spiritual renewal or invigoration through translation. It is a process of breathing a new life to the text that is transplanted into different linguistic and cultural environs.

A translated text is left dead and stranded in the target language when the translator fails to transfuse a new life into the text. The failure is often attributed to the mechanical reproduction of the source text in the target language. The mechanically-motivated translation writer attempts to rewrite the text as it is given in the source language. The text thus reproduced is dictated by words and the mechanics of the source text such as word order, and organization of the text at the micro- as well as macro-levels. The translation writer who slavishly follows the linearity of the source text might mar the readability and fluidity of the target text. Such translation writers get stuck in the phase of literal translation and their translation gets weighed down with the source language elements whose presence often breaches syntactic conventions of the target language. Their failure to demonstrate the use of creative license confines their role to the rewriter rather than the re-creator of a text. The following translation, for instance, typifies the mechanical reproduction of the source text:

(1) Nepali:
  ʌglɪ kʌd rʌ ʌnuharma cʌmʌk bokekɪ, seto
  kʌpal tʌrʌ ākhama gajʌl lʌgaekɪ benʈe hamɪl
  aɪ lɪnʌ ghʌra bahɪr ʌ nɪskɪn.

  [Pradhan, 2017]

English Translation:

A tall statured and dazzling faced, with white hair but kajal decorated eyed Bente came out from her home to welcome us

The source version in Nepali is extracted from a memoir by Gauri Pradhan published in a national daily. Its English version by a novice translator typifies a mechanical reproduction. It is dominated by the syntax and mechanics of the Nepali source version. Consequently, the mechanically reproduced literal translation is unnatural and is almost unacceptable. A several reasons can be traced for its failure to speak the source meaning to the target reader. Word-for-word linear reproduction is one of them. The translator, for instance, has literally reproduced a complex premodifier describing the girl named Bente. In the source text the pre-modifier consists of four adjective phrases which have been reproduced in English intact. The imposition of word order of the source language on the target has rendered the translation linguistically unacceptable, since "stacks of more than three adjectives rarely occur in English" (Cowen, 2008, p. 238). In Nepali, by contrast, the stacking of as many as eight specifiers is natural (Adhikari, 1993). It implies that what is syntactically natural in the source language might not be so in the target language.

Literal translation of this kind can be accepted but as a transitional stage, which falls between the stages– word-for-word transfer and literary craftsmanship. Literal transfer is referential which ensures accuracy of factual information as encoded in the source words and its syntax. The translator writer needs to transcend the rudimentary draft in order to arrive at the literary craftsmanship–the stylistic adjustment of the source text in the target language. The craftsmanship has to do with the syntactic acceptability and stylistic manipulation of the text. The translated text should be syntactically acceptable in target language and stylistically appealing to the target readers. This requires the translator of making obligatory adjustment in the structure and judicious manipulation of words and structures so as to achieve stylistic smoothness in the text. The following English version of the same text instances the translator's awareness of syntactic acceptability in English and stylistic appeal to the readers:

(2) There turned up a tall lady with white hair, kajal in her eyes. She was Bente, who welcomed us with her beaming smile.

The second version by a professional translator typifies the regeneration of a text as a creative process. The text has been rewritten according to the target grammar and its discourse conventions. There is linearity to reflect fidelity to the source text but not at the cost of readability and fluidity of the translated text. This translation is literary, not literal. The presence of source syntactic construction in the target text is minimized. However, such minimization applies to syntax only. The presence of source cultural elements encoded in the source text is to be ensured in the target text. In this regard the translator has judiciously applied his creative license. His role in effect is that of a re-creator rather than a rewriter.

2.2 Translation creativity

Creativity largely remains a mystery for us. Probing into the nature of creativity, Sternberg (2006) resorts to Guilford and Torrance, who take "divergent thinking as the basis of creativity"(p.87). Sternberg adds dimensions of practicality and contextuality to the divergence in his search for the balance between novelty and acceptability in a creative work. Divergence in creative thinking is considered novelty in expression which has to be acceptable. For Bayer-Hohenwarter (2011) creativity constitutes both novelty and acceptability. The criterion of acceptability, however, might put our notion of creativity in trouble, because what is acceptable for one person or a group might not be acceptable for others.

Creativity is not monolithic. At least three phases of it in general can be discerned: perception, imagination, and production. First and foremost, creativity is a matter of perception which can be termed as "creative perception" (Adhikari, 2014). This notion of creativity resonates with Singh's postulation that creativity is "a point of view to look at the world which is already in existence,

and defining it in new permutations and combinations (2010, p.46). That is, creativity has its roots in our ability to perceive the text not only differently but also in a novel way. In the case of translation, imagination, the second phase of creativity, stands for the process of creating images out of what we have perceived through reading and listening. Finally, production i.e. the execution of imagination is the presentation of the images in the linguistic forms. In doing so, the writer/translator searches for the most fitting words for images. Singh points out that translation is creative and dynamic in every respect i.e. these three facets of creativity are conspicuously at work in translation.

For Wilss (1994) translation is creative mainly at the linguistic level. Wilss's postulation is that "strictly speaking, translation is not a creative, but rather a creative linguistic activity" (1994, p. 4750). By linguistic creativity, Wilss means the novelty in the manipulation of linguistic resources in order to convey the source text content in the target text. Wilss further notes that translation is not a *creatio ex nihilo* i.e. a translated text is never created in the textual vacuum. Rather, translation is a *creation ex materia* i.e. a translated text is always created out of a fixed textual material.

Translation writer's creativity is thus more constrained than that of the source writer. Translation writing akin to source text writing is an inventive textual process. However, the translator is bound to demonstrate his/her inventiveness within the captivity of the given text. By implication, "translation turns out to be an act of creativity within captivity" (Adhikari, 2011, p. 57). Translation creativity is more challenging and at times more frustrating than source writing creativity because the space available for the translation writer is severely limited. And, it is more risky and demanding to demonstrate one's creative liberty within the constraints.

2.3 Linguistic dimensions of translation creativity

Creativity is both process and product. As a process, creativity is primarily a matter of perception. That is, creativity in translation begins from the translator's reading of the source text itself. The creative reader reads the text imaginatively so as to comprehend meanings not only in the lines but also between and beyond the lines. Comprehending what sentences say is crucial but it is confined to literal meanings only. Reading between lines allows the translator-reader to grasp the contextual or pragmatic meanings. Reading beyond the lines, on the other hand, relates the text to the cultural meanings embedded in the text. The creative reader begins with literal meaning. It is the most explicit and overt which can also be called the solid foundational meaning of the text. To use the architectural metaphors, the text is a building that stands before the readers' eyes; literal meaning is the building's overall design and its foundation whose presence is obvious for a text to come into being; pragmatic meaning is the explicit or implicit purpose that the text aims to serve, the text designer/builder's intention of designing the text in that particular structure; and cultural meaning is the semiotic reading of the text as a whole and its components in relation to its socio-political and historical environs. The creative reader dwells out of the text without losing his/her purchase on the text itself. Creative reading materializes in translation writing. That is to say, the translator's creativity in reading is reflected in different linguistic dimensions of translation as a product. While regenerating the text, the translation writer exhibits his/her creativity in the following levels and dimensions of the text:

2.3.1 Creativity at the lexical level

A creative translator displays creativity by generating different words for a single source word. His use of different yet semantically interrelated words, however, are and should be justified by the context. Before taking this thread of argument further, I cite what Om Charan Shrestha, the Nepali translator of Homer's *Iliad,* writes in the *translatorial* "I have not rendered English expression *he said* as ʊsle bhʌnyo/ʊnle bʌhne (he said) only. Instead, taking into account of the context, I have rendered the expression as ʊnɪ kʌɖkɪe (he shouted), ʊnle prʌtɪ ʊttʌr dɪe (he replied) , ʊnle rʊkho swʌrma jʌwaph dɪe (he replied in a harsh voice) etc." (Shrestha, 1999, pp. 29–30) (my translation)

It is often necessary to generate different words in the TL for the single SL word to bring out the different shades of meanings implied in a word used in different contexts of the same text. Also, the use of many words for the same word is necessary to avoid the repetition in the TL text. The repetition of the same expression in different contexts might read fairly natural in the source text as in the case of the expression *he said* in English version of *Iliad*. Such repetition, however, might mar the naturalness in the target text.

Now let us turn to the choice of words, another lexical dimension of translation creativity. The translator's diction is determined by the nature of the text itself, and the translator's awareness of and sensitivity to the nature of text. It is not so uncommon for the translator to come across two or more TL words for the single SL word which the bilingual dictionaries might treat as synonyms. However, they cannot be used interchangeably in all contexts because of contextual, connotative and emotive meanings they carry along. Such a one-to-many relation between SL and TL terms is known as "translingual lexical ambiguity" (Adhikari, 2004, p. 42). The selection of the contextually most fitting word in the TL calls for the translator's creativity. I present the following translation to concretize this theoretical observation:

Table1: Lexical choice in translation writing

English source	Nepali translation
O Lord, You who can regulate millions of ages And are the unfathomable Creator, Let my creation too exist Till a small fragment of your time. (Govinda Raj Bhattarai)	*he, jʌgʌdɪswʌr, kʌlpʌ kʌlpʌka nɪmayʌk ʌgʌmyʌ jʌgʌtsrʌʂʈa tɪmro ek kʌlpʌbhʌri mero kʌbɪta gunjɪrʌhos yʌs lokma* (Trans. Tek Narayan Dhakal)

At the level of lexical choice, the translator is always open to more than one possibility. Few translators, contrary to this linguistic possibility, see and capitalize on lexically open space existing between and abutting the two languages.

Nevertheless, the translator is bound to decide on one of the possible words only, and the choice of one out of the many is often the call of the text itself. In the above translation, for example, the translator has a choice of using *bhʌgawan*, ɪshwʌr, *jʌgʌdɪswʌr,* and *prʌmatma* for the English word *Lord*; *nɪmayʌk*, *nɪyʌntrʌk,* and *sʌncalʌk* for *regulate*; and *yugʌũ, kʌlpʌ kʌlpʌ, sʌdɪyʌ̃ũ*, etc, for *ages*. Of the available array of lexical possibilities, the translator's choice is inclined to *tatsam* words, i.e. the words borrowed from Sanskrit which read more formal, archaic and tainted with religious contours than the words derived from Nepali and Nepali roots. How does the translator decide on the diction? Pragmatically, one should not afford to be prescriptive while answering the questions related to alternatives and decision-making. However, theoretical and experiential insights tell us that the nature of source text, and the type of the target text readers envisioned by the translator influence the choice of one word over the rest. Moreover, the choice is largely subject to intuitive decision made by the translator.

2.3.2 Creativity at syntactic and textual levels

At a higher level, the translation writer's creativity manifests itself in sentence constructions and the organization of the sentences into a text. For this, the translator employs different creative strategies in the construction of sentences and the organization of the sentences into a text. Of such strategies permutation and combination are the most pertinent ones. That is, the translator presents the existing expressions and sentences of the source text in new permutations and combinations in the target text (Singh, 2010). Permutation and noble combination of linguistic resources are at work within and across the sentences. The creative translator does not aim at replacing "all the SL structural elements by the TL structures" (Lotfipour-Saedi, 1990, p. 394). Lotfipour-Saidi (1990) notes that such a mechanical reproduction of the structures would not always lead to the acceptable and appropriate translation.

The translation writer should, therefore, use his/her creative license to alter sentence constructions to best present the source text meanings in the target text. Such creative

alternations are acceptable so long as they ensure the afterlife of the source text in the target language. Some of the pertinent strategies that can be employed at the textual level are thematicization, cohesion, and paralinguistic features (e.g. punctuation, italicization, capitalization, bold-type letters, use of brackets, parenthetical sentences, etc.). Such strategies are often called for during translation, because it would be unwise to reproduce the texture of the source text in the target text in a linear fashion. The possibility of such linear reproduction of the source text in the target language is an ideal situation that might exist only rarely between the languages which are genetically related and culturally intimate as in the case of Nepali and Hindi languages. Since it is normal for languages to differ in their linguistic rules and conventions of sentential and textual organization, the translator is to be ever ready for altering the order of words in sentences and the order of sentences in the text. I present the following texts to instance how permutation and new combination can be at work in translation:

Table 2: Novelty in sentence and text formation

Nepali	English
ʌkhʌbarko wanʈeɖ kolʌmmam ʌ aphno aʊne dɪnhʌrʊko ʌnʊhar khojɪrʌhechʊ pratyʌk jʊlʊs, sʌbha, bhasʌɳ rʌ nʌya yojʌnaka phaɪlhʌrʊm a paɪla ʈekne adhar khojɪrʌhe chʊ– nʌya bʌjeʈko oʈhma (Bhupi Sherchan)	I am seeking faces of my days to come in the 'Wanted Column' of papers I'm seeking some space to stand in every demonstration, assembly, public gathering and in every pile of files of the fiscal year. (My translation)

This is the first stanza extracted from a poem *mʌdhyanhʌ dɪn rʌ cɪso nɪdra* (Midday and Cold Sleep) by a famed poet Bhupi Sherchan. The comparison reveals the process of permutation that the source text has undergone to yield the target. Permutation is at work within and across the sentence-level expressions. In translation, the

linearity of source text is ruptured and deconstructed. The target text, in effect, is reconstructed with words and sentences in different order. Let's take the first line *ʌkhʌbarko wanʈeɖ kolʌmma,* which, rather than being reproduced linearly as *in the Paper's Wanted Column*, appears in different order as *in 'Wanted Column' of papers*. This permutation and combination is linguistically motivated. A similar motivation is evident in the rendering of *mʌ aphno aʊne dɪnhʌrʊko ʌnʊhar khojɪrʌhec hʊ,* which appears as *I am seeking faces of my days to come* instead of its linearly reproduced form as *I am seeking my coming days' faces*.

At the level of textual organization, sentences or larger chunks of expression are dislocated from the textual frame of the source language. These dislocated sentences find their locations in the target text which are linguistically correct, contextually appropriate and aesthetically appealing. In terms of sequence of lines, the English text has a different structure than the Nepali text. The translator has switched the lines in the target text around. For instance, the source text begins with the second line of the target text. Other lines have also changed their source order and appeared in a different combination.

The dislocation of sentences begins with act of reading itself. That is, the source text begins to fray with the translator's reading. The translation reader vaguely knows how the semantic, pragmatic and cultural threads of the text will reappear in another language. It is the art and skill of the translation writer to weave these threads again in another language to yield a text. The loom of language in which the text is woven is different. The weaver of the text is different in terms of his/her disposition, knowledge, skills, linguistic and cultural backgrounds, and his/her motive for weaving the text, as well as the prospective users of the text. It would be unwise of us to expect the threads of the source text to appear intact in the newly woven text. It is therefore natural that the threads of source text find themselves in different and novel combinations in the target text. Some threads stubbornly entangled with the source syntax, context and culture get ruptured in the process of unraveling the text and are such ruptured threads are left behind. The translator as a creative text

weaver does not regret such loss. Instead, he/she celebrates such lacuna incurred by rupture as a space to execute his/her creativity. The threads are woven in a multitude of possible ways; new ones are added when deemed necessary and old ones are omitted when deemed unnecessary in order to fill in the lacuna and heal the rupture in the text.

The translated text thus woven is genetically linked to the text already in existence in another language. It is, however, not the replica of the old text anymore. It is a different text in a different language in a different culture interacting with a different readership. It is a text having its own life yielded by means of the generative and regenerative process.

3 Conclusion

Translation as writing and rewriting of a text involves the regeneration of the source text matter in a different and often novel textual structure in the target language. Like other modes of writing, translation writing, is an act of generating and regenerating a text by manipulating the available linguistic, cultural and conceptual resources at disposal. The text thus regenerated entails both the old and the new. By implication, the demarcation between original writing and translation writing gets blurred, because all forms of writing constitute some form of translation within a language and across languages and all translations constitute some form of originality. Both source text writing and translation writing are typified by repetition and departure to a greater or lesser degree.

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ACOUSTIC PROFILING AND ITS SCOPE IN AUTOMATED SPEECH TO TEXT AND TEXT TO SPEECH PROCESSING

Saad Ahmad

This paper discusses the scope of acoustic profiling for text to speech and speech to text processing systems. A detailed analysis and identification of such acoustic cues and the range in which the values for such cues vary can go a long way in helping to enable machines to produce naturalistic speech and better speech to text processors.

1 Introduction

Charles Darwin (1872), in his pioneering monograph on the expression of emotions in humans and animals, emphasized the importance of voice as a primary carrier of signals. It allows the hearer to comprehend the emotional state of the speaker. Quite understandably human speech when seen as a complex waveform must contain some elements or parameters. These parameters and their variations are the same values and characteristics of speech sounds which we use to describe a sound wave while doing an acoustic analysis. We can assume that human brain must have an archive of information about different ranges corresponding to the respective emotional state. It can quite safely be assumed that if we wish to develop a machine which can take us closer to the goal of producing naturalistic speech, we must be able to teach the machine to utilize this detailed acoustic knowledge on how a sound wave modulates when a speaker's emotion changes from neutral to a certain emotional state. Besides emotional speech synthesis, such a level of competence will be very useful for text to speech and speech to text processing systems. It also holds great potential for spoken dialogue management and user interfaces where the user interacts with a machine directly. However, in order to reach such a level of performance we need to identify a reliable acoustic feature set that is largely immune to inter and intra speaker variability in emotion expression. A prerequisite for this is to accumulate knowledge on how

acoustic parameters of speech are modulated when emotion changes from normal to a certain emotional state.

Commonly analyzed acoustic parameters for such a description of emotion in speech have been pitch, duration at phoneme or syllable level, duration of inter-word silence and voiced/unvoiced duration ratio in utterance level, duration of stricture during articulation of obstruents, energy related to the waveform envelop, the formant frequencies (F_1, F_2, F_3) and spectral moment or balance. These are parameters related to speech prosody, vowel articulation and spectral energy distribution.

The paper also highlights the scope that the acoustic profiling of a particular language possesses for text to speech and speech to text processing systems for the production of naturalistic speech in case of a text to speech system and the production of appropriately punctuated text corpus in case of a speech to text processing system. Utterances in English language have been taken for the study.

For the purpose of this paper detailed acoustic information on four emotions (anger, sadness, happiness and neutral) expressed in speech has been taken for analysis. The data analyzed in this study consist of sentences that are suitable, by design, to be uttered with any of the four emotions, i.e., angry, happy, sad, and neutral. I have analyzed the proposed set of temporal and spectral parameters related to speech prosody, vowel articulation and spectral energy distribution as a function of emotion.

As pointed out by various researches (Zuckerman & DeFrank 1979); (Edinger & Patterson 1983) detection of various states of mind also depends upon facial expressions and other paralinguistic cues exhibited by the speaker parallel to the speech utterance or the vocal/verbal cue. However, this paper focuses mostly on the verbal/vocal aspect of the larger phenomenon.

2 Some observations on the acoustic measurements of human emotions

Utterance durations, vowel durations, inter-word silence durations, voiced region durations, duration of maintenance of stricture during production of obstruents and unvoiced region durations etc. were measured. Phonemes uttered per-second was also calculated. It gives the speaking rate. Fig.1a shows the plot of utterance durations for each emotion. Fig 1b shows the fundamental frequency plotted with time. It is clear that sad, angry, and happy etc. have higher median values and greater spread in the utterance duration than neutral.
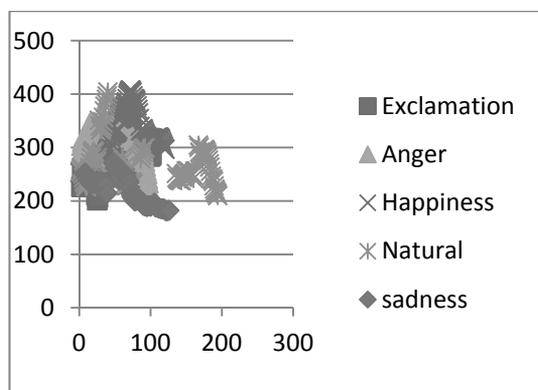

Fig 1a: Utterance duration for emotions

A simple factorial analysis (ANOVA) also indicates that the effect of emotion on utterance duration is somewhat significant.

Upon analysis of the waveforms of the respective utterances it was found that the speaker tends to use more pauses between words with the sad emotion. ANOVA shows that effect of emotion on this durational parameter is also significant.

It was also found that that sad, angry, and happy have greater variability in speaking rate than that of neutral speech. ANOVA showed that effect of emotion on speaking rate is significant. Mean differences in speaking rate are significant among all emotions except between angry and happy emotions. The voiced unvoiced duration is not affected substantially. Upon analysis of the waveforms and also by various statistical methods it has been observed that the length of vowels and the duration of stricture during the utterance of

stops varies greatly with respect to different emotions or state of mind. Variation in vowel length is a very useful marker of emotion in speech. Vowel length all throughout is greater during sadness as compared to neutral speech. Vowel duration for the same sentence spoken with different emotions is given below in the table 1.1. For the sake of simplicity three vowels, one from the initial word of the sentence, one from the medial word and one from the final word has been taken.

Table1.1: Vowel length for different emotions

Emotion	Vowels		
	I:	æ	o
Neutral	0.091	0.136	0.162
Anger	0.112	0.140	0.177
Happiness	0.099	0.111	0.316
Sadness	0.021	0.179	0.217

As can be seen, each emotion has a discernable characteristic manner of variation in vowel lengths of words in different places in a sentence. However, emotions can be separated into two groups. One group comprises the neutral and sadness, and the other includes happiness and anger. Another durational parameter that can be used to ascertain emotions from speech is the duration of stricture during the utterance of consonants. Comparison tests indicate that happiness and neutral do not exhibit a reliable divergence pattern. Sadness is characterized by longer consonant stricture at the word final positions. On the other hand anger is characterized by longer consonant strictures at the word initial positions towards the end of sentences. The F_0 or the fundamental frequency or the pitch of the utterance was studied. In addition, the formant contours of the vowels was also analyzed after the first three formant frequencies of vowels were estimated using the start and end times of each vowel segment.

Table 1.2: F_0 for utterances for different emotions

Emotion	F_0 in Hz
Neutral	228.1851
Anger	314.3234
Happiness	301.4414
Sadness	217.4904

Fig 1b: F_o of utterances with against time

Table 1.2 shows the mean fundamental frequency of a sentence uttered with all the four emotions. Fig 1b shows the variations in F_0 in speech of different emotions. As the figure and the table illustrates, the happy and angry speech has higher F_0 and greater variations as compared to neutral speech. The mean F_0 is lower in sad speech compared to that of neutral speech. It is also observed that anger/happy and sad/neutral show similar F_0 values on average. This suggests that though the mean F_0 is more or less same, the difference exists in the modulation between the two within-group emotions.

3 Scope of acoustic profiling for text to speech and speech to text processing systems

Separate studies for specific languages will have to be conducted in order to come up with the detailed acoustic knowledge characteristic to the particular language which would account for all the variables, the normal range etc. for the phonemes of that language. However, it is not unusual for speakers of one language to speak in a higher pitch as compared to another language. Likewise, one speaker does not speak in the same pitch as another speaker of the same language. In the same manner as does the pitch, other variables also do not have a defined base value true for each speaker and each language. Thus pre programmed machines where information about the acoustic profiles has been already fed into the machine can work at best with text to speech synthesizing machines. For a speech to text synthesizer to be able to tackle this, the machine has to be able to extract information about the base/neutral value of pitch and other respective variables in situ.

3.1 Text to speech processing

A system which takes as input a sequence of words and converts them to speech. Given below is an illustration of the kind of text to speech processing system we aim to achieve. Such a text to speech processor will yield naturalistic mechanized speech. Primarily I will focus on the discussion of the use of acoustic profiling on a text to speech system. However, I would also talk about those systems where such a system may find use and which view naturalistic speech as their ultimate goal.
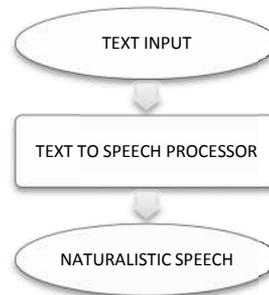
Fig 3a. Text to speech processing

The most important qualities of a speech synthesis system are naturalness and intelligibility. Here, emphasis is on the step called 'addition of prosody'. If the system at this stage is fed with the information about the mapping of emotions on human speech and the acoustic profiling of emotions and to bring those variations onto the sound wave produced by the system it could go a long way in helping to attain the goal of naturalistic mechanised speech. A text to speech system will benefit greatly by this information if it is enabled to recognise the emotion to be mapped onto a particular punctuation mark on the text. For example, if the system is provided with the information that it has to map the excitement emotion or status of mind with the exclamation mark on the text, it will be able to modulate the acoustic parameters of the produced sound wave to suit the exclamation mark if and when it appears in the text. Not only the text to speech systems but this information can help in making better user interfaces and also help in making speaking translator machines.

Fig 3b shows how a concatenative speech synthesizer works.
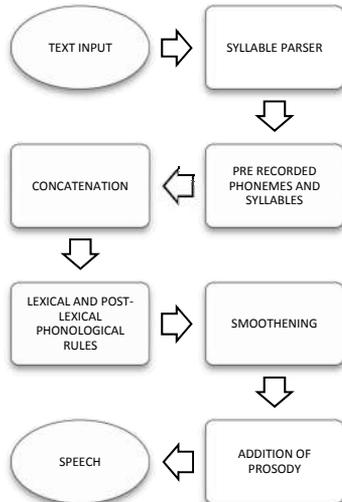

Fig 3b. A concatenative speech synthesizer

3.2 Speech to text processing

A speech to text system takes speech output from human vocal organs and transforms it into text. Fig 3c shows the type of speech to text processor we are aiming at. Such a machine would be able to give an appropriately punctuated text based on its ability to understand the acoustic bearings in human speech. For example based on the pitch modulation the machine would appropriately punctuate a sentence as a question, an exclamation or a simple statement of a fact. Fig 3d shows a theoretical model of a speech to text processor which would have the ability to put appropriate punctuation marks based on acoustic cues.

The most important component of this system is the acoustic profile decoder. The decoder would first undergo calibration for a particular user, to understand and decode the acoustic parameters in his/her speech. After it has formulated the ranges of variations of values for each parameter corresponding to respective states of minds, the machine will be able to function as required. It will then put appropriate punctuation in the text after sentences and individual words forming the sentences have been identified, completing the process.
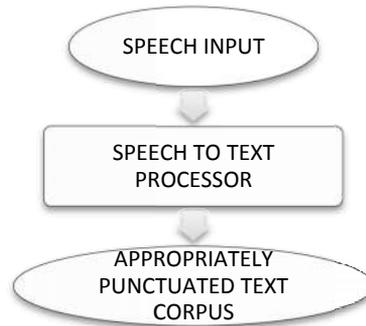
Fig 3c. Speech to text processing
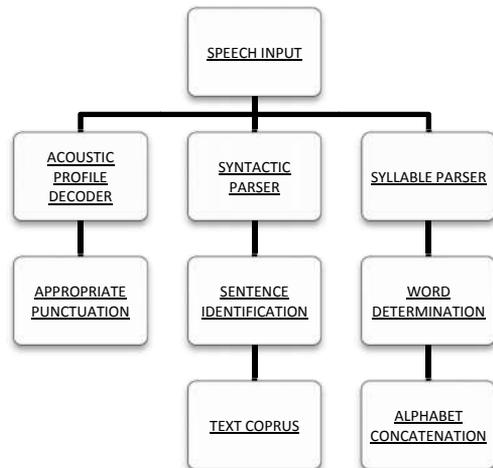
Fig 3d. A concatenative speech to text processor

4 Conclusion

We discussed the scope that acoustic profiling of a particular language possesses for text to speech and speech to text processing systems for the production of naturalistic speech in case of a text to speech system and the production of appropriately punctuated text corpus in case of a speech to text processing system. There are various acoustic cues that a human utterance bears which enables the hearer to ascertain the emotional state and mood of the speaker. Among others, the F_o, the pitch modulation, the relative amplitude of the utterance with other words in the sentence, vowel length, duration of the closure of the stricture while articulating plosives and stops

and other consonants for that matter, etc. are some such acoustic cues to name a few. A detailed analysis and identification of such acoustic cues and the range in which the values for such cues vary can go a long way in helping to enable machines to produce naturalistic speech and better speech to text processors.

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THE STUDY OF GRAMMATICALIZATION OF VERB '*BOLE*' IN BANGLA

Hifzur Rahman Ansary

This paper explores various processes of grammaticalization of verb bole 'to say, speak' in Bangla. It also describes not only the verb bole that combines with other different grammatical categories (Noun (N), Verb (V) and Adjective (Adj)) to create a new kind of meaning in the sentences but also morpho-syntactic in formation of grammaticalization.

1 Introduction

Bangla (also known as Bengali) is typologically an agglutinative language mainly spoken in the Indian sub-continent. It is the national language of Bangladesh and official language (regional official) language of the state West Bengal, Tripura and Assam of the Republic of India. Bangla is spoken in many other states of India and a significant number of populations are in the USA, UK, Singapore, Nepal and several other countries (Gordon 2005). The *bramhi* script used for orthography does not match with the pronunciation in the language. This is because the diacritic markers used for vowel sounds do not have a one to one correspondence to the sounds they represent. For example, the orthography distinguishes between long and short [+HIGH] vowels /i/ and /u/, although the language does not have contrastive vowel length distinction.

2 Concept of grammaticalization[1]

The idea (description and theory) of grammaticalization is in the works of Bopp (1816), Schlegel (1818), Humboldt (1825) and Gabelentz (1891) -- it might even go back as far as Condillac (1746), according to Lehmannn (1982:1) and (Lessau D. A. 1984:417).

The term grammaticalization was apparently introduced by the French linguist Antoine ˚Millet (1912). Jerzy ˚Kurylowicz (1965), expresses the idea of *grammaticality*: "Grammaticalization consists in the increase of the range of morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status, e.g. from a derivative formant to an inflectional one." (˚Kurylowicz [1965] 1975:52). "With the term "grammaticalization" ˚Heine & ˚Reh (1984:15) refer essentially to an evolution whereby linguistic unit loses its semantic complexity, pragmatic significance, syntactic freedom, and phonetic substance, respectively." (Lessau D.A 1984:417).

According to ˚Lehmann (1982:vi) Grammaticalization is a process leading from lexemes to grammatical formatives. A number of semantic, syntactic and phonological processes interact in the grammaticalization of morphemes and of whole constructions. A sign is grammaticalized to the extent that it is devoid of concrete lexical meaning and takes part in obligatory grammatical rules.

Grammaticalization is a historical process, a kind of change that has certain consequences for the morpho-syntactic categories of a language and thus for the grammar of the language. The prototypical consequences of grammaticalization are: (i) Emergence of a new grammatical category; (ii) Loss of an existing grammatical category; (iii) Change in the membership of a grammatical category. All three kinds of change may be historically linked. (˚Lichtenberk 1991:38).

Grammaticalization' refers primarily to the dynamic, unidirectional historical process whereby lexical items in the course of time acquire a new status as grammatical, morpho-syntactic forms, and in the process come to code relations that either were not coded before or were coded differently. (˚Traugott & ˚Konig 1991:189). (Lessau D.A 1984:419)

Lehmann, acknowledging Kurylowicz (1972), says: Under the diachronic aspect, grammaticalization is a process which turns lexemes into grammatical formatives and makes

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[1] Grammaticalization is a historical process, a kind of change that has certain consequences for the morpho-syntactic categories of a language and thus for the grammar of the language.

grammatical formatives still more grammatical (1985:303).

Heine & Kuteva (2002:02) defined grammaticalization as "the development from lexical to grammatical forms and from grammatical to even more grammatical forms. Since the development of grammatical forms is not dependent of the constructions to which they belong, the study of grammaticalization is also concerned with constructions and with even larger discourse segments."

3 Parameters of grammaticalization

According to Heine and Kuteva (2002) there are four interrelated mechanisms of grammaticalization namely: (i) Desemanticization (semantic bleaching-loss in meaning content), (ii) Extension (context generalization- use in new context), (iii) Decategorization (loss in morpho-syntactic properties of lexical forms) and (iv) Erosion (phonetic reduction- loss in phonetic substance).

The basic idea about the notion of grammaticalization is found in the above definitions is that firstly it is viewed and considered as a process (Kurylowicz, 1972; Lehmann, 1982; Traugott & Heine, 1991) that can be studied from both diachronic and synchronic perspectives. Secondly, this term is a very significant process that is applicable to all kinds of linguistic aspects, namely phonology (Booij et al, 1994), morphology or morpho-syntax because it always applies to the grammatical categories that is morphemes or words. Thirdly, it is a unidirectional process; (Kahr, 1976; Campbell, 1991; Ramat, 1992; frajzyngier, 1996; Newmeyer, 1998 and Heine & Kuteva, 2002: 04) that is, it leads from a grammatical to a more grammatical form and constructions but not vice versa as cited in Heine, Bernd, Hunnemeyer F (1991:4).

4 Grammaticalization of *bole* in Bangla

Bangla has a verb *bol-* 'to say, speak' which, in terms of morphology, behaves phonologically in the same way as any other consonant-ending verb of this type (such as kOr-'to do', pOɽ-'to read', lekʰ-'to write' and dekʰ-'to see') would do.

This paper investigates various usages of the verb *bole* in the selected South Asian language-Bangla.

The examples have been taken from the informants of native speakers of West Bengal as well as secondary sources.

The verb *bole (say)* has the following extended usages: Complementizer, quotative, adjectival complementizer, reason marker, purposive marker. it is also used with onomatopoeic expressions, constructions expressing desire, intention and thought. it is used with question word complementizer to express deliberateness too. The adjectival participial form of the verb bolehas the extended usage of introducing, naming and labeling.

It has been claimed that Bangla had borrowed this phenomenon from one of the Dravidian languages (Masica 1991: 402-403 and Bayer 2001). Another possible donor source that has been proposed is the Bodo dialect of Bangla (Chatterjee 1926: III.34).

5 The complementizer

The finite Complementizer in Bangla occurs only when the embedded clause is finite. Notice the following sentences where a complement sentence is introduced by bolein Bangla.

(1)   *o-ke*   *cole*   *ɟa:o*   *bole bole da:o*
he-DEM   go   away   COMP tell give
'Tell him to go'.

The above sentence can be said in the following way too:

(2)   *o-ke*   *cole*   *ɟeṭe*   *bolo*
he-DEM   go   Go-INF   tell

(3)   *ʃi:ṭa:*   *gra:m*   *cʰeɽe*   *cole*   *gecʰe*   *bole*
Sita   village left   go   away   COMP
amar   ɟana   nai
I   known   NEG
'I did not know that Sita had gone to the village'.

(4)   *ʃe aʃ-b-e*   *bole amar biʃʃaʃ*
he come-FUT-AGR COMP I-GEN belief
'My belief (is) that he will come'

The *bole* in in (5) and (6) functions as a complementizer can be shown if the same embedded sentences receive "ɟe" complementizer. The following sentences are parallel to the ones above in all respects:

(5) *amar ɟana nai ɟe ʃiːʈa: graːm cʰeʈe cole gecʰe*
'I did not know that Sita had gone to the village'.

(6) *amar biʃʃaʃ ɟe ʃe aʃbe*
'My belief (is) that he will come'

Let us now consider some further data on Complementizer in Bangla.

(7) *raɟiv   kobe   aʃ-b-e   bole   ami*
Rajiv   when   come-FUT-AGR   COMP   I
ki   ɟani?
what   known
'How do I know when Rajiv will come?'

5.1. *bole* and *ɟe* as complementizers

Bangla has also another complementizer *ɟe* which is similar to *bole* complementizer. The following example is illustrative:

(8) *anweʃa   aʃ-b-e   bole   ami*
Anwesha   come-FUT-AGR   COMP   I
ʃuni   ni
hear   NEG-PERF
'I did not hear (any talk of) Anwesha coming'.

(9) *ami ʃuni   ni   ɟe   jʰilam*
hear-ARG NEG-PERF   COMP   Jhilam
aʃbe
come-FUT-ARG
'I have not heard that Jhilam will come'

When a listener hears (8), he/she does not find that it is suggested that Anwesha will or not come. In case of (9), one would surely conclude that Jhilam would, in fact, come. It is as if bole tends to put the truth-value of its proposition 'within parantheses', while *ɟe* is somewhat more 'factive'.

5.2 As a reason marker

In Bangla *bole* is used to express the reason function just like the complementizers *ani* in Telugu and *anta* in Kannada. *bole* could be used as reason marker and that in all sentences, *tai* 'therefore' could replace it.

(10) *aːpni e-l-en   na   bole /tai*
you came-PAST-AGR   NEG   COMP
amaː-r   kʰub   kʰoti hoje   ɟe-l-o
I-GEN this much   loss   happen   go-PAST-AGR
'I had to bear great loss because you did not come'.

(11) *aːpni bʰalo kore poɽaː-l-en   bole /tai*
you   good with teach-PAST-AGR   COMP
ʃe   bʰalo nambar   pe-l-o
she good marks   score-PAST-AGR
'She could score good marks as you taught her properly'.

(12) *aːɟ   gOrOm   poɽ-ecʰ-e   bole /tai*
today   hot   fall-PERF-AGR   COMP
amra   baire   ɟai   ni
we   outside   go   NEG.PERF
'Because it was hot today, we didn't go outside'.

In Bangla the complementizers *bole* cannot occur as a reason marker with phrase, as the ungrammatical sentence (15) illustrates.

(13) *ḍeri kore   keno   e-l-e?*
late Do   why   come-PAST-AGR
'Why did you come late?'

(14) *briːʃti   holo/poɽ-l-o   bole*
rain   fall-PAST-AGR   because
'Because of rain'

(15) **briːʃti   bole*
rain   because

5.3 As a purposive marker

Here the verb *'bole'* is grammaticalized (or desemanticized) and leaves its own original/real meaning and feature and provides a new interpretation, that is, *Purpose*.

(16) *ekʰane   eʃe-cʰ-i   kaːɟ*
here   come-PERF-AGR   work
kor-b-o   bole
do-FUT-AGR   COMP (in order to)
'I have come here for work.'

(17) *ḍilli   eʃe-cʰ-i   poɽaʃuna*
Delhi   come-PERF-AGR   study
kor-b-o   bole
do-FUT-AGR   COMP (in order to)
'I have come to Delhi for study.'

In Bangla, the complementizer is performing the purposive function. Another point to be mentioned here is that there is an alternate constructions in Bangla in which the postposition *ɟonnyo* (for) and infinitive marker *ʈe* (to) can occur respectively.

(18) *ekʰane ka:ɟer ɟonnjo eʃecʰi-l-am*
　　here　　work-GEN　for　　come-PAST-AGR
　　'I came here to work'

(19) *ekʰane ka:ɟ kor-ʈe eʃecʰi-l-am*
　　here　　work　do-INF　come-PAST-AGR
　　 'I came here to work.'

5.4 As a quotative marker

In a paper, Kachru (1978; later 1979) had already noted that an important function of Bangla *bole*, Oriya *boli*, Dakkhini *bol ke*, Marathi *mhaNuun*, Sinhalese *kiya*, Tamil *enru*, Kannada *endu* and Telugu *enri* was that these could be used as 'quotative' markers in the way *iti* was used in Sanskrit. One important difference between *bole* in Bangla and *iti* in Sanskrit was that the former could not occur freely with one of the verbs of perception, i.e., *dekʰ* 'to see', although it could occur with *ʃun* 'to hear', *ɟan* 'to know' or *bʰab* 'to think'. That is why the following sentence is ungrammatical with *dekh*: (U.N. Singh, 1980)

(20) *a:pni baʈi ɟaccʰen* **bole** *{*dekʰ-l-am}*

　　　　　　　　　　　　　　{ bʰɔb-l-am}

　　　　　　　　　　　　　　{ ʃun-l-am}

　　　　　　　　　　　　　　{ ɟan-l-am }

　　you　　　　house　go-PROG　　COMP
　　see/think/hear/know -PAST-AGR
　　'I thought/heard/came to know/*saw/ (quotative)
　　'You were going to house'

5.5 As a question word complementizer

Complementizer *bole* occurs with a question word in Bangla where the verb has potential to take a complement. The occurrence of bolein such cases however, is optional. The following sentences are illustrative:

(21) *ra:m ki (bole) likʰ-l-o?*
　　Ram　what　COMP　write-PAST-AGR
　　'What did Ram write?'

(22) *ki (bole) bol-l-o*
　　what　COMP　say-PAST-AGR
　　'What did he say?'

5.6 For naming and labeling

bole in Bangla is used for naming and labeling.

(23) *sudʰa: bole mejeʈike*
　　Sudha　named　girl-CLASS-ACC
　　ʈumi ɟano ki?
　　you　　know-PP　what?
　　'Do you know the girl called Sudha?'

Here it should be pointed out that Kachru (1979:67) had already noted that in such construction, *bole* cannot be used for this kind of labeling in general. We quote her example here:

(24) a. *ama-ke ɖiɖi　　　bole ɖak-b-e*
　　　I-OBJ　elder sister　COMP　call-FUT-AGR
　　　'You will address me as elder sister'

　　b. *pracin kal-e　　paʈna paʈliputro*
　　　ancient time-IN　patna　Patliputra
　　　*bole/ name　　poriciʈo chi-l-o
　　　COMP/name-IN　known　be-PAST-AGR
　　　'In ancient times, Patna was known as Patliputra'

5.7 In embedded questions

The participial form of the verb 'say' also occurs in embedded questions as a complementizer in Bangla.

(25) *o-ke kotʰai patʰaʈe ho-b-e*
　　he-DEM　where　send-INF　be-FUT-AGR
　　 bole niscojoʈa nai
　　COMP　sure　　NEG
　　'It is not certain where to send him'

5.8 Onomatopoeic expressions

Bangla, in most of the cases uses "*kore*" in onomatopoeic expressions, where in the occurrence boleresults into ungrammatical sentences the "*kore*" is used instead.

(26) *dhopaʃ kore/*bole ɟore*
　　onomatopoeic　C.P. of 'do'/ C.P. of 'say'　loudly
　　ʃobɖo holo
　　sound　happen-PAST
　　'There was a loud thud.'

(27) *or cokʰ ʈʰeke ʈop ʈop*
　　 her　eyes　from　onomatopoeic
　　kore / *bole　　　　ɟol poʈ-cʰi-l-o
　　C.P. of 'do'/ C.P. of 'say'　water　fall-PROG-PAST-AGR
　　'Tears were coming from her eyes incessantly.'

It is also to be mentioned that in Bangla the occurrence of *bole* is not permitted in some onomatopoeic expressionism. Instead of *bole*

Bangla allows *kore*. The following examples are illustrative:

(28) ɟol   kol kol   *bole/kore
      water onomatopoeic   C.P of 'say'/C.P. of 'do'
      boic ʰe
      flowing
 'Water is flowing with the noise 'kol kol'.

(29) ʈip ʈip   *bole / kore
      Onomatopoeic   C.P. of 'say'/ C.P. of 'do'
      bri ʃʈi   poɽc ʰe
      rain fall-PROG-AGR
      'It's   raining   with   the   noise   'ʈip   ʈip'.

5.9 *bole* as a manner adverb

The manner adverb interpretation in bole comes originally from a Calcutta student's Slang and is fairly common now, especially in the speech of the young Calcuttans. In this case, bole is reduplicated, and it means 'easily'. An example would make it clear:

(30) ei ka: ɟ-ʈa   ami *bole bole*
      this work-CLASS   I   COMP
      par-b-o
      be able-FUT-AGR
      'I will be able to do this work easily'
      (U.N. Singh, 1980)

5.10 *bole* as almost

A very common use of *bole* is that it indicates certainty of the action referred to in the sentence to which it is attached. Here again, boleoccurs sentence finally, and it means 'almost'. For example:

(31) ʃe   e-l-o   bole
      he come-PAST-AGR   almost
      'He's almost come.' (U.N. Singh, 1980)

Interestingly, this *bole* can occur only with a verb in past tense. That is why, in the intended sense, (32) below is unacceptable:

(32) *ʃe   aʃ-cʰ-e / aʃ-b-e   bole
      he come-PRES-AGR/come-FUT-AGR   almost
      *He's almost coming/*He will almost come'

6 Conclusion

We showed that the verb *bole* has various usages in Bangla. The verb *bole* is very productive lexeme in the grammar of Bangla. In the process of grammaticalization, the verb *bole* widely combines with other grammatical categories (Noun & Verb) and produces a new kind of semantic meaning while it loses its natural semantic meaning that is, desemanticization but it maintains and retains its grammatical category. In particular, *bole* has been found to be used as a complementizer, quotative markers, reason marker, purposive markers, manner adverbs and other adverbs (='almost'). We have also dealt with the differences among bole, "*kore*" and "*ɟe*" as complement markers.

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NUMERAL CLASSIFIERS IN BODO

Guddu Prasad Basumatary

This paper discusses the use of numeral classifiers in Bodo. There are numerous classifiers in Bodo, which depend on the shape and size of the things, beings as well as the heavenly and natural bodies. These classifiers play a vital role with respect word formation in Bodo.

Keywords: classifier, pure classifier, nominal classifier, verbal classifier

1 Introduction

The numeral classifiers are a major part of morphology and play a vital role in Bodo word formation. The numeral consists of two parts: first, a classifier (definitive) which shows the units that is counted and the other is number. It is defined as anything that is used right after a classifier can be considered to be a number, and anything that is used immediately before a number can be considered as a classifier (Burling 2004:243).

The numeral can be divided into two categories- Basic and derive numerals. The basic numerals are the numerals, which are free in form. The basic numerals can be divided into two classes Cardinal numeral and Ordinal numeral. A traditional term retained in some models of grammatical description, referring to the class of numerals one, two, etc. Cardinal numbers (or 'cardinals') contrast with the ordinal numbers first, second, etc. (Crystal 2008:65)

In Bodo, there are ten basic numerals in Bodo, which are free in form, these are:

se	*one*	*nɯi*	*two*
tʰam	*three*	*brɯi*	*four*
ba	*five*	*dɔ*	*six*
sni	*seven*	*dain*	*eight*
gu	*nine*	*zi*	*ten*

Besides these basic cardinal numerals, others are derived from these basic numerals. For example:

zi-se>eleven	*nɯi-zi-nɯi>twenty-two*
tʰam-zi >thirty	*tʰam-zi-brɯi>thirty-four*
ba-zi>fifty	*zɯu-se>hundred*

The ordinal numerals are the combination of a cardinal numeral and a definite denoting suffix tʰi. For example:

se-tʰi>1ˢᵗ   zi-nɯi-tʰi>12ᵗʰ

bazi-thi>50ᵗʰ   se-zɯu-se-tʰi>101ᵗʰ

Along with the numerals, there are many classifiers, which are regularly used in the language. Whatever is countable must have a classifier, which can indicate the shape and size of the units, such as people, animals, abstract nouns and various objects. The numeral classifier always comes first to the numeral in Bodo. The classifiers can be categorized into:

i.   True classifier
ii. Nominal classifier
iii. Verbal classifier

2 True classifier

The true classifiers are those classifiers, which are used as only classifiers. There are lots true classifiers in Bodo, which are used only as classifier very frequently in the language. These classifiers are bound in form. The classifiers always occur before the numeral in Bodo. The true classifiers are *mɯm, sa, ma, dɯŋ, tʰuŋ, gɔŋ, gaŋ, pʰɔŋ, gɔr, dab, tʰɔ, kʰandi, kʰeb~kʰɔn, kʰɔbɔ, pʰan* and *pʰar.*

mɯm: The *mɯm* is the only true classifier, which can be added to maximum numbers of nouns in general to indicate its numbers. Generally, the classifier is used with inanimate objects. e.g. -

(1) a. *mɯm-se muwa   labɯ*
         CLF-one thing   bring
         'Bring a thing.'

     b. *mɯm-nɯi batʰra   buŋ*
         CLF-two sentence tell
         'Speak two sentences.'

sa: The *sa* is the only true classifier used to indicate the number of persons in Bodo. For example:

(2) a. *sa-se   mansi   pʰɯi-duŋ*
CLF-one man   come-CONT
'A man is coming.'

 b. *sikʰla   sa-nɯi   pʰɯi-bai*
girl   CLF-two come-IPA
'Two girls have come.'

ma: The *ma* is the only true classifier used to indicate the number of animals, birds, insects and fish. It has very common use in the language. For example:

(3) a. *ma-se   daw   labɯ*
CLF-one bird   bring
'Bring a bird.'

 b. *na   ma-nɯi   mɯm-bai*
fish   CLF-two get-IPA
'Got two fish.'

duŋ: The *duŋ* is a true classifier used to indicate the number of thin long objects like rope, string, garland or hair.

(4) a. *duŋ-se   diruŋ   naŋ-gɯu*
CLF-one rope   need-POS
'Need a rope.'

 b. *aŋ-nɯ duŋ-se   mala   labɯ*
1SG-DAT CLF-one garland bring
'Bring a garland for me.'

The classifier is also used to indicate the number of song or poetry.

(5) a. *bi   metʰai   duŋ-se   ruɤab-bai*
3SG   song   CLF-one sing-IPA
'S/he has sung a song.'

 b. *aŋ   kʰɔntʰai duŋ-se   lir-duŋ*
1SG   poem   CLF-one write-CONT
'I have written a poem.'

tʰuŋ: The *tʰuŋ* is a true classifier used to indicate the number of legs of both things and beings. The classifier is used very frequently in the language.

(6) a *atʰiŋ   tʰuŋ-se*
Leg   CLF-one
'One leg.'

 b. *araŋga-ni   atʰiŋ   tʰuŋ-brɯi*
Table-GEN   leg   CLF-four
'Four legs of table.'

gɔŋ: The *gɔŋ* is a true classifier used to indicate the number of flat type objects like chair, table, house, bus, sky and sometime use to indicate stick like things like stick, pen, knife, gun etc. e.g.

(7) a. *be-jaw gɔŋ-se   masi   dɔŋ*
here-LOC CLF-one chair
'Here is a table.'

 b *bas   gɔŋ-se   tʰaŋ-bai*
bus   CLF-one go-IPA
'A bus has gone.'

gaŋ: The *gaŋ* is a true classifier used to indicate the number of flat type objects like book, leaf, shirt etc. For example:

(8) a. *abizab gaŋ-se   laŋ-bai*
book   CLF-one take away-IPA
'Has taken away the book.'

 b. *bilai   gaŋ-se   bir-laŋ-bai*
leaf   CLF-one to fly-take away-IPA
Has flown away a leaf.'

pʰɔŋ: The pʰɔŋ is a true classifier which is used to the number of words or sentences or the number of slapping. The classifier is used very frequently in the language.

(9) a. *pʰɔŋ-se batʰra   buŋ-ni*
CLF-one sentence   speak-JDS
'Just want to speak a sentence.'

 b. *bi-jɯ   pʰɔŋ-se sɯba-za-bai*
3SG-NOM CLF-one slap-CAUS-IPA
'S/he has been slept one by someone.

gɔr: The *gɔr* is one of the true classifier used to indicate the small objects like chocolate, coins, marbles, grains etc.

(10) a. *aŋ   gɔr-se   lɤen   mɯm-duŋ*
1SG CLF-one chocolate get-CONT
'I have got a chocolate.'

 b *bi-ha   gɔr-nɯi marbɔl   dɔŋ*
3SG-POSS CLF-two marble have
S/he has two marbles.

dab: The dab is a true classifier use only to indicate the number of places in Bodo.

(11) a. *adab-se gami-jaw   tʰaŋ*
CLF-one village-LOC   go
'Go to a village.'

b   *zaiga*   *dab-se*   *nagir*
place   CLF-one   search
'Search a place.'

It is to be mentioned here that the reduplication form of the classifier *dab* may derive a meaning of *different places*, but independently *dab* is a true classifier.

tʰɔ. The *tʰɔ* is a true classifier used to indicate the number of pieces of bamboo, firewood or cigarette.

(12) a.   *bɔn*   *tʰɔ-se*   *labɯ*
firewood   CLF-one   bring
'Bring a piece of firewood.'

b.   *biri*   *tʰɔ-se*   *hɔr-dɯ*
biri   CLF-one   give-RODS
'Give me a biri/please give me a biri.'

kʰandi: The *kʰandi* is a true classifier used to indicate the number of pieces of betel nut. The classifier is used very frequently in the language.

(13) a.   *gɔi*   *kʰandi-se*   *za*
betel nut   CLF-one   eat
'Eat a piece of betel nut.'

b.   *be-jaw*   *kʰandi-ba*   *gɔi*   *dɔŋ*
here-LOC   CLF-five   betel nut have
'Here is five pieces of betel nut.'

kʰeb: The *kʰeb* is a true classifier which is used to indicate the number of act of doing. The classifier *kʰɔn* is also used to indicate the number of action in Bodo. Both the classifiers can be used interchangeably to represent the same.

(14) a.   *ɯŋkʰam*   *kʰeb-se*   *za-kʰaŋ-bai*
rice   CLF-one   eat-COMDS-IPA
'I have already eaten rice once.'

b.   *ɯŋkʰri*   *kʰeb-tʰam*   *sɔŋ-naŋ-gɯm*
curry   CLF-three   cook-need-CONT
'Will need to cook curry three times.'

c.   *bazaar-aw*   *kʰɔn-tʰam*   *tʰaŋ-naŋ-bai*
market-LOC   CLF-three   go-need-IPA
'Compelled to go to the market thrice.'

kʰɔbɔ. The *kʰɔbɔ* is a true classifier used to indicate the number of things taken mouthful at once.

(15) a.   *kʰɔbɔ-se*   *ɯŋkʰam*
CLF-one   rice
'A mouthful of rice.'

b.   *kʰɔbɔ-nɯi*   *ɯŋkʰam*
CLF-two   rice
'Two mouthful of rice.'

pʰan: The *pʰan* is a true classifier used to indicate the number parts or divisions of noun. The *pʰan* occurs only as classifier. For example:

(16) a.   *aŋ-nɯ*   *pʰan-se*   *hɔr*
1SG-DAT   CLF-one   give
'Give me one part.'

b.   *zɯŋ*   *pʰan-brɯi*   *mɯn-gɯn*
1PL   CLF-four   get-FUT
'We will get four parts.'

3 Nominal classifier

The nominal classifiers are the nominal bases use as classifier. In Bodo, to indicate the quantity of the nouns the numerals follow the nouns. There are many nouns, which can also be used as classifiers. It is to be mentioned here that not all nouns occur as classifier, but some nouns may occur as classifiers. There are many derive nouns which are not independent. These nouns introduce themselves either by derivation or by using as classifier.

pʰaŋ: The *pʰaŋ* is a noun which means plant or shrub. The pʰaŋ can not indicate its meaning independently, but with prefixes bɔ- and lai- in can indicate its meaning i.e.- bɔ-pʰaŋ>bipʰaŋ (tree) and lai-pʰaŋ>laipʰaŋ (vines). To indicate the number of the plant or shrubs the noun pʰaŋ comes as a classifier. e.g:

(16) a.   *pʰaŋ-se* *bipʰaŋ*
CLF-one tree
'A tree'

b.   *aŋ*   *bipʰaŋ*   *pʰaŋ-tʰam* *gai-bai*
1SG   tree   CLF-three   plant-IPA
'I have planted three plants.'

tʰai: The *tʰai* is a noun which means fruit. It does not occur independently, but with prefix pʰɔ- it can represent itself fruit or seed. In Bodo, the coins are also counted as tʰai upto five. Though the coin has no relation with fruit directly, yet the

shape of coins may consider as fruits in the language. For example:

(17) a. *tʰai-se*   *pʰitʰai*
CLF-one fruit
'One fruit'

b. *tʰai-ba*   *tʰalir*
CLF-five banana
'Five bananas'

c. *tʰai-tʰam-ni*   *gɔi*   *labɯ*
CLF-three-GEN   betel nut   bring
'Bring betel nut of three rupees.'

dɔr: The *dɔr* is a noun which is used to mean the piece of meat, fish or root like vegetables and even it indicates the plot of land, village or estate. It cannot occur independently, but with the help of prefix bɔ- it can indicate it's meaning i.e. bɔ-dɔr>bedɔr (meat/root). To count the pieces of meat or root of vegetables it is used. For example:

(18) a. *bedɔr*   *dɔr-se*   *za*
meat   CLF-one eat
'Eat a piece of meat.'

b. *alu*   *dɔr-tʰam la*
potato   CLF-three   take
'Take three potatoes.'

c. *gami*   *dɔr-se*   *dɔŋ*
Village   CLF-one have
'There is a village.'

sɔ: The *sɔ* is a noun which means piece of long type objects like bamboo, sugarcane, vegetables like gourd, pumpkin etc. It cannot occur independently but as classifier and suffix, it represents its meaning. For example:

(19) a. *ɯɯa*   *sɔ-se*   *labɯ*
bamboo CLF-one bring
'Bring a piece of bamboo.'

b. *kʰumbra*   *sɔ-nɯi*   *hɔr*
white gourd   CLF-two give
'Give two pieces of white gourd.'

suŋ: The *suŋ* is a noun which indicates a piece of hollow pipe of bamboo and to indicate the number of these hollow bamboo pipes the classifier suŋ is used in Bodo.

(20) a. *aɯɯa*   *hasuŋ*   *suŋ-se*
bamboo pipe   CLF-one
'A piece of bamboo pipe.'

b. *hasuŋ*   *suŋ-nɯi*
pipe   CLF-two
'Two pipes'

gur: The *gur* is a noun which means buck or husk, it cannot indicate its meaning independently, with the prefix bɔ- it represents bɔ-gur>bigur (buck or husk). It can be used to indicate the numbers of buck or husk as well as the Indian bread (rooti) which is thin like buck. For example:

(21) a. *bigur*   *gur-se*
skin   CLF-one
'A piece of skin'

b. *ruti*   *gur-ba*   *la*
rooti   CLF-five   take
'Take five rootis.'

mɯzɯm: The *mɯzɯm* is a noun which means handful and it is used as classifier to indicate the number noun. It can be used to indicate the number of grain or sometime to indicate the proportion of love. For example:

(22) a. *mɯzɯm-se mairɔŋ*
CLF-one rice
'One handful of rice.'

b. *mɯzɯm-se ɔnnai*
CLF-one love
'Handful of love.'

It is to be noted that the classifier *mɯzɯm* can take other numerals only in case of grains but to indicate the proportion of love it comes only with *se* (one) numeral.

pʰ*ar*: The *pʰar* is a nominal classifier used to indicate the number of sides. It means towards. It occurs very frequently in the language. For example:

(23) a. *aŋ-ni*   *pʰar-se*
1SG-GEN   CLF-one
Towards me.'

b. *lama-ni*   *pʰar-nɯi-bɯ*   *hagra*
Road-GEN CLF-two-DEF jungle
Jungle two sides of the road.'

Besides these nominal classifiers, there are many nouns, which can also be used as classifiers to

indicate the number. They are independent in form.

nɔ-se	one family
hari-se	one family/community
bɔstha-tham	three sacks
khɔtha-se	one bowl full
hanza-se	one herd or school
san-ba	five days
hɔr-se	one night
muga-se	one era
dan-nɯi	two months
bɯsɯr-dɔ	six years

4 Verbal classifier

The verbal classifiers are the verbs, which are used as classifier. In Bodo, maximum numbers of regular verbs are used as verbal classifiers, which indicate the numbers of action of the verbs. There are only few verbs, which can be used as classifier independently. For example:

bar: The *bar* is a verb, which means to bloom. It occurs as classifier to indicate the number of the blooming action of the verb.

(24) a. *bibar   bar-se   bar-bai*
flower CLF-one   bloom-IPA
'A flower has bloomed.'

b. *bar-nɯi bibar   bar-dɯŋ*
CLF-two flower   bloom-CONT
'Blooming two flowers.'

ga: The *ga* is a verb which means to step, but very frequently used as suffix as well as classifier. Whenever it occurs as classifier, it indicates the numbers of steps taken by the verb for action.

(25) *bi   ga-se   tʰaŋ-bai*
3SG   CLF-one go-IPA
'S/he has gone once.'

However, the verb *ga* occurs as suffix with maximum numbers of regular verbs and precedes numerals. It is the only verb which follows other verbs and takes numerals to indicate the action of verb.

(26) a. *maw-ga-se   maw*
  do-to step-one   do
  'Do at once'.

b. *dan-ga-se-aw   dan-sɔ*
cut-to step-one-LOC   cut-SDS
'Cut and make separate at once.'

c. *za-ga-se   za-nanɯi   tʰaŋ-bai*
Eat-to step-one eat-SUB   go-IPA
'Has gone after eating once.'

d. *zɯ-ga-se   zɯ-bai*
kick-to step-one   kick-IPA
'Has kicked once.'

Besides these classifiers there are some special types of adverbs, which are the compound forms of a bound base and numeral se (one). These bound bases cannot be considered as classifiers thought they occur with numerals.

lɯgɯ-se	together
makha-se	lots of
dandi-se	for a while
dɔ-se	for a while

5 Conclusion

Based on the above analysis, there are numerous classifiers in the Bodo language. They are classified in to: pure, nominal and verbal classifiers. The use of classifiers in the language is quite complex.

Abbreviation

1	1st Person
2	2nd Person
3	3rd Person
CAUS	causative
DAT	dative
GEN	genitive
COMDS	complete denoting suffix
CONT	continuous
CLF	classifier
FUT	future Tense
IPA	immediate past
JDS	just denoting suffix
LOC	locative case
NOM	Nominative case
PL	plural
POS	positive suffix
PST	past tense
RODS	request and order denoting suffix
SDS	separate denoting suffix
SG	singular
SUB	subordinating

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SUBGROUPING OF BARAM, THAMI, CHEPANG, NEWAR AND MAGAR: A LEXICOSTATISTIC ANALYSIS

Krishna Prasad Chalise

This article presents lexicostatistic/ glottochronological analysis of the languages based on the Swadesh's 100 wordlist. It also presents cognate identification, innovation and retention in the vocabulary of the languages, the subgrouping of the languages and computation of the time depth of separation of the languages

1 Introduction

The study of vocabulary statistically for historical inference is known as lexicostatistics or glottochronology. It is a technique which attempts to provide dates for the earlier stages of languages much as carbon 14 dating provides dates for archaeological findings. By simple inspection of comparable wordlists the fact of the relationship of closely related languages can be discovered. Swadesh (1949) proposed a method for determining the time when two related languages became independent. The method of lexicostatistics for determining degrees of relationship between languages is based on counting the number of cognates in a particular set of vocabulary items. Lexicostatistics is based on the assumption that the common words in languages are maintained at a definite rate, i.e. some parts of the vocabulary are much less subject to change than other parts. The basic (core) vocabulary consists of words for concepts assumed to be a necessary part of all human cultures. The semantic field represented by the lexical items includes the most common pronouns, numerals, adjectives, kinship terms, living beings, body parts, events and objects in nature, and common activities. Mostly lexicostatistic analyses are carried out based on Swadesh 100 or 200 wordlist. Lexicostatistic analyses are based on the following three basic assumptions.

i. The rate of retention of vocabulary items in the basic (core) vocabulary is constant through time.

ii. The rate of loss of basic vocabulary is approximately the same in all languages.

iii. If the percentage of cognates within the core vocabulary is known for any pair of languages, we can group them based on the following grouping categories:

Dialects of a language :	81-100
Language of a family :	55-81
Subfamilies of a family:	28-55
Families of a stock	13-28
Stocks of a phylum	5-13

iv. If the percentage of true cognates within the core vocabulary is known for any pair of languages, the length of time that has elapsed since the two languages began to diverge from a single parent language can be computed (Crowley 1997:184).

2 Methodology

2.1 The wordlist

The first essential work in making a lexicostatistical comparison of languages is the collection of a comparable wordlists in the languages to be compared. This research has used Swadesh's 100 wordlist, the most widely used wordlist for this purpose (see Annex 1, the words 1-100). This wordlist is regarded to consist of the basic words which are most probable to be found in any language because they are the most common items for every human and human society.

2.2 Determining the cognates

Cognacy decision is one of the most important parts of the analysis because it directly affects the outcomes of the research. In all the languages to be compared, the entire wordlists were not available so that the comparisons have been made with the available word. The following issues have been taken in care regarding this issue.

2.2.1 The loan words

The languages have either lost or don't have some

of their native vocabulary and adopted loan words from other languages. The loans have been excluded from the analysis.

2.2.2 The compound words

A single word may not be available in several of the cases. *siŋma* 'tree', *mektu* 'tear' in Baram are compounds and the corresponding root will be taken for analysis.

2.2.3 The multiple words

There is one word in English but many in the languages. Some examples from Baram are presented in (1).

(1) come: *təi*   'come'
             waŋ   'come up'
             hyaŋ   'come down',
             yu   'come vertically down'

     small: *ekani*   'very small'
             ekane   'medium size small'
             ekkane   'big size small'

     man: *mi*   'human'
             bal   'person'
             pa   'male human'

2.2.4 Identification of the roots

The roots in TB are monosyllabic and before and after the roots there may be affixes sometimes separable and sometimes unseparable. In some cases they are so grammaticalized and lost their function and meaning and original shape and ther might be a single consonant or consonatn cluster. Newar has stem final consonants that is attached to the verb roots (Matisoff 2003: 442).

(2) Baram   Thami   Chepang   Newar
     si   *si*   *si*   *sit*   'die'
     pi   *pi*   *bəy*   *bil*   'give'
     aku   *gui*   *khui*   *kʰul*   'steal'

Common part in the words in the languages which matches the Proto Roots reconstructed by Matisoff 2003 will be taken as cognate.

(3) PTB   B   T   C   N
     sya   *ku-sya* *cyi* *mayʔ* *la*   'meat'
     siŋ   *seŋ-ma* *seŋ* *siŋʔ* *syi-ma* 'tree'
     ley   *ce-le* *ci-le* *le*   *mye*   'tongue'
     tsyen *luŋ-jiŋ* *pin* *sən*   *lu-syi* 'nail'

3 Retention and innovation

For the purpose of the lexicostatistics and glottochronological analysis, Swadesh 100 wordlist from the target languages were compared for identifying cognate similarities and differences. It is obvious that the languages genetically related must share some cognate similarities that distinguish them from other genetically unrelated languages, and the higher degree of similarity justifies the higher level of proximity and vice versa. The similarity between the languages comprises both shared retentions and shared innovations. It is a well established fact that the shared innovations are more important for establishing genetic relation of languages because the shared retentions in some cases may be due to chance or language contact. But if the retention is verified in a range of genetically related languages it is justified that it is not because of chance or convergence. The shared innovations are more probable than the shared retentions because different languages have their unique pattern of development. Despite the unique pattern of development, the patterns of innovations are systematic and rule governed. '… if two languages are similar because they have both undergone the same innovation or change, then you can say that this is evidence that they have had a period of common descendent and that they therefore do belong to the same group' (Crowley 1997:167).

3.1 Situation of the loan words

Out of the Swadesh 100 wordlist Baram has 16 loan words, Magar has 15 loan words, Thami and Chepang have 2 loan words each and Newar has 1 loan word as presented in Table 1.

Four out of five languages, the words for 'mountain' and 'sand' are loan. The largest number of loan words has been found in Baram and Magar indicating a massive lexical loss in them. The loan words in Baram and Magar reveal one interesting fact that the pattern of lexical loss in basic vocabulary in languages is almost similar. Most of the words that are loan in Baram are loan in Magar, too. The words for quantity (all), internal parts (throat, heart, lever, root), outer layer (bark, feather, skin), part of an organ (knee), star, mountain, green, cool and round are loan in both or either of them.

Table 1: The situation of the loan words

English	Baram	Thami	Chepang	Newar	Magar
all	x				x
root	x				x
bark	x				x
fat					x
skin	x				
feather	x	x			
knee	x				x
throat	x				x
breast					x
liver	x				x
swim	x				x
star	x				x
sand	x	x	x		x
cloud					x
smoke					x
green	x				
cool	x				
round	x				x
heart	x				
mountain	x		x	x	x

It means if the languages have not lost the existing words, it shows that some languages didn't have words for the internal body parts, the heavenly bodies, etc. In the case of Baram, the words for other internal body parts not listed in the Swadesh word list are not available in Baram (see Kansakar et al. 2011b). Similarly, the words for parts of an organ and the heavenly bodies except sun and moon seem lacking in the language. The lack of words for mountain, green, etc shows that some items are default in some environments and languages don't have words to refer to such things.

3.2 Situation of the cognates

Out of 100 words in Swadesh wordlist Baram, Thami, Chepang, Newar and Magar have retained 84, 98, 98, 99 and 85 native words respectively. Among them the words/roots given in (3.4) have similar phonological shapes in all the languages and the rests have common phonological shape partially.

The cognate similarities of the languages are presented in Table 2 which shows that the highest percentage of similarity is 58 and the lowest percentage of similarity is 37.

Table 2: The cognate similarities in the languages

Baram				
58	Thami			
58	58	Chepang		
44	53	51	Newar	
50	47	48	37	Magar

Table 3: The cognate similarity percentages with respect to the native words

Baram				
69%	Thami			
69%	59%	Chepang		
52%	54%	52%	Newar	
59%	55%	57%	44%	Magar

Problem related to this finding is that all the languages don't have all (100) native words. If they had all the native words it would have been convenient to express the figures in percentage. If the figures are calculated regarding the available native words in every language as 100%, the obtained result will be extremely absurd as Baram, Thami and Chepang seem very close to each other with reference to Baram but Thami and Chepang seem to be very distinct with reference to Thami. So the calculation has been made regarding the found similarity number as percentage or neglecting the presence of loan words in the languages.

(4)

Baram	Thami	Chepang	Newar	Magar	
to	to	ʔowʔ	wə	ho	'that'
su	su	su	su	ku	'who'
ma-	ma-	ma	mə	ma-	'not'
nis	nis	nis	nyi	nis	'two'
wa	wa	waʔ	-	gwa	'bird'
seŋ	seŋ	siŋʔ	syi	siŋ	'tree'
yu	puya	sayʔ	pusa	yo	'seed'
hola	aya	lo	ləpte	lah	'leaf'
tsihwui	tswoi	wəyʔ	hi	hju	'blood'
pitik	limek	meʔ	-	me	'tail'
kuna	kunla	no	nʰaepə̃	me	'ear'
mik	mesek	mik	mikʰa	miʔ	'eye'
tsina	tsiŋa	neh	nʰae	na	'nose'

swa	suwa	syək	wa	sja	'teeth'
le	le	le	mye	leṭ	'tongue'
səi	na-sai	sayʔ	taye	sye	'hear'
si	si	si	sitə	si	'die'
sat	sat	sat	syatə	sat	'kill'
ṭʰiŋ	tʰeŋ	tsiŋ	da	ṭoŋ	'stand'
da	du	dayh	dʰa	ḍe	'say'
uni	uni	nyam	ni	nankhan	'sun'
nəsa	nasa	saʔ	tsa	dzha	'earth'
mui	me	hmeʔ	mi	mhe	'fire'
dzo	dzyou	dzʰəm	tsya	dzhuḍ	'burn'
uŋma	ulam	lyam	lã	lam	'way/path'
kawui	naka	rəw	nʰu:	minam	'new'
min	name	məyŋ	nã	ar-min	'name'

4 Subgrouping of the languages

Based on the findings in Table 2.2 we can group Baram, Thami and Chepang as the languages of a family because their cognate similarity among them is 58% and Newar and Magar as the subfamilies of a family because their cognate similarities are between 37-53%. The higher level of similarity between Newar and Thami seems to be the result of language contact because if they were genetically so close Newar should have been equally close to Baram and Chepang too. The finding can be diagrammatically presented as in Figure 1.
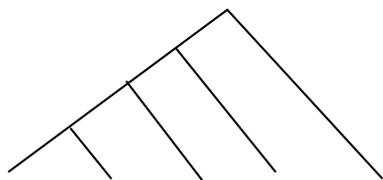
Baram Thami Chepang Magar Newar

Figure 1: Sub-grouping of the languages

5 Computation of the time depth

In the comparison of the languages, out of the 100 pairs compared the number of probable cognates has varied form language to language as presented in Table 2.2. The calculation made based on the number of probable cognates between the languages has brought the following results. The time depths of the corresponding languages have been calculated using the relation:

$$t = \log C / 2 \log r.$$

Where,
t = time depth in millennium
C = the percentage of probable cognates
r = glottochronological constant which is 0.86 for Swadesh 100 wordlist

a. Baram-Thami

Number of probable cognates 69%

t = log 0.69/2log 0.86
= 0.371/2*0.151
= 0.371/0.302
= 1.228

So, Baram and Thami were separated about 1.228*1000=1228 years ago.

b. Baram-Chepang

Number of probable cognates 69%

t = log 0.69/2log 0.86
= 0.371/2*0.151
= 0.371/0.302
= 1.228

So, Baram and Chepang were separated about 1.228*1000=1228 years ago.

c. Baram –Newar

Number of probable cognates 52%

t = log 0.52/2log 0.86
= 0.654/2*0.151
= 0.654/0.302
= 2.165

So, Baram and Newar were separated about 2.165*1000=2165 years ago.

d. Baram-Magar

Number of probable cognates 59%

t = log 0.59/2log 0.86
= 0.528/2*0.151
= 0.528/0.302
= 0.1748

So, Baram and Magar were separated about 0.1748*1000=1748 years ago.

e. Thami-Chepang

Number of probable cognates 59%

$$t \quad = \log 0.59/2\log 0.86$$
$$= 0.528/2*0.151$$
$$= 0.528/0.302$$
$$= 0.1748$$

So, Thami and Chepang were separated about 0.1748*1000=1748 years ago.

f. Thami-Newar

Number of probable cognates 54%

$$t \quad = \log 0.54/2\log 0.86$$
$$= 0.616/2*0.151$$
$$= 0.616/0.302$$
$$= 2.039$$

So, Thami and Newar were separated about 2.039*1000=2039 years ago.

g. Thami-Magar

Number of probable cognates 55%
$$t \quad = \log 0.55/2\log 0.86$$
$$= 0.598/2*0.151$$
$$= 0.598/0.302$$
$$= 1.980$$

So, Thami and Magar were separated about 1.980*1000=1980 years ago.

h. Chepang-Newar

Number of probable cognates 52%

$$t \quad = \log 0.52/2\log 0.86$$
$$= 0.654/2*0.151$$
$$= 0.654/0.302$$
$$= 2.165$$

So, Chepang and Newar were separated about 2.165*1000=2165 years ago.

i. Chepang-Magar

Number of probable cognates 57%

$$t \quad = \log 0.57/2\log 0.86$$
$$= 0.562/2*0.151$$
$$= 0.562/0.302$$
$$= 1.860$$

So, Chepang and Magar were separated about 1.860*1000=1860 years ago.

j. Newar-Magar

Number of probable cognates 44%

$$t \quad = \log 0.44/2\log 0.86$$
$$= 0.821/2*0.151$$
$$= 0.821/0.302$$
$$= 2.718$$

So, Newar and Magar were separated about 2.718*1000=2718 years ago.

Table 2.4: The time depth of separation

Baram				
1228	Thami			
1228	1748	Chepang		
2165	2039	2165	Newar	
1748	1980	1860	2718	Magar

Table 2.4 summarises the findings of the calculation of the time depth of the separation of the languages. The findings are valuable to understand the genetic relation of the languages. It shows that Newar is the furthest relation to the rest of the languages. Similarly, Magar is second one and Chepang is the third one. Finally, Baram and Thami are the closest among them. This finding shows a tentative the genetic affiliation of the languages and presents the outline of the time depth of their separation but there are a number of inconsistencies with the findings, i.e., Baram is equally distant with Thami and Chepang but Thami and Chepang are further distant. The history of Nepal shows very complex patterns of migration of the different ethnic groups in the past. As the result of the complex migration patterns the situation of language contact is more complicated. Baram settlements are closer to Chepang and Magar settlements and Thami settlements are near to Newar settlements at present. So it is a complex job to investigate the exact historical relations among the languages.

6 Conclusion

This article tried to subgroup the languages based on the lexicostatistical/glottochronological method based on Swadesh's 100 wordlist. Baram has 16, Thami has 2, Chepang has 2, Newar has 1 and Magar has 15 loanwords in their respective wordlists. The roots were identified based on the Proto-Tibeto-Burman roots reconstructed in Matisoff (2003) and cognates were identified based on the phonological shapes of the words. The comparison shows that Baram and Thami form a group and Chepang, Magar and Newar are next to them respectively as presented in Figure

3.1 Regardless some inconsistencies, the calculation of the time depth of separation the languages also supports the finding form the cognate comparison. From the findings we can infer that they had a common ancestor language before 2700 years. Newar was separated from their common ancestor 2200-2700 years ago. Similarly Magar was separated between 1700 to 2000 years ago, Chepang was separated between 1200-1700 years ago and finally Baram and Thami were separated from each other between 1000 to 1300 years ago.

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SYNTACTIC FUNCTION OF ANAPHORA IN MAGAHI

Shweta Chandra

Anaphora in Magahi contains operator like properties related to the syntactic nature of the clause in which it occurs. Whenever the clause is +tense, syntactically anaphora is subject oriented. But in case of the clause being -Tense, the anaphora is a PRO which depends on the object of the main clause.

Keywords: Anaphors, binding theory, operator, scrambling, movement

1 Introduction

This paper investigates the syntactic functions of anaphors in Magahi (South Asian language from the Indo- Aryan language family) especially in terms of Binding Theory. There are some works available on Magahi grammar (Verma 1985, 1991), where Magahi has been shown to have a very complex and interesting agreement system but still this language needs special attention of research in the area of anaphora rather than others. Here, we exclusively deal with Magahi anaphors, i.e., reflexives and reciprocal within the framework of Government and Binding Theory (GB Theory). Anaphora simply means 'backward reference'. Lust et al. (2000: 885) opine that anaphora is between a form and a linguistic antecedent. Its interpretation in some ways is determined by the interpretation of its antecedent (Lust 1986, Wasow 1986). In Magahi, an anaphor may have a nominative and non- nominative subject as its c- commanding/ sub- commanding antecedent. This language allows the case of long distance binding only in non- finite clauses. As this language has the possibility of subject-verb agreement, therefore, blocking effect is not possible. This language allows scrambling and movement with some syntactic constraints which does not affect anaphora- antecedent relations and it obeys binding principles A, B and C. Anaphora in Magahi has operator like properties (Katada 1991), which depends on the finite and non-finite nature of the clause. So, Anaphors in Magahi for their scope of interpretation depend on the finite and non finite properties of the clause. This work has a lot of scope for further research, especially to explore typological work on anaphora in South

Asian languages, which are close cognate of Magahi than others.

2 Anaphora and some syntactic observations in Magahi

This section explores different syntactic operation in terms of GB theory rather than general syntactic phenomena in Magahi.

2.1 Anaphors and binding principles in Magahi

Functionally, anaphors are categorized as syntactic anaphora, discourse anaphora and pragmatic anaphora (Gardelle 2012). Binding Theory deals with syntactic anaphors. Discourse anaphors do not fall under grammatical principles; they are guided by discourse related factors. Following is the Gardelle illustration to explain the concept of syntactic and discourse anaphors.

(1)   John smiled to himself as he was thinking about some funny things.

In (1), 'himself' is a syntactic anaphora and Principle- A of Binding Theory governs it. But '*he*' is a discourse anaphora as it is completely dependent on the discourse factors. NP 'he' may depend on John or some other NP mentioned in the discourse for its interpretation. For Gardelle (2012) the term anaphora should be restricted to bound reflexive or reciprocals because only they follow binding constraints on NP. Allan (2009) deals with pragmatic anaphors, there is a mental representation for anaphora achieved from situational context and no antecedent is used in the text for such anaphors. While mentioning anaphors it will not be out of context to mention cataphors. Charaudeau and Maingueneau (2000) differentiate between anaphors and cataphors. In anaphora, antecedent precedes the anaphor while in cataphor antecedent follows it. Halliday and Hasan (1976) term them as "endophora" as they have antecedent "within the text". However the term cataphora is not widely used and it is more common to take anaphora to include both anaphora and cataphora (Gardelle 2012). Charaudeau and Maingueneau (2000) and Huddleston and Pullum (2002) use the terms "retrospective anaphor" for anaphor and

"anticipatory anaphor" for cataphor. Haegeman (1994) discusses Binding Theory as "the module of grammar that regulates the referential properties of NPs." It provides an explicit formulation of the grammatical constraints on NP. This theory essentially examines the relation between the NPs in A- positions; it is a theory of A- binding." A- position are argument positions like specifier of the VP from where subject originates; specifier of IP from where subject moves to; complements of verbs and prepositions which are typical object position (Cook and Newson 1996). There are three kinds of NPs for which Chomsky (1981) has given three kinds of Principles. Principles A, B and C together are known as Binding Theory, which regulate and interpret each kind of NP. These principles are illustrated below:

Principle A: An anaphor must be bound in its governing category.

Principle B: A pronoun must be free in its governing category.

Principle C: An R- expression must be free everywhere.

An anaphor is dependent on its antecedent for its interpretation. Anaphor and its antecedent must have same reference and may be able to indicate with co- indexation. Binding domain of an anaphor must follow c- command constraint along with the principle of reflexive interpretation in the sense that the antecedent must c- command the reflexive. Reflexive in Magahi is '*apan*' and reciprocals are *'ek dusara'* and '*apana meN*'. Unlike English, where the reflexive is specified for person, number and gender, the reflexive in Magahi is not specified for any of these features except for the person agreement. Magahi reflexive '*apan*' is just like Japanese reflexive '*zibun*' in possessing the agreement feature. Both reflexives '*apan*' and '*zibun*' lack agreement feature of person, number and gender marked on them. Japanese reflexive '*zibun*' is limited to [+ human] (Ueda 1986, Motomura 2001). However, Magahi reflexive has even wider context and is limited to [± animate] antecedents. Reciprocal '*ek dusara*' in Magahi does not have even the limitation of [± animate] antecedents but has the limitation to plural antecedents. In other words, it can be said that it has [+ number] antecedents. Following are

the illustrations of the use of reflexives and reciprocals in Magahi.

Magahi reflexive:

(2) *ham apan hath se   khailiai*
     I   self hand from eat 1PST
     'I ate from my hands.'

 Magahi reciprocals:

(3) *ram au sita ek dusara ke bare meiN*
     Ram and Sita one another DAT about in
     samajhit   hathin
     understanding be 3PRS
     'Ram and Sita understand about one another'.

(4) *u duno apana meiN/ apas   meiN*
     they two self   in   each other in
     bat karit hathin
     talk do   be 3PRS
     'They are talking to each other.'

2.2 Finiteness of the clause and orientation of anaphora in Magahi

In Magahi reflexive '*apan*' and reciprocal '*ek dusara*' can have subject as well as object orientation. But the orientation depends on the nature of clause where anaphors occur. If the clause is finite, the anaphor have subject orientation and vice versa. Following are the illustrations for reflexive and reciprocal in finite and non- finite clauses.

2.2.1 Finite clause orientation of reflexive

(5) ram_i $mohan_j$ *ke   apana$_i$ bare meN batailkai*
     Ram Mohan ACC self about in   tell 3PST
     'Ram told Mohan about himself.'

2.2.2 Non- finite clause orientation of reflexive

(6) u_i ram_j *ke chitThi apana$_j$ se likhe kahalkai*
     He Ram ACC letter self from write say3PST
     'He asked Ram to write a letter himself.'

2.2.3 Finite clause orientation of reciprocal

(7) *holi meN u   duno ek dusara lagi rang*
     holi   in they both one another for color
     mangailai
     bring 3PST
     'They brought colors for one another in Holi.'

2.2.4 Non-finite clause orientation of reciprocal

(8) *holi meN duno ek dusara lagi rang*
     holi in   two one another for color
     lavela kahalkai
     bring   say 3PST
     'They told to bring colors in Holi for one another.'

Sentences (5) and (7) are finite sentences. In these sentences, anaphors refer to subject of the finite sentence. In sentences (6) and (8), the referred subject is *ram* and *u duno* respectively. Sentences (6) and (8) are sentences with non-finite clause embedded in them. The anaphor in these sentences refer to the object of the main clause. In sentences (6) and (8), the referred object is *ram* and *u duno* respectively. The co-reference is being denoted by co-indexation. In Magahi, anaphors *apan* and *ek dusara* are dependent on the ± Tense of the clause where they occur like operators, and their syntactic/semantic interpretation also depend on the nature of given expression. Thus, it can be said that these anaphors as operators in Magahi share some common features. This idea come from the classification of anaphors as operator and non-operator anaphors given by Katada (1991), who claims this classification to be universal in nature.

2.3 Finite clause, local domain and anaphors

Anaphors *apan* and *ek dusara* are always bound in local domains. When they occur in the clause which are + Tense, they approach to subject to be bound and when they occur in the clause –Tense, they approach to PRO (which act as subject of the infinite clause) to be bound. This PRO is object controlled in infinite clause, so the object of the main clause will be antecedent of anaphor *apan* and *ek dusara* originated in non-finite clause. The object control of PRO is an obligatory control. In obligatory control the controller must c-command the controlled element (Haegeman 1994). This implies that object of the main clause c-commands PRO, which in turn binds the anaphor. PRO c-commands the anaphor as binding requires c-command constraint. C-command is a transitive phenomenon in the sense that object of the main clause c-commands the PRO, which in turn c-commands the anaphor of non-finite clause. Thus, object c-commands the anaphor present in the non- finite clause. Antecedent selection constraint condition of Binding Theory implies that antecedent must precede the anaphor. Magahi anaphors follow both locality as well as antecedent selection constraints. In other words, it can be said that anaphor in Magahi follows Principle- A of Binding Theory which implies that an anaphor must be governed in its local domain.

2.3.1 Reflexive *apan* in finite clause

(9) *ram$_i$ sita$_j$ ke apana $_i$/*$_j$ bare meN sab kuch*
     Ram Sita dat self about in all some
     batailkai tell 3PST
     'Ram told Sita everything about himself.'

2.3.2 Reciprocal *ek dusara* in finite clause

(10) *u duno$_i$ ek dusara$_i$ lagi mithai kharidalkai*
     they both one another for sweets buy 3PST
     'They both bought sweets for one another.'

2.3.3 Reflexive *apan* in non- finite clause

(11) *u ram$_i$ ke chitThi$_j$* [PRO$_i$ *apane$_i$/*$_j$ se likhe*]
     he Ram ACC letter self from write
     kahalkai say 3PST
     'He asked Ram to write a letter himself.'

2.3.4 Reciprocal *ek dusra* in non-finite clause

(12) *u$_j$ u log$_i$ ke* [PRO$_i$ *ek dusara$_i$/*$_j$ ke sahayata*
     he they ACC one another GEN help
     kare] *kahalkai*
     do say 3PST
     'He asked them to help one another.'

The verb *kah-* (say/tell) is an object control verb. Hence, PRO is notional subject of non-finite clause which refers to object *ram* presented in the main clause and both co-indexed with reflexive *apane*. In case of object control, it is remarkable that the phenomenon of c-command and co-indexation is transitive. PRO is c-commanded by the object *ram*. Thus, reflexive *apane* is c-commanded and is co-indexed with object *ram*, following Principle A of Binding Theory (Davison 2001). In case of sentences (10 and 12), the reciprocal *ek dusara* also follows the Principle A of Binding Theory.

2.4 Position of anaphora inside the clause and WCO/ ECP

For their syntactic interpretation anaphors are fully depended on their natural position inside the clause in Magahi. Inside the non-finite clause the position of anaphor is fixed, i.e., they cannot move or scramble from their original position to other place like outside of the clause but at the same time scrambling is possible inside the finite clause. This can be explained with the help of Weak Cross Over phenomenon (WCO) and Empty Category Principle (ECP). According to WCO, trace cannot be c-commanded by a pronoun on its left (May 1985). Whenever an anaphora is moved from infinitival clause to main

clause leftwards, it will create a trace inside infinitival clause. This will lead to anaphor c-commanding its trace that results in as a violation of WCO. For instance in (13), where antecedent *apana* is on the left of its *trace* (t) created due to [move α].

(13) **u ram ke apana$_i$ ke* [*trace$_i$ dekhe-bhale*
    u Ram gen self GEN   see- echo
    la] kahalkai
    INF say PST
    'He told Ram to take care of himself.'

(14) **u ram ke* [trace$_i$ *dekhe- bhale la*]
    he Ram GEN   see- echo   INF
    apna$_i$ ke kahalkai
    self   dat say 3PST
    'He told Ram to take care of himself.'

Sentence (14) in Magahi is ungrammatical because antecedent of trace t is moving rightwards into the main clause, that does not follow the syntactic principle of ECP, which states that every trace must be properly governed and on the other hand the phenomenon of government follow the concept of c- command, which in turn requires the antecedent to precede the trace. The antecedent is not preceding the trace in sentence (13) and trace remains ungoverned and violates the principle of ECP. Thus, the anaphor cannot move from a non-finite clause to the main clause either leftwards or rightwards. However, when anaphor is in the finite clause it refers to subject and can be scrambled as in (15) and (16).

(15) *u apana ke* [*ram ke dekhe- bhale la*]
    he self   DAT Ram ACC see- echo   INF
    kahalkai
    say 3PST
    'He said to himself to take care of Ram.'

(16) *u* [*ram ke dekhe- bhale la*] *apana ke*
    he Ram ACC see- echo   INF self DAT
    kahalkai
    say 3PST
    'He said to himself to take care of Ram.'

In (15), anaphor *apana* is immediately after the subject *u*. The anaphor is scrambled in the finite clause and is placed after the embedded non-finite clause as illustrated in (16).

2.4 Anaphors as operator and non- operator

Katada has tried to make division of anaphors as operator and non- operator (Katada 1991), which is motivated by distinctive agreement properties

of anaphors. The anaphor '*apana*' and '*ek dusara*' in Magahi can be categorized as operator anaphors. Operator anaphor, according to Katada, has lexically unmarked agreement features and thus possesses a "semantic range". This property of possessing "semantic range" distinguishes operator anaphor and non- operator anaphor. The distinctive agreement features which constitute semantic range are of person, number and gender. Like Japanese anaphor *zibun*, the Magahi anaphor *apana* is unmarked for person, number and gender. It could only be distinguished on the basis of [±animate]. The Magahi anaphor *ek dusara* or *apana* is only marked for [±number] and is common for both animate and inanimate antecedent.

3 Deep syntactic analysis of some prior conditions of anaphora in Magahi

In the above sections, we have discussed syntactically some basic syntactic/semantic constraints to identify anaphoric antecedent and some basic conditions on the occurrence of anaphora on the basis of finiteness of the clause. So, in this section we will analyze in detail some prior condition of anaphora in Magahi from typological perspective of South Asian languages.

3.1 Long-distance binding and principle A

Long distance binding means the co- indexation of an anaphor in a lower clause with an antecedent in a higher clause outside its minimal clause domain. Such co-indexation is an apparent violation of principle A of Binding Theory (Chomsky 1981, 1986). In this section the basic agenda is to investigate whether LDB violates binding Principle A in Magahi. Magahi permits long distance binding of a monomorphemic anaphora. Like all South Asian languages except Marathi, in Magahi the possessive anaphor or monomorphemic form of the nominal anaphor permits LDB, while a polymorphemic form does not (Wali 2000: 534).

Subbarao (2012) points out that Magahi follows mostly all major features of LDB in South Asian languages (2012: 76). The major features are as follows:

(a) All long distance anaphors are subject oriented (Chomsky 1986).

(b) LDB is not permitted from a finite clause; only

non- finite clause permits it.

(c) It is the monomorphemic forms that permit LDB, where as polymorphemic anaphors do not; hence reciprocals which are in polymorphemic in South Asian languages do not permit LDB.

Thus, the above features will also be examined in Magahi to judge the syntactic observation of LDB in Magahi. An example of Magahi to exemplify the phenomenon of LDB is as under:

(17) *ram*_i *sita*_j *ke* [PRO_j *apana*_{i/j} *lagi cay*
Ram Sita DAT   self   for   tea
banave la] kahalkai
make INF say 3PST
'Ram asked Sita to make some tea for himself/herself.'

In this sentence *apana lagi* 'for self' can be co-indexed with embedded subject PRO which is co-indexed with the matrix subject Sita, thus permitting binding of an anaphor which obeys Principle A. However, *apana lagi* 'for self' can also be co-indexed with subject of matrix clause Ram which is a long distance antecedent. Such interpretation of anaphor is an apparent violation of principle A of the Binding Theory which states that an anaphor must be bound in its governing category. One of the ways to account for LDB of simplex anaphora, *apana lagi* 'for self' without violating Principle A is to move the anaphor by the head to head movement rule. Inflection consists of the interpretable features of Tense and Aspect and uninterpretable features of Agr (Chomsky 2001). According to Davison (2001:57), the monomorphemic anaphora first moves to non- finite tense of its own clause, and then by successive cycle movement it moves to finite tense of the next higher clause. It is then co-indexed with the subject of the higher clause. In this context, Cole and Sung's analysis of Chinese states that the anaphor cliticizes to Agr, but in Davison's analysis it cliticizes to Tense as "Agr plays no role in reflexive binding" (Davison 2001: 59). Davison's proposal is very supportive for all South Asian languages, especially for Magahi to get rid of ambiguity in terms of LDB, its Tense's properties keep importance but there is no major role of Agr features except for person honorific agreement.

3.2 Non- nominative subjects as antecedents to a lexical anaphor

This section deals with anaphors of different types of antecedents which are non-nominative in nature.

3.2.1 The dative/ genitive subject as antecedent

The dative/genitive subject functions as a c-commanding subject antecedent to possessive anaphor and nominal anaphor in Magahi (Wali 2000: 534). Thus the instance of antecedent to a possessive anaphor:

(18) *laikan ke*_i *apan*_{i/*j} *billai dekhayi delai*_j *(he)*_j
kids DAT self cat see give3PRS (be PRS)
Kids saw their own cat.'

3.2.2 The instance of antecedent to nominal complex/ simplex anaphora

The dative subject functions as c- commanding *antecedent to a nominal anaphora* in Magahi, The nominal anaphora can be complex or simplex.

(19) *sita ke apana (ap) par bharosa halai*
Sita DAT self self on trust be 3PRS
'Sita had trust on (her) self.'

The occurrence of complex anaphora that is either nominative case marked or accusative case marked is not permitted in Magahi, and in terms of such languages none of the studies carried out so far could provide an explanation. Hence in Magahi like Hindi, predicate *yad- ail* 'to remember' and *accha lagal* 'to be liking', for example that require dative experiencer subject, do not permit a reflexive or reciprocal that is either nominative or accusative case marked.

(20) **ram ke*_i *sirf apana ap*_i *se accha laga*
Ram DAT only self self from good seem
hai
be 3PRS
'Ram likes only himself.'

The ungrammaticality of this sentence is due to the fact that: the dative predicate *lagal* 'to seem' is intransitive and hence, it cannot case marked the embedded subject accusative and non- nominative case marked anaphora is prohibited in Magahi like Hindi.

(21) *ram sirf apana (ap) ke accha laga hai*
Ram only self self DAT good seem be 3PRS
'Ram likes only himself.'

3.2.3 Passive subject as antecedent

Like Hindi, in Magahi passive subject can be antecedent of an anaphora. The subject in a passive sentence corresponds to the direct object of an active sentence. Like in Hindi, in Magahi also, "the object of an active transitive verb is normally marked with the dative accusative post position if it has human reference (Davison 2000: 413)".The object of transitive verb which becomes the derived subject in the passive sentence may be nominative case marked or dative accusative case marked retaining the original post position ***ke*** of the active sentence.

(22) *cor adami ke   e saDak par na luTalkai*
    theif person DAT this road on not rob 3PST
    'A thief did not rob a man on this road.'

(23) *[e adami] apan$_{i/*j}$ saDak pe luTal na*
    this person self   road on rob pst not
    gelai
    go 3PST
    ['This man] was not robbed [on his own street'.]

(24) [*e adami* ke] [*apan$_{i/*j}$ saDak pe*] *luTal*
    this person dat self   road on rob pst
    na gelai
    not go 3PST
    ['This man] was not robbed [on his own street.']

3.3 The reflexive in a locative PP

In Magahi, a ploymorphemic anaphor is permitted only if locative PP is sub- categorized argument. If it is non-sub-categorized, it is not permitted.

(25) *ram$_i$[apan$_i$/okar$_{*i}$najdik] ek kutta.*
    Ram self   him near one dog
    dekhalkai
    see 3PST
    'Ram saw a dog [near self/him'].

3.4 Small clause and long-distance binding

In Magahi, subject of small clause can be co-indexed with the subject of matrix clause. The small clause consists of a subject DP and a predicative/ DP: 'There is no tense and aspect morphology and no verb agreement' (Davison 2000: 420). Verbs such as *samajh- al* 'to understand', *lag-al* 'to seem' and *dikh- al* 'to appear' in Magahi permit small clauses, while predicates such as *soc- al* 'to think' and *malum- hol* 'to come to know' do not. If the matrix verb is transitive, the embedded subject is accusative/ dative case marked. If it is intransitive, the embedded subject is nominative case marked. In Magahi morphologically complex form *apane ap ke* 'self's self-acc' or the simplex form *apane ke* 'self- acc' can both occur in the subject position of the small clause, if the anaphor is co- indexed with the matrix subject in the nominative case.

(26) *ram$_i$[apana(ap)$_{i/*j}$ ke/ khud$_{i/*j}$ ke / swayam$_{i/*j}$*
    Ram   self self   dat self DAT self
    ke jankar   na samjha   (hai)
    DAT knowledgeable not understand be 3PRS
    'Ram does not consider [himself knowledgeable]'

So, in Magahi, a dative case marked subject does not permit either a nominative case marked or an accusative case marked embedded subject, for this we can refer the case of ECM.

3. 5 Anaphors and scrambling

Magahi freely permits scrambling of constituents in a sentence. In terms of movement there is a problem that scrambled DP will go to A- position or will go to A- bar position? Solution of this implication, for Hindi is, if DP moves to A-position, then binding possibilities change after scrambling, as scrambled DP in A- position can be antecedent of an anaphor (Subbarao 2012: 85-86). If it moves to A- bar position 'a scrambled phrase within a single clause behaves as though it were in the original position for the purpose of co-indexing with an antecedent' (Davison 2000: 446). Having this view in Magahi, *apan* 'self' co-refers with Ram which is the subject of the sentence:

(26) *ram$_i$ apan$_{i/*j}$ laikan ke   ser$_j$ dekhailkai*
    Ram self   kids GEN Lion see 3PST
    Ram showed self's children the tiger.

The NP Ram in sentence (26) is scrambled leftwards and co-indexing relations remain the same, as it is not in the subject position.

(27) *ram$_i$ ser$_j$ apan$_{i/*j}$ laikan ke dekhailkai*
    Ram Lion self   kids GEN see 3PST
    Ram showed self's children the tiger.

Following the view of Mahajan (1990), *ser* 'Lion' may also be the antecedent of *apan* 'self's' in sentence (27), and creating ambiguity, because Mahajan's view holds that it is A-movement. While in Dayal's view, it is A-bar movement and she is against Mahajan's view that scrambled NP can be antecedent of an anaphor. According to Dayal (1994: 239), the facts concerning binding

do not support such claim as far as binding allows 'scrambling is an instance of A-bar movement only but not A- movement'.

(28) *mohan ke*i* apan**i/j* laikan maralkai
Mohan DAT self   kids beat 3PST
'Self's children beat Mohan.'

If this sentence would have been acceptable for the native speaker of Magahi, then Mahajan's analysis can be true. If we consider it is correct in Magahi, then scrambling moves an NP to A-position, as the direct object binds the possessive anaphora *apane bacoN 'self's children.'* Mahajan's analysis does not follow two things – first acceptability of the sentence and correct binding treatment, as scrambled NP *mohan ko* 'Mohan – acc' should not bind the possessive reflexive, since it is in an argument position.

3.6 Sub commanding NP as an antecedent

As quoted in Tang (1989), if an antecedent is a subpart of a phrase that c-commands form, it is said to sub- command that form. Thus, 'a reflexive may have an antecedent which does not strictly c-command it, but if a specifier of a subject NP (sub-command)' (Davison 2000: 66-67).

In the following example of Magahi, Ram is a possessor occurring in the spec position of the head DP *man* 'heart' that c- commands the anaphor *apana ap* 'self's self'

(29) [*ram*i* ke   man*j*] meN apana (ap)*i/*k* se
    Ram GEN heart in   self   self   from
    nafrat hai
    hatred be 3PRS
    'Ram's mind has hate for himself.'

3.7 Non-locally bound anaphoric expression and ambiguity

There have been extensive discussions for the option of a reflexive antecedent outside the local domain in a number of languages, which has been originally proposed by Pica (1984), Battistellan (1987), and Huang and Tang (1989). The extension of binding domain has been based in a number of proposals on the premise that the reflexive itself undergoes head-movement to an inflectional category. In Magahi, reflexive pronoun may have possibility of antecedents within minimal clausal domain and in a higher clause. For instance,

(30) sita*i* ram*j* ke [PRO*j* apana*j* (ap) ke   dekhe]
    Sita Ram dat   self   self gen see
    lagi bibash kailkai
    for forced do 3PST
    'Sita forced Ram to look at self'.

(31) ram*i* shyam*j* ke apana*i/j* /khud ke*i/j* /okar*i*/*j*
    Ram Shyam dat self   self DAT him
    burai karit sunlai
    criticize do hear 3PST
    'Ram heard Shyam criticizing self/him'

The simplex reflexives like *apan/ okar* in (30) and (31) are ambiguous for local and long distance antecedents with preference for the local reading. The complex reflexive *apana ap* in (30) has only local antecedent. Pronouns are locally subject free in (31) (i.e. no possibility of PRO). Genitive anaphors in (31) are monomorphemic and have both local and long distance antecedents. Genitive anaphors may be theta marked arguments in (31) or adjunct.

3.8 Interaction of reflexive antecedents and verbal infections

The categories of tense, aspect and agreement are illustrated in the following sentences (32- 34). Tense in these sentences is realized in the copula *hai/he* 'be- present- 3sg/Hon' and the future inflection. Aspect is realized as the perfective suffix on the main verb in (32) and on both the main and the embedded clause verb in (33).

(32) u*i* apan laikan*i* ke apana ap*i/*j* se
    she self children DAT self   self   from
    kaise alag   kar saka hai?
    how separate do can be 3PRS
    'How can she separate the child from self?'

(33) laikan*i* [dusara laikan*j* se]   apan*i/*j* okar**i/j*
    kids   other   kids   from self   his
    khilauna chin lelan   he.
    toys   snatched take 3PRS be Hon
    '[One child] has snatched from [another child] self's toys'.

The agreement relations in these sentences are different. Magahi has just one obligatory person agreement relation per clause, which is controlled by a nominative argument. If more than nominative argument is available, agreement is controlled only by the one which c-commands the others. The nominative subject controls agreement as well as the reflexives in (32- 33). Unlike simple sentences 32-33, the sentence 34 contains an embedded clause.

(34) *sita$_i$ [radha$_j$ ke apana$_{i/j}$ kamra meN baiThit]*
Sita Radha DAT self   room in seated
dekhlai (he)
see 3PRS
'Sita saw/has seen [Radha sitting/seated in self's room]'

The matrix verb *dekh- al* 'to see' selects an aspectual participle and a perfective participle from *hoil* of the copula *ho- al* 'be-inf'. The perfective participle forms of the embedded clause verb in (34) does not show person agreement in Magahi with the feminine subject Radha, because the embedded clause is an example of ECM, where the subject Radha is marked with dative *ke.* All post- positions in Magahi block agreement, so the verbal forms have default person agreement with the matrix subject Sita. Nevertheless, both the matrix subject and the embedded clause subject are possible antecedents for the reflexive *apan.* Domains which have non- finite tense/ aspect morphology selected by the matrix verb do allow local reflexive binding. The sentence (35), in addition to (34), illustrates a property of subjects in Magahi: they may be marked for case by postposition dative *ke* (35) or can come without any overt case (33- 34). But they are possible antecedents of reflexive whether they are controlling verb agreement morphology or not.

(35) *ram$_i$ ke [apan$_{i/*j}$ okar$_{i/j}$ dost bahut accha]*
Ram DAT self   his   friend very like
laga hai
seem be 3PRS
'Ram likes self's/his friend very much'

Agreement is being done with nominative object NP, and reflexive is bound with dative subject. Note- *okar* can have possibility to bind with Ram or can have the possibility of being third person who is standing outside of the sentence whose friend is being liked by Ram.

4 Conclusion

This paper examined anaphors in Magahi within the principles of Binding Theory outlined in Chomsky (1981). Primarily, it shows a general syntactic discussion on anaphor in terms of GB theory where we found that anaphors in Magahi follow Principle- A of Binding Theory. Anaphors in Magahi possess operator like properties, and depend on the finiteness of the clause in which they occur. Moreover, it focused on some subtle issues like local and long distance binding, definitions on domains, occurrence of anaphora on the basis of finiteness of the clause. Finally, it presented the deep syntactic analysis of some prior conditions of anaphora in Magahi from typological perspective of South Asian languages.

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THE PROCESS OF GRAMMATICALIZATION OF DIRECTIONAL LEXEMES IN MEITEILON

Potsangbam Chaobimeena

The paper presents the process of grammaticalization and gives details about how the grammatical forms evolve out of their earlier lexical forms and undergo different pathways. The same lexemes are used for simple verb, the directional markers, the aspectual meaning and certain extended connotations. Desemanticization is found in Meiteilon.

1 Introduction

Meiteilon is a Tibeto-Burman language spoken in the north-east of India. It is mostly spoken in the state of Manipur and its neighbouring states like Assam, Tripura and also countries like Myanmar and Bangladesh. The language, Meiteilon is also known as Manipuri. It is the lingua franca of the state. Meiteilon was officially recognized as one of the national languages of India in 1992.

Grammaticalization is the linguistic process in which a lexeme turns into a grammatical formatives and makes grammatical formatives still more grammatical. Heine and Reh (1984:15) define grammaticalization as "an evolution whereby linguistic units lose in semantic complexity, pragmatic significance, syntactic freedom and phonetic substance." In simple word, grammaticalization is the process in which linguistics elements: phonetics, morphemic, syntactic, semantic, etc. become constituents of grammar.

According to Heine and Kuteva (2002), Grammaticalization involves four main interrelated mechanisms as follows:

a. Desemanticization or semantic bleaching: It means loss in meaning content.

b. Extension or context generalization: It means use in new contexts.
c. Decategorialization: It means loss in morpho-syntactic properties character-istic of lexical or other less grammat-icalized form.

d. Erosion or phonetic reduction: It means loss in phonetic substance.

Though the process of grammaticalization in general have been used since time immemorial, the term 'grammaticalization' was coined by Meillet in 1912 (Ilse Wischer and Gabriele Diewald, 2002: ix). Researchers gives their opinion that morpheme may also arise out of other morphemes. It is a diachronic and a very gradual process. It occurs over a period of time. Grammaticalization is a kind of language change, subject to certain general process and mechanisms of change and also characterized by certain consequences such as change in grammar. Grammaticalization spreads gradually across linguistics contexts on one hand and across social contexts on the other hand.

The various stages of grammaticalization is

> Lexical unit → functional unit → affix → clitic → ø (null morpheme)

(1) She is going to the police.
    S   V   O/LOC

(2) She is going   to ask the police.
    S FUT AUX V   Comp.

In the above example (1), the verb 'go' is used as main verb while in example (2), it is used as a future auxiliary. Thus, this way grammaticalization takes place. The verb 'go' is a lexical unit and now it is grammaticalized to mean the functional unit i.e. future auxiliary. Likewise, there are different forms too where postpositions are derived from nouns, deictic categories from body parts etc.

In Meiteilon, there are mainly four different directional lexemes, namely 'kʰət' 'up', 'tʰə' 'down', 'tʰok' 'out' and 'sin' 'in' which can be attached to verbal roots that allow spatial directionality. These directional lexemes can also be attached to non-directional verbal roots as well as to state verbs (which are basically non-directional). In these instances, they give certain extended connotations which are basically non-directional. The paper enlists the various ways in

which these directional lexemes are grammaticalized in Meiteilon. The semantic meaning of these lexemes still exists in Meiteilon making easier for us to spot the process of grammaticalization. Still today, these lexemes can exist independently as lexical items. As grammaticalization is a gradual and a diachronic process and has gone through different pathway/process, it will show how these verbs are grammaticalized through different stages i.e. from simple verb form to directional markers and then to mark the aspectual meaning, and lastly to give certain extended usages. These verbs when attached to different verbs give different meanings and different expressions. It also shows the role of these lexemes when they are attached to different types of verbs.

1.1 Simple verb form

There are certain lexical items in Meiteilon which are specifically used to code deictic information. These lexemes, when do not carry any deictic or directional meaning occur as independent items having their own semantic baggage. They behave like all other independent lexemes of the language. They are discussed below:

kʰət 'signal', 'gesture'

(3) əi nə   mit   kʰət-li
    1-NOM eye gesture/wink-PROG
    'I am winking.'

tʰɑ 'plant', 'slap'

(4) tomba- nə   əŋɑŋ-də kʰupak-nə tʰɑ-i
    Tomba-NOM child-ACC palm-INST slap-PRST
    'Tomba slaps the child.'

(5) mɑ-nə   u   tʰɑ-i
    3-NOM   tree   plant-PRST
    'He plants tree.'

tʰok 'exit'

(6) məpan   tʰok-u
    out   exit-COM
    'Go Out!'

sin 'copy', 'change'

(7) mɑ-nə   fʰurit   sil-li
    3-NOM   shirt   change-PROG
    'He is changing his shirt.'

(8) rəvi-nə   lɑirik   sil-li
    Ravi-NOM book   copy-PROG
    'Ravi is copying the book.'

Now, these verbs can express the direction of the occurrence of the event of the main verb.

1.2 Horizontal and vertical directions

As already mentioned in section 1.1, these lexical items often encode deictic information when grammaticalized. Information like movement of upward, downward, outward and inward are often indicated via the use of these lexemes when they are attached with the dynamic verbs[1] which are unmarked for directionality for correctly specifying the direction of the main verb. Grammaticalized meanings are given in capital letters in the examples below.

kʰət 'upward'

(9) əi-nə   mə-bu   iŋ-kʰət-li
    1-NOM   3-ACC   push-UP-PRST
    'I push him up.'

Unlike in sentence (3), 'kʰət' here behaves differently. 'kʰət' in sentence (9) seems to have delexicalized and has started to encode the directional information of upward.

tʰə 'downward'

(10) mə kum-tʰə-i
    3 come-DOWN-PRST
    'He comes down.'

Similarly, 'tʰə' 'down', when used with the dynamic verbs carries the downward movement of the main verb.

tʰok 'outward'

(11) isiŋ-du   batin -də gipɑ -tʰok-e
    water-DET bucket ABL   fall-OUT-PRST
    'The water falls out from the bucket. '

Likewise, 'tʰok' which literally means 'exit', 'out', when attached with another dynamic verb gives the meaning of outward direction.

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[1] A dynamic verb is a verb that shows continued or progressive action on the part of the subject.

sin 'inward'

(12) *əi-nə upu-da   pʰi   tʰəm-jin-le*
    1-NOM cupboard-LOC cloth keep-IN-PST
    'I kept the cloth in the cupboard.'

Although, 'sin' in section 1.1 (iv) has the meaning of 'copy' and 'change', here it is totally different and is used to encode the meaning of the inward direction of the main verb.

That means these lexemes are employed as adverbs of location. These come in pairs of opposite. The directional lexemes, namely '*sin*' 'in', 'copy', '*tʰok*' 'out', 'exit', '*tʰə*' 'down', 'plant', 'slap' and '*kʰət*' 'up', 'gesture' when attached with dynamic verbs provide the horizontal and the vertical directions of the main verb.

1.3 Aspectual meaning

The lexemes which were used to mark the directions namely '*kʰət*' 'up', '*tʰə*' 'down', and '*tʰok*' 'out', 'exit' are also grammaticalized to give the aspectual meaning of 'begin', 'continue' and 'finished' respectively when attached to the non-directional dynamic verbs rather than simply indicating independent verbs or the directions of the main verbs. But the last lexeme i.e. 'sin' is used with verbs to indicate a change in state after a long period of time or gives the inchoative meaning.

kʰət 'begin'/'start'

(13) *ma-nə   tʰəbək   tou-kʰət-li*
    3-NOM   work   do-begin-PRF
    He started to do the work.

tʰə 'continue'

(14) *məhak   fəm   tʰə-i*
    3-HON   sit   down-PRST
    He continues to sit.

tʰok 'finished'

(15) *ucek tu   pai-tʰok-kʰre*
    Bird-DET   fly-exit-PRF
    'The bird flew away.' (Finished)

sin 'inchoative meaning'

(16) *mə-si   kən-sil-le*
    DET   hard-in-PRF
    'This becomes completely hard.'

1.3 Additional connotations

tʰok 'exit'

Bhat and Ningomba (1995) discuss on the following additional connotations that the lexemes 'tʰok' 'exit' provide in the case of these verbs.

(17) Carelessly:
    ca   'eat'
    ca-tʰok   'eat carelessly'
    jeŋ   'look'
    jeŋ-tʰok   'look carelessly'

(18) Connected with an evil spirit:
    lat   'worship'
    lat-tʰok   'worship an evil spirit'
    kok   'remove'
    kok-tʰok   'remove evil spirit'

(19) Doing something openly or publicly:
    kəp   'weep'
    kəp-tʰok   'weep openly'
    si   'die'
    si-dok   'die for noble cause'

Note: 'tʰok' after consonant and 'dok' after vowel sounds.

(20) Other meanings:
    lep   'stop'
    lep-tʰok 'stop suddenly while doing something'

The lexeme 'sin' 'copy'/'change' has the extended meaning of joining some other persons or objects that are already involved in an event that is denoted by the verb.

(21) *kəp*   'weep'
    kəp-sin   'join others in weeping'
    pʰut   'boil'
    pʰut-cin   'put some additional objects for boiling'

In contrast with 'tʰok' which gives the meaning of 'doing something publicly', 'sin' gives the meaning of 'doing something privately/secretly or doing something in a particular place' in some cases.

(22) k^hən   'endure'

  k^həŋ-jin   'endure silently'

  k^hok   'peel'

  k^hok-cin   *'peel in a particular place'*
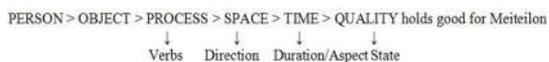
1.4 Implicational Connotations

In the case of dimensional state verbs, the verbal root 't^{h}ok' **'out'** generally denotes an unnatural or unexpected process whereas the verbal root 'k^{h}ət' **'gesture'/'wink'** denotes a natural process like growth.

(23) *s*əŋ 'long'

  *s*əŋ-dok'   lengthen suddenly' (*dok* and *g*ə*t* is due to voiced sound ŋ)

  *s*əŋ- *g*ət   'grow long'

  noi   'fat'

  noi- t^h*ok*   'fatten suddenly'

  noi-k^h*ət*   'fatten gradually'

The verbal root 'sin' **'copy'/'change'** provide the meaning of completion in the case of some verbs and 'k^{h}ət' **'gesture'/'wink'** that of starting.

(24) *k*ən   'hard'

  *k*ən*-sin*   'become completely hard'

  *k*ən*- k*^{h}*ət*   'start to become hard'

  *k*əŋ   'dry'

  *k*əŋ*-sin*   'become completely dry'

  *k*əŋ*- k*^{h}*ət*   'start to become dry'

Thus, from the above examples we can easily see the pathways of grammaticalization in which these verbs have gone through. The process of grammaticalization which can be lineally arranged in the following way and they are always overlapping with each other.

PERSON > OBJECT > PROCESS > SPACE > TIME > QUALITY holds good for Meiteilon
    ↓   ↓   ↓   ↓
  Verbs Direction Duration/Aspect State

It would seem that these cases of overlapping meaning are not coincidental but rather form an integral part of the development from lexeme to a grammatical morpheme. Overlapping is a common feature of grammaticalization processes. The transfer of verb (PROCESS) to a directional entity (SPACE) to durative or aspectual meaning (TIME) and finally to (QUALITY) which indicates the state of something. It is a good

example of unidirectionality of grammaticalization.

2 Conclusion

The whole paper gives the detailed analysis of how the grammatical forms evolved out of their earlier lexical forms. It gives how Meiteilon undergoes the process of grammaticalization. This language uses the same lexemes for representing the simple verb forms, directional and the aspectual meaning as well as the other extended usages. The process of desemanticization is found in Meiteilon. Their original meaning is totally lost. The process of grammaticalization which can be lineally arranged and which is always overlapping holds good for Meiteilon. The transfer of verb (Process) to a directional entity (Space) to durative or aspectual meaning (Time) and finally to (Quality) which indicates the state of something. The arrangement of categories is unidirectional; it proceeds from left to right. It is a good example of unidirectionality of grammaticalization.

Abbreviations

ACC   accusative

COM   command

COMPL   completive

COMP   complement

ERG   ergative

DET   determiner

DUR   durative

FUT AUX   future auxiliary

HAB   habitual

INST   instrument

LOC   locative

NOM   nominative

O   object

PRF   perfective

PROG   progressive

PRST   present

PST   past

S   subject

V   verb

1   first person

2   second person

3   third person

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INCHOATIVE/CAUSATIVE VERB PAIRS IN TSUM

Dubi Nanda Dhakal & Mark Donohue

This paper describes the variety of causative constructions found in Tsum, a Tibetan language spoken in three Village Development Committees in northern Gorkha. All languages have some means of expressing an inchoative vs. causative relationship between verbs, though frequently the same strategy is not found for all verb pairs. We describe the range of ways inchoative/causative verb pairs can be related in Tsum.

1 Introduction: Causation

Causation is the process by which a verb increases in valency by one, and the base predicate is supplemented with a new causer. Following the formalism introduced by Alsina (1992), we can represent this alternation, with the base predicate being monovalent (such as the inchoative verb 'burn') as shown in (1). The base predicate, 'burn', subcategorises for one argument, a theme. The causative version has the same base predicate, which serves as an embedded third argument in a causative predicate consisting of an agent, an argument which is co-referential with the (highest) argument of the base predicate, and the base predicate itself. This is shown in the predicate composition in (1b). Sentences exemplifying these argument structures are given in (2).

(1)   a.   'burn *<theme>*'
      b.   'CAUS *<agent, ___ burn <theme>*>'

(2)   a.   The wood burned.
      b.   The woman burned the wood.

A major source of variation cross-linguistically is the morphological or syntactic realisation of the causative relationship. In (2) we see that English does not require any morphological derivation of the verb in order for the intransitive 'burn' to be used transitively. In Nepali, on the other hand, the verb with equivalent meaning, *dzəlnu* 'burn', requires a causative suffix to be used in a transitive clause, as in (2b). Other verbs, such as *gholnu* 'dissolve', employ a suffix to derive the

intransitive member of the pair. This represents an anticausative relationship.

(3)   a.   *kaʈh   dzəl-jo.*
      wood   burn-PST.3SG.M.NH
      'The wood burnt.'

      b.   *aimāi-le   kaʈh   dzəl-**ā**-in.*
      woman-ERG wood   burn-PST.3SG.M.H
      'The woman burnt the wood.'

(4)   a.   *tsini ghol-**i**-jo.*
      sugar   dissolve-ANT-PST.3SG.M.NH
      'The sugar dissolved.'

      b.   *aimai-le   tsini   ghol-i.*
      woman-ERG sugar   dissolve-PST.3SG.F.NH
      'The woman dissolved the sugar.'

In addition to the *labile* alternation witnessed in English, and the *causative* and *anticausative* relationships seen in Nepali, two other common strategies have been identified as marking the inchoative-causative relationship (Haspelmath 1993, Nichols et al. 2004). The different strategies are listed in (5).

(5)   a.   ANTICAUSATIVE
      Causative predicate is the base, inchoative predicate is derived.

      b.   CAUSATIVE
      Inchoative predicate is the base, causative predicate is derived.

      c.   EQUIPOLENT
      Inchoative and causative predicates are both derived.

      d.   LABILE
      Inchoative and causative predicates both employ the same verb

      e.   SUPPLETIVE
      Inchoative and causative predicates employ different verb.

This article examines the different mechanisms used to mark verbs in inchoative-causative alternations in Tsum.

2 Tsum

As mentioned above, Tsum is a Tibetan language of upper Gorkha. It appears to be lexically most

similar to the dialect of Kyirong, as described in Huber (2005). The segmental phonology of Tsum also closely resembles that of Kyirong, though the tone system of monosyllables shows considerably more complexity than has been reported for other Tibetan varieties (Liu 2015). While the nominal morphology appears to be regularly cognate with other central Tibetan varieties, certain aspects of the verbal morphosyntax(such as the agreement for subject and object on the verb in ditransitive clauses) shows more in common, both in form and structure, with its western neighbor Kuke, a non-Tibetan language of the Manaslu region. In (6) – (8) we can see that Tsum employs an 'ergative' case that relies as much on agency as it does on valency. While the absolutive marking on the single argument of the monovalent clause in (6) is expected, and the ergative in (8) follows from general definitions of ergativity, the absence of the case marker in (7) shows that argument structure without reference to semantics is not enough to explain the morphosyntax of even simple clauses. Note that the verbs in these clauses are inflected only for tense/aspect.

(6) ŋa   phir-bo
    1SG.ABS jump-PST
    'I jumped. '

(7) ŋa   œuŋ   dzhè-soŋ
    1SG.ABS story   forget-PST
    'I forgot the story. '

(8) kho-i   san   jø-soŋ
    3SG-ERG porridge stir-PST
    'She stirred the porridge.'

In the following section we will focus on the changes in the verb that are found in inchoative/causative alternations.

3 Investigating causation in Tsum

We examined the text-list of verbs discussed by Haspelmath (1993), and added the verbs examined in Nichols et al. (2004). This survey, the members of which are reported in (9) and (10), resulted in a corpus of data about inchoative/causative alternations, and other causative alternations, across a range of verbs of different semantic types, which can be decomposed into the dimensions ± dynamic (does the predicate show a change over time) and ± agentive (does the predicate imply volition on the

part of the subject). In addition to this directed survey, we also employed general linguistic principles (examining texts, directed elicitation).

(9) boil, freeze, dry, wake up, go out/put out, sink, learn/teach, melt, stop, turn, dissolve, burn, destroy, fill, finish, begin, spread, roll, develop, get lost/lose, rise/raise, improve, rock, connect, change, gather, open, break, close, split, die/kill.

(10) laugh/make laugh, angry/make angry, afraid/frighten, hide.INTR/ hide.TR, break.INTR/ break.TR, open.INTR/ open.TR, (be) straight / straighten, hang.INTR/ hang.TR, turn over.INTR/turn over.TR, fall/ drop.TR, sit down/seat, learn/teach, see/show

(11)

	+ dynamic	– dynamic
+ agentive	go, fly, run, laugh, boil	—
– agentive	fall, burn, rise, stop	(be) open, (be) closed, freeze

The simplest form of causative in Tsum involves an analytical causative, as shown in (12) and (13). In (12) the base predicate *khur* 'carry' is already bivalent, and the only way to add a causer to this clause is by subordinating the clause inside a matrix clause formed with *dzoe* 'make', shown in (13). The clause is now trivalent, and the only argument eligible for ergative case marking is the subject of the causative predicate. The predicate composition is shown in (14) a and b.

(12) kho-i   khuru   khur-soŋ
    3SG-ERG load   carry-PST
    'He carried the load.'

(13) *Ã-i kho-la*   khuru
    mother-ERG 3SG-DAT load
    khur-tsi   *dzoe-wo.*
    carry-SEQ   make-PST
    'Mother made him carry the load.'

(14) a. 'carry <*agent, theme*>'
    b. 'CAUS <*agent,* ___ carry <*agent, theme*>'

It is not true that analytical causatives are the only way to add a causer to a bivalent predicate. In (15) and (16) we can see that *jur* 'throw' allows a causative suffix directly on the verb; the case marking found on the different nominals is the same as that seen in (12) – (13), implying that the process of predicate composition is the same for the arguments regardless of whether the causative process is mediated by a morpheme or a whole clause.

(15) *kho-i   dʒatsir   jur-soŋ*
    3SG-ERG   rubbish   throw-PST
    'He threw (out) the rubbish.'

(16) *Ã-i   kho-la   dʒatsir*
    mother-ERG   3SG-DAT   rubbish
    jur-tsu-soŋ
    throw-PST
    'Mother made him throw (out) the rubbish.'

(17) a. 'throw *<agent, theme>*

    b. 'CAUS *<agent, ___ throw <agent, theme>>*'

While the suffix *-tsu* is found with the largest number of verbs, it is not the only non-syntactic means of marking inchoative/causative pairs in Tsum. Returning to the list seen in (5), the following morphological strategies are found in Tsum.

(18) a. Anticausative ('devoicing')
    b. Causative   (suffix *-tsu*, or 'devoicing')
    c. Equipolent   (not attested in Tsum)
    d. Labile   (rare)
    e. Suppletive   (common)

Examples of inchoative/causative pairs mediated by an anticausative relationship in Tsum are shown in (19). In this group of verbs the inchoative member of the pair has a higher VOT than the causative member. As we can see, anticausative is a relationship found with non-agentive, dynamic base predicates.

(19) a. *khorwa*'turn.INTR', *korwa*'turn.TR'
    b. *kholwa*'boil.INTR', *kolwa*'turn.TR'
    c. *phjaŋwa*'hang.INTR', *pjaŋwa*'hang.TR'
    d. *tshakpa*'decrease', *tsakpa*'make decrease'

We have seen one example of a causative predicate derived with *-tsu*; further examples are found in (20).

(20) a. *ɲuwa*'cry', *ɲu-tsu-wa*'make cry'
    b. *norwa*'hang.INTR', *nor-tsu-wa*'hang.TR'
    c. *jurwa*'throw', *jur-tsu-wa*'make throw'
    d. *phøwa*'run away', *phø-tsu-wa*'make run away'

The profile of the verb pairs which use *-tsu* to derive the causative member do not include non-agentive, dynamic predicates; the incoative/causative verb pairs found with *-tsu* are split between agentive, dynamic predicates and non-agentive, non-dynamic predicates.

Another pattern for derived-causative pairs is found. In this group, as with the anticausative verb pairs, the alternation is marked by a change in VOT between the inchoative and the causative verb. Unlike the anticausative pairs, however, in this group the causative verb is characterized by higher VOT. The kind of verbs that are found in this group are non-agentive and dynamic.

(21) a. *barwa*'burn.INTR', *parwa*'burn.TR'
    b. *gaŋba*'be/get filled', *kaŋba*'fill.TR'
    c. *gulwa*'rock.INTR', *kulwa*'rock.TR'
    d. *dzarwa*'fall', *tsarwa*'drop.TR'

As mentioned above, labile verbs are not common in Tsum. In this group there is no phonological difference between the inchoative and the causative verbs, and the group is associated with non-agentive predicates.

(22) a. *ʈhuwa*'dissolve.INTR', *ʈhuwa*'dissolve.TR'
    b. *phewa*'be open', *phewa*'open.TR'
    c. *kamba*'be/get dry', *kamba*'dry.TR'
    d. *rilba*'roll.INTR', *rilba*'roll.TR'

Finally, examples of suppletion in Tsum are shown in (23). In these pairs there is no phonological relationship between the inchoative and causative senses. As we can see, suppletion is a relationship found with dynamic base predicates.

(23) a. *phirwa*'fly', *taŋwa*'make fly'
    b. *phamba*'lose', *lakpa*'defeat'
    c. *tharwa*'rise', *parwa*'raise'
    d. *noŋwa*'be destroyed', *dzuwa*'destroy'

4 Discussion of inchoative/causative pairs in Tsum

We have seen data from five different strategies involved in Tsum inchoative/causative pairs.[1] Structurally these represent anticausative, labile and suppletive patterns, and two types of causative derivations.

It is not altogether surprising to find multiple kinds of inchoative/causative pairs. Proto Tibeto-Burman has been reconstructed with a number of valency changing affixes, and much of the

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[1] A sixth strategy, in which the causative member of the pair is segmentally identical to the inchoative verb but in which the lexical tone (attested on the inchoative verb) is replaced with a HL pattern, is not discussed in this paper.

variation in Tsum can be ascribed to the reflexes of different members of the valency-affecting affixes becoming lexically fossilized in Tsum. In Thurgood and Lapolla we read that '[t]he *s-prefix in most cases had a causativizing, denominative, or 'intensive' (change of state) function.', and that 'we find pairs of cognate lexical items which differ phonetically only in terms of the voicing or aspiration of the initial, and different semantically in terms of transitivity, where the item with the voiced initial is intransitive, and the item with the voiceless initial is transitive.' This last statement could be rephrased in Tsum as 'the stem with the low-VOT initial is intransitive, and the stem with the high-VOT initial is transitive', reflecting the forms seen in (21). The first of these strategies, the *s-prefix, has been described by Matisoff (2003) as being generally reflected such that 'the stem with the low-VOT initial is intransitive, and the stem with the high-VOT initial is transitive', showing the 'absorption' of the *s- into the initial consonant of the stem. Matisoff cites some examples showing this alternation, repeated in (24), reflecting the Proto-Tibeto-Burman forms *bok/*s-bok, *pok/*s-pok, and *kand/*s-kand, respectively.

(24)   a. Lahu
            bok 'be born'; *phok* 'give birth to'
         b. Chin
            pok 'be open'; *phok* 'open.TR'
         c. Limbu
            kand 'be wounded'; *khand* 'wound'

These forms are found in Tsum such that the stem with the high-VOT initial is intransitive, and the stem with the low-VOT initial is transitive, shown in (19). The different etymologies of different Tsum verbs has resulted in oppositive directions of derivation for different verb stems in the language.

It is not clear how to explain the high proportion of suppletive verbs in Tsum. Of the test list shown in (9), cross-linguistically (taking the data from Haspelmath (1993) and The World Atlas of Transitivity Pairs (2014)) causative relationships are the most commonly attested, and suppletion the least frequent (individual languages, and individual lexemes, show a wide range of variation). Tsum shows the highest reported frequency of suppletive verb pairs of any language so far investigated, with fully 34% of its inchoative/causative verb pairs formed by suppletion (with examples shown in (23)).

Global averaged proportions for inchoative/causative relationships

(25) a. Anticausative   23% (0% – 80%)
      b. Causative38% (0% – 91%)
      c. Equipolent   15% (0% – 64%)
      d. Labile   17% (0% – 90%)
      e. Suppletive   8% (0% – 29%; 34%)

For Tibeto-Burman languages reported in Haspelmath (1993) and The World Atlas of Transitivity Pairs (2014), the figures are even more skewed. Tibeto-Burman languages favour causative relationships, and disfavor most others; apart from Tsum, with 34% suppletive forms, the maximum reported for a Tibeto-Burman language is 22% (Mandarin Chinese).

Tibeto-Burman averaged proportions for inchoative/causative relationships

(26) a. Anticausative   9% (0% – 28%)
      b. Causative   44% (0% – 79%)
      c. Equipolent   9% (3% – 18%)
      d. Labile   19% (0% – 75%)
      e. Suppletive   13% (0% – 22%; 34%)

Tsum proportions for inchoative/ causative relationships

(26) a. Anticausative   21%
      b. Causative   17%
      c. Equipolent   3%
      d. Labile   24%
      e. Suppletive   34%

The unusually high use of suppletion in the creation of inchoative/causative verb pairs speaks of a language history in which more paradigmatic relationships between semantically related, yet syntactically distinct were not transmitted. Other languages of the Manaslu region also show high proportions of suppletion in the verb test-list, and it is not unlikely that the lexical patterns attested here reflect ancient patterns that are not directly related to language family, but to language area. More investigation of other languages of the region is required.

Abbreviations

1   first person

2	second person
3	third person
ACC	accusataive
ANT	anticausative
DAT	dative
ERG	ergative
ANT	anticausative
INTR	Intransitive
PST	past

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Dubi Nanda Dhakal

Rana Tharu presents some interesting cases of verb agreement. Like other Indo-Aryan neighbours, the verb is marked for agreement with one nominal phrase in a clause. The verb encodes the information, such as person, number, gender and honorificity of the subject. The transitive verbs are marked distinctly only if the subjects are the third person pronouns or noun phrases (NPs) in the past tense.

Keywords: Verb agreement, gender, honorificity, transitive agreement

1 The Rana Tharu language

Rana Tharu is one of the varieties of the Tharu language spoken in the western terai. Lewis (2009) and Eppele et al. (2012), for example, lists four dialects of the Tharu language, namely Rana Tharu, Dangaura Tharu, Chitwania Tharu, and Morangiya or Kochila Tharu. The division of the Tharu dialects is similar to Boehm (1998). He has used the word lists from four Tharu varieties, viz. Rana, Dang, Chitwan and Morang for phonological reconstruction. Tharus are concentrated in Laxmipur and Shankarpur VDCs of the Kanchanpur district of far-western Nepal. The Rana Tharu speakers also live in Geta, Urma, Chaumala, Malakheti, Shripur, Beldivipur, and Gadariya VDCs and in Dhangari Municipality in Kailali district. Although the census (2001) showed two varieties of Tharu language in Kailali and Kanchanpur, 2011 Census does not differentiate any varieties of Tharu in their enumeration (CBS 2002, CBS 2012). The recent sociolinguistic features are reported in Regmi et al. (2012). Similarly, preliminary grammatical description is found in Dhakal (2013, 2014b, 2015).

3 Pronouns

Rana Tharu pronouns show two levels of honorificity in the second person pronouns. Rana Tharu is a nominative-accusative language. The agent of a intransitive clause, and the subject of the intransitive clause are marked similarly whereas the patient of the transitive clause is marked differently. Rana Tharu pronouns and their inflections are shown in Table (1). The pronouns have oblique forms when they inflect for genitive, dative-accusative, and ablative Table (1).

Table 1: Inflection of pronouns for different cases

		GEN	DAT-ACC	ABL
1SG	mʌi 'I'	mir	muke	mose
1PL	hʌm 'we'	hʌmke	hʌmʌr	hʌmse
2SG	toi 'you'	toke	tir	tose
2SG.H	tum 'you'	tumke	tumro	tumse
2PL	tum 'you'	tumke	tumro	tumse
3SG	ba	bake	bako	base
3PL	be	beko	beke	bese

4 Verb morphology

Verb morphology is predominantly suffixing in Rana Tharu, and so is the case with nominal morphology. Rana Tharu makes a distinction among the present, past and future tenses. The past tense is marked either morphologically (1) or periphrastically (2). Morphologically, past tense marker is *-o~ -e~ -i*. These suffixes express the cumulative features. For example, the suffix *-o* not only expresses the past tense, but also the third person, singular and non-honorific information of the NP cumulatively (1)[1]. Similarly, we see that the verb stem 'run.away' is followed by *gʌo* 'PST.3.SG.NH' in (2). It is the grammaticalized form of the verb *dza* 'go' similar to in Hindi (cf. Kachru 2006) to express the past tense.

(1) *surume ao bʌghʌʈa*

    suru-me   a-o   bʌghʌʈa
    beginning-LOC   come-PST.3SG.M.NH tiger
    'The tiger came in the beginning.' [JS.14]

(2) *muɖka bhag gʌo*

    muɖka   bhag   gʌ-o
    frog   run.away PST-3SG.M.NH

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[1] The number and the abbreviations after each example refers to the examples obtained from the texts. The abbreviated texts are: Jackal Story (JS), Conversation1 (C1), Wise Crab (WC), Seven Daughters (SD). Rana (2066a, 2066b, 2066c) are also used in the analysis of the verb agreement system in Rana Tharu.

'The frog ran away.' [C1.8]

The inflection of the verb *bʌiʈh* 'sit' in the past (morphological and with the past form *gʌ-*) and future tense is shown in Table (2).

Table 2: Inflection of verbs in the past and future tense

	PST	PST	FUT
1SG	bʌiʈho	bʌiʈh gʌo	bʌiʈhoŋgo
1PL	bʌiʈhe	bʌiʈh gʌe	bʌiʈheŋge
2SG.NH	bʌiʈho	bʌiʈh gʌo	bʌiʈhego
2SG.F.NH	bʌiʈhi	bʌiʈh gʌi	bʌiʈheigi
2SG.H (M/F)	bʌiʈhe	bʌiʈh gʌe	bʌiʈheige
2PL (H/NH)	bʌiʈhe	bʌiʈh gʌe	bʌiʈhege
3SG.M.NH	bʌiʈho	bʌiʈh gʌo	bʌiʈheigo
3(SG/PL) F.NH	bʌiʈhi	bʌiʈh gʌi	bʌiʈheigi
3SG.M.H	bʌiʈhẽ	bʌiʈh gʌe	bʌiʈheŋgĩ
3(SG/PL)F.H	bʌiʈhĩ	bʌiʈh gʌ̃i	bʌiʈheŋgẽ
3PL (H/NH)	bʌiʈhe	bʌiʈh gʌe	bʌiʈheige

Unlike the past tense, the present tense is periphrastically formed by the imperfective participle *-t* attaching to the verb stem followed by the present auxiliary. This is similar to Hindi (Kachru 2006:147; Olphen 1975:294). An example follows.

(3) *sʌndzi khin gham ute dzat hʌe*

    sʌndzi   khin   gham   ute
    evening while   sun   that.side
    dza-t   hʌe
    go-IMPF be.PRES.3SG.NH
    'The sun moves (lit. goes) to that side (direction) in the evening.'

In the same way, the future time is indicated by *-ʌŋg/-g* inflecting differently for person, number, gender and honorificity. The future tense marker is *-g* which is also similar to that in Hindi (Kachru 2006). The verb inflection in the future tense is also included in Table (1). An example follows.

(4) *mʌe kʌl kʌpʌɖa dhomʌŋgo*

    mʌe   kʌl   kʌpʌɖa dho-mʌŋg-o
    I   tomorrow   clothes wash-FUT-1SG
    'I will wash my clothes tomorrow.'

The inflection for copular verbs for present and past tense is shown in Table (3). The copulas are also used in progressive and perfect aspects as auxiliaries in addition to their use in the copular clauses. The inflections of copulas are given in Table (3).

Table 3: Inflection of copular verbs

	be. PRES	be.PRES. NEG	be.PST	be.PST. NEG
1SG	hʌ̃u/ hõ	nahʌ̃u/ nahõ	rʌhʌ̃u/ rʌhõ	narʌhʌ̃u/ narʌhõ
1PL	hʌ̃e	nahʌ̃e	rʌhʌ̃e	narʌhʌ̃e
2SG.NH	hʌe	nahʌe	rʌhʌe	narʌhe
2SG.H	hʌu	nahʌu	rʌhʌu	narʌhʌu
2PL	hʌu	nahʌu	rʌhe	narʌhe
3SG.NH	hʌe	nahʌe	rʌhʌe	narʌhʌe
3SG.H	hʌ̃e	nahʌ̃e	rʌhʌ̃e	narʌhʌ̃e
3PL	hʌ̃e	nahʌ̃e	rʌhʌ̃e	narʌhʌ̃e

Typologically, the verb inflection in Rana Tharu resembles to 'western Hindi'. The tense distinction and tense markers are similar to Hindi (cf. Kachru 2006:79-80) in Rana Tharu. Moreover, the copula begins with *h-* and its past form is *rʌhʌ-* in Rana Tharu. This is also similar to western Hindi (cf. Kachru 2006: 82).

4 Verb agreement

As illustrated in Table (1-3), verb agrees with the number, person, gender, and transitivity in Rana Tharu. Since Rana Tharu is a nominative-accusative language, verbs agree with nominative subjects. By contrast, the dative subjects behave differently. We will first discuss the factors, such as person, number, gender, and honorificity. And then we move to the agreement pattern which is slightly distinct particularly in the transitive clauses when the subjects are the third person pronouns and other NPs. By verb agreement we mean "the systematic covariance between a semantic or formal property of one element and a formal property of another (Steele 1987, as cited in Corbett 2006:4).

4.1 Person, number

The tense, person, number, and even gender are simultaneously expressed in different tenses as shown in Tables (1-3). For example, the suffix *-i* encodes not only the past tense, but also the third person, singular, non-honorific, and feminine subject. Moreover, there is syncretism in the use of some agreement markers (1-3). For example, the suffix *-o* is not only the agreement marker

appearing with the third person singular subject, but also with the first person singular subject. Similarly, agreement suffix *-i* is used not only with the third person singular feminine non-honorific subject, but also the second person singular feminine subject in the past tense. Examples follow.

(5) *mʌe pʌisa pʌisa nikaro*

mʌe	pʌisa	pʌisa	nikar-o
I	money	money	take.out-PST.1SG

'I took out only money.'

(6) *ʌur sera mʌr gʌo*

ʌur	sera	mʌr	gʌ-o
and	jackal	die	PST-3SG.M.NH

'And the jackal died.' [JS.59]

The third person singular masculine, non-honorific noun takes the agreement marker *-o* in the past. This is different from the agreement marker in the third person plural. We see that the second person singular honorific and the second person plural inflect similarly. In similar way, the third person singular honorific and the third person plural verbs inflect identically. The copular verbs also follow the same pattern (7-8).

(7) *be milʌnsar sʌŋgi rʌhãe*

be	milʌnsar	sʌŋgi	rʌhãe
they	intimate	friend	be.PST.3PL

'They were intimate friends.'[WC.5]

(8) *sikari sʌŋ kutta rʌhʌe*

sikari	sʌŋ	kutta	rʌhʌe
hunter	with	dog	be.PST.3SG.NH

'The hunter had a dog.'[JS.43]

We also see that the inflection in number and person is evidenced even when the past tense is periphrastically encoded as shown in Tables (1-3). As mentioned earlier, Rana Tharu makes use of the portmanteau suffixes in the past tense. Thus, agreement marker cannot be teased apart from the tense suffix in some cases. We see that the singular masculine non-honorific pronouns take the suffix *-o* whereas the plural pronouns take the suffix *-e*. See Table (3) to show the inflections of person and number of the copular verbs.

4.2 Honorificity

The honorificity combined with person and number triggers the verb agreement in Rana

Tharu. We see that the suffix *-o* also agrees with the second person singular in the past tense with non-honorific subject whereas the suffix *-e* codes the second person singular honorific subject as shown in (9-10, also see Tables 1-3).

(9) *toi bʌiʈho*

toi	bʌiʈh-o
you	sit-PST.2SG.NH

'You sat.'

(10) *tum bʌiʈhe*

tum	bʌiʈh-e
you.H	sit-PST.2SG.H

'You sat.'

Although Rana Tharu does not have distinct third person honorific pronouns, the verbs also agree with the honorificity of the subject (noun phrase). The agreement patterns differ in honorific and non-honorific NPs in Rana Tharu (see 14-15). Similarly, the honorificity is also expressed in the perfect aspect as well (11-12).

(11) *lãuɖa ao hʌe*

lãuɖa	ao	hʌe
boy	come-PRF.M.SG.NH	be.NPST.3.SG.NH

'The boy has come.'

(12) *didza ae hãe*

didza	a-e
brother in law	come-PRF.M.SG.H

hãe
be.NPST.3.SG.NH

'(My) brother in law has come.'

The honorific singular subject and plural subject encode the same agreement markers in many cases. For example, the suffix *-e* agrees with the second person singular honorific pronoun, or the second person plural. It is interesting to note that the second person singular honorific and the second person plural have the same pronouns (Table 1).

Now, let's look at the third person singular honorific pronouns. The suffix *-e* agrees with the third person plural pronouns, or noun phrases (11-12).

The honorific and non-honorific feminine subjects behave distinctly in terms of verb agreement. While the non-honorific feminine subject (NP) takes the suffix *-i* in the past tense, the honorific

subject (NP) makes use of the suffix -*ĩ*. Exmples follow (13-14).

(13) *lʌ̃uɖi bʌiʈhi*

lʌ̃uɖi   bʌiʈh-i
girl   sit-PST.F.NH
'The girl sat.'

(14) *bhoudzu bʌiʈhĩ*

bhoudzu   bʌiʈh-ĩ
sister.in.law sit-PST.3SG.F.H
'(My) sister-in-law sat.'

Example (13) can be contrasted with (14) in which the agreement suffix -*i* is used. In other words, the suffix -*i* is used with the non-honorific feminine subject, the suffix -*ĩ* is used with feminine honorific subject in the past tense. Examples show that the person and number agreement is evidenced in both main verbs and copular verbs in Rana Tharu (15-16).

(15) *bhbʌudzi aĩ hʌ̃e*

bhbʌudzi   a-ĩ   hʌ̃e
sister-in-law sit-PRF.F be.3SG.H
'(My) sister-in-law sat.'

(16) *lʌ̃uɖi ai hʌe*

lʌ̃uɖi   a-i   hʌe
girl   sit-PRF.F be.3SG.NH
'The girl has come.'

The number also triggers agreement in Rana Tharu. We see that that the singular subject in (17) differs from the verb agreement triggered by plural subject (17-18).

(17) *lʌ̃uɖa bʌiʈho   hʌe*

lʌ̃uɖa bʌiʈh-o   hʌe
boy   sit-PRF.3SG.M.NH   be.PRES.3SG.NH
'The boy has sat.'

(18) *lʌ̃uɖan   bʌiʈhe   hʌ̃e*

lʌ̃uɖa-n   bʌiʈh-e   hʌ̃e
boy   sit-PRF.M.PL be.PRES.3PL
'The boys have sat.'

As explained before, the honorificity is seen in certain verb forms, such as different tenses, perfect aspect, and prospective form among others.

4.3 Gender

Rana Tharu makes a distinction between masculine and feminine in certain verb forms. The gender distinction is seen in the past and future tenses including some aspects. The verbs agree with the third person singular masculine non-honorific subject which ends in -*o* whereas past tense feminine non-honorific form ends in -*i*. However, this is not always clear as there is not one to one correspondence in it. Examples follow (19-20).

(19) *gʌĩja   aigʌi*

gʌĩja   a-gʌ-i
cow   come-PST-3SG.F.NH
'The cow came.'

(20) *bʌrd aigʌo*

bʌrd   a-gʌ-o
bull   come-PST-3SG.M.NH
'The bull came.'

We see that the gender distinction is also seen not only with human nouns (25-26), but also with animate nouns (19-20). Semantically, the nouns in Rana Tharu are regarded either as masculine or feminine. For example, the inflection of adjectives shows that they agree either with masculine or feminine(21-22). While the nouns in (21) are considered masculine, the nouns in (22) are feminine.

(21) *bʌɖo ʈebʌl* 'big table'

bʌɖo ghʌr 'big house' [DH.22]

(22) *bʌɖi lʌɖija*   'big cart'

bʌɖi bʌs   'big bus'

bʌɖi khʌʈija   'big cot'

pʌhili puri   'first bread'

bʌɖi kunɖʌl   'big ear ring'

In addition to agreement of adjectives mentioned in (21-22) gender triggers the verb agreement in Rana Tharu. Like adjectives, the agentive participles also agree with the head nouns that follow (23-24).

(23) *biha kʌrʌnbaro lʌ̃uɖo*

biha   kʌr-ʌn-baro   lʌ̃uɖo
marriage   do-INF-NMLZ.M.SG.NH   boy
'The boy who is going to marry.'

(24) *biha kʌrʌnbari lɑ̃uɖi*

    biha   kʌr-ʌn-bari   lɑ̃uɖi
    marriage do-INF-NMLZ.F girl
    'the girl who is going to marry'

When the agentive participle appears in predicative position (as a modifying clause), the participle agrees with the feminine subject. The verb agreement is evident in the past tense as shown in (25-26).

(25) *lɑ̃uɖo   bʌiʈho*

    lɑ̃uɖo   bʌiʈh-o
    boy   sit-PST.3SG.M.NH
    'The boy sat.'

(26) *lɑ̃uɖi   bʌiʈhi*

    lɑ̃uɖi   bʌiʈh-i
    girl   sit-PST.F.NH
    'The girl sat.'

As shown in (25-26), the verb agrees with the feminine subject in the past tense. Like in the past tense, the perfect aspect shows agreement with the main verb rather than with the auxiliaries. We see that the verbs marked the perfect aspect agreeing with the subjects in (27-28).

(27) *lɑ̃uɖo bʌiʈho hʌe*

    lɑ̃uɖo   bʌiʈh-o   hʌe
    boy   sit-PRF.M.SG.NH be.PRES.3SG.NH
    'The boy has sat.'

(28) *lɑ̃uɖi bʌiʈhi hʌe*

    lɑ̃uɖi   bʌiʈh-i   hʌe
    girl   sit-PRF.F.NH   be.PRES.3SG.NH
    'The girl sat.'

The feminine gender is also coded in the future tense[2]. We may compare examples with the masculine and feminine subjects inflecting differently. For example, if the speaker is the first person singular, the verb ends in *-o* in the future tense, such as *mut-ʌŋg-o* 'urinate-FUT-1SG' ('I will urinate'). In contrast to this, the feminine subject triggers agreement distinctly in (29).

(29) *dza phirke lǝlo uʈh dzaũgi*

    dza   phirke   lǝlo   uʈh
    go   again   sister get.up

    dza-ũg-i
    go-FUT-3SG.F.NH
    'Go (to sleep). Your sister will get up.'[SD.24]

The gender agreement is also seen if the subject is the first person feminine singular[3]. Examples follow.

(30) *mʌe ai hɑ̃u.*

    mʌe   a-i   hɑ̃u.
    I   come-PRF.F be.PRES.1SG
    'I have come.'

(31) *mʌe ghʌrme bʌiʈhi hɑ̃u*

    mʌe   ghʌr-me   bʌiʈh-i   hɑ̃u
    I   house-LOC sit-PRF.F.NH be.PRES.1SG
    'I have sat at home.'

As illustrated in (30-31), the perfect aspect marker agrees with the feminine subject. An example follows.

(32) *tʌo ghʌrbari puri pʌkan suru kʌri*

    tʌo   ghʌr   bari   puri   pʌka-n
    then   house   NMLZ.F bread cook-INF
    suru   kʌr-i
    beginning do-PST.3.TR
    'Then the house owner (lady) began to fry (deep fry) bread.' [SD.17]

Thus, the gender agreement is seen in both past and non-past tenses as well in some aspects. Additionally, the participles when they are used as modifiers agree with the feminine subject as in (33-34).

(33) *bʌiʈho lɑ̃uɖo*

    bʌiʈh-o   lɑ̃uɖo
    sit-PRF.M.SG.NH   boy
    'the boy sat who had sat (lit. the sat boy)'

(34) *bʌiʈhi lɑ̃uɖi*

    bʌiʈh-i   lɑ̃uɖi
    sit-PRF.F.NH   girl
    'The girl who had sat (lit. sat girl)'

We explained earlier that semantically nouns are like masculine or feminine as they trigger grammatical consequences. This is also seen in the way they trigger agreement (35-36).

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[2] The suffix *-i* also occurs as a default agreement with some experiencer verbs in the past tense.

[3] However, this is not seen in copula. For example, the copula does not agree with gender in example *ba ʌtshtshi hʌe* 'She is pretty'.

(35) *ʈebʌl ʈuʈgʌo*

ʈebʌl   ʈuʈ-gʌ-o
table   break-PST-M.SG.NH
'The table broke.'

(36) *kurtsi ʈuʈgʌi*

kurtsi   ʈuʈ-gʌ-i
chair   break-PST.3SG.NH
'The chair broke.'

While 'table' is considered masculine, 'chair' is considered feminine. A couple of example follows (37-38).

(37) *ʈebʌl ʈuʈgʌo hʌe*

ʈebʌl   ʈuʈ-gʌo
table   break-PRF.M.SG.NH
hʌe
be.PRES.3SG .NH
'The table has been broken.'

(38) *kurtsi ʈuʈgʌi hʌe*

kurtsi   ʈuʈ-gʌi
chair   break-PRF.F.SG.NH
hʌe
be.PRES.3SG .NH
'The chair broke.'

4.4 Non-nominative subjects

The verb agrees with the nominative subjects in Rana Tharu. Like in Nepali and some other Indo-Aryan languages (cf. Bickel and Yadava 1999: 348), the dative subjects do not control the verb agreement. Here are a couple of examples:

(39) *moke lʌ̃uɖija ʌtshtshi lʌgi*

mʌi-ke   lʌ̃uɖija ʌtshtshi   lʌg-i
I-DAT   boy good.F   feel-PST.F.NH
'I liked the boy.'

(40) *moke lʌ̃uɖa ʌtshtsho lʌgo*

mʌi-ke   lʌ̃uɖa ʌtshtsho   lʌg-o
I-DAT   girl good   feel-PST.3SG.M.NH
'I liked the boys.'

In these examples, the verb does not agree with the dative subjects, but agrees with the NPs which follow it. Although the dative subject in (40) is *mo-ke* 'I-DAT', the verb agrees with *lʌ̃uɖa* 'boy'[4].

Similarly, the subject in (39) is again the same but the verb agrees with the NP which follows it immediately, viz *lʌ̃uɖia* 'girl'. Some dative subjects typically end in -*i* as default agreement. Here are some examples[5].

(41) *serake bhõk lʌgi*

serake   bhõk   lʌg-i
jackal-DAT hunger feel-PST.3SG.F.NH
'The jackal was hungry.' [CJ.21]

(42) *moke bhõk lʌgi*

mʌi-ke   bhõk   lʌg-i
I- DAT   hunger   feel-PST.3SG.F.NH
'I was hungry.'See a couple of examples.

(43) *moke ghʌrki sʌmʌk ai*

mʌi-ke   ghʌr-ki   sʌmʌk
I-DAT   house-GEN.F remembrance
a-i
come-PST.3SG.F.NH
'I remembered home.'

(44) *bake ghʌrki sʌmʌk ai*

ba-ke   ghʌr-ki   sʌmʌk
he-DAT   house-GEN.F remembrance
a-i
come-PST.3SG.NH
'He remembered home.'

Rana Tharu also differs from Hindi as it lacks ergativity. Thus, the verb agreement in Rana Tharu is straightforward as they agree consistently with the nominative subjects.

4.5 Transitive pattern

The verb agreement pattern with the transitive verbs is slightly different from intransitive paradigms in some cases. This is also different compared to some languages, such as Darai, Maithili, Majhi, Magahi and Bajjika. The verbs code not only the subjects but also the objects in transitive/ditransitive verbs in these languages (cf. Yadava 1999; Wilde 2008; Dhakal 2014b among others). The coding of subject and object is not as straightforward in Rana Tharu as it is seen in these languages.

The inflection of verbs in Rana Thau is complicated as different pronouns in the transitive

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[4] The dative subject also triggers agreement in some Indo-Aryan languages, such as Shina (Hook 1990), Majhi (Dhakal 2014) among others.

[5] Das (2006: 49) talks about default form of agreement in Hindi-Urdu.

clauses behave differently with respect to verb agreement. If the verb is transitive, verb agreement differs and it ends in *-i* with the third person pronouns or NPs as subjects in transitive clauses. Moreover, it is clear that the object alone is not responsible for triggering verb agreement. Let's begin to see the sentences with the first and second person pronouns as subjects.

(45) *mʌe dzutta kino*/*kin-i

   mʌe   dzutta   kin-o
   I   shoes   buy-PST.1SG
   'I bought the shoes.'

(46) *tʌe lʌudʒija dekho*/*dekh-i

   tʌe   lʌudʒija   dekh-o
   you   girl   see-PST.2SG.M
   'You saw a girl.'

As we see in these examples, the verb agrees only with the nominative subjects if the subjects are the first and the second person pronouns. We see that the verb ends in *-o* with the first person singular and the second person singular masculine non-honorific subjects in these examples. This is similar to the verb inflections in the intransitive verbs. The first and the second person plural subjects also behave in similar fashion. In other words, the first and second person singular pronouns agree only with the nominative subjects in the transitive clauses.

(47) *tʌ̃e bʌɖo ghʌr dekho*/*dekh-i

   tʌ̃e   bʌɖo   ghʌr   dekh-i
   you big.M   house   see-PST.2SG.M
   'You saw a big house.'

Unlike the first and second person subjects, the third person subjects behave differently in verb agreement. Consider examples (48-49).

(48) *ba lʌudʒija dekhi*/*dekh-o

   ba   lʌudʒija   dekh-i
   he   girl   see-PST.3.TR
   'He/she saw a girl.'

(49) *be lʌudʒia dekhi*/*dekh-o

   be   lʌudʒia   dekh-i
   they   girl   see-PST.3.TR
   'They saw a girl.'

Typically, the suffix *-i* is a past tense suffix occurring with the third person singular non-honorific feminine subject. However, there are cases in which, the past tense masculine verbs also end in *-i* (50-52). In these examples, the suffix *-i* codes the third person pronouns as subjects in the past tense in transitive clauses.

(50) *dʌuwa kʌhi*

   dʌuwa   kʌh-i
   father   say-PST.3.TR
   'The father said,' [SD.30]

(51) *ʌur rukhake hʌ̃game lʌukija ʈãg dei*

   ʌur rukha-ke   hʌ̃ga-me
   and tree-GEN   branch-LOC
   lʌukija   ʈãg   de-i
   gourd   hang   give-PST.3.TR
   'And (he) hung gourd pot in the tree.' [SD.38]

(52) *sãp muɖkake ghits gʌi*

   sãp   muɖka-ke   ghits   gʌ-i
   snake   frog-ACC   eat   PST-3.TR
   'Then the snake ate the frog.' [CJ.4]

As we see in these examples, the intransitive verb often ends in *-o* to agree with the third person singular non-honorific subject in intransitive clauses whereas the transitive verbs sometimes terminates in *-i* with some subjects. We wonder whether the feminine object *lʌudʒija* 'girl' is responsible for triggering the agreement. However, this is not a case. As discussed earlier, some nouns are considered masculine whereas others are feminine. We may further confirm whether the object alone is responsible for triggering the verb agreement in Rana Tharu. So, I tested it by inserting the feminine nouns in object position to see whether it alone is responsible for triggering the verb agreement. In fact, they do not. So, let's move into the third person pronouns[6].

(53) *ba ghʌr dekhi.*

   ba ghʌr   dekh-i/*dekh-o
   he house see-PST.3.TR
   'He/she saw a house.'

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[6] Although Rana Tharu shares a number of lexical and phonological features with Hindi, we see some differences in verb agreement in these two languages. While Hindi contains both nominative and ergative subject (cf. Saksena 1981; Das 2006; Mohanan 1990:102-106) the ergativity is absent in Rana Tharu. Moreover, the object does not trigger verb agreement in Rana Tharu as we find in Hindi.

(54) *ba lʌuɖija dekhi.*

> ba   lʌuɖija   dekh-i/*dekh-o
> he   girl   see-PST.3.TR
> 'He/she saw a girl.'

Examples (53-54) illustrate the fact that the feminine object is not responsible for triggering the verb agreement. We see that the object *ghʌr* 'house' is inherently considered masculine in Rana Tharu whereas the *lʌuɖija* 'girl' is feminine (see 4.3). It is clear from examples (33-34) that the noun *ghʌr* 'house' is considered masculine triggering the same kind of verb agreement. It seems that all transitive sentences in the past tense host the suffix *-i* as tense and agreement marker. This is not correct, however. Let's see example (55) in which a transitive verb has taken the suffix *-i*.

(55) *ba bʌijʌrke tahĩ sari kini*

> ba   bʌijʌr-ke   tahĩ sari   kin-i/*kin-o
> he   wife-ACC   for saree   buy-PST.3.TR
> 'He bought a saree for his wife.'

If the subjects are the first and second person pronouns, the verbs are not marked with the suffix *-i*. In addition to the feminine subject in the third person singular, the suffix also occurs with the third person pronouns in transitive clauses. So, let's consider the examples with the first, and second person pronouns (56-57).

(56) *mʌe bako bʌɖo ghʌr dekho/*dekhi.*

> mʌe   ba-ko   bʌɖo   ghʌr   dekh-o
> I   he-GEN big   house see-PST.1SG
> 'I saw his big house.'

(57) *mʌe lʌuɖija dekho/*dekhi.*

> mʌe   lʌuɖija   dekh-o
> I   girl   see-PST.1SG
> 'I saw a girl.'

We find similar pattern with the perfect aspect. In contrast to examples (58-59), the verb agreement differs in (60). Examples follow.

(58) *mʌe bʌɖo ghʌr dekho hʌ̃o.*

> mʌe   bʌɖo   ghʌr   dekh-o
> I   big   house see-PRF.1SG.M
> hʌ̃o
> be.PRES.1SG
> 'I have seen the big house.'

(59) *toi bʌɖo ghʌr dekho hʌe.*

> toi bʌɖo ghʌr   dekh-o
> you big   hose   see-PRF.1SG.M
> hʌi
> be.PRES.2SG.NH
> 'You have seen the big house.'

(60) *ba bʌɖo ghʌr dekhi hʌe.*

> ba bʌɖo ghʌr   dekh-i
> he big house   see-PRF.3SG.TR
> hʌe
> be.PRES.2SG.NH
> 'He has seen the big house.'

We find similar examples in the past perfect aspect as well. Here are a couple of examples.

(61) *mʌe lʌ̃uɖa dekho rʌhõ.*

> mʌe lʌ̃uɖa   dekh-i   rʌhõ
> I   big   see-PRF.1SG.M   be.PST.1SG
> 'I had seen the boy.'

(62) *ba lʌ̃uɖa dekhi rʌhi.*

> ba   lʌ̃uɖa   dekh-i   rʌhi
> he   big   see-PRF.1SG.F   be.PST.3SG.NH
> 'He had seen the boy.'

The discussion shows that the verb agreement with the transitive subjects, if they are the third person pronouns, are markedly different compared to the first and second person pronouns. So far, the discussion is mainly concentrated on the past tense, and perfect aspects. Since the present tense is formed periphrastically, the issues of agreement mentioned above are not evidenced in the present tense like in the past tense. Examples follow.

(63) *mʌe ʈebʌl sʌpha kʌrt hʌ̃o.*

> mʌe   ʈebʌl   sʌpha kʌr-t   hʌ̃o
> I   table   clean do-IMPF be.NPST.1.SG
> 'I clean the house.'

(64) *ba ʈebʌl sʌpha kʌrt hʌ̃o.*

> ba ʈebʌl   sʌpha kʌr-t   hʌe
> he table   clean do-impf   be.NPST.3.SG.NH
> 'He cleans the house.'

The verb agreement pattern in the future tense is not the same as it is in the past tense in the transitive clauses. Thus, the present tense and the future tense share identical agreement pattern in the present tense and the future tense. In other words, the inflection in the future tense is similar

to the inflection in the intransitive clauses. Examples follow.

(65) *mʌe kʌl lʌ̃uɖake bheṭʌŋgo.*

mʌe kʌl lʌ̃uɖa-ke bheṭ-ʌŋg-o
I tomorrow boy-ACC meet-FUT-1SG
'I will meet the boy tomorrow.'

(66) *ba kʌl kʌpʌɖa dhobʌeigo.*

ba kʌl kʌpʌɖa dho-ʌŋg-o
he tomorrow cloth wash-FUT-1SG
'He will meet the boy tomorrow.'

Like with the first person pronouns as subjects, the verb agreement is also the same in the second person pronouns subjects in the future tense. Examples follow.

(67) *toi kʌl lʌ̃uɖake bheṭego.*

toi kʌl lʌ̃uɖa-ke you(SG)
tomorrow boy-ACC
bheṭ-eg-o
meet-FUT-2SG.NH
'You will meet the boy.'

(68) *tum kʌl lʌ̃uɖake bheṭʌŋge.*

tum kʌl lʌ̃uɖa-ke bheṭ-eg-e
you (PL) tomorrow boy-ACC meet-FUT-2PL
'You will meet the boy.'

Examples (67-68) show that the pattern as expected because the verbs agree only with the subjects in the transitive and ditransitive verbs. The agreement pattern in (67-68) shows that they agree only with the subjects, similar to that of intransitive paradigm.

(69) *ba kʌl lʌ̃uɖake bheṭeŋgo.*

ba kʌl lʌ̃uɖa-ke
he tomorrow boy-ACC
bheṭ-eŋg-o
meet-FUT-3SG
'He will meet the boy.'

(70) *be kʌl lʌ̃uɖake bheṭeŋge.*

be kʌl lʌ̃uɖa-ke
they tomorrow boy-ACC
bheṭ-eŋg-e
meet-FUT-3PL
'They will meet the boy.'

Examples (69-70) also show that the verb agreement is controlled only by the subject even with the third person pronouns in the future tense.

This is different from the agreement pattern if the subjects are the second and the third person pronouns. Following are examples from text to show that the same kind of agreement pattern is found in Rana Tharu.

(71) *be ũ̃ṭke phir ʌise kʌhi*

be ũṭ-ke phir ʌise
those camel-ACC again of.this.type
kʌh-i
say-PST.3.TR
'(They) told the camel like this.' [CJ.12]

(72) *tʌo bʌghʌṭa kʌhi*

tʌo bʌghʌṭa kʌh-i
then tiger say-PST.3.TR
'Then the tiger said…' [JS.16]

The agreement pattern discussed above shows some interesting results. Firstly, the verbs agree only with the nominative subjects. By contrast, if the subjects are the third person pronouns, or NPs, the verbs inflect differently. However, the verbs agree only with the subjects in the future tense, and present tense.

6 Conclusion

The discussion shows that verb agreement in Rana Tharu is triggered by number, person, gender, and honorificity. The verbs also inflect differently with dative subjects in Rana Tharu. By contrast, if the subjects are the third person pronouns, or NPs, the verbs inflect differently. However, the verbs agree only with the subjects in the future tense, and present tense. This paper argues that the verb agreement pattern seen in Rana Tharu is distinct compared to some other IA languages.

Acknowledgements

Abbreviations

1	first person
2	second person
3	third person
ACC	accusataive
DAT	dative
ERG	ergative

IA   Indo-Aryan

INF   infinitive

LOC   locative

NP: noun phrases

NPST   non-past

PL   plural

PRF   perfect

PROH   prohibitive

PROS   prospective

PST   past

SG   singular

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ISSUES AND STATUS OF MULTILINGUAL EDUCATION IN NEPAL

Laxman Ghimire

Besides proficiency in mother tongues and dominant languages, good quality education is the concern of MLE. In addition to the medium of teaching, teachers' skill, teaching strategies, and learning materials are crucial components in improving the quality of learning. Schools need both technical and financial support to address these issues effectively.

Keywords: Multilingual education, pedagogy, language revitalization

1 Introduction

Multilingual education (MLE), a language additive approach in education based on mother tongue medium of teaching during early grades, has two essential components; good quality education and language revitalization. The use of mother tongues in education improves learning in two ways; first it facilitates learning through meaningful classroom interaction and, second, learning new knowledge would be easier because it is built upon previous knowledge. Likewise, the use of home language in school environment ensures language transfer to new generations which is essential for language maintenance. Recognition of mother tongues in education contributes to language revitalization in two ways; first, it helps to transfer mother tongues to the new generations and, second, it supports to raise the social value of minority languages by providing the most vital domain of language use.

Nepal has made a significant progress in achieving the goals of Education For All (EFA) which were envisioned in the World Education Forum in Dakar in 2000. However, like many other countries, Nepal fails to achieve these goals. Despite the huge investment from government and international agencies, increased number of teachers and scholarship to the disadvantaged groups, still there are large number of children out of schools and significant numbers of student dropout. The percentage of out of school children and school dropout is higher in ethnolinguistic communities. In addition to several other reasons including poverty, language barrier is the reason preventing some groups of children completing school years. The monolingual ethnolinguistic children experience learning difficulties if the formal the formal language of school is different from their home language.

In addition to good quality education and language revitalization, ethnolinguistic identity is another important dimension of multilingual education. Also, the preservation and promotion of mother tongues is the basic human rights of ethnolinguistic communities. MLE recognizes mother tongues of students as the sole medium of education not only to facilitate learning but also to ensure linguistic human rights of ethnolinguistic children. For this, MLE connects the children of ethnolinguistic communities to their culture and ancestral knowledge. It also contributes to strengthen their self-determination. As a result, students feel that their language, culture and indigenous knowledge have some values in the society.

However, the main goal of any education program is to improve pedagogy and participation. Thus, improving the quality of basic education is one of the main goals of MLE. In addition to locally appropriate model, local adaptation of curriculum, cultural contents, well-trained qualified teachers, technical support are some of the important issues in improving the quality of education within MLE program. Besides, the classroom language situation, language varieties, and language ideologies are also the important issues of MLE in Nepal.

2 Language situation

Nepal is a linguistically diverse nation with more than a hundred languages spoken within its territory as mother tongues. These languages belong to four groups; Indo-Aryan, Tibeto-Burman, Austro-Asiatic and Dravidian. A language, Kusunda, is classified as language isolate as its linguistic affiliation has yet to be confirmed. Besides genetic grouping, the languages can also be classified as indigenous heritage languages, dominant languages, and foreign languages. The mother tongues of the ethnolinguistic

communities, which are either endangered or in non-dominant role, belong to the first group, while the languages in dominant role either at the local or central level are in the second group. Other languages with foreign origin such as English, Chinese, Spanish, Arabi and Russian can be called foreign languages. Languages can be grouped in different ways on the basis of their origin, status, and function. Yadava (2014) classifies the languages into four groups as major languages, minor languages, cross boarder languages and foreign and recently migrated languages. Likewise, Ghimire (2014) categorizes the languages spoken in Nepal into seven groups as Indo-Aryan, Tibeto-Burman, Dravidian, Austro-Asiatic, language isolate, Nepali sign language, and foreign languages.

Linguistic diversity and multilingualism are deeply rooted into the history of the country. In the course of more than 4000 years long history, the land was occupied by several ethnic and language groups who entered as pilgrims, traders, immigrants, and invaders. The people came from all directions, settled here and enriched the linguistic and cultural diversity. Awasthi (2004) describes the linguistic diversity of the country along with river system which separated people for centuries in the isolated hills and mountains resulting into the immergence of distinct languages based on geographical varieties. In the course of time, the regional varieties of languages can be established as distinct languages. Besides, the socioeconomic factor also contributed to the linguistic diversity. Along with modernization and economic growth, ethnolinguistic communities are forced to shift to the dominant languages for market opportunities. Also, the connection of isolated communities to the wider society has led to the endangerment of minority languages as the more people of ethnolinguistic communities are exposed to dominant languages the more they tend to shift language for various reasons.

The national census which is conducted in every 10 years is the only source of language enumeration. Although the national census is carried out by the government agency with the collaboration of several stakeholders, the reports of the census are not out of criticism. Neither they are reliable in the identification of languages. Each census reports different number of languages as the mother tongues of spoken in the country. The national census of 1971 reported the least numbers of languages (i.e. 17) while the latest national census has reported 123 languages spoken in Nepal. Likewise, the number of mother tongues reported as 31 in the national census of 1991 whereas it rose to 92 after ten years as shown in the report of national census in 2001.

There are several reasons for the unreliable language data presented in national censuses such as lack of linguistic studies in the nation, policy of the government towards minority languages, the level of awareness among the ethnic population for linguistic identity and influence of various interest groups in the data collection are some of these reasons. Due to the lack of linguistic studies, it is almost impossible to distinguish languages and language varieties. Kansakar (1996) argues that the ambiguity in the linguistic composition of the population of Nepal arises from the failure to identify the ethnic origin of speakers or to recognize the distinction between a language and a language variety.

Some examples of misreporting are also found in the last two national censuses. Ghimire (1999) states that the Magar people in Myagdi speak a variety of Nepali as first language but a significant number of Magar speaking populations are reported in the national census of 2001 and 2011. Likewise, several other communities, seeking independent identity, have attempted to get the language varieties they speak recognized as independent languages. Some examples of such inconsistency in the distinction between languages and language varieties are found in Newari and other languages which were identified as the varieties of Nepali in earlier censuses. Two varieties of Newari, Kathmandu and Dhaulagiri, are mutually unintelligible but both communities identify themselves as Newari speakers. On the contrary, the mutually intelligible varieties such as Nepali, Achhami, Bajureli, Baitedeli, Bajhangi, and Dailekhi have been identified as independent languages in the latest census. Prominent linguists (Kansakar, 1996; Bradley, 1997, Yadava, 2003 & Noonen, 2005) classify about two dozens of languages spoken in eastern hill as Rai-Kirant languages. Rai-Kirant was being reported as a single language till the national census 1991 whereas the national census of 2001 presented 23

independent languages instead of a single Rai-Kirant language. Furthermore, Rai has reappeared in the national census of 2011 along with 23 independent languages.

The urban and semi-urban parts of the country have become linguistically heterogeneous due to the increasing trend of rural to urban migration. In search of modern facilities and better living conditions people move to these areas giving rise to the linguistic heterogeneity. However, rural to urban migration is not the only cause of linguistic heterogeneity in Nepal. CBS (2012) indicates that there are not just more than a hundred languages in Nepal but almost every administrative unit (VDC and Municipality) at the grassroots is linguistically heterogeneous. Of more than three thousand VDCs only 78 from 20 districts, all from the western part of Nepal, are homogenous with all Nepali speaking population[1]. Likewise, of the 75 districts, each of the six districts has more than 50 languages. The number of districts with 25-49 languages is 33 while 32 districts have 10-24 languages each. There is no single district in Nepal with the population speaking less than five languages. The degree of linguistic heterogeneity is intense in the eastern part.

Nepali, the only official language of the nation, is the dominant language with 45 percent of the population speaking it as first language and a large portion of ethnolinguistic populations speak it as second language. It is the largest second language in 72 districts while Hindi is spoken as second language in the remaining three districts. It is the largest language in 54 districts while it is in second position in 15 districts and in third position in remaining six districts. Likewise, Maithili and Doteli languages each stands in first position in four districts. Bhojpuri, Tharu, Tamang, Limbu, and Bajjika are in the first position in two districts each. The number of languages standing in the first position in terms of the number of speakers in a single district is three. These are Avadhi, Gurung, and Baitadeli.

Language endangerment is one of the major issues of language situation in Nepal. Several indigenous

heritage languages are losing vitality due to the lack of vital domains of language use and decreasing number of speakers. Eighty five percent of the languages are spoken by about four percent of the populations while the number of languages with less than ten thousand speakers (i.e. 0.04 percent of the total population) is 75 (CBS, 2012). This indicates that several minority languages are at the risk of extinction. Lack of use in the vital domains of communication, decreasing rate of intergenerational language transmission, and the domination of the centrally or regionally dominant languages in heterogeneous communities are some of the factors pushing indigenous minority languages at the margins. Disproportional relationship between ethnic population and mother tongue speakers as reported in the national census 2011 also supports this view of language endangerment.

Multilingual Education helps to revitalize the minority languages in two ways; ensuring interngenerational language transmission and extending the domain of language use. These are the major factors contributing to reverse language shift. Thus, language revitalization and maintenance is one of the major goals of mother tongue-based multilingual education in Nepal. This notion is clearly reflected in the constitution as well as education policy documents of the country. However, employing minority languages in education as medium of instruction is not easy as most of the non-dominant indigenous languages in the nation lack writing system, learning resources and mother tongue teachers. Furthermore, these languages are scattered across large area and the learners speaking these languages are in few numbers in the classrooms. In order to address this issue, schools have attempted to appropriate the policy of MTB MLE in local context and employed innovative strategies of teaching.

3 Education system

The education system in the pre-modern era was religious and philosophical in nature. The goal of education was to prepare priests and monks to perform religious activities and to disseminate Buddha's message respectively. Such education was usually imparted through Guru Kulas and Gumbas. Religious and philosophical texts were

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[1] It includes only those VDCs where a single language is reported without 'others' and 'not reported' categories

the main source of learning. Sanskrit and Pali were used for teaching in the Guru Kulas and Gumbas respectively. This kind of education continued for centuries. Rather than focusing on the events of daily life, the traditional education system was more philosophical as it was resulted from the fusion of Aryan Bramanism, Buddhism, and Boupoism of the Tibeto-Burman races (NNEPC, 1956, 14).

Sanskrit was patronized against local vernaculars with the arrival of the Lichchhavis during first century AD while the vernaculars started to flourish after the decline of Sanskrit scholarship among the priesthoods during early Malla regime around first millennium AD (Malla, 1973). Newari, Maithili, Hindi, and Bangali were among the languages used against Sanskrit for public communication. On the other hand, Nepali, then Khasha, was flourishing in the western part and also spreading across Kathmandu valley as lingua franca. The written history of Nepali language goes back to at least one thousand years with wide range of literatures including administrative texts, medicine, veterinary, poetry, fiction, and official inscriptions (Pokharel, 1986). Likewise, Newari started to become the official language from twelfth century while it got full state patronage under Jayasthiti Malla and was being used for epigraphy, historical records, dramatic and literary compositions (Malla, 1973). Multilingualism was officially recognized in this special juncture of medieval Nepal when vernaculars were flourishing and even the immigrant languages, like Maithili in Kathmandu valley, were accepted as the formal languages in state affairs.

Following the treaty between British-India and Nepal ending the Ango-Nepal war in 1816, Nepal not only lost its land in the east, south, and west, it also came under the greater influence of British rulers in India. One of the examples of such influence was the importation of English system of education. The first modern school established in Nepal was the English school for the children of ruling Ranas. English system of education was criticized in terms of its negative effects on national culture and life styles. Still, it persists to be in hegemonic role in education system.

By the time of the inception of democracy in 1951, people of Nepal even in the rural villages were aware of the importance of education. After the fall of Rana regime, they expected more and more schools opening throughout the nation. Their desire for education was so intense because their access to education was restricted for a long time and they believed that education could improve the quality of life. In the whole nation there were only about 200 schools and two percent of the populations were literate at the end of Rana regime (NNEPC, 1956). In order to address the aspirations of people, the government formed a commission to reform education system in 1954. The commission, Nepal National Education Policy Commission (NNEPC) worked for a year and submitted report to the government. The commission surveyed the feasibility to establish schools in different parts of the nation and production of textbooks in large scale as well as assessed other factors of education including the availability of teachers. Finally, it recommended Nepali to be the medium of education and also stated that teachers could use non-Nepali languages for classroom interactions provided the students are unable to communicate in Nepali.

Some scholars criticized the report of the NNEPC as guided by monolingual ideology. Awasthi (2004) criticizes NNEPC for importing western ideology. He argues that the commission ignored the tradition of multilingual practices in Nepal and recommended Nepali as the only medium of education on the basis of western principles of assimilation and homogenization. Many others criticize it as the systematic attempt to suppress non-Nepali mother tongues of the nation. Strong resistance to this provision came from Terai region where Hindi was being used in most of the formal domains including education. Similarly, such a provision of monolingualism in education was challenged by Limbu and Newari movements in eastern hill and Kathmandu valley respectively. The political change in 1960 that began party-less Panchyayat system further tightened the grip of assimilationary ideology in education. Under the broader principle of linguistic nationalism, Nepali had become the only legitimate language of all state affairs including education. This is the period when native mother tongues were suppressed intensively. The situation changed in 1990 when multiparty political system was

restored. Language communities have been granted rights to preserve and promote their mother tongues through education system. Additionally, the mother tongues have been given space in media. All the languages of Nepal have been granted the status of national languages. Reformation in political system has shifted the ideology of monolingualism toward pluralism in education. Furthermore, the government has agreed through various national and international commitments to promote the use of mother tongues as the medium of education with a view that the use of mother tongues in education would be helpful in achieving educational goals of the country.

In the period of ten years, between 1951 to 1961, the literacy rate increased by four percent while during the Panchyayat period, between 1961-1991, it rose by 32 percent. Likewise, the literacy rate rose by 26 percent in the twenty years, from 1991-2011, after the restoration of democracy in 1990. The discourse on mother tongue education has become the central issue of education policy in this period. The present literacy rate of Nepal is 66 percent (CBS, 2012) but the EFA Global Monitoring Report (2015) projects it as 64 % by the year 2015. Nepal has invested huge sum of money in education from its regular budget and international aid as well. On the other hand, several education commissions were formed in improving the status of education especially in bringing all school age children in the schools. However, still a significant numbers of school age children are out of schools and we have to work much to reduce school dropout and repetition rates. The percentage of school repeaters is 11.1 and only 55 percent of the student complete full school years in Nepal (EFA GMR, 2015). Furthermore, the lack of meaningful learning in the classrooms has left many students illiterate even after many years of schooling. School dropout and repetition rates are greater among the non-Nepali speaking students who are taught in Nepali medium and they achieve lower in Nepalese education system (Yadava, 2007). In addition to other measures to improve the educational status of the country, use of mother tongues as medium of instruction during the early grades is the most crucial one in achieving educational goals.

4 Multilingual education policy

Multilingualism is deeply rooted in Nepali society. There are clear evidences from historical, linguistic, social, and political sources that several language groups have lived in the country for centuries and participated in nation building. On the other hand, every citizen must have equal rights and equal opportunities to fulfill their aspirations in a democratic society. As education can play the most significant role in fulfilling ones' aspirations, it must be designed in a way to ensure access of all to the education system and equality in learning opportunities as well as to grant linguistic human rights for all. MLE does serve all these issues more effectively.

In view of increasing participation in education and improving the quality of learning, Nepal has introduced MLE policy since 2003, although the use of mother tongues in primary education has already been endorsed by the constitution in 1990. These two historical points are important in the development of MTB MLE in Nepal. Diverse mother tongues of the nation were granted formal recognition by the state in 1990 while their importance in education was fully understood and accepted in 2003 through the EFA national plan of action that prepared the ground for MTB MLE policy. Consequently, the national curriculum was reformed in 2005 and the education act was amended in 2006 to pave the way for the implementation of MTB MLE. In addition to these policy documents and legislation, MLE implementation guideline was endorsed in 2010 which gives authentic description on how to implement MLE.

The policy recommends early-exit transitional model of MLE beginning from mother tongue only instruction and gradual transition to the dominant languages. Only the mother tongues are to be used in pre-primary level, Kindergarten, while mother tongue only instruction has to be employed up to grade three except language subjects. Both mother tongues and official language should be employed as medium of instruction in grade four and five. From grade six onwards, the official language or the international language would become the formal medium of instruction whereas mother tongues are to be taught as subject up to grade eight. Schools have

the full authority to switch or not to switch to MLE system as the school management committee can make decision on adopting any language (from mother tongues, Nepali or English) as medium of instruction. Learning resources can also be developed at the local level based on local contents. Local communities are expected to provide mother tongue teachers in case the available teachers in the schools are not proficient in the local mother tongues.

Scholars criticize early-exit transitional model, which is the framework of MLE in Nepal, on the basis of the psycholinguistic and sociological principles. They argue that it is easier to learn new concepts in the home language and the students need to develop strong foundation of mother tongues in order to success in education. Cummins (2009) distinguishes Cognitive Academic level of Language Proficiency (CALP), which is essential in education, from Basic Interpersonal Communication Skills (BICS), which is sufficient for general communication but not for educational use. He argues that several years of teaching through the first language is essential to develop CALP which ensures better academic achievement and is helpful in acquiring additional languages.

Skutnabb-Kangas & Mohanty (2009) criticize the early-exit model practiced in Nepal as unhelpful for the minority groups. They argue that early-exit model offering few years of instruction in the mother tongues is similar to the dominant language medium of teaching because both are assimilationary and homogenizing in nature, and may promote the interests of some Nepali speaking elites. Weak models neither fulfill the goals of MLE nor ensure linguistic and cultural human rights to the minority language groups (Kangas & Dunbar, 2010). At least eight years of mother tongue only teaching, strong model, is required for better academic achievement and ensuring linguistic human rights.

5 Implementation of multilingual education program

Compared to the achievement in policy formulation, implementation of MLE is not satisfactory and it is limited in few schools. Despite the decades long demand of language communities for mother tongue education and

popular movements for language rights in Kathmandu and Terai during the Panchayat era, only two mother tongue teaching schools, a Magar school in Kaski and a Newar school in Kathmandu, were established following the constitutional recognition to mother tongue education in 1990 (Shrestha & Hoek, 1995). On the other hand, after the successful piloting of MLE in seven schools from 2006 to 2009 and strong advocacy lunched by language activists and non-government organizations, the program has not expanded in more schools as expected[2]. These two evidences clearly indicate that there are strong forces resisting the use of mother tongues in education.

One of the resisting forces is monolingual ideology which discourages the use of minority languages in education. The assimilationists, proponents of the monolingual ideology, see the linguistic diversity as divisive issue and the single dominant language as the symbol of national unity. Skutnabb-Kangas & Dunbar (2010) argues that it is essential to change the ideology from forced assimilation to enrichment-based theorizing so that a real integration can occur without any harm to the diversity. Likewise, linguistic heterogeneity in the classrooms is another factor hindering the effective implementation of MLE. Ghimire (2014) emphasizes that the lack of appropriate teaching strategies in heterogeneous classrooms is one of the hindering factors of MLE implementation. Taylor (2010) discusses the constraints in the implementation of MLE as multiple L1 (mother tongues) in the classrooms which has not been solved either through separating linguistic groups in separate classes or by employing innovative teaching strategies such as peer work, collaborative learning and inviting parent volunteers.

Language attitude is also posing a challenge in MLE implementation. In most cases, parents are not positive in mother tongue medium of education. They believe that the mother tongue

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[2] SSRP, an important education policy document, envisioned implementing MLE in 7500 schools by 2015. On the contrary, the program has expanded only in 24 schools, excluding few schools supported by non-government organizations and local communities.

medium of education cannot make high quality of education. English is believed as the language associated with prosperity, power, and prestige. Therefore, English medium of education is highly appreciated as high quality education. On the other hand, strong language communities tend to ignore other minority languages. For example, in a school with Newari language revitalization program, the Tamang speaking students are urged to acquire Newari. The persistent tendency is not to break language hierarchy but to push ones' own language up in the hierarchy or to reorder the hierarchy so as it would be possible to be at the top of the hierarchy. This affects negatively to MLE program in the minority mother tongues. As in dominant language medium of education, the mother tongues of the majority students or the locally dominant language gets prominence over non-dominant mother tongues in the classrooms where there are multiple mother tongues.

An in-depth investigation of the MLE program in some schools of the country has shown that MLE can contribute to improve the quality of learning if teaching strategies are appropriate and the necessary resources including well-trained teachers and qualitative learning materials are available. Some of the positive outcomes of better implemented MLE program are as improvement in learning, better academic achievement, language revitalization, and innovations in teaching strategies (Ghimire, 2014). Besides these positive developments in MLE, some factors are still posing challenges in the effective implementation of MLE. These factors are lack of appropriate model/approach for linguistically heterogeneous classrooms, inappropriate curriculum contents and textbooks in the local context, lack of well-trained mother tongue teachers, lack of technical assistance to the schools, and lack of proper advocacy (Ghimire, 2014).

6 MLE in classrooms

The curriculum sets objectives of learning for each level. In other words, it provides guidelines for teaching. Thus, the curriculum can be developed at the national level which can be adopted in different local contexts. On the other hand, textbooks and learning materials are directly used in the classrooms. The contents and the language of these materials must be appropriate to the local culture, language variety, tradition, and values.

Centrally developed textbooks and learning materials may not be appropriate in different classroom contexts. Curriculum Development Centre (CDC), curriculum and textbook development agency under the Ministry of Education, has developed mother tongue textbooks in about two dozens of languages. These textbooks are written in a single variety of the language which is either unintelligible or unacceptable in all communities. Furthermore, these are language textbooks aiming to teach mother tongues as subjects.

Generally schools' decision to use or not to use the centrally developed mother tongue textbooks is based on the perception of local community which may or may not accept the language variety of the textbooks. First, schools use these materials written in the dominant variety provided the variety is intelligible and the local community does not challenge its dominant status. Second, instead of using these materials, schools develop learning materials at the local level in case the variety used in the centrally developed materials is either less intelligible or unaccepted by the local community. Third, a situation may arise when schools avoid the use of mother tongue textbooks or learning materials when neither the language variety of textbook is intelligible nor the local community can help the schools in producing learning materials at local levels.

Few MLE schools employ the centrally developed textbooks while others rejected these materials because of the issue of either intelligibility or acceptance. The Magar community in Palpa rejected these textbooks, MLE Schools in Kapilbastu developed full series of textbooks in local varieties, and the Newar community in Myagdi avoided the plan of initiating Newari mother tongue education in the local schools.

There are several other evidences to support the argument that centrally developed textbooks are inappropriate in local contexts. Besides language variety, centrally developed textbooks are culturally insensitive to the local contexts. MLE is an approach in education which connects home to school effectively in terms of language and

contents of learning. Local knowledge, culture, tradition and values are the most important aspects of curriculum contents. These are the reasons why textbooks should be developed at the local level. However, the quality of the textbooks and learning resources is the most important question. Authors and contents developers should have the required expertise. There must be a technical team including education experts, language experts, and local knowledge holders to validate the quality of textbooks before publication.

Teachers are the main actors to translate policy into practice. Teachers' qualification and skill are the crucial components in maintaining the quality of teaching. There is no separate provision for MLE teachers in Nepal. Instead, the regular teachers or the locally hired teachers are given short term MLE training. Though the proficiency in local languages is not the required criterion in the teacher hiring system, most teachers are from the local community because of the provision of local competition and local hiring. Despite this positive aspect of teacher hiring, there are negligible numbers of teachers from non-dominant mother tongues. Most of the local teachers are proficient in locally dominant languages but not in the non-dominant minority languages which are spoken by few students (Ghimire, 2014).

Ghimire (2014) makes a survey on training status of teachers in the selected schools which shows that about 50 percent teachers are untrained in the schools. These teachers are mostly in temporary, part-time, and locally hired status. Even among about 50 percent trained teachers, only 30 percent are MLE trained teachers. The schools involved in the survey are both community and private schools. Teachers who received MLE training state that the training course does not include the topic on teaching strategies in linguistically heterogeneous classrooms.

Above all, appropriate teaching strategies supersede all other components of teaching and learning. Innovative teaching strategies and classroom activities can improve the quality of learning. Mother tongue medium of teaching facilitate in learning but only the use of mother tongues in classroom communication cannot improve the quality of learning if the appropriate teaching strategies are not applied.

7 Languages and language varieties

The appropriate definition of mother tongues is one of the pertinent issues in implementing MLE in Nepal. In general, mother tongue is the most familiar language one speaks at home. MLE aims to improve learning through the use of familiar language as medium of education. However, defining mother tongues is not straightforward in another situation when the ethnolinguistic children speak non-ethnic language at home. Due to the growing trend of bilingualism and language shift, a large number of ethnolinguistic children speak dominant language even at home and are less proficient in the ethnic language. In this context, it is obvious that the dominant language, which is more familiar to the children, should become the language of education. On the other hand, this definition of mother tongue seriously violates the linguistic human rights and ethnic identity. Ethnic languages represent ones' ancestry, indigenous culture, knowledge, tradition, and values. Furthermore, ethnolinguistic children shift to dominant language not by their volunteer choice but by the pressure of social, economic, and political forces. Such a forced assimilation is injustice and against the principles of human rights.

Though teaching through the medium of dominant language to the ethnolinguistic children, though they speak it more frequently even at home, does not sound good in terms of ethnic identity, it is a pedagogically appropriate choice. There are several alternative approaches in language preservation and development. Ethnic languages can be taught out of schools through informal classes or as a subject in formal education. Ethnolinguistic bilingual children, who speak the dominant language more often at home, may experience learning difficulties if they are forced to learn through an ethnic language during the early grades. In some schools with language revitalization program these children are urged to learn the ethnic language during the early grades.

On the other hand, employing home variety or the standard variety in education is another crucial issue in MLE. Home variety precedes other varieties as medium of education because it is the

most familiar form of language for the children which facilitate communication in the classrooms. On the other hand, the use of unfamiliar varieties is similar to the assimilationary monolingual teaching system.

A language can have several varieties based on geographical and social differences. The varieties can be mutually unintelligible or less intelligible. For example, Kathmandu Newari and Dhaulagiri Newari are mutually unintelligible while several varieties of Magar in western Nepal are mutually intelligible. However, Newars of Dhaulagiri accept the legitimacy of Kathmandu Newar as standard language while it is different in Magar and many other communities. Granting the status of standard language to a variety is a political issue and the group in power usually claims this status. There is a less possibility of challenging the status of Kathmandu Newari as it has rich literate tradition and its speakers are in dominant role. On the other hand, most of the minority languages are living in oral tradition resulting into several unintelligible or semi-intelligible varieties. In this context, imposing one variety for all is neither pedagogically rationale nor the communities accept it. Likewise, the use of standard variety does not serve the goals of MLE as it is similar to the monolingual or dominant language teaching. 'Emphasis on the use of standard varieties in schools implies a largely monolingual approach of LPP (language policy and planning), in which students' home varieties are excluded from classes (Tollefson, 2008, 6)'.

8 Conclusion

The efforts of the Government of Nepal have been appreciated as it has formulated positive policies for the education of ethnolinguistic children. The policy and legislative instruments not only recognize students' mother tongues as the medium of education but also highlight the role of mother tongue medium of education in achieving educational goals. A piloting of MLE completed successfully. However, there are still some outstanding issues in the implementation of MLE nationwide. These are selection of language varieties, adaptation of national curriculum in local context, learning material development, teacher preparation, and good working conditions for teachers, technical support to the MLE schools

and appropriate model. Above all, community participation is the crucial issue in the implementation of MLE program. The program cannot be implemented effectively without the support of parents and community members.

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VERB STEM ALTERNATION IN THADOU, A KUKI-CHIN LANGUAGE

Marykim Haokip

One of the typological features of Kuki-Chin languages is the presence of verb stem alternation. Thadou belonging to the Northern Kuki-Chin language of the Tibeto-Burman language, spoken in the northeastern part of India, exhibits this feature. The paper aims to present an account of the stem choice in the language.

1 Objective and organisation

The main aim of the paper is to examine the phonological differences between stem 1 and stem 2 in Thadou and also look into the morphological and syntactic distribution of the forms of the verb.

This paper is organized as follows. In the introduction, a brief profile of the language and an introduction to the topic is presented. In §3, I summarize some relevant work on the Stem 1/Stem 2 phenomenon in some Kuki-Chin languages. The phonological relationships between the two stems of some verbs are given in the following section.In §5, I discuss the occurance and distribution and the choice for Stem 1 and Stem 2 in different syntactic and semantic environments. In the final section, the final conlusion with the summary of the work is presented.

2 The language and data

Thadou[1] is a Northern Kuki-Chin language of the Tibeto-Burman group of the Sino-Tibetan language family. It is spoken in the northeastern region of India and Sagiang region of Myanmar by about 200,000 speakers. It is closely related to other languages Kuki-Chin languages like Gangte, Paite, Ralte and Zo.

Like other Kuki-Chin group of the Tibeto-Burman language family, Thadou is also a verb-final language, with SOV as its basic word order. Thadou is an ergative language with an obligatory ergative marking on the subject of the transitive verb. It is also a tonal and a pro drop language

In Thadou, each verb has two forms commonly known referred to as Stem 1 and Stem 2. Diachronically, Stem 1 was the morphologically simplex form, while Stem 2 was derived from Stem 1 by the process of suffixation and tone change.

Stem 1 sometimes functions as a verb within the matrix clause and sometimes is embedded in a nominalised constituent with a subject gap. Stem 2 is always embedded in a nominalized constituent without a subject gap. Nominalizations involving Stem 1 always denote a set of individuals, while those involving Stem 2 may denote a set of indivuals, a set of eventualities or a proposition.

3 Relevant literature

The presence of two verb stem forms is widely attested in Kuki-Chin languages. King (2009), for instance, surveys five Northern and Central Kuki-Chin languages and makes distributional and semantic generalizations, as well as diachronic hypotheses, about Stem 1 vs. Stem 2. She argues that Stem 2 developed from two distinct forms originally derived from Stem 1 by two kinds of morphemes: nominalizing ones on the one hand and "valency-changing,"e.g. benefactive and causative, ones on the other. King observes four general functions for Stem 2 in the languages of interest:1)nominalization; 2) subordination; 3) disambiguation [between subjects and non-subjects] inrelative clauses and WH questions; and 4) valency-changing" (2009:144).Hartmann (2002) discusses Stem 1 and Stem 2 in Daai Chin, a Southern Chin She reports that Stem 1 (Stem A in her terms) appears in clauses with subjectagreement, in "exhortative and suggestive clauses," in non-finite clauses with certainconjunctions, and in certain nominalizations (2002:87), as well as with applicative (includingcausative, benefactive, and comitative) morphology (2002:92), while Stem 2

(Stem B) appears inimperative, permissive, negative, and interrogative clauses, as well as preceding tense markersand in one kind of non-finite clause (2002:90).

4 The phonology of stem i vs. stem ii

In this section, I discuss the phonological distinctions between Stem 1 and Stem 2 forms. There are both segmental and suprasegmental differences in the two forms of the verb. In addition to these segmental changes in the coda,most Stem 2forms have low tone (thus, in the absence of segmental changes, averb with low tone in Stem 1 will have two identical stems).

Table 1 shows the segmental changes and the tonal changes observed in Stem 1 and Stem 2 for different verbs. In addition to the segmental changes, it is observed that stem 1 can take any of the three tones in the language whereas most Stem II verbs take the low tone. Some verbs do not underego any segmental changes. In such verbs, the only change is in the tonal alternation and the Stem 2 always carries the low tone. The following tables show the segmental changes in the formation of the Stem 2 verb.

Table 1:Both segmental changes and tonal change in stem 2 verbs

Segmental changes	Tonal changes	Stem 1	Stem 2	Gloss
ŋ→n	H→L	*δι≅ŋ*	*dǐn*	'stand'
ŋ→n	LH→L	*tʰěŋ*	*tʰèn*	'clean'
ŋ→ʔ	H→L	*dòŋ*	*dòʔ*	'ask'
m→p	LH→L	*tsŏμ*	*tsòp*	'jump'
Vʔ→V	H→L	*ŋα≅ʔ*	*ŋà*	'wait'
n→t	LH→L	*σŏν*	*sòt*	'push'
Vt→V	H→L	*ϖε≅τ*	*vè*	'look'
Vp→V	H→L	*σε≅π*	*sè*	'throw'
VV→V	H→L	*zou≅*	*zò*	'win'

The above examples show that verbs whose stem 1 is either /LH/ or /H/ change their tone to L in Stem 2. Verbs that are already /L/ in Stem 1 remains L in stem 2

There are also verbs that undergo only tonal changes in the stem II as shown in the table 2.

Table 2: Other tonal changes in stem 1and stem 2

Stem 1	Stem 2	Gloss	Tonal alternation
hǒn	*hòn*	'cook'	H→L
tʰî	*tʰî*	'die'	HL→L
lǎm	*làm*	'dance'	HL→L

If there is no segmental change, /L/ verbs will have identical Stem 1 and Stem 2 as given in the examples. Verbs that are already /L/ in Stem 1 remain /L/ in their Stem 2 with or without other segmental changes.

Table 3: Segmental change in stem 2

Stem 1	Stem 2	Gloss
sú	*sùʔ*	'pound'
káp	*kà*	'cry'
zə́p	*zə̀*	'swim'

As noted above, synchronically it is difficult to make simple generalizations about howStem 2 is derived from Stem I; but the diachronic direction of derivation is clear, due to datafrom related languages (Hyman and VanBik 2002, Hartmann 2002), as well as phonologicalgeneralizations within Thadou-Kuki. Hyman (2003b) argues that Stem 2 is derived from Stem I,since Stem 2 nearly always has low tone while the tone of Stem I is not predictable, and Stem 2 forms "often involve a segmental change that is additive and/or neutralizing."

4.1 Nominalisation and the choice of stem 1 vs stem 2

4.1.1 Instrumental *ná*

The instrumental nominaliser*ná*attachesto the right of stems. This *ná*is a derivational morpheme which selects a phrasal complement andderives a nominal expression with thesemantics 'place to do X' or 'instrument for doing X'. Instrumental *ná*attaches only to Stem2as shown in the (1).

(1) a. *ha- nòt-nà*
    tooth-brush.2-NMLZ
    'Thing to brush teeth/tooth brush.'

b. lùp- nà
   sleep. 2 nmlz
   'Thing to sleep 'bed.'

5 Stem 1/Stem 2 in simple sentences

5.1 Imperatives

Imperatives are the simplest clauses in Thadou. All imperatives, be they polite requests (with *ò*), command (with *ìn*), or hortative (with hen), use Stem. Stem 2 is never used in imperatives. This is true regardless of transitivity as shown in sentences (2) to (5).

(2) *húŋ   ìn*
     come   IMP
     'Come'

(3) *toǔ   ò*
     sit   IMP(polite)
     'Sit (please)'

(4) *tuì   dòn   ìn*
     water drink IMP
     'Drink water'

(5) *váʔ   ǔm   ħen*
     light exist HORT
     'May there be light'

Imperatives and hortatives are negated by adding *hìʔ*, which has no impact on the stem type, as shown in (6) and (7).

(6) *hǔŋ   ħïʔ   hèn*
     come   NEG   HORT
     'May he not come'

(7) *lǎm   ħïʔ   ìn*
     dane   NEG   HORT
     'Don't dance.'

From the above discussion, it is evident that Stem 1 form is the only choice for all imperatives.

5.2 Affirmative sentences

5.2.1 Stem 1 contexts

This section discusses declarative sentences whose main predicate is expressed with stem 1

è clauses

The simplest type of affirmative declarative statement in Thadou follows the template(SUBJECT +) (OBJECT +) PERSON CLITIC + STEM 1 (+ NUMBER) + *è*, where *è* is a declarative marker. This construction, is unrestricted by person or transitivity. When unmarked for tense, such clauses may receive past, present progressive, or habitual readings.

(8) *keì   ká=dĭŋ-è*
     1   1CLT=stand.1-DECL
     'I am standing.'

(9) *keì=ìn   án   ká=hǒn=è*
     1=ERG   food   1CLT=cooking.1=DECL
     'I am cooking food.'

5.2.2 Stem 2 in declarative sentences

The *á=hî* construction

The other type of imperative sentence construction is the *á=hî* construction. In (10) and (11), Stem 2 is preceded by an agreement clitic (and optionally by an overt subject) and followed by *á=hì*.

(10) *(keì)   ká=dìn   á=hì*
     1   1CLT=stand. 2   3=COP
     'I am standing.'

(11) *kei=in   ama   ka=pʰo   a=hi*
     1=ERG   3   1CLT=beat. 2   3=COP
     'I am scolding him'

In the *á=hì* construction, the sentence as a whole is a copular clause. The subject of the copula is null; the nominalized clause containing Stem 2 is the complement of the copula. That the subject of the copular matrix clause is distinct from that of the embedded Stem2 constituent is evidenced by the fact that *hì* always takes 3SG. marking, rather than agreeing with the subject of the Stem 2 predicate.

5.2.3 Negative declarative seentences and stem choice

There are several ways of expressing negation in Thadou, two of which are of interest to us here. The first, *pò*, expresses ordinary sentential negation, while *loù* occurs only within nominalised constituents.

All stem 2 constructions are negated with *loù*; in contrast, some Stem1 environments require *loù*, while the others take *pò*.

(12) *(keí)*   *kà=nǒm*   *pò=è*
      1   1CLT=agree.1   NEG=DECL
      'I don't agree'

(13) *keí-ìn*   *ámà*   *kà=vó=è*
      1-ERG   2   1CLT=beat.1-DECL
      'I did notbeat him/her.'

(14) and (15) give other ways of saying, using thenegator*loù*.

(14) *(keí)*   *ká=nòp*   *loùá=hì*
      1   1CLT=agree.2   NEG 3=COP
      'I don't agree.'

(15) *keí=ìn*   *ámà*   *kà=vóʔ-loùá=hì*
      1=ERG   3   1CLT=beat.2-NEG 3=COP
      'I did not beat him/her.'

5.2.4 Irrealis marker *diŋ*

The irrealis marker *diŋ* appears in statements about the future (16), in counterfactual (17) and non counterfactual conditionals and in complements to verbs (18).

(16) *keí*   *kà=dìn*   *dìŋ*   *á=hì*
      1   1CLT=come.2   IRR   3=COP
      'I will stand.'

(17) *ná=kà*   *léʔ*   *ká=kà*   *dìŋ á=hì*
      2CLT=cry.2 CONJ 1CLT=cry.2 IRR 3=COP
      'If you cry, I will cry'

(18) *ná-hùŋ*   *díŋ*   *ká=deì-è*
      2-come.2   IRR   1=want-DECL
      'I want you to come

From the examples (16-18), It can be observed that with the irrealis*diŋ*, only Stem 2 occurs.

There are environments in which the Stem 1 can occur and the constituent issyntactically nominal. Thus, a sentence like (19) could be translated as 'S/he is a potential dancer.'

(19) *lǎm*   *díŋ*   *a=hi*
      dance.1   IRR   3=COP
      'He/she will dance.'

5.3 Complex verbs

5.3.1 Applicatives

In complexes verb,where the second stem has an applicative function, the first verb alwaystakes Stem 2, even in syntactic environments that

ordinarily require Stem 1 (e.g. *è*clauses). In(20) and (22), Stem 2 is expected, since the *á=hi* context always imposes Stem 2.

(20) *ká=dìn*   *sàʔ*   *á=hì*
      3CLT=stand.2   CAUS   3=COP
      'I made her/him stand.'

(21) *ká=dìn*   *sàʔ =è*
      1CLT=stand.2   CAUS= DECL
      'I made her/him stand.'

(22) *ká=dìn*   *pèʔ*   *a=hi*
      1CLT=stand.2   CAUS   3=COP
      'I made her/him stand.'

We have seen that Stem 1 occurs both in fully verbal environments and in subjectoriented clausal nominalizations.

Stem 1 based nominalizations are subject-oriented predicative expressions. Stem 2, in contrast never occurs in fully verbal environments; it occurs only within nominalised VPs and clauses with no subject gap.

5.4 Subordinate clauses

Many types of subordinate clauses in Thadou require the use of Stem 2. In this section, let us discuss several types of subordinate clauses: temporal clauses, antecedents of conditionals, and complementclauses.

Since clausal subordination involves nominalation, the obligatory nature of Stem 2 in these environments show that Stem 2 is used in any nominlized constituent.

5.4.1 Temporal clauses

A subordinate temporal clause always precedes the main clause in Thadou (23) and (24).

(23) *ná=nèʔ*   *zou-in*   *kà=né=è*
      2CLT= eat.2   after-INST   ICLT=eat.1=DECL
      'After you ate, I ate.'

(24) *ná =nèʔ*   *zoú-à*   *kà= nèʔ*   *á=hì*
      2CLT= eat.2 after-INST ICLT=eat.2   3CLT=COP
      'After you ate, I ate.'

The 'after' morpheme in (23) and (24) *zoú*is transparently derived from the verb meaning 'finish'. This grammaticalized*zoú*imposes Stem 2 on the preceding verb. However, the instrumental

marker following *zoú*does not always take the formrequired by Stem 2 contexts; rather, its form depends on whether the *matrix* clause contains *è*or*á=hì*. The same generalization holds of other temporal morphemes, as in (25) and (26):

(25) *ná=nè? màsáŋ-ìn kà=né=è*
    2CLT= eat.2 after-INST ICLT=eat.1=DECL
    'Before you ate, Iate.'

(26) *ná=nè? màsáŋ-à kà= nè? a=hi*
    2CLT= eat.2 after-INST ICLT=eat.2 3CLT=COP
    'Before you ate, I ate.'

The use of *ín*and*á*in temporal clauses provides further evidence that Stem 2 formsconsistently occur within a clausal nominalization.

Temporal clauses are thus yet another context where Stem 2 occurs within a nominalized clause. Other subordinate clause types also impose the use of Stem 2, suggesting that these clause types, too, are obligatorily nominalized. Such clause types include antecedents of conditionals, which closely resemble temporal clauses, and complement clauses.

5.4.2 Antecedents of conditionals

Antecedent clauses in non-counterfactual conditionals always contain Stem 2; the examples in (27) is syntactically and semantically similar to the temporal examples discussed earlier in 5.4.1.

(27) *ná=nè? le? kà= nè? dìŋ a=hi*
    2CLT= CONJ ICLT=eat.2 IRR 3CLT=COP
    eat.2
    'If you eat, I will eat.'

In the counterfactual data elicited, in contrast, the antecedent clause takes Stem 1, as seen in (28).

(28) *á= ná=né lè?sùn kà= nè? dìŋ a =hi*
    3CLT=PERFeat.2 CONJ ICLT=eat.2 IRR 3CLT=COP
    'If you had eaten, Iwould eat.'

As shown by the presence ofagreement and tense marking, as well as the clause's proposition-denoting (not subject-oriented)semantics, the antecedent of (27) is a non-nominalized clause containing a fully verbal stem 1.

5.4.3 Complement clauses

It is very common in Tibeto-Burman languages for complement clauses to be nominalised. In Thadou, the imposition of Stem 2 on a subordinateclause extends to complement clauses, as in (29) and (30).

(29) *nà=ne? dìŋ ka=deì=e*
    2=eat.2 IRR 1CLT=want=DECL
    'I want you to eat.'

(30) *nà=ne? dìŋ ka=tá?sán =è*
    2CLT=eat.2 IRR 1CLT=believe=DECL
    'I believe that you ate.'

The only exception to the generalization that complement clauses take Stem 2 is direct reportedspeech, where the subordinate verb takes the same form as in the original quoted sentence.

(31) *nà=né e ká=tì =è*
    2CLT=eat.1 DECL 1CLT=tell=DECL
    'I told that you ate.'

(32) *né ìn ká=tì=è*
    eat.1 CONJ 1CLT=tell=DECL
    'I told him to eat'.

In (31) and (32), the subordinate clauses takes only Stem 1. The data in (28) and (29) are consistent with the analysis of Stem 2 as occurring innominals denoting sets of eventualities and propositions and can then be translated literallyas 'I want that you (irrealis) eat' and 'I believe that you (irrealis) eat', respectively.

5.4.4 Relative clauses

The choice of stem in a relative clause depends on whether it is a subject relative clause as in(33) and (34) or a non-subject relative clause as in (34) and (35). The former takes Stem 1(regardless of both transitivity and stativity), the latter stem 2.

(33) **a=sán-*tsú***
    3=red.1 DET
    'The red one'

(34) *a=kàp-tsú*
    3=cry1-DET
    '(The) one who cries'

(35) *a-**kàp**-tsú tsápáng hàm*
    3-cry1-DET child Q
    'It is the child that is crying'

(36) *uì=ìn à=**pè**-tsù*
    dog=ERG 3=bite.2-DET
    'The one that the dog bit'

5.4.5 Wh-questions

As in relative clauses, where stem choice depends on the position of the gap, object *wh*questionsbehave differently from subject ones: object *wh*always take Stem 2, object *wh*while sometimes take Stem 2 and sometimes Stem as can be observed in (37) and (38).

(37)   *kìm*   **vét**   *koì h-âm?*
     kim   look.2   who COP-Q
     'Whom is Kim looking at?'

(38)   *kìm*   **vè**   *koì h-âm?*
     kim   look.1   who COP-Q
     'Who is looking at Kim?'

The stem type required for a given subjectorientedquestion depends on argument structure, eventivity, and the question's overall syntax.

Non-subject wh-questions

As in relative clauses, when the gap in a *wh*-question corresponds to an object oradjunct, Stem 2 is mandatory.

(39)   *kìm=ìn*   **à-vét**   *koì h-âm?*
     kim=ERG   3-look.2   who COP-Q
     'Whom is Kim looking at?'

Subject *wh*-questions

In subject *wh*-questions with an intransitive verb, the verb sometimes appears in Stem 1 andsometimes in Stem 2. The choice of stem depends on eventivity, the overall syntax, and whatexactly is being questioned–i.e. whether one is asking about individuals or eventualities.If the *wh*-wordand*hâm*are adjacent, the verb must be preceded by third person *a*.

(40)   *koì h-ám*   *a=kàp*
     who be-Q   3=cry.1
     'Who is it that is crying?'

From the discussion, it can be concluded that when the *wh*-word and *hâm*are adjacent in intransitive subjectquestions, Stem 1 is verbal, but embedded in a nominal relative clause with a subject gap; therelative clause denotes the set of individuals that, when filled in for the variable in subjectposition, would make the open proposition true. In subject *wh*-questions with a transitive predicate, the situation changes again. If the*wh*-expression is not ergative marked, Stem 1 is used

(41). If the *wh*- expression isergative-marked, then Stem 2 is required (42). This generalization holds regardless ofwhether the *wh*- expression is adjacent to *hâm*as in (41).

(41)   *koĭh-àm*   *zŏŋpét*
     who COP-Q   monkey bite.1
     'Who is biting the monkey?'

(42)   *koĭ-ìn*   *zŏŋ*   *à=pé-h-àm*
     who COP- Q   monkey   3=bite.1-COP-Q
     'Who is biting the monkey?'

It is evident that all subject-oriented nominalizations that we have seen so far, including in subject-oriented wh-questions, require Stem 1. Thus, *wh*- questions also support the analysis of Stem 1 as being the form verbs take whenembedded in a nominalized VP or clause with a subject gap, and of Stem 2 as being the formverbs take when embedded in an eventuality-, non-subject-individual-, or proposition-orientednominalized verb phrase or clause.

6 Conclusion

Phonologically, both segmental changes and tonaldifferences are observed in Stem 1 and Stem 2 verbs. Syntactically, Stem 1 sometimes occurs within a subject-oriented nominalized verb phrase or clause, and sometimes in the absence of nominalization. Stem 2 always appears within a nominalized constituent. Semantically, nominals containing Stem 2 can denote a proposition, an eventuality, or a set of individuals object position.

Summary of theoccurance of stem 1 and stem 2 in different syntactic environments is given in table 4.

Table 4: Summary of stem 1 and stem 2 contexts

Stem 1	Stem 2
Imperatives, hortative	Nominalised verbs
Declarative *è* clauses	With insrument-*nà*
Before the negative marker-*pò*	Object-oriented nominals
Before irrealis*dîŋ*	*á=hĭ* declarative clauses
Intransitve subject *wh*-questions	With the negative *loù*
Antecedents of counterfactual attributive modifierspredicate nominals	Conditional, temporal clause and complement clauses
Transitive subject wh-question without ergative marking	Transitive wh-questions that questions the object

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NEPALI-ENGLISH PARALLEL SENTENCES FRAGMENTATION

Galina Kedrova & Sergey Potemkin

We present a new approach to fragmentation of sentences of the source and the translated text. Intervals, not the words in the bilingual space enable matching multi-word units. Implementation of the Viterby algorithm enables creation of automatic dictionary of fragments for use in example based machine translation (EBMT).

Keywords Bilingual space, fragment, matching, dynamic programming

1 Introduction

Proper fragmentation of parallel bilingual texts is an essential and the first priority problem to be solved within the complex problem of machine translation based on examples. The process of fragmentation of twin texts can be treated with various degrees of granularity - from the paragraph matching to the word by word fragments matching. This paper deals with the fragmentation of the beforehand selected parallel sentences. It is assumed that the problem of extraction of parallel sentences is already solved in general. Such fragmentation is used in particular in commercial systems such as translation memory, etc. The obvious limitation of such systems usage is connected with the fact that those are practically applicable only in case of stereotype texts – such as the statutory documents or contracts. On the other hand similar fragments can occur in parallel texts very often, hence the need for the proper allocation of parallel fragments in two sentences, one of which is the "correct translation" of the other one. (The correct translation is understood as a translation performed by a qualified translator, and perhaps repeatedly verified, such as translations of the Bible (NAUMOVA, 2005).

This paper presents a new approach to the fragmentation of the sentences based on the lexical and structural mapping of the fragments of the original and translated sentences. In contrast to the known methods, we use the intervals between the words as the matching points instead of the words themselves. This approach enables comparing the word compound of the source sentence with a word or a phrase of the translated sentence. Then the method of dynamic programming is used in searching the best fragmentation of each sentence. Selection of the weighting factors for each matched interval enhances the quality of fragmentation. The algorithm and experimental results for the parallel texts without morphological and syntactical markup are presented.

2 Bilingual space

The parallel corpus can be mapped onto two-dimensional space (MELAMED, 1999), one axis of which represents the words of the source text, and the other axis represent the words of the target text or translation. The distance from the zero point to some token is the number of the preceding tokens from the beginning of the text. The size of the token depends on the level of granularity – paragraph, sentence, word. As usual the order of sentences in both texts coincides so the mapping from the source to the target text on this level is monotonous.

Situation is rather different when we conceder the mapping of individual sentences. For sufficiently distant languages the word orders in the source and in the target sentence usually do not coincide.

3 Matching matrix

The words of two sentences, the source and the target one are placed in rows and columns of a rectangular table (matrix), which assessing the closeness of these sentences. (KEDROVA, POTEMKIN, 2005). The sentences for this example below are chosen from (URDUNEPALIENGLISHPARALLELCORPUS) http://www.cle.org.pk/software/ ling_resources/UrduNepaliEnglishParallelCorpus. htm

The source sentence is *The top money funds are currently yielding well over 9 %* .and the target one: ठूला मुद्रा कोष हरू ले अहिले ९ % भन्दा बढ नै प्रतिफल प्राप्त गरिरहेका छन्

		The	top	money	funds	are	currently	yielding	well	over	9	%
ठूला	great/ big/ large											
मुद्रा	money/ currency/ posture/ exchange			1								
कोष	fund/ cell/ base/				1							
हरू	Exist											
ले	move/ take/ the/ from											
अहिले	now(currently)/ today						1					
९	9										1	
%	%											1
भन्दा	over/ most/ more									1		
बढी	over/ more/ greater									1		
नै	the/ that/ of/ is/ same	1										
प्रतिफल	return/ reward/ compensation/ result/ consideration											
प्राप्त	received/ obtained/ acquired/ from/ gain											
गरिरहेका	doing/ working/ do/ who/ those											
छन्	are/ have/ been					1						

Fig. 1: Matching matrix for two sentences

On Fig.1 the words of the source sentence are placed along axis X, and the words of the target one - along axis Y. Each word is placed according to its position count from the beginning of the sentence. For example, *money* is the third word of the source text, so it is located in column 3.

A cell of the matrix at the intersection of a source word Ws and a target word Wt is filled with 1 if and only if the pair Ws, Wt is fixed in the bilingual dictionary, otherwise it is 0. For example a cell (2, 2) indicates a pair of words {*अहिले, currently*}. In the general case, the value of the cell belongs to the interval [0, 1], depending on the "similarity measure" or "semantic distance" between the source and the target word, as we'll discuss later.

4 Separators as the coordinates

In contrast to (MELAMED, 1999), we'll use the separators (blanks) between the words, not the words themselves, as the matching points in the bilingual space. With this approach, the mapping of the source word onto the target word is a segment with coordinates $\{(x1, y1); (x2, y2)\}$ where x1, x2 - the beginning and the end of the target word, and y1, y2 - the beginning and the end of the source word, or vice versa. In case of word by word matching $x2 = x1 + 1$, $y2 = y1 + 1$.

Now consider the opportunity to match not only single words, but also equivalents of type *(word <> phrase)*, *(phrase <> word)* and *(phrase <> phrase)*. In our example such equivalents might be (*भन्दा बढी <> well over*).

So, the first generalization of the previously used paradigm – we match sentence segments instead

of matching single words and immediately get the opportunity to align phrases, not words only. Now the matrix is transformed into a set of segments that define the mapping of words and phrases.

Conflict arises when some segments overlap horizontally or vertically (i.e. not a one-to-one mapping). For example, the word of the source text *over* matches two words of the target text भन्दा and बढी. The most often tokens involved in collisions are functional words and punctuation marks. Resolution of conflicts, i.e. exclusion of all words in the conflict except one is a necessary part of the proper fragmentation.

5 Segment weight

As we have stated, the measure of (semantic) proximity between pair of words is a normalized value lies between 0 and 1. For the words, one of which is the most statistically probable translation of another one, (९, *9*) in our example, this measure is high and for the rare equivalents (टल्ला, *top*) - is low. We use the lexical database (LDB) with a superimposed semantic metric (KEDROVA, POTEMKIN, 2004; POTEMKIN, 2004) to evaluate the semantic proximity between (Russian and English) words. The essence of our method for determining the measure of proximity between two words is calculation the normalized scalar product of two words, represented as a pair of vectors in the space of the bilingual dictionary. The same method could be used for other language pairs, say Nepali – English.

Within the paradigm in which the coordinates are separators (blanks), we replace the notion of proximity measure with the segment weight. For the segment mapping the word onto the word, its weight is the semantic proximity of two words. For the segments which make up a continuous chain, one should take into account the cumulative effect of the merger. Indeed, if two adjacent words of the source text are mapped onto two adjacent words of the target text, the confidence of such mapping is greater than if the same words are found separately, and therefore, the weight of such interval is greater than the sum of the weights of its components. We'll assume even more confidence to a segment mapping of the source phrase onto the target phrase fixed in the bilingual dictionary.

6 Fragmentation

Giving weight to all mapping segments, one can perform fragmentation that is the mapping segments of the original sentence onto the segments of the target sentence, which lie between the already-mapped segments. This is called an interpolation between the mapped segments. Among all the possible fragmentations it is necessary to choose the best one according to some criterion such as:
a)   maximizing the weight of the segments
b)   minimization of the total length of the new-found segments
c)   maximize the number of segments, etc.

The words of two sentences could be matched in different sequences. The same sentence can be translated as in the direct and in reverse word order, and both translations are correct. A more general case - where some groups of words are translated in direct order, the other - in reverse, and the groups themselves are matched randomly.

The number of variants of fragmentation can be estimated as O(n!), where n-number of words of the source or target sentence. However, if we consider only the monotonous mapping (i.e., the word order of the source and the target sentences is the same), the task falls into the class of problems solved by dynamic programming method. Indeed, the set of segments of fragmentation can be considered as a path from point (0,0) to point (m, n), where m and n is the length of source and target sentences accordingly. Then the most weight path will correspond to the best fragmentation.

We should keep in mind the basic structure of the sentences in different languages. Nepali is a language with Subject-Object-Verb (SOV) basic structure while English is Subject-Verb-Object (SVO) basic structure. The favorable feature for us is that Subject-Object orders in both languages coincide. So we can eliminate the main verb from both sentences (*are* in our example) and try to match Nepali Subject with English Subject and N-Object with E-Object.

7 Dynamic programming algorithm

```
&& W [] - array containing weights of mapping
segments
wp [0,0] = 0
for i = 0 to m for j = 0 to n
```

```
  if w [i, j]> 0
  wpmax = 0
  for i1 = 1 to
   for j1 = 1 to j
    if wp [i1, j1]> 0 & wpmax <wp [i1, j1] + w [i,
j]

     wpmax = wp [i1, j1] + w [i, j]
     ppi = i1
     ppj = j1
    endif
   endfor
  endfor
  wp [i, j] = wpmax
  ppx [i, j] = ppi
  ppy [i, j] = ppj
 endif
 endfor
endfor

&& critical path walk
i = m
j = n
while i> 0 & j> 0
&& Coordinates of interpolating fragments = {(pp
[i, j], ppy [i, j]); (I, j)}
 i = ppx [i, j]
 j = ppy [i, j]
endwhile
```

Upon completion of this algorithm the critical path is constructed as shown as a chain of arrows in Fig. 1. The algorithm eliminates conflicts, because always only one conflicting word is chosen. Note that we allow the violation of one-to-one mapping, i.e. segments parallel to axis X or Y permissible. The meaning of such segments is that in the source sentence there exists a word without a corresponding word in the target sentence and vice versa. The fragment *The* does not match any fragment of the target sentence. This fragment, although it has a match ने, is not a part of the critical path and is omitted in translation. The latter case should be processed during fragments merge process described below.

8 Partial inversion

As a rule, the source sentence and its translation even with the coinciding word order, contain a number of inverse fragments. Consider the fragment *well over 9 %* of our example and its translation ९ % भन्दा बढ. This fragment pair are inverted

fragments. Such partial inversion should be included in the critical path, but the above algorithm does not allow such inclusion. The algorithm was improved to cope with such partial inversed fragments before execution of the general fragmentation algorithm. The number of these inverse fragments in some sentences is large enough and we have to set the upper limit for the length of the fragment, say four words, and the lower limit of the ratio of their lengths, say 0.5. Both of these parameters are specified in the program.

9 Fragments merger

Critical Path splits the original sentence into the following fragments:

The top money funds currently yielding well over 9 %

a)   टुला *The top*

b)   मुद्रा कोष   *money funds*

c)   अहिले   *currently*

d)   ९ % भन्दा बढ   *well over 9 %*

e)   नै प्रतिफल प्राप्त गरिरहे का

Fragment e) is not matched to any source fragment. If we merge fragments d) and e) the result will be more meaningful. That is, ९ % भन्दा बढ नै प्रतिफल प्राप्त गरिरहे का   *yielding well over 9 %*

While deciding whether to merge the fragments we adhere to two criteria:

- the lengths of the source and the target fragments should not differ greatly; and

- the weight ratio of segments on the critical path to the total weight of mapping segments found inside the fragments, should not be too small.

We deliberately use vague definition because the value of these thresholds should be selected experimentally. These weighs are the parameters of the program.

10 Conclusion

The article suggests a strategy of fragmentation of the parallel sentences. Compared with the previous works we propose delimiters (spaces) between the adjacent words as the coordinates in the bilingual space, not the words themselves. This al-

lowed extending matching the boundaries of the fragments and use word to phrase or phrase to phrase alignment. The weight of the segments was defined with taking into consideration those semantics. Partial inversion was handled effectively by incorporating inverted fragments in the critical path search. The resulting fragmentation is assessed by structural and semantic criteria. In case of violation of one of them we merge adjacent fragments (in the ultimate case all the fragments merge to form the original pair of sentences). Our experiments show that the method makes it possible to match unknown fragments of two sentences. The development of this approach will allow compiling a Dictionary of fragments for use in the system of Example-Based Machine Translation (BROWN, 1996).

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PERSON MARKING AFFIXES IN CHHULUNG

Man Kumari Limbu

This paper describes the person marking affixes in Chhulung. There are three suffixes, viz.<-wa>, <-ŋ> and <-ŋa> which represent the first person. Similarly, there are two affixes <a-> and <-na> which represent the second person. Finally, there are some affixes viz. <iŋ->, <-u>, <ma-> and <mai-> which represent the third person. The theoretical background of the paper is based on the work of Payne (2003).

Keywords: Non-past, past, person, exclusive, inclusive

1 Introduction

Chhulung is one of the lesser known Kirati languages of Nepal. There are a few works on it (Limbu, 2012, 2009, 2007, Rai 2007). It is spoken in Akhisalla VDC of Dhankuta, According to the report of CBS 2011 (CBS 2012), the total population is 2,046. In Chhulung, different types of person marking affixes are found which are attached to the verb root. All types of affixes have been discussed below.

2 First person marking

There are three first person marking affixes in the Chhulung language. They are <-wa, -ŋ, -ŋa> These are described and explained below.

a. First person singular agent marker in non-past <-wa>

In Chhulung, first person singular agent in non-past form in both transitive and intransitive constructions is marked by <-wa>. Examples (1 a and b) make it much clearer.

(1) a. *ga cama tʰuʔwa*
        ga cama tʰuk-wa
        1SG rice cook-1SG.A
        'I cook rice.'

    b. *ga imwa*
        ga im-wa
        1SG sleep-SG.A
        'I sleep.'

In the examples above, the suffix<-*wa*> is attached to the verb root which occurs in both transitive and intransitive constructions in the first person singular non-past.

b. The first person singular agent marker in past <-ŋ>

In Chhulung, the first person singular subject in past form in both transitive and intransitive constructions is marked with <ŋ> as shown in example (2 a and b).

(2) a. *ga hatʰa kʰa raŋhẽ*
        ga hatʰa kʰar-a-ŋ-hẽ
        1SG market go-PST-1SG.A-PST
        'I went to market'

    b   *ga imsaŋhẽ*
        ga ims-a-ŋ-he
        1SG sleep-PST-1SG.A-PST
        'I slept.'

c. The exclusive marker <-ŋa>

In Chhulung, the exclusive morpheme is marked by <-*ŋa*> which occurs only in the first person dual and plural as shown in the example (3 a-c).

(3) a. *anchʰiŋa citʰi chʰabyukchʰiŋa*
        anchʰi-ŋa citʰi chʰab-yuk-chʰi-ŋa
        1DU.EXCL letter write-NPST-DU-EXCL
        'We (two) write a letter'.

    b. *anchʰiŋa citʰi chʰabyukchʰiŋan*
        anchʰi-ŋa citʰi chʰab-yuk-chʰi-ŋa-n
        1DU.EXC letter write-NEPST-DU-EXCL-NEG
        'We (two) do not write a letter'.

    c. *aniŋa habikiŋa*
        ani-ŋa hab-i-k-i-ŋa
        1PL.EXCL cry-PL-NPST-PL-EXCL
        'We cry'.

The exclusive marker <-*ŋa*> appears only first person dual and plural in both transitive and intransitive construction.

3. Second person marking

There are two markers for second person in Chhulung, which are described below.

a. The second person marker <*a-*>

The morpheme <*a-*> is a prefix which refers to the second person subject morpheme in all persons, namely singular, dual and plural. The morpheme <*a-*> appears before the verb stem which is illustrated as in example (4 a-c).

(4)   a.   *kʰan cama atʰuknuʔ*

        kʰan cama a-tʰuk-nuʔ

        2SG rice 2-cook-NPST

        'You cook rice'.

      b.   *kʰancʰi cama atʰuʔyukcʰi*

        kʰancʰi cama a-tʰukt-yuk-cʰi

        2DU rice 2-cook-NPST-DU

        'You (two) cook rice'.

      c.   *kʰani cama atʰuktiki*

        kʰani cama a-tʰukt-i-k-i

        2PL   rice 2-cook-PL-NPST-PL

        'You (many) cook rice'.

In the example above, the prefix <*a-*> appears before the verb stem in all persons to denote the second persons.

b. The second person object marker <*-na*>

The second person object marker is <*-na*> in this language in 1s→2s in configuration which is illustrated in example (5 a-b).

(5)   a.   *ga kʰan kitab pinukna*

         ga kʰan kitab pin-u-k-na

        1SG 2SG book give-3P-NPST-2OBJ

        'I give you a book.'

      b.   *ga kʰancʰi citʰi pinuknacʰi*

        ga kʰan-cʰi citʰi pin-u-k-na-cʰi

        1 SG you- DU letter give-3p- NPST -2OBJ-DU

        'I give you a letter'.

We can see from the data, the suffix<*-na*> is attached to the verb root to denote second person object marker.

4. The third person marking

The third person singular subject is morphologically unmarked. It means there is no any overt person marker. It is illustrated in the example (6).

(6)   *naŋ imnu*

     naŋ im-nu

     3SG sleep-NPST

     'He sleeps'.

a. The third person plural marker <*iŋ-*>

The prefix <*iŋ-*> refers to third person plural subject in the Chhulung language. It appears before the verb stem. This is illustrated in the example (7 a-d).

(7)   a.   *naŋkʰa cama iŋtʰuknu*

        naŋkʰa cama iŋ-tʰuk-nu

        3PL rice 3PL-cook-NPST

        'They cook rice.'

      b.   *naŋkʰa cama iŋtʰukte*

        naŋkʰa cama iŋ-tʰukt-e

        3PL   rice   3PL-cook-PST

        'They cooked rice'.

      c.   naŋkʰa iŋimnu

        naŋkʰa iŋ-ims-nu

        3PL   3PL-sleep-NPST

        'They sleep.'

      d.   *naŋkʰa iŋimse*

        naŋkʰa iŋ-ims-e

        3PL   3PL-sleep-PST

        'They slept'.

In the examples above, the prefix <*iŋ-*> occurs to only third person plural in both transitive and intransitive verbs.

b. Third person patient marker <*-u*>

In Chhulung, the third person patient marker is <*-u*>. It is attached after the root of the verb. This is illustrated as in example (8 a-b).

(8)   a.   *gaa naŋ kitab pidukuŋ*

         ga-a   naŋ kitab pid-u-k-u-ŋ

         1SG-ERG 3SG book give-3P-NPST-3P-1S/A

         'I give him a book'.

b. *khana naŋ kitab apiduku*

kʰan-a naŋ kitab a-pid-u-k-u

2SG-ERG 3S book 2-give-3P-NPST-3P

'You give him a book'.

In the examples above, the morpheme <-*u*> refers to the third person patient marker.

c. The 3→2 marker <*ma*->

The morpheme <*ma*-> appears in this language in 3→2 configuration as shown in the example (9).

(9) a. *naŋa kʰan kitab mapinuʔ*

naŋ-a   kʰan kitab ma-pi-nuʔ

3SG-ERG 2SG book 3→2-give-NPST

'He/she gives you a book.'

b. *naŋkʰacʰia kʰan kitab mapinuʔ*

naŋkʰa-cʰi-a kʰan kitab ma-pi-nuʔ

3DU-ERG 2SG book 3→2-give-NPST

'They (two) give him/her a book'.

c. *naŋkʰaa kʰan kitab mapinuʔ*

naŋkʰa-a kʰan kitab ma-pi-nuʔ

3PL-ERG 2SG book 3→2-give-NPST

'They (many) give him/her a book'.

In the example above, the prefix <*ma*-> appears with the verb root to indicate third person address to the second person.

d. The 3→1NSG marking <*mai*->

The morpheme <*mai*-> is the prefix which appears in 3→1NSG configuration as shown in example (10).

(10) a. naŋa ancʰi kitab maipiyukcʰi

naŋ-a ancʰi kitab mai-pi-yuk-cʰi

3SG-ERG 2DU book 3→1-give-NPST-DU

'He gives me a book.'

b. naŋkʰacʰia ancʰiŋa kitab maipiyukcʰi

naŋkʰacʰi-a ancʰi-ŋa kitab mai-pi-yuk-cʰi

3DU-ERG 2DU-EXCL book 3→1-give-NPST-DU

'They (two) give me a book.'

c *naŋkʰaa ancʰiŋa kitab maipiyukcʰi*

naŋkʰa-a ancʰi-ŋa kitab mai-pi-yuk-cʰi

3PL-ERG 1DU-EXCL book 3→1-give-NPST-DU

'They (many) give me a book'.

In the example above, the prefix<*mai*-> appears with the verb root to indicate that third person is addressing to the first person non-singular.

5 Conclusion

In Chhulung, there are three suffixes <-wa>, <-ŋ> and <-ŋa> which represent the first person. Similarly, there are two affixes <a-> and <-na> which represent the second person. The first affix *a*- is a prefix and the second affix –*na* is a suffix. Similarly, there are four affixes viz. <iŋ->, <-u>, <ma-> and <mai-> to represent the third person. From these affixes, <iŋ->, <ma-> and <mai-> are prefixes and the affix <-u> is a suffix.

Abbreviations

1	first person
2	second person
3	third people
A	agent
DU	dual
ERG	ergative
EXCL	exclusive
NEG	negative
NPST	non-past
OBJ	object
p	patient
PL	plural
PRS	present
PROG	progressive
PST	past
S	subject
SG	singular

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DIFFUSION OF NEPALI LINGUISTIC FEATURES ACROSS NEPALESE LANGUAGES

Madhav P. Pokharel

Diffusion of Nepali lexical and grammatical features across language boundaries have been examined with the data from Kurux, a Dravidian language, and four Bodish and seven Himalayish Tibeto-Burman languages published in the The Gorkhapatra daily. All of these languages have shared neologisms with Nepali both Sanskrit or native words and use Sanskrit proper names (of people) but less common with the Bodish languages. These languages have also borrowed structural and grammatical items from Nepali.

Keywords: Diffusion, Himalayish, Bodish, Nepali, neologism, grammatical features

1 Introduction

The नयाँ नेपाल /nʌjã nepal/ 'New Nepal' column of the The Gorkhapatra daily (pp. 12-13) publishes texts from more than 30 Nepalese languages. Out of the 123 languages counted and grouped into four major families of languages (Indo-Aryan, Tibeto-Burman, Austroasiatic and Dravidian) and a language isolate Kusunda by the *National Population Census 2011*, *The Gorkhapatra* publishes texts of neither Kusunda nor Austroasiatic (Khadia and Santal). Kurux, the only Dravidian language in the country, gets access while the column has accommodated some of the Tibeto-Burman and Indo-Aryan languages.

Since Nepali is the language of wider communication (LWC) and is the *lingua franca* among all the mother tongue speakers within Nepal, we have examined how grammatical and lexical items of Nepali have diffused into other languages. We have not taken other Indo-Aryan languages into consideration expecting large percentage of common lexical and grammatical items among themselves. This preclusion has chosen the single Dravidian language Kurux and 11 Tibeto-Burman languages, out of which there are 4 (Sherpa, Lhomi, Jirel and Gurung) languages of the Bodish group and 7 (Dhimal, Chamling, Thami, Newar, Baram, Magar Dhut and Magar Kham) from the Himalayish group.

However, we could not include Limbu [Himalayish] and Tamang [Bodish] in our study, because we had difficulty to read the non-Devanagari scripts.

2 Dhimal

Dhimal is a Tibeto-Burman language of the Himalayish group. The language is not in direct genetic relationship with any other Tibeto-Burman language spoken in Nepal. The closest genetic relationship with Dhimal is generally given to Toto, a language spoken in the West Bengal State of India. Dhimal is spoken in Jhapa and Morang districts of Eastern Nepal.

(1) Dhimal (२०७१ भदौ १३ शुक्र बार, पृ. १२)

a. Sanskrit: विश्व /viçva/ 'world', प्रवृत्ति /pravrtti/ 'tendency', कार्य /kārja/ 'function', सांस्कृतिक /sāmskrtik/ 'cultural', आर्थिक /ārtʰik/ 'economic'

b. Nepali: मुद्दा /mudda/ 'issue', भेटघाट /bʱeʈɡ̈aʈ/ 'meeting', लराइ /lʌrai/ 'fight' (लडाइँ)

c. Grammatical particles: मोरङ माहासङ्घको अधिवेसन /morʌŋ maɦasʌŋ **ko** ʌɖibesʌn/ (possessive particle /ko/ 'of'), विश्व र नेपाली आदिवासी /biswʌ **rʌ** nepali adibasi/ (conjunctive particle /rʌ/ 'and'),

d. Given names: भुवन कुमार /bʱubʌn kumar/, सोम बहादुर /som baɦadur/

3 Chamling

Chamling is a Kiranti language of the Himalayish group of Tibeto-Burman. The language is spoken mainly in Khotang, Udayapur and Bhojpur districts of Eastern Nepal.

(2) Chamling (नयाँ नेपाल, गोरखा पत्र, २०७१ साउन ३ शनि बार, पृष्ठ १२)

a. Sanskrit: बहुभाषी /baɦubʱāṣ̌ī/ 'multilingual', शिक्षा /çikṣ̌ā/ 'education', प्राविधिक /prāviɖika/ 'technical', प्रस्तुत /prastuta/

b. Nepali: असार /ʌsar/ 'third month of Vikram Samvat',

c. Grammatical particles: खोटाङ दुर्छिम तिराको तिलक चाम्लिङ /kʰoʈaŋ durtsʰim tira **ko** tilʌk tˢamliŋ/ (possessive particle /ko/ 'of'); समाजसेवी राईलै नागरिक सम्मान /sʌmadᶻsebi rai **lʌi** nagʌrik sʌmman/ (Dative/Accusative particle /lʌi/ (cf. Nepali /lai/)

d. Given names: किरण /kirʌŋ/, सुरेश /sures/, हेमा /ɦema/

4 Thami

(3) Thami (or Thangmi) is a Himalayish language spoken in the Dolakha district of Central Nepal. This language feels like a link between Dolakha Newar and Kiranti.

Thami (नयाँ नेपाल, गोरखा पत्र, २०७१ साउन ५ सोम बार, पृष्ठ १२)

i. Sanskrit: प्रतिभा /pratiɓa/ 'intellect', प्रस्फुटन /praspʰuʈan/ 'explosion'/ 'blooming'/ 'germination', सामुदायिक /samudayik/ 'collective', सञ्चालित /sancālita/ 'conducted', प्रतियोगिता /prʌtiyogitā/ 'competition' उपाधी /upaɖi/ 'title'

ii. Nepali: छनोट /tsʰʌnoʈ/ 'selection', चौथो /tˢʌutʰo/ 'fourth', पाचौँ /pātˢʌũ/ 'fifth', छैटौँ /tsʰʌiʈʌũ/ 'sixth', सातौँ /satʌũ/ 'seventh', जगेर्ना /dᶻʌgerna/ 'preservation'

iii. Grammatical particles: जसको संयोजन तथा प्रस्तुती /**dᶻʌs ko** sʌmjodᶻʌn **tʌtʰa** prʌstuti/ (relativizer /dᶻʌs/ 'who/which', possessive particle /ko/ 'of', conjuctivizer /tʌtʰa/ 'and'), गाविसकी विमाकुमारी /gabisʌ **ki** wimakumari/ (feminine possessive particle /ki/), गाविसका सुजन दाहाल /gabisʌ **ka** sudᶻʌn daɦal/ (honorific possessive particle /ka/), कलाकार उत्पादनको लागि /kʌlakar utpadʌn **ko lagi**/ (benefactive particle /lagi/ preceded by possessive particle /ko/),

iv. Grammatical suffixes: पुर्बेली /purb-eli/ , पश्चिमेली /pʌstˢim-eli/ (adjectivizing suffix <eli>), <-i>

(Feminine suffix, e.g. k-i 'of'), <-a> (Plural & Honorific suffix, e.g. k-a 'of'), <-o> (Masculine suffix, e.g. k-o 'of')

v. Given names: कुमार /kumar/, मदन /mʌdʌn/, हिरा /ɦira/

5 Newar

Newar (or Nepal Bhasha or Newari) is a Himalayish language of the Tibeto-Burman family. This is one of the five most developed Sino-Tibetan languages ranking among Chinese, Tibetan, Burmese and Manipuri. The speakers of Newar celebrate one of the richest cultures among the Nepalese. In terms of borrowing and sharing with Indo-Aryan (and Nepali) Newar stands out among the Tibeto-Burman languages spoken in Nepal.

(4) Newar (२०७१ भदौ ७ शनि बार, पृष्ठ १३)

i. Sanskrit: शब्द /çabda/ 'word'/'sound', राक्षस /rākṣasa/ 'demon', भूत /ɓuta/ 'ghost', प्रेत /preta/ 'dead soul', पिशाच /piçaca/ 'troublesome dead soul'

ii. Nepali: काइदा /kaida/ 'style'/'process', बेहोस /beɦos/ 'unconscious', आराम /aram/ 'comfort', ठिक /ʈʰik/ 'correct'

iii. Grammatical particles: अझ /ʌdᶻʌ/ 'yet', तर /tʌrʌ/ 'but', बारे /bare/ 'about'

iv. Given names: कृष्ण प्रजापति /krishna prajapati/

6 Baram

Baram is a Himalayish language of the Western branch. It shares 67% of the lexical features with Tilung. The exact location of Baram within the Himalayish group is in a debate. The language is rich in prefixing and is spoken in the Gorkha district of western Nepal.

(1) Baram (नयाँ नेपाल, गोरखा पत्र, २०७१ साउन ११ आइत बार, पृष्ठ १२)

i. Sanskrit: संविधान /samvidhāna/ 'constitution', निर्माण /nirmāṇa/ 'construction', स्थापित /stʰāpita/ 'established'

ii. Nepali: आफ्ट्यारो /ʌpt̠ʰjaro/ 'difficult', साझा /saḍ̠ʰa/ 'sharing'/'common', तयारी /tʌjari/ 'ready'/ 'readiness', अगुवा /ʌguwa/ 'leader'

iii. Grammatical particles: लोकतान्त्रिक पार्टीगो नेता /loktantrik parti **go** neta/, कानुनगो निरन्तरता /kanun go nirʌntʌrta/, दलरुगो प्रतिक्रिया /dʌl-ru go prʌtikrija/ (Genitive particle /go/, cf. Nepali /ko/)

iv. Grammaticalized clitic: दलरुगो प्रतिक्रिया /dʌl-ru go prʌtikrija/ (Nepali pluralizing particle /ɦʌru/ developed into the suffix <ru>)

v. Given names: किरण /kirʌŋ/, इन्द्रा /indra/

7 Magar-Dhut

Magar people speak mainly three different types of Tibeto-Burman languages. Those living in Dolpa speak Magar-Kaike which has close historical relationship with the Bodish (or Tibetic) branch; those living in Rukum, Rolpa and west Baglung districts speak Magar-Kham. Magar-Dhut is spoken by politically most powerful group of the Magar people. This branch of Magar is spread to the east as far as the Brahmaputra Basin of Northeast India. Subject-pronominalization is found in Western Syangja (district) dialect of this language.

(6) Magar Dhut (२०७१ साउन १६ गते शुक्र बार)

i. Sanskrit: कलाकार /kalākāra/ 'artist', पुरस्कार /puraskāra/ 'prize', योगदान /yogadāna/ 'contribution', दुर्गम /durgama/ 'inaccessible', सेवा /sevā/ 'service'

ii. Nepali: विना तार /bina tar/ 'wireless'/ 'without wire', जेठा /d̠ʰeṭʰa/ 'eldest' (honorific), सुरिलो /surilo/ 'straight and tall' (tree)

iii. Grammatical particles: पुन मगरले /pun mʌgʌr **le**/ (Ergative particle /le/), होला /ɦola/ 'maybe', होस्कूङ लाफाको ओम् बीक्रम बीस्ट /ɦoskuŋ lapʰa **ko** om bikrʌm bisṭʌ/ (Genitive particle /ko/), अरु /ʌru/ 'others'

iv. Grammatical suffixes: पहाडी /pʌɦaḍ-i/ (adjectivizing suffix <i>)

v. Given names: महावीर /mʌɦabir/, अनूप /ʌnup/, शान्ति /santi/

8 Magar-Kham

As noted above, the group of Magars living in Rukum, Rolpa and west Baglung districts speak Magar-Kham, a complex pronominalized language resembling Kiranti, Hayu and Chepang. Macdonell and Keith (Macdonell & Keith, 1912 [1958]) have published a map, according to which the abode of the Kirata people is the territory immediately to the east of the River Karnali, the region occupied by the Magar-Kham speakers today. Since the grammar of this group of Magars resembles that of the Kiranti languages of Eastern Nepal more than that of Magar-Dhut and Magar-Kaike, it is interesting to speculate whether the later Vedic texts meant this bunch of Magars by the name Kirata, because according to the same text the word Kirata simply meant populations living in the sub-Himalayan caves earning their living by hunting and gathing medicinal plants.

(7) Magar-Kham (२०७१ भदौ १६ सोम बार, पृष्ठ १३)

i. Sanskrit: जाति /d̠ʰati/ 'race', भाषा /b̠aṣā/ 'language', धर्म /ḍarma/ 'religion'/ 'nature'/ 'discipline', संस्कार /samskāra/ 'discipline given by culture'

ii. Nepali: दाजु /dad̠ʰu/, भाइ /b̠ai/, लडाकु /lʌḍaku/

iii. Grammatical particles: अरु /ʌru/ 'others', तर /tʌrʌ/ 'but', बारे /bare/ 'about', र /rʌ/ 'and', सम्म /sʌmmʌ/ 'till'/ 'until', न त...न त /nʌ tʌ…nʌ tʌ/ 'neither…nor', भित्र /b̠itrʌ/ 'inside'/ 'within'

iv. Given names: गङ्गा /gʌŋga/, पङ्कज /pʌŋkʌd̠ʰ/

9 Gurung [Tamu]

Gurung is a Tamangic language of the Bodish group within the Tibeto-Burman. Its standard dialect is spoken is Lamjung while the Kaski dialect is becoming popular. The Sikles dialect retains many archaic forms and the variety of Gurung spoken in Parbat has also many archaic and typical linguistic features. Another major dialect of Gurung is spoken in Syangja.

(8) Gurung (Tamu) (नयाँ नेपाल, गोरखा पत्र, २०७१ साउन १० शनि बार, पृष्ठ १२)

i. Sanskrit: संयोजक /samyojaka/ 'coordinator', प्रकाशित /prakāçita/ 'published', प्रसारित /prasārita/ 'broadcasted'/ 'expanded', सामूहिक /sāmūhika/ 'collective', समाचार /samācāra/ 'news', चलचित्र /tˢʌltˢitrʌ/ 'cinema', मात्र /mātrʌ/ 'only'

ii. Nepali: बनिदिइमो /bʌn-i-di-i-mo/ (Benefactive Vector /di/ 'give')

iii. Grammatical particles: सातवटा /sat wʌʈa/ 'seven countable objects' (Nepali classifier /wʌʈa/), डा. तमूलई /dakʈʌr tʌmu **lʌi**/; तमू लै /tʌmu lʌi/ (Nepali Dative/Accusative particle /lai/ realized as /lʌi/), खैले खौ तरिकाले प्रस्या के /kʰʌi **le** kʰʌu tʌrika **le** prʌsja ke/ (Nepali Ergative/ Instrumental particle /le/), जति पनि तमु चलचित्र /dˢʌti pʌni tʌmu tˢʌltˢitrʌ/ (Nepali relativizer /dˢʌti/ 'as much as'), लागि /lagi/ 'for', फेरि /pʰeri/ 'again',

iv. Grammaticalization: बनिदिइमो /bʌn-i-di-i-mo/ (borrowing of Nepali benefactive construction with /di/ 'give' [2071 Bhadau 24, p. 12]:

v. Grammatical suffix: ६५ वर्षे /65 bʌrs-e/ (adjectivizing suffix <e>)

vi. Given names: अमर बहादुर /ʌmʌr bʌɦadur/, भिम /ɓim/

10 Lhomi

Lhomi is a Bodish language spoken in the vicinity of the Himalayas in Sankhuwa Sabha district of Eastern Nepal.

(9) Lhomi (२०७१ साउन १४ गते बुध बार, पृष्ठ १२)

i. Sanskrit: मानव /mānava/ 'human', विकास /vikāsa/ 'development', संयुक्त /samyukta/ 'united'/ 'joint', संस्था /samstʰā/ 'institution', दक्षिण /dakṣiṇa/ 'south', साक्षरता /sākṣaratā/ 'literacy'

ii. Nepali: दच्छिन /dʌtˢtˢʰin/ 'south'

iii. Grammatical particles: दच्छिन एसियागी सुसुले (Ergative/Instrumental particle /le/?)

iv. Given names: None

11 Sherpa

Sherpa is a tonal language of the Bodish group of the Tibeto-Burman family spoken in the Northeastern part of the Himalayan region of Nepal.

(10) Sherpa (नयाँ नेपाल, गोरखा पत्र, २०७१ भदौ ११ शनि बार, पृष्ठ १२)

i. Sanskrit: देव /deva/ 'god', साधना /sādʌnā/ 'dedication'/ 'meditation', आवसोकितेश्वर /āvalokiteçvara/ 'Avalokitesvara'

ii/ Nepali: खर्च /kʰʌrtˢ/ 'expenditure', बाँकी /bāki/ 'remainder'/ 'due', हजार /fiʌdˢar/ 'thousand', लाख /lakʰ/ 'hundred thousand'

iii. Grammatical particles: देवकी साधना /deb ki sadʌna/ (Genitive particle /ki/ derived from Nepali /ko/, /k-i/), न्युयोर्ककी उपाध्यक्ष /niujork ki upʌdʒʌktˢʰjʌ/ 'New York's vice-president'

iv. Given names: None

12 Jirel

The name Jirel comes from Jiri in Central Nepal. It is a tonal language of the Bodish group of the Tibeto-Burman language.

(11) Jirel (नयाँ नेपाल, गोरखा पत्र, २०७१ भदौ १८ बुधबार, पृष्ठ १३)

i. Sanskrit: भाषा /ɓāṣā/ 'language', समय /samaya/ 'time', अभियान /aɓiyāna/ 'campaign', भावना /ɓāvaā/ 'sentiment'/ 'meaning'

ii. Nepali: भदौ /ɓʌdʌu/ 'August-September', बचाउ /bʌtˢau/ 'protection', असल /ʌsʌl/ 'good', काम /kam/ 'work'

iii. Grammatical particles: तर /tʌrʌ/ 'but', जुन /dˢun/ 'which' (२०७१ साउन ४ गते आइतबार, १२), सृजना जिरेलकी निर्देशन /sridˢʌna dˢirel ki nirdesʌn/, गोरखा पत्रकी प्रकाशन /gorkʰapʌtrʌ ki prʌkasʌn/ (possessive particle /ki/ derived from Nepali /ko/), निर्देशक जिरेलला पितृशोक /nirdesʌk dˢirel la pitrisok/ (Dative particle /la/ possibly derived from Nepali /lai/) (साउन ४)

iv. Given names: गौतम /gʌutʌm/

13 Kurux [Jhangad/Dhangar]

Kurux is the only Dravidian language spoken in the eastern Terai region of Nepal. This language is closely related to Malto spoken in Southeast India.

(12) Kurux (नयाँ नेपाल, गोरखा पत्र, २०७१ साउन १२ सोम बार, भदौ १२ बिही बार, पृष्ठ १२)

i. Sanskrit: जाति /jāti/ 'race', योजना /yojanā/ 'plan', विमोचन /bimocana/ 'release', साहित्य /sāhitya/ 'literature'

ii. Nepali: दुई /dui/ 'two', हप्ता /fiʌpta/ 'week', चाडबाड /tˢaɖbaɖ/ 'festival'

iii. Grammatical particles: बारे /bare/ 'about', ई जाति /i dᶻati/ (Indo-Aryan adjective /i/)

iv. Given names: सरिता /sʌrita/, अमिर /ʌmir/ 'rich' (Hindi)

14 Conclusion

The following conclusions are drawn from the study:

a. All the languages under study shared neologisms with Nepali. Nepali neologisms are either directly borrowed from Sanskrit, or new meanings are amalgamated to the existing Sanskrit words, or Sanskrit roots, stems, affixes and grammar are used to coin new words with a process called calqueing. This process of adopting neologism is a common practice in South Asia. However, poor knowledge of Sanskrit grammar and lexicons on the part of the writers result in non-Paninian so called Sanskrit words.

b. Another feature shared by these languages is borrowings from Nepali native vocabulary. This tendency is less common with the Bodish languages.

c. The third feature among the speakers of non-Aryan mother tongues is giving Sanskrit proper names to people rather than using their native sources to name people. Again, this tendency is less common among speakers of the Bodish group than those of the Himalayish group.

d. The fourth and the most remarkable feature shared by the languages under study is borrowing structural and grammatical items (affixes, classifiers, a few syntactic structures like compound verbs, and particles like postpositions, conjunctions and relative pronouns).

e. The patterns of borrowing show that Nepali has been socio-culturally dominant.

f. The borrowing pattern also tells the relative history of contact. Among the languages of the Himalayish group to Tibeto-Burman the more a language is situated towards West the older seems to be the contact, and hence the deeper level of borrowing; therefore, Magar-Kham (Rukum, Rolpa, Baglung) has borrowed more grammatical structures, more particles and more affixes than Magar-Dhut (Syangja, Palpa, Tanahu, Gorkha) and Baram (Gorkha). This finding expects gradual decrease in the amount, degree, depth and intensity of borrowing the more you proceed to the east. In the same vein, within the Bodish group of Tibeto-Burman languages amount and intensity of borrowing grammtical and lexical items (and also the relative distance of the core area of the languages infer that the Tamangic group of languages are earliest to cross the Himalayas compared to other languages of the group.

g. Prehistoric direction of migration should be another point of correlation. Research has showed that the prehistoric and historic migration of the Himalayish group of Tibeto-Burman speakers has been westwards and that of Nepali speakers is eastwards; therefore, it is natural that the Magar (Kham and Dhut) languages should show earlier and deeper level of linguistic borrowing than the Newar, Thami, Kiranti and Dhimal languages. The southward pattern of migration has been instrumental in the Bodish group of Tibeto-Burman language speakers. Among them the speakers of the Tamangic group (Tamang, Gurung, Dura, Chhantyal, Thakali, etc.) must have come in contact earlier than other languages. Dura is completely lost, Chhantyal has often mixed Nepali roots and affixes (Din Bahadur Thapa) and Tamang and Gurung show deeper level of borrowing compared to Sherpa. Lhomi is least affected.

h. Intensity of contact is another correlating feature, which means if speakers of Nepali and the contact languages are socio-culturally more mixed up, the intensity and amount of borrowing should be more; therefore, Magar-Kham, Magar-Dhut, Baram, Newar and Thangmi of the Himalayish group and the Tamangic (Tamang, Gurung, Chhantyal) languages of the Bodish group have showed more intensity in borrowing lexical, grammatical and structural items.

i. This paper recommends further intensive study of contact phenomena (including structures and patterns of borrowing) following the models of typlogical studies of Field (Field, 2002; Matras & Sakel, 2007; Wohlgemuth, 2009; Crystal, 2000, 2014).

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MUGALI AND ENGLISH TENSES: EFL PROBLEMS AND PEDAGOGICAL STRATEGIES

Ichchha Purna Rai

This paper describes the tense system of the Mugali and English languages. There are differences in expression of the tense. Tense in English is expressed lexically, morphologically and analytically whereas it is expressed morphologically. It also explores similarities and differences between these languages and suggests some pedagogical strategies.

Keywords: Tense, pedagogical strategies, lexical, morphological

1 Introduction

According to the census report (2011), there are 26 Rai languages. Mugali is one of them but it is not included in the report. The speakers of this language are known as Mugali Rai and their language is known as the Mugali Rai language. The term Mugali refers to both place and ethnic name. They have their own identity and own language as Mugali Rai (Rai 2011). Winter (1991) has listed this language in his work for the first time. Calculations from the field visit in 2014, reveal that there are more than 500 mother tongue speakers.The Mugali language is a member of Tibeto-Burman language family which is SOV language with complex verbal morphology. It is a pronominalised language with difficult morphemes to gloss in the verbs like other Kirati languages.

2 English tenses

Tense is the grammatical expression of the relation of the time of an event to some reference point in time, usually the moment the clause is uttered (Payne 2003: 236). Tense in English can be expressed lexically, morphologically and analytically (Payne 2003: 237). The following examples show its types.

(1)   is>was=lexical (past).

(2)   a.   play>-*ed*= morphological (past).
       b.   plays>play-*s* =morphological (pres).

(3)   see > will see = analytic   (future).

Time is universal concept which has three dimensions expressing past, present and future time. But, there are only two tenses in English namely past and non past. They can be shown in the following diagram (Rai 2012: 62).
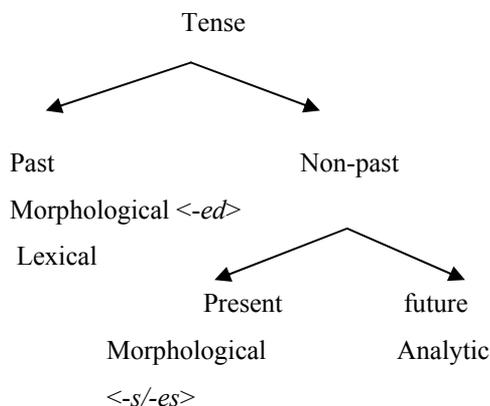
Ø in all persons except third person singular.

From this diagram, past tense in English can be expressed lexically and morphologically. Similarly, present tense is expressed through morphologically in third person singular and unmarked in all pronouns. The future is expressed analytically. The following examples show the types of English tense (Rai 2012: 62).

(4) They played football (morphologically expressed).

(5) They went home yesterday (lexically expressed).

(6) I write a poem (non-past expressing present through unmarked).

(7) He writes a poem (non-past expressing present through morphological process).

(8) He goes to Kathmandu tomorrow (non-past expressing future through adverb).

(9) He will go to Kathmandu (expressing future through pure model verb).

(10) He is going to go to Kathmandu (expressing future through semi-modal verb).

(11) He is moving to the UK this winter (expressing future through present progressive)

(12) The PM is about to come in Hile (expressing future through *'be about to+v'*).

(13) You are to stay here until twelve o'clock (expressing future through *'be to+v'*).

In this way, 'past' and 'non-past' tenses in English can be realized through 10 ways.

3. Mugali tenses

Like other Kirati languages, Mugali tenses are expressed only morphologically. There are two types of tenses in Mugali. They are known as 'past' and 'non-past' which are described below.

3.1 Past tense

Past tense in Mugali is expressed morphologically but there are several markers *-yeʔ, -a,-e, -ye* to refer to past tense. These markers occur in different environments which are determined by the subjects of the sentence. They are illustrated in the following examples.

Here, the morpheme *-yeʔ* is a past morpheme which occurs with first person singular. The following example (14) makes it clear.

(14)   *ka citʰi cʰabayeʔ*

ka citʰi cʰap-a-yeʔ

1A/S letter write-PST-1SPST

'I wrote a letter.'

Similarly, the morpheme *-a* refers to past tense in Mugali which occurs with first person singular and dual, second person dual and third person dual. The following examples (15-17) make it clear.

(15)   *kanci citʰi cʰabace*

kanci citʰi cʰap-a-ce

1di A/S letter write-PST-d

'We two wrote a letter'.

(16)   *kanciŋa citʰi cʰabace*

kanciŋa citʰi cʰap-a-ce

1de A/S letter write-PST-d

'We two wrote a letter.'

(17)   *khanci cithi chabace*

khanci cithi chab-a-ce

2d A/S letter write-PST-d

'You two wrote a letter.'

Similarly, the morpheme *-e* refers to past morpheme which occurs with second person singular and third person singular. The following examples (18-19) make it clear.

(18)   *kʰana citʰi cʰabekaa*

kʰana citʰi cʰab-e-kaa

2s A/S letter write-PST-2

'You wrote a letter.'

(19)   *na citʰi cʰabe*

na citʰi cʰab-e

3s PROX letter write-PST

'He/she wrote a letter.'

Similarly, the morpheme *–ye* refers to past tense which occurs with third person plural of all persons. The following examples (20-22) make it clear.

(20)   *kani citʰi cʰabiye*

kani citʰi cʰab-i-ye

1pi A/S letter write-p-PST

'We all write a letter.'

(21)   *khani citʰi cʰabiye*

khani citʰi cʰab-i-ye

3p A/S letter write-p- PST

'You many wrote a letter.'

(22)   *naha citʰi cʰabiye*

naha citʰi cʰab-i-ye

3pPROX letter write-p- PST

They wrote a letter.

In examples (14-22) above, there are four markers *<-yeʔ, -a,-e, -ye>* which represent the past tense in different environments in Mugali.

3.2 Non-past tense

The non-past tense in Mugali is marked by several markers viz. *-ʔŋa /-ŋa, -yu, -ya*. In the first person singular, non-past is marked with either *-ʔŋa* or *-ŋa*. In *third* person singular, non-past is marked with *-yu* and in third person dual, non-past is marked with *-ya*. They are presented in the following examples (23-26).

(23) *ka cama cai?ŋa*

ka cama ci-?ŋa

1A/S rice eat-1sNPST

'I eat rice.'

(24) *ka cama tʰu?uŋa*

 ka cama tʰug-u-ŋa

1 A/S rice cook-3P-1sNPST

'I cook rice.'

(25) *na cama cayu*

na cama ca-yu

3sPROX rice eat-3NPST

'S/he eats rice.'

(26) *nahaci cama cayaci*

nahaci cama ca-ya-ci

3dPROX rice eat-3NPST-d

'They two eat rice.'

4. Comparison: EFL problems

While teaching and learning English as a foreign language (EFL) in Nepal, there may occur many problems, these problems are known as EFL problems in our context. These problems are experienced by similarities and differences between two languages.

There are similarities and differences between English and Mugali in terms of tense system. Under similarities, there are two types of tense in English, viz. 'past' and 'non-past' which are exactly the same in Mugali. But, there are several differences between them. Such differences can hinder the learning and make the learning more difficulty. Tense is lexically, morphologically and analytically expressed in English whereas tense is only morphologically expressed in Mugali. Similarly, there is no puzzling construction in English since English is not a pronominalized language. But, Mugali is a pronominalized language with a complex verbal morphology. So, there are some puzzling morphemes in verb morphology.

There is only one past morpheme <-ed> in English except lexically expression whereas there are four past morphemes <-ye?, -a, -e, -ye> in Mugali.

In English the morpheme –ed occurs with all person though there are some use of lexical expression for past whereas there are several morphemes for different environments. The morpheme -ye? occurs with only first person singular. The morpheme -a occurs with first person singular, dual, second person dual and third person dual. The morpheme –e occurs with second person singular and third person singular. The morpheme –ye occurs with first person plural, second person plural and third person plural.

In English, there is only one morpheme to refer to 'non-past'(-s/-es) whereas there are three morphemes (-?ŋa /-ŋa, -yu, -ya) to refer 'non-past' in Mugali. The English morpheme –s/-es occurs with only third person singular and other persons are unmarked in 'non-past'. But, in Mugali, the morpheme -?ŋa or –ŋa occurs with first person. The morpheme –yu occurs with third person singular and the morpheme –ya occurs with third person dual.

In English, future action is expressed as the planned activity and just probable future action by using 'will, be going to, be about to, be to' whereas Mugali cannot make distinction between the planned activity and just probable future action.

5. Conclusion and pedagogical strategies

There may be several pedagogical strategies to solve the problem. But, there is one CA (contrastive analysis) hypothesis about the language learning. If there are remarkable differences between two languages, such differences create problem in learning. So, differences between two languages should be focused and paid much more attention. If we are not able to overcome the differences between two languages, there could not be positive learning. In this way, our main focus should be paid on the differences rather than similarities while teaching and learning. There are some issues of pedagogy in teaching and learning English as a foreign language. Cowan (2009, p. 385-387) suggests that students should be categorized into different levels like low intermediate, intermediate, high intermediate and advance. The students are asked to describe in simple present such as city or village life where they live or schools/campus

where they study or eating habits or daily routines or their personal likes or dislikes.

We should think some issues while doing teaching learning activities. First, the level of students determines that what type of methodology is appropriate for them. If the learners are beginners, we can start from rules and ask them to apply. For beginners, they are asked to recite the rule which develops their memorization. If they are not able to apply the rules, the teacher should help them. On the other hand, if the learners are not beginners, we start from evidence/examples and ask them to generalize. From this approach the learners should be active and try to formulate the rules through generalization themselves.

The teacher can facilitate the activity from different ways. The teacher can give the learners some close test if they are beginner and engage them in practice whether they can put correct verbs or not. Similarly, learners who are intermediate or advanced can be engaged in a dialogue, role playing, interview, speech, demonstration addressing the tenses.

If the teacher is going to teach English to the speakers of Mugali, s/he should focus on the issues like lexical use of the past tense in English, marked and unmarked in 'non-past' tense and expressing the planned action and probable action in future which are not found in the Mugali language. Similarly, if the teacher is going to teach Mugali to the speakers of English, s/he should focus on the past morphemes and their corresponding pronouns. For example, -*ye* occurs with plural of all persons. Similarly, the cases of marked and unmarked in 'non-past' should be focused. Similarly, there is a clear cut structure to show distinction between the planned activity and probable action in future in English. In this way, we focus on the differences between two languages since these are the most possible difficult areas of English for Mugali learners so they should be taught explicitly in these issues to overcome such difficulties and make the learning more effective.

Abbreviations

1	first person
2	second person
3	third person
A	agent
d	dual
i	inclusive
NPST	non-past
p	plural
P	Patient
PROX	proximate
PST	past
s	singular
S	subject

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TENSE SYSTEM IN DUMI

Netra Mani Dumi Rai

This paper is a description of the tense system in the Dumi language from both a formal and functional perspective. Dumi exhibits a two-way tense system: past and non-past. The past tense is further sub-categorized into recent past and remote past. There is no present and future tense distinction in the language.

Keywords: Functional, grammatical, inflectional, system, typology

1 Introduction

Dumi[1] belongs to the East Himalayish (i.e. Kirati group) section of the Tibeto-Burman branch of Sino-Tibetan language family. This language is spoken by Dumi people. Main settlements of the Dumis are Makpa, Jalapa, Baksila, Sapteshwor and Kharmi Village Development Committees in Khotang district. Some Dumi people are also found in other districts of eastern Nepal and in some areas of West Bengal of India: Darjeeling, Kalingpong, Assam, Kharsang, Sikkim, etc. According to a 2011 census report, the total Dumi population is 7,638: 4,078 (or 53.4%) are female and 3,560 (or 46.6%) are male. The Dumi people living in Makpa, Jalapa and Kharmi areas pronounce the Dumi language as *Dumi brʌ* whereas it is pronounced as *Dumi bʌ* or *Boʔo* or *Bo* in Baksila Dumi. In these Dumi speaking areas, one finds a slight variation in pronunciation and vocabulary. The 'LinSuN's report (2014) provides information that the Dumi language has three basic dialects distinctly separated by the Rawa and Tap rivers and by the following geographical boundaries: western (Makpa area), southern-east (Jalapa-Kharmi) and northern-east (Baksila-Sapteshwor). In contrast, van Driem (1993:4) claims a dialect mosaic of four areas that emerge in the Dumi homeland in the Sagarmatha zone of eastern Nepal. It deals with the tense system of the Makpa Dumi. In the Dumi community, it is believed that the origin of the Dumi ethnic group, abbreviated as 'Kha.Ja.Ba.Sa.Ma' of the five VDCs (i.e., Kharmi Jalapa, Baksila, Sapteshwor and Makpa) are from the hill area of northern Khotang district of eastern Nepal.

It highlights the tense system in this language based on the primary data elicited in a sociolinguistic field survey (2014) and the writer's intuition. The sociolinguistic field survey was carried out by the Linguistic Survey of Nepal (LinSuN) in the area where Dumi is spoken.

Describing tense as a grammatical category, this paper is further organized into the following three sections. In section 2, we discuss the theoretical framework for this paper. Section 3 deals with the tense system in the Dumi language. Finally, in section 4, we summarise the finding of the paper

2 Theoretical framework

Tense is a systematic and grammatical way of coding of the relationship between two points along the time axis. Givón (1984: 273) mentions that there are two fundamental features involved in our concept of time as reflected in tense systems, viz., (a) sequentiality: tense is a way of construing time as a succession of points, each one occupying a fixed position in the linear order and hence either preceding or following other discrete points in the sequence. Within such a sequence, precedence means 'occurring before' and subsequence 'occurring after', (b) Point of reference: within the flow of linear time, one may establish a point of reference (i.e., the time axis[2]) with respect to which the past precedes and the future follows. The most common universal point of reference is the time of speech, anchored to the speaker at the time of performing the speech act. The interaction between the two features of tense may be expressed diagrammatically as follows:

(Past)   (Time axis)   (Future)
              (Present)

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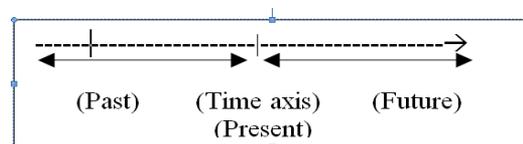
[1] Dumi [dus] is most similar to Khaling [klr] and Koi [kkt] (Eppele et. all, 2012:45).

[2] The time axis in the tense system is speech-act anchored.

Diagram 1: past, present and future tense

Givón (2001a: 285) states that tense involves the systematic coding of the relation between two points along the ordered linear dimension of time: reference time and event time. Bybee et al. (1994:82) notes that past expresses the meaning of occurring before the moment of speech.

Payne (1997: 236) states that tense is the grammatical expression of the relation of the time of an event to some reference point in time, usually the moment the clause is uttered. He further expresses that languages divide up this conceptual notion for purposes of grammatical marking in many different ways and mentions one common tense system is past, present and future. However, Dumi shows two-way distinctions: past and non-past which can be shown in the following diagram:

```
         (Past)          (Non-past)
-----------------------  | →-----------------------
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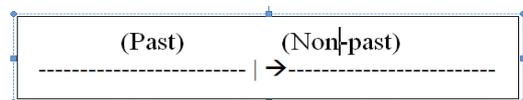
Diagram 2: Past and non-past tense

Bhat (1999: 13) states that morphologically tense is an inflectional marker of the verb used for denoting temporal location of an event or situation. Tense is the relationship between the dimension time and the event time which is indicated by a specific tense marker. It shows whether the event happened prior to the moment of speaking (i.e., past tense), is contemporaneous with it (present tense), or subsequent to it (future tense).

In Dumi, tense is realized morphologically. Analogous to most of the Kirati languages, van Driem (1993: 135) mentions, Dumi has two tense systems: the non-preterite tense and the preterite tense. The non-preterite is marked by the morpheme (i.e., distinct tense markers) *-t* and the preterite are unmarked. The features of each tense are discussed in the paragraphs.

In this paper, the tense system in the Dumi language is divided into a two-way distinction. The functional approach is applied for the purpose of analysis.

3 Tense systems in the Dumi language

In the Dumi language, as in Thulung (Lahaussois, 2002: 180), Koyee (Lahaussois, 2009: 16), Bantawa (Doornenbal, 2009: 174; Rai, 1985: 95), Yakkha (Schackow, 2014:226) and Chamling (Ebert 1997: 26), morphologically, we discuss a two-way distinction of past and non-past tense. Dumi verbs inflect for two distinct tenses: non-past and past, where non-past is marked by *-t* and past tense is unmarked.

(1)		Non-past tense	
a.	1SG	mʌŋ-t-o	'I do.'
b.	1DU.INCL	mu-t-i	'We (DU.INCL) do.'
c.	1DU.EXCL	mu-t-u	'We (DU.EXCL) do.'
d.	1PL.INCL	muk-t-i	'We (PL.INCL) do.'
e.	1PL.EXCL	muk-t-a	'We (PL.EXCL) do.'
f.	2SG	a-mu-t-a	'You (SG) do.'
g.	2DU	a-mu-t-i	'You (DU) do.'
h.	2PL	a-mo-t-ani	'You (PL) do.'
i.	3SG	mu-t-a	'S/he does.'
j.	3DU	mu-t-asi	'They (DU) do.'
k.	3PL	mu-t-ani	'They (PL) do.'

In examples (1a-k), the non-past tense marker *-t* is affixed to the verb root *-mu* 'do'.

(2)		Past tense	
a.	1SG	mʌŋ-u	'I did.'
b.	1DU.INCL	mu-(j)i	'We (DU.INCL) did.'
c.	1DU.EXCL	mu-(j)u	'We (DU.EXCL) did.'
d.	1PL.INCL	muk-k-i	'We (PL.INCL) did.'
e.	1PL.EXCL	muk-k-u	'We (PL.EXCL) did.'
f.	2SG	a-m-u	'You (SG) did.'
g.	2DU	a-mu-(j)i	'You (DU) did.'
h.	2PL	a-mo-ni	'You (PL) did.'
i.	3SG	mu-∅	'S/he did.'
j.	3DU	mu-si	'They (DU) did.'
k.	3PL	mu-ni	'They (PL) did.'

In examples (2a-k), the past tense is marked and the verb root *-mu* 'do' is directly affixed by the person and number markers.

The morphological distinction in tense in Dumi can be illustrated diagrammatically as follows:
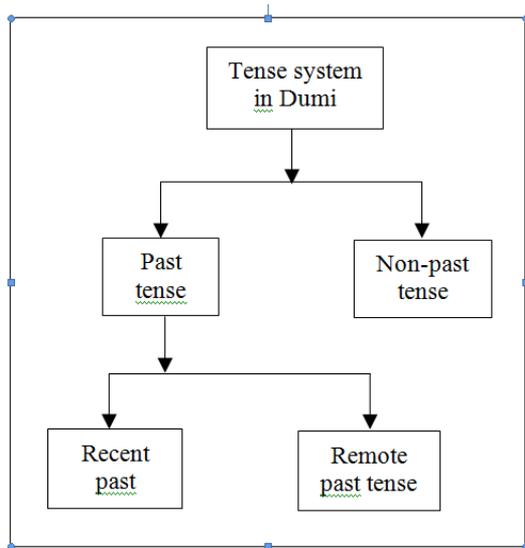
Figure 1: Tense system in the Dumi language

The tense system in Dumi is illustrated with the examples in the following sub-sections.

3.1 Non-past tense

The non-past tense in Dumi denotes both present and future-like situations. In the verb root, the non-past tense marker[3] -*t* is affixed. The structure of non-past tense is presented in the following section.

3.1.1 The first person subject

If the subject of the sentence is in the first person singular, the verb root is inflected with the markers -*t-o* in the intransitive, transitive and ditransitive verb structures as illustrated in (3).

(3)   a.   *aŋu reto*
        aŋu   re-t-o
        1SG   laugh-NPST-1SG
        'I laugh.'

      b.   *aŋua dudu hʌpto*
        aŋu-a   dudu   hʌp-t-o
        1SG-ERG milk   drink-NPST-1SG
        'I drink milk.'

      c.   *aŋua umlai jʌmto*
        aŋu-a   um-lai   jʌm-t-o
        1SG-ERG 3SG-DAT hit-NPST-1SG
        'I hit him.'

---

[3] It is realized as -*d* followed by the vowel sounds -*i/-o/-u*.

In examples (3a-c), the subject of the sentence is in the first person singular, therefore the non-past marker -*t* together with the first person singular marker -*o* are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the first person dual inclusive, the verb root is inflected with the markers -*t-i* in the intransitive, transitive and ditransitive verb structures as illustrated in (4).

(4)   a.   *intˢi riti*
        intˢi   ri-t-i
        1DU.INCL   laugh-NPST-1DU.INCL
        'We (DU.INCL) laugh.'

      b.   *intˢia dudu tuŋti*
        intˢi-a   dudu   tuŋ-t-i
        1DU.INCL-ERG milk   drink-NPST-1DU.INCL
        'We (DU.INCL) drink milk.'

      c.   *intˢia umlai jumti*
        intˢi-a   um-lai   jum-t-i
        1DU.INCL-ERG 3SG-DAT hit-NPST-1DU.INCL
        'We (DU.INCL) hit him.'

In examples (4a-c), the subject of the sentence is in the first person dual inclusive, therefore the non-past marker -*t* together with the first person dual inclusive marker -*i* are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the first person dual exclusive, the verb root is inflected with the markers -*t-u* in the intransitive, transitive and ditransitive verb structures as illustrated in (5).

(5)   a.   *untˢu ritu*
        untˢu   ri-t-u
        1DU.EXCL   laugh-NPST-1DU.EXCL
        'We (DU.EXCL) laugh.'

      b.   *untˢua dudu tuŋtu*
        untˢu-a   dudu   tuŋ-t-u
        1DU.EXCL-ERG milk   drink-NPST-1DU.EXCL
        'We (DU.EXCL) drink milk.'

c. *untˢua umlai jumtu*

intˢi-a   um-lai   jum-t-u
1DU.EXCL-ERG   3SG-DAT   hit-NPST-
1DU.EXCL
'We (DU.INCL) hit him.'

In examples (5a-c), the subject of the sentence is in the first person dual exclusive, therefore the non-past marker **-t** together with the first person dual exclusive marker **-u** are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the first person plural inclusive, the verb root is inflected with the markers **-t-i** in the intransitive, transitive and ditransitive verb structures as illustrated in (6).

(6) a. *iŋki rikki*
iŋki   ri-kt-i
1PL.INCL   laugh- NPST-1PL.INCL
'We (PL.INCL) laugh.'

b. *iŋkia dudu tuŋti*
iŋki-a   dudu   tuŋ-t-i
1PL.INCL-ERG   milk   drink-NPST-
1PL.INCL
'We (PL.INCL) drink milk.'

c. *iŋkia umlai jʌmti*

inki-a   um-lai   jʌm-t-i
1PL.INCL-ERG   3SG-DAT   hit-NPST-
1PL.INCL
'We (PL.INCL) hit him.'

In examples (6a-c), the subject of the sentence is in the first person plural inclusive, so the non-past marker **-t** together with the first person plural inclusive marker **-i** are attached to the root of the intransitive verb *ret* 'laugh', the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the first person plural exclusive, the verb root is inflected with the marker **-t** together with the first person plural exclusive subject marker **-a** in the intransitive, transitive and ditransitive verb structures as illustrated in (7).

(7) a. *uŋku rikta*
uŋku   ri-k-t-a
1PL.EXCL   laugh-NPST-1PL.EXCL
'We (PL.EXCL) laugh.'

b. *uŋkua dudu hʌpta*

uŋku-a   dudu   hʌp-t-a
1PL.EXCL-ERG   milk   drink-NPST-
1PL.EXCL
'We (PL.EXCL) drink milk.'

c. *uŋkua umlai jʌmta*

uŋku-a   um-lai   jʌm-t-a
1PL.EXCL-ERG   3SG-DAT   hit-NPST-
1PL.EXCL
'We (PL.EXCL) hit him.'

In examples (7a-c), the subject of the sentence is in the first person plural exclusive, therefore the non-past marker **-t** together with the first person plural exclusive marker **-a** are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

3.1.2 Second person subject

If the subject of the sentence is in the second person singular, the verb root is inflected with the circumfix markers *a-...-t-a* in the intransitive, transitive and ditransitive verb structures as illustrated in (8).

(8) a. *ani areta*
ani   a-re-t-a
2SG   2SG-laugh-NPST-2SG
'You laugh.'

b. *ania dudu ahʌpta*

ani-a   dudu   a-hʌp-t-a
2SG-ERG   milk   2SG-drink-NPST-2SG
'You drink milk.'

c. *ania umlai ajʌmta*

ani-a   um-lai[4]   a-jʌm-t-a
2SG-ERG   3SG-DAT   2SG-hit-NPST-2SG
'You hit him.'

In examples (8a-c), the subject of the sentence is in the second person singular, therefore the non-past marker **-t** together with the second person singular circumfix markers *a-...-a* are attached to the root of the intransitive verb *ret* 'laugh,' the

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[4] The dative marker *-lai* is used in practice as the loan word from the lingua-franca 'Nepali'.

transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the second person dual, the verb root is inflected with the circumfix markers *a-...-t-i* in the intransitive, transitive and ditransitive verb structures as illustrated in (9).

(9)   a.   *ant ʔi ariti*

        antˢi   a-ri-t-i
        2DU   2DU-laugh-NPST-2DU
        'You (DU) laugh.'

   b.   *ant ʔia dudu atuŋti*

        antˢi-a   dudu   a-tuŋ-t-i
        2DU-ERG   milk   2DU-drink-NPST-2DU
        'You (DU) drink milk.'

   c.   *ant ʔia umlai ajumti*

        antˢi-a   um-lai   a-jum-t-i
        2DU-ERG   3SG-DAT   2DU-hit-NPST-2DU
        'You (DU) hit him.'

In examples (9a-c), the subject of the sentence is in the second person dual, therefore the non-past marker *-t* together with the second person dual circumfix markers *a-...-i* are attached to the root of the intransitive verb *ret* 'laugh', the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit' verbs, respectively.

If the subject of the sentence is in the second person plural, the verb root is inflected with the circumfix markers *a-...-t-ani* in the intransitive, transitive and ditransitive verb structures as illustrated in (10).

(10)   a.   *animu aretani*
        animu   a-re-t-ani
        2PL   2PL-laugh-NPST-2PL
        'You (PL) laugh.'

   b.   *animua dudu atuŋtani*
        animu-a   dudu   a-tuŋ-t-ani
        2PL-ERG   milk   2PL-drink-NPST-2PL
        'You (PL) drink milk.'

   c.   *animua umlai ajumtani*
        animu-a   um-lai   a-jum-t-ani
        2PL-ERG   3SG-DAT   2PL-hit-NPST-2PL
        'You (PL) hit him.'

In examples (10a-c), the subject of the sentence is the second person plural. Thus the non-past

marker *-t*, together with the second person plural circumfix markers *a-...-ani*, are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

3.1.3 Third person subject

If the subject of the sentence is in the third person singular, the verb root is inflected with the markers *-t-a* in the intransitive, transitive and ditransitive verb structures as illustrated in (11).

(11)   a.   *um reta*
        um   re-t-a
        3SG   laugh-NPST-3SG
        'S/he laughs.'

   b.   *uma dudu tuŋta*
        um-a   dudu   tuŋ-t-a
        3SG-ERG   milk   drink-NPST-3SG
        'S/he drinks milk.'

   c.   *uma umlai jʌmta*
        um-a   um-lai   jʌm-t-a
        3SG-ERG   3SG-DAT   hit-NPST-3SG
        'S/he hits him.'

In examples (11a-c), the subject of the sentence is in the third person singular. Therefore the non-past marker *-t* together with the third person singular marker *-a* are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the third person dual, the verb root is inflected with the non-past marker *-t-i* in the intransitive, transitive and ditransitive verb structures as in (12).

(12)   a.   *unt ʔi riti*

        untˢi   ri-t-i
        3DU   laugh-NPST-3DU
        'They (DU) laugh.'

   b.   *unt ʔia dudu tuŋtasi*

        untˢi-a   dudu   tuŋ-t-asi
        3DU-ERG   milk   drink-NPST-3DU
        'They (DU) drink milk.'

   c.   *unt ʔia umlai jʌmtasi*

        untˢi-a   um-lai   jʌm-t-asi
        3DU-ERG   3SG-DAT   hit-NPST-3DU
        'They (DU) hit him.'

In examples (12a-c), the subject of the sentence is the third person dual, therefore the non-past marker *-t* together with the third person dual suffix *-asi* are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

If the subject of the sentence is in the third person plural, the verb root is inflected with the marker *-t-ani* in the intransitive, transitive and ditransitive verb structures as illustrated in (13).

(13)　a.　*unimu hamreta*
　　　　　unimu　　ham-re-t-a
　　　　　3PL　　　3PL-laugh-NPST-3PL
　　　　　'They (PL) laugh.'

　　　b.　*unimua dudu tuŋtani*
　　　　　unimu-a　　dudu　　tuŋ-t-ani
　　　　　3PL-ERG　　milk　　drink-NPST-3PL
　　　　　'They (PL) drink milk.'

　　　c.　*unimua umlai jʌmtani*
　　　　　unimu-a　　um-lai　　jʌm-t-ani
　　　　　3PL-ERG　　3SG-DAT　　hit-NPST-3PL
　　　　　'They (PL) hit him.'

In examples (13a-c), the subject of the sentence is in the third person plural, non-past marker *-t* together with the third person plural suffix *-ani* are attached to the root of the intransitive verb *ret* 'laugh,' the transitive verb *tuŋ* 'drink' and the ditransitive verb *jʌm* 'hit', respectively.

3.2 Past tense

The main function of the past tense in Dumi is to code events that occurs before the time of speech (i.e., reference time). The past tense distinguishes two degrees of distance. Past tense locates a situation prior to the present moment. Furthermore, the past time adverbial is usually required to locate a situation in a specific time in the past[5].

Like in Bhujel (Regmi 2007; 213), there are two past tenses in terms of the two degrees of distance in the Dumi language: recent past and remote past. The past tense structure with person, number

and verb category is presented in the following sub-sections:

3.2.1 Recent past tense

The recent past tense in Dumi is marked by *-u/-i/-o*. This suffix is attached to the base of the verb along with person-number-role (PNR) affixes. The main function of this tense is to code the events (or states) that occurred preceding the time of speech (i.e. reference time) as illustrated in (14).

(14)　a.　*aŋu reŋu*
　　　　　aŋu　　re-ŋ-u
　　　　　1SG　　laugh-1SG-PST
　　　　　'I laughed.'

　　　b.　*ania dudu atuŋu*
　　　　　ani-a　　dudu　　a-tuŋ-u
　　　　　2SG-ERG　　milk　　2SG-drink-2SG.PST
　　　　　'You drank milk.'

　　　c.　*uma umlai jʌmdi*
　　　　　um-a　　um-lai　　jʌmd-i
　　　　　3SG-ERG　　3SG-DAT　　hit-3SG.PST
　　　　　'S/he hit him.'

In examples (14a-c), the events coded by this tense did not only occur but were also finished or terminated before the time of speech. Thus, this tense interacts with perfective aspect and realis modality. Moreover, this tense codes such events (or states) which were directly witnessed by the speaker. Thus, this tense also has evidential function.

3.2.2 Remote past tense

The remote past tense in Dumi[6] is marked by *-im/-um/-om*. The recent past tense marker is normally affixed to the root of the verb in combination with person-number-role (PNR) affixes. The basic function of this tense does not differ from the recent past tense. However, unlike in recent past tense, the events or states coded by this tense have the following features: suppose to have occurred a long time ago, speaker has not directly witnessed them and they are found in narrative discourse as illustrated in (15).

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[5] Ebert (1997: 24) mentions that aorist (past) marker *-a* is used in Chamling.

[6] Typologically, Dumi is SOV, postpositions; noun head final; no noun classes or genders; verbal affixation marks person and number; ergativity. There are 26 consonant and 7 vowel phonemes with distinct contrast length in this language.

(15)   a.   *ape untˢʔ jo rijim*

           ape   untˢi   jo   ri-(j)-im
           before   3DU   also   laugh-
           RPST
           'They (DU) also laughed before.'

    b.   *papaa punim kakal*
           papa-a   pun-im   kakal
           father-ERG   weave-3SG.RPST basket
           'Father weaved the basket.'

    c.   *uma tˢuːtˢulai jʌmdim*

           um-a   tˢuːtˢu-lai   jʌmd-im
           he-ERG   child-DAT   hit-3SG.RPST
           'He hit the child.'

In examples (15a, b), the events coded by this tense are supposed to have occurred, finished or terminated a long time ago (i.e., long before the time of speech). Like recent past tense, it also interacts with perfective aspect and realis modality. However, events (or states) coded by this tense are not supposed to have been directly witnessed by the speaker.

4. Conclusion

The tense system[7] in the Dumi language shows a two way contrast: non-past and past. The non-past tense is marked by the suffix *-t*, which is affixed to the verb root with different number markers while the past tense is left unmarked. The non-past tense in Dumi denote both present and future-like situations. There are two past tenses in terms of the two degrees of time distance: recent past and remote past. The recent past tense in Dumi is marked by the suffixes *-u/-i/-o* which are attached to the base of the verb along with person-number-role (PNR) affixes. Similarly, the remote past tense in Dumi is marked by the suffixes *-im/-um/-om* affixed to the verb root. The recent past tense marker is normally affixed to the root of the verb in combination with person-number-role (PNR) affixes.

Abbreviations

1   first person
2   second person
3   third person

1SG	first person singular
2DU	second person dual
3PL	third person plural
1 DU	first person dual
2PL	second person plural
3SG	third person singular
1 PL	first person plural
2SG	second person singular
3DU	third person dual
DAT	dative
DU	dual
DUR	durative
ERG	ergative
EXCL	exclusive
INCL	inclusive
LINSUN	Linguistic Survey of Nepal
NPST	non-past
PL	plural
PNR	person-number-role
RPST	remote past
PST	past
SG	singular
VDC	village development committee
∅	zero marker

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[7] Ebert (1994: 29) states that Kirati languages have two basic tense forms, which may be called past and non-past. Tense can be marked in two positions: (a) after the stem, (b) after the personal suffixes.

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NOMINALIZATIONS IN KOYEE: A TYPOLOGICAL SKETCH

Tara Mani Rai

This paper analyzes the nominalizations in Koyee within a typological framework. Koyee exhibits the nominalization as one of the productive derivational morphosyntactic strategies. In Koyee, a noun is derived by affixing the nominalizer suffixes <ka, -m> to the root of the verb.

1 Background

Koyee[1] [*koji*: Devanagari कोयी] is one of the Rai Kirati languages of the Himalayish sub-group within Tibeto-Burman group of Sino-Tibetan language family (Eppele et al. 2012: 57). The term 'Koyee' refers to the people as well as the language they speak. This language is considered to be closer to the neighboring languages, namely, Dumi and Khaling (Hanβon 1991: 45-46). Although the Koyee language is mainly spoken in Sungdel and Rawa Dipsung VDCs in Khotang district, it is also spoken in some other places of Jhapa, Morang, Sunsari, and Kathmandu districts by the migrated Koyee speakers (Rai and Budhathoki 2008: 1-2).

Koyee is one of the pre-literate, endangered and least studied languages of Nepal. The latest Census gives the number of mother tongue speakers as 1,271 which is 0.0054 percent of the total population 26,494,504 (CBS 2012). But the distribution of the speakers recorded in the Census 2012 is not reliable which needs more exploration. No dialects are traced out in Koyee language[2]. However, Hanβon (1991: 46) notes that there are two dialects: Sungdel and Behere (Byare).

In this paper, we have tried our best to analyze nominalizations in Koyee comparing with other Tibeto-Burman languages[3]. Koyee exhibits the nominalization as one of the productive derivational morphosyntactic strategies as can be seen in many Himalayish branches of Tibeto-Burman languages (Bickel 1999, Watters 2006, Subbārāo 2012).

This paper is organized into seven sections. The first section is the background. In section 2, we deal with the nominalization and its classification in Koyee. Section 3 discusses the typology of nominalization. In section 4, discuss the nominalization as phrasal modifiers. Section 5 examines the nominalization as sentential complements. In section 6, we deal with the nominalization as independent clause. Section 7 summarizes the findings of the paper.

2 Nominalization and its classification

The term 'nominalization' means in essence 'turning something into a noun' (Comrie and Thomson 2008: 334). It is a derivational process that derives nouns from roots or stems belonging to some other category. An affix which triggers such a change is referred to as nominalizer.

We may categorize derivational morphemes as semantic classifiers, each defined by input and output to derivations (Givón 2001:67).

Input: the word-class to which the derivation applies;

Output: the word class resulting from the derivations.

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[1] The main speakers of this language prefer to be called as Koyee. However, Hanβon (1991) mentions that renderings like Koi or Koyi [sic] (Koyee) from Koyu or Koyo appeared to result through a strong tendency in this language to pronounce a disyllabic of two vowels, not as diphthongs. As the ethno names like Koyu in Bhojpur, Koi, Koimee in Udayapur are prevalent where they do not speak Koyee language. Koyu people in Bhojpur have shifted to Bantawa language whereas they have switched to Kirati Rodung (Chamling) language in Udayapur.

[2] Toba et al (2002) has shown no dialects in Koyee in the UNESCO Language Survey Report.

[3] I have used the secondary data of some Kirati languages except Koyee. I acknowledge the authors of the different grammar books from where I have used the data in this paper. The modality I have used in this paper is Bickel (1999) and (Watters (2006).

In Koyee, a noun is derived by affixing the nominalizer suffixes <-ka, -m> to the root of the verb. To be precise, nominalization is of three: lexical, morphological and analytic (Payne 1997). Koyee neither makes use of lexical strategy as we see in English nor analytic as Mandarin[4]. Like Himalayish languages, Koyee exhibits the morphological strategy for forming nominalization[5].

Nominalizers in Koyee are primarily affixed to the root of the verb as suffixes at three levels: the word, clause and sentence level.

2.1 Nominalizers at the word level

2.2 They are affixed to the root of the verb at the word level as in (1).

(1) a. *kʰipmu*   'cook'   *kʰip-ka*   'cook'
    b. *tsenmu*   'teach'   *tsen-ka*   'teacher'
    c. *tsʰʌmmu*   'dance'   *tsʰʌm-ka* 'dancer'

As can be seen in the examples (1a-c), Koyee exhibits the nominalizations at the word level in which the nominalizer <-ka> is employed to form the word. The nominalization has been surfaced by deriving the verb.

2.3 Nominalizers at the clause level

Nominalizers are also affixed to the root of the verb at the clause level, as in (2).

(2) kim kʰutsam mina

   kim kʰuts-a-m   mina
   house go-PST-NMLZ   man
   'The man gone at home'

In the example (2), we see the nominalizer <-m> is suffixed to the verb at the clause level.

2.4 Nominalizers at the sentence level

They are affixed to the root of the verb at the sentence level, as in (3).

(3) gu kʰuka mina tsʌtsa

   gu   kʰu-ka   mina   tsʌts-a
   clothe   steal-NMLZ person escape-PST
   "The man who stole the clothe ran away.'

In the example (3), nominalizer is found to have been presented at sentential level. Thus, the nominalizers tend to appear as the word, clause and sentential level. This is not only the case of the Koyee language; the Tibeto-Burman languages also exhibit this kind of the features as the position of the nominalization.

3 Typology of nominalization

Typologically, Kirati languages like Kulung (Tolsma 1999), Limbu (van Driem 1987), Chamling (Ebert 1997), and Athpare (Ebert 1997) exhibit two basic nominalzing morphemes – one a nominalizer that has been variously called an 'active participle', an 'agentive participle' or an 'agentive noun', and the other a 'general' nominalizer used in numerous other functions (Watters 2006).

Most of the Kirati languages exhibit the agentive participle with the nominalizer – *pa* (derived from TB ***pa** as mentioned in Benedict, 1972). In Kulung and the NW dialect of Chamling, for example, the agentive participle is formed by –*pa*. In Limbu, 'the agentive participle' requires a prefix *kɛ-* in addition to the suffix –*pa*. In Athpare and SE Chamling, the –*pa* suffix is optional in agentive participles. In Dumi, the agent participle combines –*pa* and the *'k'* (as in Limbu *kɛ- ~ pa-*) both as suffixes. But the Koyee language employs the agentive marker as <-ka> as described in (5a) and general nominalizer <-m> as in (5b). Table 1.1 presents the agentive participles in the Kirati languages.

Table 1: Agentive participles in the Kirati languages

Language	Markers	
Limbu (van Driem 1987)	*kɛ-*	-*pa*
Chamling (Ebret 2003 and Rai 2012)	*ka-*	(-*pa*)
Athpare (Eberet 1997)	*ka-*	(-*pa*)
NW Chamling (Ebert 1997)		-*pa*
Kulung (Tolsma 1999)		-*pa*
Dumi (van Driem 1993)		-*kpɨ~pɨ/- kpa*

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[4] Koyee also exhibits the features of nominalization as can be seen in Bhujel (Regmi 2011).

[5] The nominalization of verbs, locative expressions and the whole clauses is a pervasive feature of Himalayish (East and Central Himalayish) branches of Tibeto-Burman. Such nominalizations are used both in subordination (as adnominals and sentential complements) and in "free standing", finite predications (Watters 2006).

Table 1 presents nominalizer prevalent in the Kirati languages like Limbu, SE Chamling, Athpare, NW Chamling, Kulung and Dumi.

4 Nominalization as phrasal modifiers

The use of nominalized structures in modifying functions is a feature found in all Himalayish languages in and beyond, in Bodish and Indo-Aryan. Though in some Himalayish languages a single nominalizing structure can be used in multiple functions, in other Himalayish languages there are different nominalizing structures for different functions (Watters 2006).

4.1 Participles and agent nominalizations

Participles in the Kirati languages are first and foremost nominalizations, though in most grammars they are defined as separate as and more specific than the general kind of nominalization used in relative clauses and complement clause constructions (*ibid* 2006). Koyee like Yamphu exhibits the participles under subject relative clause and non-subject relative clause as in (4a-b).

(4)   a. Subject relative clause
   kirija koʔka mina

   kirija   koʔ-ka   mina
   oath   cut-NMLZ person
   "a person who has taken an oath"

   b. Non-subject relative clause
   aninʌ bʌktsiwa bʰjʔam gu

   ani-nʌ   bʌktsi-wabʰjaʔ-m gu
   you-GEN   brother –ERG bring-NMLZ clothe
   'The clothe your brother brought '

As can be seen in (4a-b), the distinction between 'subject relative clause' and the 'non–subject relative clause' in (4a-b) is in the different differential syntax. In (4a) *mina* 'person' has been made the head of the NP and deleted from the nominalization clause, whereas in (4b) the object *gu* 'clothes' has been made the head of the NP and deleted from the nominalized clause.

Kirati languages have a binary distinction of nominalizations: an agent participle (sometimes referred to as an 'active participle', and 'passive participle[6]'. As in other Kirati languages, Koyee

also employs the agent nominalizations as in (5a-b).

(5)   a. Active participle
   kʰipka

   kʰip-ka
   cook-AP
   ' a person who cooks'

   b. Passive participle
   asina kʰutsam mina

   asina   kʰutsa-m   mina
   yesterday go-PP   person
   'the man who went yestraday'

Apparently Koyee employs nominalizations as active and passive participles as can be seen in other Kirati languages. The examples (5a-b) shows that active and passive participles with the nominalizers <–ka> and <–m > respectively in Koyee. Like Wambule, Koyee exhibits 'active verbal adjective' which contextually determines the attribute.

4.2 Nominalized locatives, deictic primitives and demonstratives

All Kirati languages are capable of creating complex locationals from deictic primitives and postpositions (Watters 2006). In the Kirati languages, the vertical orientation –level, up, down is specified by suffixes. But in Koyee as in Wambule (Opgenort 2002), the suffix <-bim> appears to be the nominalized form of the locatives as in (6a-c).

(6)   Root   Suffixes
   a. *i*   *-bim*   'at the same level'
   b. *dʰo*   *-bim*   'at the higher level'
   c. *jo*   *-bim*   'at the lower level'

In Koyee, vertical orientation–level, up, down is nominalzed by the suffix <-bim>. The suffix <-bim> is a genitive marker in which the nominalized locative is realized in the Koyee language.

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directed nominalizer but it is not a true participle, i.e. it cannot be used adnominally, but only as noun (Watters 2006). The suffix <-kʰa> is attached to the bare verb root that has been identified as 'patientive noun' in Ebert (1997) as the examples *ca-kʰa* 'eat-PN which is equivalent to 'food'. Koyee has also the patientive noun as in Chamling (Ebert 1997).

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[6] As in Athpare (Eberet 1997), Wam bule (Opgenort 2002), Chamling (Ebert 1997) has a patient/object

5 Nominalization as sentential complements

In the Kirati languages, some of the same kind of the nominalizations is used at various levels of grammar-like relative clauses or modification-are also used in complement structures. To be precise, complement structures make use of general nominalizer (found also in relative clauses) attached to fully finite clauses- in Yamphu, the nominalizer – *<-æ~-ye~-e*; in Wambule *<-meya~-mei >; in the Dumi the general nominalizer *<-m>* in Kulung the nominalizer *<-kʌ>* and the Limbu *<-pa>*. Like Dumi, Koyee employs the general nominalize *<-m>* for sentential complements as can be seen in (7).

(7) *kim   kʰutsam mina   ipʰa*
     kim   kʰuts-a-m mina   ipʰ-a
     house   go-PST- NMLZ person sleep-PST
     'The man who has been to house slept.'

As can be seen in (7), the Koyee employs the general mominalizer *<-m>* for sentential complements. Cross linguistically, the other Kirati languages also follow the same pattern to form sentential complements.

6 Nominalization as independent clause

6.1 Nominalization in miratives

Bickel (1999) points out that nominalized verbs can be followed by the loan participle *rʌitsʰʌ*, which signals mirativity (as it does in Nepali). Ebert (1997b) reports the same for Chamling. Unlike Belhare (Bickel 1996) and Chamling (Ebret 1997b), Koyee employs the marker *tsʰa* as hearsay mirative. Consider the following examples (8a-b).

(8) a. *oko   pʰopʰowa   sjala   setka*
        oko   pʰopʰo-wa   sjala   set-ka
        one uncle-ERG jackal   kill-NMLZ
        dzebala dʰoʔnim tsʰa
        dzebala dʰoʔni-m tsʰa
        cage   keep-IMPF   HS
        'One of the uncles had kept a trap to kill the jackal.'
.   *pʰopʰolai sjala sitsam mʌ djakʰa*
        pʰopʰo-lai sjalasits-a-m mʌ dja-kʰa
        uncle-DAT jackal die-PST-NMLZ be.PST tell-COND
        atsiudunim tsʰaʔ

a-tsiudu-ni-m   tsʰaʔ
NEG-know-3PL -NMLZ   HS
'The uncle was unknown if the jackal was trapped or not.'

As seen in (8a-b) Koyee employs *tsʰa* as the hearsay miratives which can be compared to Kham (Watters 2002 : 295) where it has been as reportative particle. Chamling (Ebert 1997) employs *raitsʰa* as the heresay miratives in which is Nepali influence.

6.2 Nominalization in interrogatives

Interestingly, nominalized questions in some of these languages are also used as polite greetings. For instance, Rutgers (1999:240) reports for Yamphu that "One of the everyday greetings used among the Yamphu is the following utterance" Have you had your meal?". He says that the speaker is not inquiring about what happened, but " whether a situation is the case or not. Nominalized mirative in Koyee can be seen in the example (9a-b).

(9) a. *uma sʌmʌ kitsanim*
        um-a sʌma   ki-tsa-ni-m
        3SG-ERG what   buy-3SG.NPST-HON-NMLZ
        'What is she going to buy?'

   b. *pase gʌpa kʰutsanim*
        pase   gʌpa   kʰu-tsa-ni-m
        Pase   where go-3SG.NPST-HON-NMLZ
        'Whre is Pase going? '

In the example (9a-b), we can examine the interrogative mirative which shows the politeness in the day to day conversation in the Koyee.

7 Summary

In Koyee, a noun is derived by affixing the nominalizer suffixes *< -ka, -m>* to the root of the verb. Koyee neither makes use of lexical strategy as we see in English nor analytic as Mandarin. Like Himalayish languages, Koyee exhibits the morphological strategy for forming nominalization. Nominalizers in Koyee are primarily affixed to the root of the verb as suffixes at three levels: the word, clause and sentence level. Typologically, Kirati languages, like Kulung (Tolsma 1999), Limbu (van Driem 1987), Chamling (Ebert 1997), Athpare (Ebert 1997), Chhathare Limbu (Tumbahang 2007) and

Bantawa (Doornenbal 2009) exhibit two basic nominalzing morphemes- one a nominalizer that has been variously called an 'active participle', an 'agentive participle' or an 'agentive noun', and the other a 'general' nominalizer used in numerous other functions. Koyee language employs the agentive marker as *<-ka>* and general nominalizer *<-m>*. Koyee employs the marker *ts^ha* as hearsay mirative.

Abbreviations

1	first person
2	second person
3	third person
AP	agent participle
DAT	dative
DU	dual
ERG	ergative
EXCL	exclusive
GEN	genitive
HS	heresay
HON	honorific
IMPV	imperfective
INCL	inclusive
LOC	locative
NEG	negative
NMLZ	nominalizer
NPST	non-past
PL	plural
POST	postposition
PP	patient participle
PERF	perfective
PST	past
PTCP	participle
SG	singular
SEQ	sequential

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LANGUAGE CONTACT: A CASE STUDY OF RAJI

Kavita Rastogi

This study discusses the effects of language contact on this endangered language. It will primarily comment on language contact and the genetic position of Raji on the basis of collected data by the researcher herself.

1 Introduction

Raji (Banrawat) is a little known tribal community which resides in ten small hamlets in the state of Uttarakhand .They were located in India for the first time in 1823.Presently their population is around 732 in all the ten villages. It may be pointed out that for the last seventy years or so the Rajis are in continuous contact with completely unrelated linguistic stock, i.e. Kumauni the language of the linguistically richer and economically prosperous neighbors and Hindi - the language of school teachers and Government servants who visit Raji hamlets to monitor developmental schemes by the state government for their welfare.

Languages have natural tendency to merge when they are in contact. Historically, every language must have undergone a certain amount of influence from its neighbors. Sometimes languages mingle so much that a new speech form evolves and one is not able to make out the original form of language. The impact of close contact on the structure of language is easier to discern in some languages and more diffuse in others.

It is a known fact that language is not only an instrument for the communication of messages but it also gives identity to its speakers. It is both a cultural product and a natural phenomenon. The cultural norms and values of a group are transmitted by language. When languages come into close contact they do not remain unaffected and often politically, socially and economically dominant language impinges upon the weaker one. Similarly, the processes of urbanization and modern industrialization these days further act as agents for the diffusion of particular languages at the expense of the others. In the process, the functions of the language are reduced, its forms are changed and gradually its speakers become less proficient in it. The present study aims to discuss the effects of language contact on an endangered language *Raji* where though the impact is noticeable but yet to be described. It will primarily comment on language contact and the genetic position of Raji on the basis of collected data by the researcher herself.

1.1 Rajis past and present

Raji is a little known tribal community. In India it was brought into light for the first time in 1823 by the then commissioner of Kumaun C.W. Traill. It is said that *Rajis* or *Banrawats* are descendants of the prehistoric *Kiratas*, who were comparatively early settlers of the region than the *Nagas* and the *Khasas*. Atkinson (1882) stated that these early tribes entered India by the same route as the *Aryans* and the *Kiratas* were the first to arrive than the others. In course of time *Kiratas* were gradually uprooted from the region by the dominating impact of other ethnic groups; but their few descendants remained in Kumaun and Nepal. In Kumaun they are called *Rajis* but presently they are not aware of their pre-historic *Kirati* origin. The legend current among them, as told to me, is that they were descendants of the royal family of Askote.[1] A few decades ago *Rajis*

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[1] They are same as *Rajbar* from Askote. Being elder to them they always bless them when they meet. According to the history of Kumaun *Rajbar's* belong to *Katyurri vansh*. When their empire was invaded, one branch of *Katyure's* moved to Askote i.e. *assi kot* meaning 'eighty forts'. Two step - brothers were moving with the branch and when they were close to the fort the younger brother, riding his horse, went inside the fort without taking permission from the elder brother. The elder brother became disappointed with this type of behavior of his younger brother so instead of going to the fort he went towards the jungle to show his annoyance. Assuming that sooner or later his younger brother will come and apologize to him he went deep down the valley named *Rontis*, but no one came to call him. As the night fell, he became tired and the nature gave shelter and food to him and his family.

lived a life typical of the Neolithic age, as cave dwellers and food gatherers - subsisting on hunting, fishing and jungle produce. A few families were found living in caves and rock shelters in the year 1978. (Bora 1988) Previously for sustenance they used to carve and trade wooden bowls called *theki, palaa* and boxes for grain, cloth etc. with surrounding sedentary Kumauni villagers. But conditions have changed in the last several decades and *Rajis* have given up 'silent trade'[2]. Unfortunately this traditional craft of the *Rajis* did not flourished in after independence and they faced pressures such as non-availability of the required raw wood due to strict state control over forests. Also, barter systems faced competition with cash systems and woodenwares compete with metal, plastic, and clay containers in larger villages. Presently, they work as tenants for landowners and have less time to pursue artisanal work. As a result now they work as wage laborer, do agriculture or raise livestock. Fishing and porcupine hunting are still their favorite work. They no more make their clothing from forest materials obtained from 'baubinia' *malu* trees but purchase cloth from the markets.

Thus the enormous pressure of Hinduization together with the pressure to lead a sedentary life has immensely affected their way of living but one thing is clear that they still avoid socialization with neighboring Kumauni families because by nature they are very shy and aloof. This fact played an important role in the preservation of their language from external sources. In physical appearance, Crooke (1896) has linked *Rajis* with the non-Aryan affinities where as Atkinson(1882) has found racial mixture of *Tibetans* and *Khasas* in their physical features (1882). Mazumdar has related them with Mongolian affinity. Besides this Pitchard conjectured that the *Rajis* 'resemble the other numerous aboriginal tribes found along the Himalayan border, all possessing the physical character of the *Bhotiyas* in general and very unlike the *Doms*'. Latham in his book *Ethnology of India* (pp.11, 16) expressed that 'Rajis are the equivalents to the *Chepang of Nepal*.' Describing them in his journal at Garjia ghat Strachey (1864) stated that 'The Rajbari karinda (agent) caught two of the *banmanus, the wild men of chipula,* for my inspection. I saw nothing very remarkable about them except an expression of alarm and stupidity in their faces and they are perhaps darker and otherwise more like lowland Hindustanis than the average Kumaon Paharis.' Dreim (2001) takes Raji as an indigenous South Asian racial Mongoloid.

Presently, *Rajis* exhibit mixed physical traits of Aryans, Dravidians and Mongoloids. Most of them are of light brown complexion and a few of them have dark brown skin. They are of average height and have straight hair of blackish brown color. As of now they are intermediate headed type with medium nose, round to long face, small eyes with grey pigments. Some of them have mongoloid epicanthic fold. It appears that the intermingling of different ethnic elements for ages has caused the disappearance of their original racial features. This intermingling is very much apparent in their language also.

It must be noted here that a culturally contiguous Raji- Raute tribe lives in the southwest and western regions of Nepal. Rautes were Nomadic their some groups have now started to settle down. Rajis has four different groups in Nepal – Bandali Raji, Purabia Raji, Naukhele Raji and Dharchula Raji.[3] Researchers have studied and are still trying (Reinhard, Khatri) to find out the commonalities among these groups. In our (2004, 2006) earlier published work I and Dr. Jana Fortier have tried to establish , that "a definite and close relationship between the two groups(Khamchi spoken by Rautes and Raji/ rawati spoken by Indian Rajis) does exist. Without detailed morphological and grammatical comparison it is difficult to say that whether they

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Due to dependence on nature for their sustenance later on they were called *banraut* 'king who is dependent on jungle'. The kings of eighty forts were called *Rajbars*.

[2] According to Majumdar (1944:89) 'Their trade is carried on with known and trusted agents with whom they do not have any direct or personal contact. They come with their product at midnight and place them in the courtyard of the agents and also keep some symbols by which the latter know what they want in exchange. Next night when all are asleep they stealthily enter the courtyard of the agents and take what they get in exchange. They are locally known as invisible traders.'

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[3] Johan Reinhard and Guru Prasad Gautam have given me this information during personal communication.

are two dialects of one language or two separate but closely related languages.

2 Raji language

The name of their language is also Raji/Rawati which is an ethnonym used both for the group and the language they speak. Sir George Grierson, in his book 'Linguistic Survey of India' had named this language as 'janggali'; and due to geographical affinity placed it in Tibeto-Burman family. Dr. Suniti Kumar Chatterji also supported Grierson's claim. On the other hand some linguists like Dr. Shobha. R. Sharma and Dr. D.D. Sharma have suggested that the linguistic components of Raji language were paleo-linguistic relics of some of the Munda dialects, which, in the ancient past were spoken in the Himalayan region. In my previous works (Rastogi: 2002; 2012) I have tried to establish that though this indigenous language belongs to Central Himalayish branch of Tibeto-Burman family yet long contact with Indo-Aryan languages like Kumauni and Hindi has not only affected its vocabulary but also its grammar. In his recent work, while reconstructing Tibeto-Burman Phylogeny Driem proposed to include *Chepang, Dura Raji-Raute* within Magaric branch. Yadava classifies Raji into the Central Himalayish subgroup of Bodish-himalayish group within Tibeto-Burman sub family of Sino-Tibetan language family.

I agree with Yadava because a comparison of Raji (India and Nepal) Swadesh word list 100 with other Himalayish languages indicates a medium-close affiliation with Chepang (approximately 44% cognates and lower frequencies of affiliation with Kham, Magar Newari etc.). Consider table 3 in this regard.

In my previous work (Rastogi 2002 :159) I have tried to establish that though this indigenous language belongs to Tibeto-Burman family yet long contact with Indo-Aryan languages like Kumauni and Hindi has not only affected its vocabulary but also its grammar.[4] I would also like to mention a few other points to substantiate my view.

Table-3 Comparison of Raji with other Himalayan languages[5]

Name of language	Compared items	Total cognates	Total % of cognates
Raji	56	46	82
Raute	60	54	90
Kham	84	26	31
Magar	84	21	25
Newari	84	19	22
Chepang	87	38	44

i. There is a prominence of nasal sound *'ŋ'* in *Raji*. One of the striking features of Tibeto-Burman languages is that they have nasal *'ŋ'* prominently occurring in all distributions, for example *-diŋo* 'buffalo', *kʰu* ŋ 'three', *hoŋ -ko* 'catch', *nəŋ* 'you'etc.

ii. *Raji* has original numerals for 1 to 6. Other numerals are borrowed terms. The case is very similar in old *Magar* and *Kham* languages.

Table-5 Comparison of numerals

English	Raji	Magar	Kham	Newari
One	da	kat	da	cʰi
Two	ni	nish	-	ni
Three	kʰu ŋ	soŋ	sum	swom
Four	pari	pi	pari	pi
Five	pŋa	Ŋa	pŋa	Ŋa
Six	turko	-	-	kʰu

iii. There is an absence of gender system in Raji like other Tibeto -Burman languages.

iv. It has a flexible word order and while speaking a sentence the subject is often dropped. In the present language form SOV is the most commonly used word order.

v. Tibeto-Burman languages can generally be regarded as giving a greater prominence to mood than to tense or aspect. The situation is similar in the case of Raji.

vi. In most of the Tibeto-Burman languages speakers have greater freedom to specify a particular semantic relation depending upon

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[5] This table is taken from a previously published research paper of Fortier and Rastogi.

whether or not the specification would help to clear the ambiguity of a sentence in a given context (La Polla: 1994). The use of case affixes is non obligatory in Raji also. For example-

(1) *məTa ʃi ŋ ya pʰeTTo ha rɛ*
monkey tree loc jump   prog realis
'The monkey is jumping on the tree.'

(2) *pakʰa -o   Tʰay gav   kʰəRəkvay*
roof   loc kept   grass dry
'The grass is getting dried on the roof.'

3 Raji speech community, language attitude and patterns of language use

The data collected from all the ten hamlets shows that bilingualism is prevalent among them. Though Raji is used at home, family and in religious activities yet the matter of concern is that all the speakers use a highly mixed variety. The middle aged speaker converse in *Raji* using many Hindi words whereas the younger generation converse in Hindi using a few *Raji* words. Presently the community is passing through a turbulent state and is facing the following challenges:

Table 1: Use of Raji language according to domains

Lang	Religious activities	Home-family	Education	Other places
Raji	-	84%	75%0	30%
Kum.	25%	16%	20%	55%
Hindi	75%	-	5%	15%

- Low socio-economic status,
- Miniscule number of speakers,
- Use reduction,
- Code reduction,
- Negative attitude of the speakers

The causal factors of language loss are mostly non-linguistic and are largely political and economic. Historically *Rajis* were nomadic forest dwellers but due to external pressures (like-government policy etc.) since the last seventy years or so, they have adopted sedentary and semi-nomadic settlement styles. As a result their economic dependence on the neighboring community has increased. It is sad that the attitude of the dominant group is not encouraging. They try to demean Rajis and their language and culture. Though the Government has started many

developmental programmes yet due to narrow vision of the developers, wrong intention of the workers and illiteracy of the tribal community their socio-economic status has not improved. The whole community lives below the poverty line and is dependent on the speakers of the dominant language to earn their bread and butter.

The other challenge before this tribe is its population. Though I was confronted with very fluctuating population figures of its speakers yet it is clear that the number is getting lesser day by day due to poor hygienic and socio-economic conditions. This miniscule number of speaker is also playing a negative role in their development.[6] As they do not form a strong vote bank, any political party is not taking interest in their socio-economic and educational development. Reduction in the function of a language and the domain of its use is the other challenge faced by the community. Ttable1 reflects the domain-wise distribution of *Raji*.

It is clear from the above table that in terms of discourse Raji belongs to the 'defunct' category in certain domains while in others it has been used less and less frequently and is gradually becoming functionally less loaded. Apart from this, the language variety used by the community is not pure. The point of concern is that it is full of Kumauni loans. Thus, *Raji* language is quickly assimilating with the languages of the dominant culture. As a consequence, the original variety is getting more and more restricted in use. The strength of the support system is nil in the case of *Rajis*. It is neither used in primary education nor does this community have any exposure to the media. As mentioned earlier, it is used in spoken form only.

Besides the above mentioned challenges, motivational factors like the attitude of the speakers towards their own language and the attitude of the speakers of the dominant language towards the minor language play a significant role in the development of *Raji* language. To study the language attitude of the community, following the mentalist approach, a questionnaire was issued in all the hamlets.

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[6] According to 2011 census, their total population is about 732 in all the ten hamlets.

Table 2: Attitude towards their language

SN.	Questions asked	Yes	No
1	Do you like your mother tongue?	30%	70%
2	Given a choice which language would you like to educate your children in? (Rawati or Hindi)	100% Hindi or Kumauni	-
3	Do you encourage the younger generation to speak Rawati?	40%	60%
4	Do you think your mother tongue is good and useful?	20% good 10% useful	80% 90%
5	Do you feel proud of your language and culture?	Most of them were indifferent.	

The collected data clearly reflects the negative attitude of the community towards their mother tongue. They seem to be acutely aware of the fact that their language has very little scope in promoting upward social mobility; as a result they do not attach any importance to it. Apart from this the attitude of the dominant group is also not encouraging in *Rajis* case. Most of the Kumauni people consider it as an inferior language and call it '*janggli*'. They often persuade *Raji* speakers to adopt the dominant language in place of their native language.

4 Contact induced changes in *Raji*

No aspect of a language structure is immune to linguistic influence from neighboring speakers, particularly from speakers of politically dominant communities. Table-6 below presents the replaced Raji words.

The instances of contact induced change to the structure of Raji that are dealt with in this section are following-

At the level of phonological system the present data reflects two important borrowed features

4.1 Loss of nasalization and glottalization

There are seven vowel sounds in Raji. Out of them /i/, /e/ and / ε / are front vowels. / ə/ is a low central vowel whereas /u/, /o/ and /a/ are back vowels. Except / ε / and /e/ all vowels occur in all the positions. These two do not occur in the initial position. All vowels have nasal counterparts

irrespective of their proximity to nasal consonants but except in /hã/ nasalization is not phonemic. It is a noticeable point that the use of glottal sounds was prominent in the hamlet of Altodi speakers but it was rarely heard at other hamlets. In his article Sharma (p. 147) had also mentioned about this feature which is probably lost with times.

4.2 Development of retroflex sounds

Apart from a few examples retroflex sounds are limited to borrowed terms in this language. They are not found in contrastive positions. For example- *jaRo, boDo, laDo, d^{h}aRe*. La polla (2006) also found the same development in other Tibeto - Burman languages of Indosphere.

4.3 Lexical borrowings

Lexical borrowings have initiated two types of changes in Raji. Firstly it has introduced new words and secondly it has caused the replacement of old established words. With new expressions for things and practices many nominals have found their place in its lexicon; but due to the dominance of Kumauni culture, in few cases, the native words have been replaced by Kumauni loans and have resulted in the loss of native speech form. Thus the process of 'relexification'[7] (Hill & Hill 1977) can be clearly seen in Raji (Table 5). For example:

English	Raji	Kumauni
Uncle	dukkaiya	kəkka
Mother	ya	ija
Back	bəvi	puTThi
father	ba/bubu	babu

In a list of 276 lexical items of Raji 119 belong to Indo- Aryan family. This language has numerical expressions only up to six and beyond that it has loans with little or no phonetic modification. It has also borrowed many nominals and verb forms from the dominant language. Names of days and months are also Indo Aryan loans. Except for the red and black other colour names are borrowed from Kumauni or Hindi. Apart from these kinship terms, names of body parts, expression for flora

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[7] The replacement of native lexicon with that of dominant language

and fauna, household artifacts, adjectives, conjunctions have also been heavily borrowed.

4.4 Constituent order

A traditional *Raji* speaker preferred VOS order but the contemporary language allows VOS, SOV and OVS orders where sometimes the S is dropped.

(3) *kəlawəti   əbəŋ ja*
    S   O   V

(4) *ja əbəŋ kəlawəti*
    V   O   S

(5) *əbəŋ ja*
    O   V
    'Kalawati is eating mango.'

The impact of areal word order is quite discernible in the language structure.

4.5 Genitive marker

The relationship between one and another noun is marked in some languages. Raji uses a borrowed genitive marker /ke/ for this purpose. In some sentences these markers are used with demonstrative pronouns also. Consider the following-

(6) *wʰə i   k əlawəti   ke   kui   hĩ*
    that   kalawati   gen dog cop
    'That is Kalawati's dog.'

(7) *əi   punəm   -e   nao   hĩ*
    this poonam gen house cop
    'This is Poonam's house.'

(8) *ai   ke   g əRo   dola   hw ã*
    3sg gen girl bad realis
    'Her girl is not nice.'

4.6 Plural number marking strategy

To denote plurality at word level this language employs two independent words/*jʰikk/* and /*jəmma/.*Following the pattern of Hindi now they suffix them after the plural forms. Such as - *nani jəmma* .

4.7 Reduplication

A few examples of whole root reduplication are found in the data. For citation-

(9) a. *həjjo-həjjo*   'slowly'
       (ADV+ADV)

    b. *ha- ha*   'to feel shy'
       (N+N)

    c. *gʰumyo- gʰumyo*   'while roaming'
       (V+V)

Some echo words are also found in the data. Such as: *cão cão* 'chirping of birds'

4.8 Development of new word class

An influx of adverbs into Raji has resulted in the developing a new word class and now they freely use Kumauni/ Hindi adverbs in all the places.

(10) *hədiyari*   'always'
     həjjo   'slowly'
     hərbe   'fast'

4.9 Hybrid tail head linkage

A typical means of connecting two sentences in a narrative is a tail Head Linkage. In Raji a loan pronominal phrase '*əi ke bad'* is used in the beginning of the sentence that relates a new event and after wards a Raji particle *'pəi'* is used to show continuity.

4.10 Subjective (Conditional) mood

It marks a range of attitudes including uncertainty, vagueness and tentativeness. Raji expresses this mood with the help of Indo-Aryan loan words/*əgər/* and /*to/.*

(11) *əgər nə ŋ na ləgya ha bi ri to   na kaRe   ri*
     if   2sg 1sg bread neg give irr con1sg cry   irr

5 Conclusion

In the above description I have tried to 'tease apart' one layer of this endangered language. On one side at the lexical level it has borrowed terms to fulfill current needs of the community but point of concern is that it has replaced many existing lexical items during this process. Similarly the data clearly reflects that Raji is undergoing a grammatical shift and replacing as well as including some major areal features like constituent order, reduplication process, genitive case marker etc.

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EVIDENTIALITY AND EPISTEMIC MODALITY IN MAGAR KAIKE

Ambika regmi

This paper explores the interaction of evidentiality, a grammatical category in Magar Kaike, with epistemic modalities, exclusively mirativity, possibility and certainty. The suffix -də̃/-tə primarily codes mirativity and secondarily codes inferential/secondhand type of evidentiality. In possibility and certainty, evidentiality interacts in collaboration with tense-aspect system controlled by conjunct and disjunct

1 Introduction

The main goal of this paper is to explore the interaction of evidentiality with epistemic modality in Magar Kaike from a functional perspective (Givón, 2001; Aikhenvald, 2004). In this language, evidentiality interacts also with tense-aspect system controlled by conjunct and disjunct and mirativity.[1] Magar Kaike is a seriously endangered Tibeto-Burman language of the Bodish group (Eppele et al., 2012). Typologically, Magar Kaike is a consistently ergative with a complex verb agreement pattern referred to as conjunct-disjunct system (Watters, 2006; Regmi, 2013). From morphological typological point of view, Magar Kaike is an isolating (i.e., synthetic) and dependent marking language. It contains both open word classes (e.g. nouns, verbs, adjectives and adverbs) and closed classes. Neither the gender nor the numbers are the grammatical categories of nouns in Magar Kaike. This language follows tense-aspect system governed by morpho-semantic categories mostly known by conjunct-disjunct system. The verbs are clearly classed into transitive and intransitive. The grammatical relations such as subject, direct object and indirect objects are marked by mainly by nominal morphology. Nominalization is a major morpho-syntactic process. Magar Kaike exhibits both simple and complex constructions (i.e., subordinated and coordinated) for different discourse-pragmatic functions.

This language is mainly spoken by Magar known as Magar Kaike in the four villages, viz. Sahartara (Tarang), Tupatara (Tungwa), Tarakot (Chungma) and Belawa under Sahartara Village Development Committee of Dolpa district of Nepal. It is also spoken in Kathmandu and Bhaktapur by the migrants from the native place. According to 2001 Census, the total number of the speakers was around 792 (Central Bureau of Statistics, 2002). However, in the Census of 2011, this number has been reduced to only 50(Central Bureau of Statistics, 2012). This is, indeed, unreliable because there are at least one thousand speakers of this language (Regmi, 2013).[2] There are, broadly, three other languages spoken by Magars in Nepal: Magar Dhut, Magar Kham and a form of speech locally called Poinke. However, Poinke is not only spoken by Magars.

There is a preliminary analysis of epistemic modality in Magar Kaike (Regmi, 2013). However, no attempt has been made to analyze the interaction between evidentiality and epistemic modality, especially in the positive main clauses till today. de Hann (2008) rightly notes that Tibeto-Burman family, especially Tibetic group, is rich in evidentiality. Such evidentiality may interact with epistemic modality. Magar Kaike, where epistemic modality is mainly expressed with affixes on verbs, presents an interesting interaction between evidentiality and epistemic modality from typological point of view.

This paper has employed data for evidentiality and mirativity based on texts (Regmi, 2014) with corroborative grammatical and lexical elicitation, and on participant-observation in speech community. For epistemic modalities such as

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[1] In this paper, mirativity has been treated as a sub-division of epistemic modality (Regmi, 2013).

[2] It has been reported that most of the Magar Kaike speakers recorded their form of the speech under the Magar language.

possibility and certainty, this paper has used carefully directed elicitation for the analysis of evidentiality and eventuality strategies in the language. The intuitions of native speakers have also been taken into considerations when trying to account for seemingly obscure and strange uses of evidential in the language.

This paper is organized into five sections. In section 2, we briefly discuss some theoretical issues in the domains of evidentiality and epistemic modality. Section 3 briefly deals with evidentiality in Magar Kaike. In section 4, we look at the interaction of evidentiality with epistemic modality in the language. Section 5 presents the summary of the findings.

2 Theoretical issues

Evidentiality (i.e., grammatical reference to information source) is one of the least described grammatical categories (Aikhenvald, 2004). In Palmer (1986), this category has been analyzed as a sub-type of epistemic modality. Aikhenvald (2004) recognizes evidentiality as a category in its own right. It is not a subcategory of epistemic or some other modality, nor of tense-aspect. Every natural language contains some way of referring to the source of information; however, only about a quarter of the languages of the world have grammatical evidentiality. Such system ranges from simple (i.e, distinguished into just two terms: eyewitness and non-eyewitness, or reported and everything else) to complex (i.e., distinguished into six or even more terms ((Aikhenvald, 2004). de Haan (2013) notes that evidentiality is marked across languages in a wide variety of ways. With the sampling of 418 languages, 43.3% of the languages have no grammatical evidentials (i.e., grammatical markers). Other languages code evidentiality by different means (i.e., 31.3 % with verbal affix or clitic, 5.7% with part of the tense system, 15.5% with separate particle, 1.6% with modal morpheme and 2.3% with mixed systems). Such means a direct reflection of the origins of the evidentials in the respective languages. With this theoretical and empirical background in mind, there are three main theoretical issues as to the grammatical categories: evidentiality and epistemic modality.

i. Evidentiality (marking the source of information in a statement) is distinct from

epistemic modality (marking the degree of confidence in a statement).

ii. Evidentiality is a sub-type of epistemic modality (Palmer, 1986). There is an interaction of evidentiality with other categories, such as epistemic modality (Palmer 1986, de Haan 1999), tense-aspect and deixis (Floyd 1999, de Haan 2001).

iii. In a language, a marker primarily marking epistemic modality may secondarily mark evidentiality (Aikhenvald, 2003).

This paper discusses the interaction of evientiality with epistemic modality based on these issues, especially Aikhenvald, 2004).

3 Evidentiality

In Magar Kaike, evidentiality is an obligatory grammatical category. Apart from having grammatical evidentiality, it also employs other evidentiality strategies. They may be used in combination to indicate evidentiality. Aikhenvald, (2004:25) presents four sub-systems of the evidentiality systems with two choices:

i. AI. Firsthand and Non-firsthand
ii. A2. Non-firsthand versus 'everything else'
iii. A3. Reported (or 'hearsay') versus 'everything else'
iv. A4. Sensory evidence and Reported (or 'hearsay')

In Magar Kaike, every sentence in a story has to be marked with a reported evidential. Such evidentiality in Magar Kaike conforms to the sub-system indicated by A3 (i.e., Reported (or 'hearsay') versus 'everything else'). In Magar Kaike, as in Kham (Watters, 2002) every final verb in a narrative is marked with the reported evidential particle *ru*. Such evidential whose meaning is 'verbal report' is termed 'reported'.

In Magar Kaike, especially in a narrative, a separate particle *ru* is used to express the reportative evidentials. Such evidential is indirect evidentaility as in (1).

(1) a. *taŋbo dʰi ɲya ru*
  taŋbo   dʰi   ɲya   ru
  many   years   EXIST.DJ REP
  aləi nammə aləi jili
  aləi   nam-mə   aləi   jili
  then   village-LOC then   king

ti ŋya ru

ti	ŋya	ru
one	EXIST.DJ	REP

'Long ago, there was a king in a village', it is said.

b. *aləi jilicən woica məyã̀ ru*

aləi	jili-cən	woica	məyã̀	ru
then	king-CONT	child	NEG: EXIST.DJ	REP

'Then, the king had no child', it is said.

Example (1a-b) show that the grammatical means employed for expressing evidentiality is the particle *ru*. It has been glossed as REP. In this language, there is not a functionally unmarked term in the system. Such evidential cannot be omitted in the clauses of the narrative. This evidential cannot occur more than once in the clause. Moreover, more than one information source cannot be marked within a clause.

4 Interaction of evidentiality with epistemic modality

In Magar Kaike, three epistemic modalities such as mirativity, possibility and certainty are sensitive to interact with evidentiality. We discuss them briefly as follows:

4.1 Mirativity

Mirativity refers to the marking of *unexpected* information, information that somehow shocks or surprises the speaker. Mirativity is a sub-type of epistemic modality. DeLancey (1997) notes that in many languages including several Tibeto-Burman there is a connection between (indirect) evidentials and miratives.

In this language, the verbal suffix *-də̃/-tə* primarily codes mirativity and secondarily codes inferential/secondhand type of evidentiality. It is to be noted that the verb suffixed by *-də̃/-tə̃,* phonologically conditioned, is generally followed by reportative particle *ru*. Consider the examples in (2a-b).

(2) a. *ale ti ŋi cʰupcanə macən sidə̃ ru*

ale	ti	ŋi	cʰupca-nə
then	one	day	sparrow-GEN

ma-cən	si-də̃	ru
mother-CONT	die-MIR	REP

'(Shockingly), then, one day the sparrow's mother died, it is said.'

b. *aləi misacən tʰəttə̃ ru*

aləi	misa-cən	tʰət-tə̃	ru
after	wife-CONT	well-MIR	REP

'(Surprisingly), then the wife became well, it is said.'

In example 2(a) the root verb *si* is suffixed by *-də̃* and in 2(b) the verb root *tʰət* marked by the suffix *-tə̃*. These two forms are phonologically conditioned. After a voiced sound, the mirativity marker appears as *-də̃* as in (2a) whereas it appears as *-tə̃* after a voiceless sound as in (2b).

In example 2(a), first, the unexpected/untimely death of sparrow's mother was shocking news for the speaker (i.e., mirativity). Secondly, the news/ information which the speaker received was indirect or secondhand or inferential (evidentiality). In example 2(b), first, the information that the wife became well was a surprise because it was not expected/hoped (i.e., mirativity). Secondly, as in 2(a) the news/information, which the speaker received, was indirect or secondhand or inferential (evidentiality). For further support that such information is indirect, reportative particle *ru* is generally placed clause-finally.

4.2 Possibility/probability

Possibility/probability indicates that the situation described in the proposition is probably true.

Like mirativity, possibility is a sub-type of epistemic modality. In Magar Kaike, this modality interacts with evidentiality in collaboration with tense-aspect system known as conjunct and disjunct. This system applies in the clauses with finite verbs with events involving intentional actions. Such system operates in different speech acts differently, i.e, in declarative with first person subject, in interrogative with second person subject and in reported speech with the subject of the main clause and the complement clause being coreferential. Such distinction is governed by different factors such as volitionality, locus of knowledge and coreferentiality. Table 1 presents the governing factors for the distinction between conjunct-disjunct in Kaike the (Regmi, 2013: 73).

Table 1: Governing factors for the distinction between conjunct-disjunct

CONSTRUCTIONS	GOVERNING FACTORS	TENSE-ASPECT	
		PERFECTIVE(PFV)	IMPERFECTIVE(IMPFV)
DECLARATIVE	+V	CONJUNCT (-pa)	CONJUNCT (-ce)
	-V	DISJUNCT (-bo)	DISJUNCT (-ŋə)
INTERROGATIVE	+LK	CONJUNCT (-pa)	CONJUNCT (-ce)
	-LK	DISJUNCT (-bo)	DISJUNCT (-ŋə)
COMPLEMENT CLAUSE	+CR	CONJUNCT (-pa)	CONJUNCT (-ce)
	-CR	DISJUNCT (-bo)	DISJUNCT (-ŋə)

V= volitionality, LK= locus of information, and CR= coreferential

Table 1 shows that the first person volitional agents in declarative and the second person subject in the interrogative constructions are marked by conjunct. However, in complement clauses, irrespective of persons differently the coreferential subjects are marked by conjunct (See Watters, 2006 for detail). Such system also interacts with evidentiality. However, this is not under the scope of this paper.[3]

There are two markers of possibility/probability in Magar Kaike: -ɲi and -dəra.

The verbal suffix -ɲi primarily indicates possibility/ probability whereas secondarily it indicates the direct/ firsthand information.

In example (2), the verb root *woi* is suffixed by -ɲi glossed as -IRR.CJ (irrealis conjunct).

In this example, the speaker indicates that the proposition that the speaker goes home tomorrow is certain, again relative to what he knows or to his evidence (direct evidence).

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(2) *ŋa napce yim woiɲi*

ŋa   napce   yim   woi-ɲi
1SG tomorrow house go-IRR.CJ

'I might go home tomorrow.' (The source of information is the speaker himself; thus, direct evidentiality)

Another verbal suffix -*dəra* primarily indicates possibility/ probability whereas secondarily it indicates the indirect/ secondhand information.

(3)   a. *na napce palbo woidəra*

na napce   palbo   woi-dəra
2SG tomorrow Kathmandu go-IRR.DJ
You might go to Kathmandu tomorrow.' (Somebody told me.)

b. *lamu napce luŋyal woidəra*

lamu napce   luŋyal woi-dəra
Lamu tomorrow Dunai go-IRR.DJ
'Lamu might go to Dunai tomorrow.' (Somebody told me.)

In example (3a-b), the verb root *woi* is suffixed by -*dəra* glossed as -IRR. DJ (irrealis disjunct).

In this example, the speaker indicates that the proposition that the second person goes home tomorrow is certain, again relative to what he knows or to his evidence, however indirect evidence.

4.3 Certainty

As in possibility, there are two markers for certainty: -*ce* and -*coə̃* . The main function of these markers is to code certainty. The secondary function is to code direct and indirect evidentiality as in (4) and (5).

(4)   *ŋə na woica bin-ce*

ŋə na woica bin-ce
1SG 2SG child give-CERT.CJ/ DIR.EVD
'I will certainly give you a child.'
 (The source of information is the speaker himself)

(5)   *nui mi miba sətcoə̃*

nu-i mi miba sət-coə̃
3SG-ERG cow ox kill-CERT.DJ/ IND. EVD
'He will certainly kill cow and ox.' (Somebody told me)

5 Summary

In this paper, we tried to examine the interaction of evidentiality, especially with epistemic modality including mirativity. In Magar Kaike,

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[3] It is to be noted here that the perfective disjunct -*bo* can be realized as -*po* when it is attached to the root ending in a voiceless sound.

evidentiality interacts with mirativity. The suffix -*də*/-*tə* primarily codes mirativity and secondarily codes inferential/secondhand type of evidentiality. In Magar Kaike, evidentiality also interacts with possibility in collaboration with tense-aspect system known as conjunct and disjunct. In certainty, there are two markers: *-ce* and *-coə̃*. They secondarily code direct and indirect evidentiality, respectively. In Magar Kaike, a reportative evidentiality, is indicated by the particle *ru*. This paper is far from being the last word on evidentiality and its interaction with epistemic modalities in Magar Kaike.

Abbreviations

1SG	first person singular
2SG	second person singular
3SG	third person singular
CERT	certainty
CJ	conjunct
CONT	contrastive focus
DIR	direct
DJ	disjunct
ERG	ergative
EVD	evidentiality
EXIST	existential
GEN	genitive
IND	indirect
IRR	irralis
LOC	locative
MIR	mirativity
NEG	negative
REP	reportative

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EXPLORING RELATIONSHIPS AMONG THE MAJOR
INDO-ARYANLANGUAGES OF TARAI IN NEPAL

Dan Raj Regmi

This paper, based on lexical and phonetic similarities, presents a new scope for developing and assuming regional lingua-franca and preparation of materials for mother tongue based multilingual education in particular and development of total and appropriate language policy for the Indo-Aryan languages spoken in the Tarai region of Nepal in general.

Keywords: Lexical similarity, phonetic similarity, hierarchical relation, dendogram, network

1 Introduction

This paper attempts to explore the relationships, at both lexical and phonetic levels, among the major Indo-Aryan languages, viz., Maithili, Bhojpuri, Awadhi, Bajjika, Rajbansi, Tajpuriya, Kisan, Sonah, Khuna, Bote, and Darai and different forms of speech (i.e., Rana Tharu, Dagaura Tharu and Kathariya Tharu) spoken by the Tharu communities in the far-western part of Nepal.[1]

Some attempts, though preliminary in nature, have already been made to evaluate the lexical similarities among these languages (cf. Eppele et al., 2012). However, the study of phonetic similarities among these languages, even at preliminary level, has not yet been made. There are three main goals of this paper. The first goal is to evaluate the lexical and phonetic similarities among the languages, viz., Maithili, Bhojpuri, Awadhi, Bajjika, Rajbansi, Tajpuriya, Kisan, Sonah, Khuna, Bote, and Darai and different forms of speech (i.e., Rana Tharu, Dagaura Tharu and Kathariya Tharu) spoken by the Tharu communities in the far-western part of Nepal. The second goal is to examine the strengths of the presumptions about these languages; and the third goal is to assess and recognize the latent role to be played by these languages as the medium of instruction and as regional lingua franca for wider communication.

This paper is organized into six sections. Section 2 presents the research methodology used in the study. In section 3, we look at lexical similarity among the languages under study whereas in section 4 we examine the phonetic similarities in the languages. Section 5 deals with the presumptions and the projected functional role of these languages. In section 6, we summarize the findings of the paper.

2 Research methodology

In this paper, the research methodology consists of nature and scope of data, the tool used for the analysis of the data and evaluation criteria.

2.1 Nature and scope of the data

Mathili (Thakur and Yadav, 2014), Bhojpuri (Thakur and Regmi, 2013), Awadhi (Thakur and Yadav, 2013), Bajjika (Regmi et al., 2014.), Rajbansi (Yadav, 2014), Sonaha and Khuna (Thakur and Thakur, 2014), Rana Tharu (Thakur and Regmi, 2013), Dagaura Tharu (Thakur, 2013), Kathariya Tharu (Regmi, 2014), Tajpuriya (Yadav, 2014), Bote (Shrestha and Sapkota, 2013), Darai (Regmi and Thakur, 2015) and Kisan (Mahato, 2014) provide 210 standardized wordlists as data for this study. The words were elicited from the mother tongue speakers in the field study for the sociolinguistic surveys of the respective languages conducted by Linguistic Survey of Nepal and were compiled with phonetic transcriptions and cross-checked with other speakers from the same site.[2] In this study, one set of "ideal" wordlist has been selected from each language. As far as possible, ideal wordlists (i.e., least induced by other dominant languages) have been selected. For Maithili, only Brahmin variety has been considered for the comparison. Table 1 presents a short profile of languages including number of speakers (CBS, 2012), vitality level, and the points where wordlists were collected).

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[1] Darais residing a few villages in Tanahun and northern hilly part of Nawalparasi are believed to have migrated from the Tarai of Nepal.

[2] I would like to acknowledge Linguistic Survey of Nepal (LinSuN) for the data used in the study.

Table 1: A short profile of the languages

	Language, speakers and vitality	Survey points
1.	Maithili (30,92,530); Safe	Dhanusa Municipality - 4, Dhanusa
2.	Bhojpuri (15,84,958:); safe	Birganj Municipality-8, Parsa
3.	Awadhi (5,01,752); safe	Gadhawa VDC-2, Dang
4.	Bajjika (7,93,416); safe	Bairaya VDC-6, Rautahat
5.	Rajbansi (1,22,214); safe	Dulagadhi VDC-5, Jhapa
6.	Sonaha (579); endangered	Daulatpur VDC-2, Bardiya
7.	Rana Tharu (336,000)*; Safe	Rampur-Bilaspur VDC-6, Kanchanpur
8.	Dagaura Tharu (500,000)*; safe	Shreepur VDC-6, Kanchanpur
9.	Kathariya Tharu (106,000)*; safe	Pabera VDC-5, Kailali
10.	Tajpuriya (18811); safe	Mahadeva VDC-6, Morang
11.	Kisan (1178); safe	Dhaijan VDC- 8 Jhapa
12.	Khuna (5000)*; endangered	Krishnapur VDC-2, Kanchanpur
13.	Bote (8766); endangered	Patihani VDC-1, Chitwan
14.	Darai (11677); endangered	Kathar VDC-9, Chitwan

*Only estimated total number of population

2.2 Tool

In this study, a tool referred to as Cog developed by SIL for comparing languages by using lexicostatistics and comparative linguistics techniques has been used.[3] It is a very useful tool for automating much of the process of comparing word lists from different language varieties. This tool further provides a framework for experimenting with different techniques for language variety comparison. It consists of three components: Input, Compare, and Analyze. These components help to produce results by automating many of the steps of the wordlist comparison process. In short, there are seven steps for wordlist comparison: IPA-based segmentation

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[3] http://www.sil.org/resources/software_fonts/cog OR http://sillsdev.github.io/cog/

(i.e., splitting words into segments automatically), syllabification (i.e., marking syllables automatically), stem identification (i.e., identifying prefixes and suffixes so that they can be ignored during comparison), word alignment (i.e., aligning segments between word pairs), sound correspondence identification (i.e., identifying sound correspondences and the environments in which they occur automatically), cognate identification (i.e., providing various methods for identifying cognates) and lexical/phonetic similarity (i.e., calculating lexical/phonetic similarity for multiple language varieties/languages).

2.3 Evaluation criteria

Setting criteria for the evaluation of the lexical similarities exhibited by the languages or dialects is not an easy task. Generally, in the literature, the 60% similarity has been used as a cutoff point for the evaluation of lexical similarity. The 60% threshold may not always be a strict cutoff point. Using this method, the speech varieties having a lexical similarity of less than 60% are evaluated as different languages.

Table 2: Evaluation criteria

	Lexical similarity	Evaluation	Remarks
1.	60%	A cutoff point	Not always strict cutoff point
2.	Less than 60%	Different languages	
3.	60% or more	Different languages or dialects	Intelligibility testing required
4.	Higher than 85%	likely to be related dialects	
5.	Higher than 95%	Same language	

However, languages or dialects with around 60% or greater lexical similarity should be tested for intelligibility using another tool referred to as Recorded Text Test (RTT). Besides, attitudes and perceptions of the speakers have to be considered in this respect. Table 2 presents some criteria for the evaluation of lexical similarity in the languages under comparison (Regmi, 2012).

3 Lexical similarity

In this section, first, we look minutely at lexical similarity matrix and their evaluation on the basis of the criteria set in Table 2. Then, we present the hierarchical and network relations of these languages. At the end, we present some implications of the comparison on basis of the evaluation.

3.1 Lexical similarity matrix

Lexical similarity refers to a measure of the degree to which the word sets of two or more languages or dialects are similar. In linguistics, generally a lexical similarity of 1 (or 100%) is meant to be a total overlap between vocabularies, whereas 0 means there are no common words in the languages or dialects under question.

The major languages of Tarai like Maithili, Bhojpuri, Awadhi, Dagaura Tharu and Rajbansi present different levels of lexical similarities among themselves and with other minority languages except Bajjika spoken in the areas, namely, Rana Tharu, Kathariya Tharu, Sonaha, Khuna, Kisan, Bote, Darai, and Tajpuriya. The largest and well-studied language of Tarai is Maithili. Table 3 presents the lexical similarity matrix of the fourteen languages in percentages.

Table 3 shows that Maithili presents the highest lexical similarity with Bhojpuri (i.e., 76%) and the least with Dagaura Tharu (i.e., 60%). There is still an ongoing debate if Bajjika is linguistically an independent language or a major dialect of Maithili, popularly known as Thainti. Against this general presumption, Maithili presents the second highest lexical similarity with Bajjika. Similarly, Bhojpuri, a well-recognized language, exhibits the highest lexical similarity with Bajjika (i.e., 91%) and least with Darai (i.e., 60%). It implies that if Bajjika is to be assumed as a dialect linguistically, it is a dialect of Bhojpuri rather than of Maithili. Another vibrant language, Awadhi, exerts the highest lexical similarity with Bajjika, the least with Bote. The dominant form of the speech in the Tharu speech community, Dagaura Tharu, exerts the highest similarity with Khuna and least with Tajpuriya. Rajbansi, mainly spoken in Jhapa and Morang, in which mother-tongue based multilingual education is successfully implemented, exhibits the highest lexical similarity with Tajpuriya and least with Darai.

Table 3: Lexical similarity matrix (in %)

	Bajjika	Bhojpuri	Maithili	Awadhi	Rana Tharu	Kathariya Tharu	Sonaha	Dagaura Tharu	Khuna	Kisan	Bote	Darai	Rajbansi	Tajpuriya
Bajjika		91	75	76	74	73	65	66	65	66	69	67	65	68
Bhojpuri	91		76	75	75	69	62	69	69	71	64	60	64	65
Maithili	75	76		72	63	62	64	60	62	63	62	61	61	66
Awadhi	76	75	72		68	66	66	70	66	61	59	56	62	60
Rana Tharu	74	75	63	68		75	64	65	69	61	64	57	65	54
Kathariya Tharu	73	69	62	66	75		76	74	76	62	66	60	60	58
Sonaha	65	62	64	66	64	76		77	75	63	63	61	62	56
Dagaura Tharu	66	69	60	70	65	74	77		78	61	59	60	58	55
Khuna	65	69	62	66	69	76	75	78		63	59	65	61	56
Kisan	66	71	63	61	61	62	63	61	63		65	64	69	61
Bote	69	64	62	59	64	66	63	59	59	65		72	59	55
Darai	67	60	61	56	57	60	61	60	65	64	72		56	56
Rajbansi	65	64	61	62	65	60	62	58	61	69	59	56		78
Tajpuriya	68	65	66	60	54	58	56	55	56	61	55	56	78	

3.2 Lexical similarity evaluation

These languages present a complicated linguistic relations against the general presumptions made in the linguistic scholarship. Table 4 presents the evaluation of lexical similarity of the languages under study.

Table 4 shows that by exerting 91 % lexical similarity, Bajjika and Bhojpuri are likely to be related dialects. However, before making such conclusion, the attitude of speakers should be taken into consideration. Besides, the intelligibility between the languages or dialect should be tested by using Recorded Text Test (RTT). Not only Maithili, Bajjika, Awadhi and Bhojpuri but also different forms of speech spoken by the Tharu community as well as Rajbansi and Tajpuriya demand the consideration of the attitudes of the speakers and test of intelligibility in order to decide the status of a form of speech whether it is a dialect or an independent language.

Table 4: Evaluation of lexical similarity matrix in languages under study

	Relationships	Lexical similarity	Evalu-ation
1.	Bajjika and Bhojpuri	91 %	LRD
2.	Bajjika and Maithili	75%	DL or DSL
3.	Maithili, Bhojpuri and Awadhi	Ranging from 72%-76%	DL or DSL
4.	Dagaura Tharu and Rana Tharu	65%	DL or DSL
5.	Dagaura Tharu and Kathariya Tharu	74%	DL or DSL
6.	Dagaura Tharu, Rana Tharu and Kathariya Tharu	Ranging from 65%-74%	DL or DSL
7.	Rajbansi and Tajpuriya	78%	DL or DSL
8.	Sonaha and Khuna	75%	DL or DSL

LRD: likely to be related dialects; DL or DSL: Different languages or dialects of the same language

3.3 Hierarchical and network relations

These languages present an interesting picture of relationships among themselves. Such picture may be presented as hierarchical and network relations. They are briefly discussed as follows:

3.3.1 Hierarchical relations

The analyzed results of a comparison given in Table 4 may be visualized by a hierarchical graph. Such graph displays the genetic relatedness of language varieties based on computed lexical/phonetic similarity. Such relatedness can be displayed either a dendrogram, a hierarchical graph which displays the rooted trees or a tree. There are two methods for computing the tree: UPGMA (Unweighted Pair Group Method with Arithmetic Mean) and neighbor-joining. The UPGMA method, which has been used extensively in bioinformatics and comparative linguistics to construct a rooted tree based on a pair-wise similarity matrix, is a simple agglomerative (bottom-up) hierarchical clustering method. In this method, at each step, the nearest two clusters are combined into a higher-level

cluster. Dendogram 1 presents a hierarchical graph showing a rooted tree based on a pair-wise similarity matrix (UPGMA).

Dendogram 1: Lexical similarity (clustering method: UPGMA
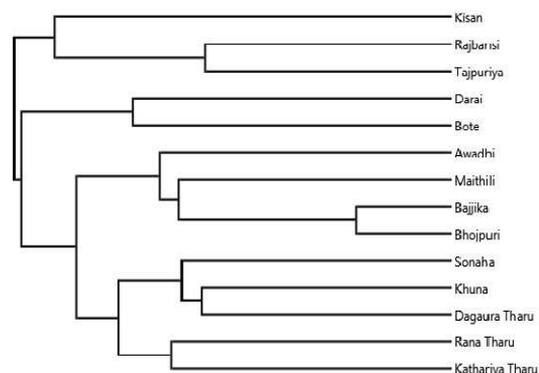
According to Dendogram 1, the lexical similarity based on clustering method broadly categorizes the fourteen languages into two clusters: the first one represented by the pair of Rajbansi and Tajpuriya clustering with Kisan (i.e., ([Tajpuriya, Rajbansi] Kisan) and the second represented by the pairs of the rest of the languages being paired into broader clusters. The languages like Rana Tharu and Kathariya Tharu forming a pair tend to cluster with a sub-cluster consisting of Khuna and Dagaura Tharu further clustering with Sonaha. Such complexity is evident in case of relationship between Bajjika, Bhojpuri, Maithili and Awadhi. Unlike the rest of the languages, Bote and Darai present a simple picture of hierarchical relations.

A slightly different situation of hierarchical relation is observed while visualizing the lexical similarity based on the clustering method referred to as neighbour-joining/unrooted tree. This is a bottom-up (agglomerative) clustering method for the creation of phylogenetic trees. While using the clustering method referred to UPGMA, a pair of Rajbansi and Tajpuriya makes up a higher cluster. However, while using the clustering method referred to as neighbour-joining/unrooted, a pair of Bote and Kisan makes up a higher cluster. Similarly, a pair of Awadhi and Maithili and a pair of Bhojpuri and Bajjika tend to make up a broader cluster. In accordance with the general expectation, Rajbansi and Tajpuriya form a higher and separate cluster. Similarly, languages or forms of speech used in the Tharu community present an interesting relationship among

themselves. Starting with a lower cluster formed by Dagaura Tharu and Khuna, the neighbor relationship goes up forming a cluster with Sonaha. The broader cluster formed this way further goes on making much broader clusters with Kathariya Tharu and Rana Tharu. Dendogram 2 presents lexical similarity based on the clustering method referred to as neighbour-joining/unrooted tree.

Dendogram 2: Lexical similarity (clustering method: neighbour-joining)
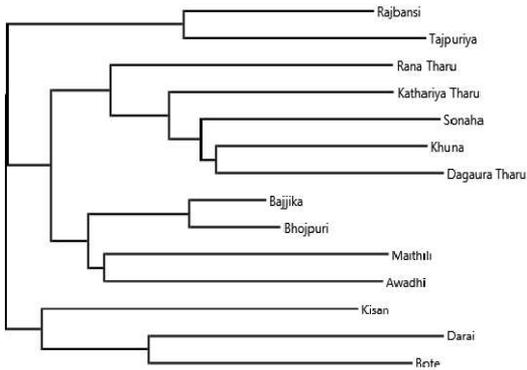
3.3.2 Network relations

These languages present a complex network relationship among themselves. Network graph 1 presents the clusters of similar varieties/languages at the lexical level where threshold has been set at 60%.

The network graph 1 makes an attempt to present a network relationship in two ways: first, by showing the clusters of similar varieties/ languages and, secondly, by showing how they might be connected. In this network graph, all the languages under comparison have been laid out. In this network graph, the similar languages such as Tajpuriya and Rajbansi, Dagaura Tharu and Khuna, Bote and Darai have been clustered together. Such network graph was generated by using a multidimensional scaling technique called Stress Majorization. In this network graph, the edges are drawn between varieties/ languages that meet a specified similarity threshold. We can adjust the threshold by changing the Edge filter setting displayed at the bottom of the graph.

Network graph 1: Clusters of similar varieties/languages at lexical level (threshold 60%)
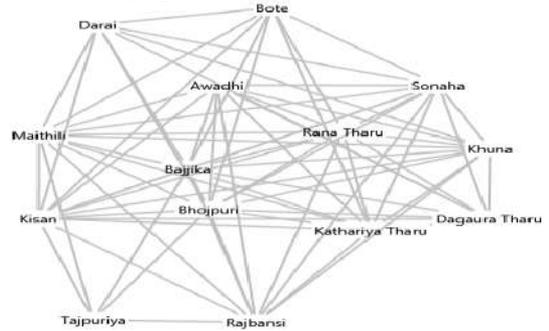
3.4 Implications

On the average, Bhojpuri exerts the highest degree of lexical similarity with other Indo-Aryan languages of Tarai: (Bhojpuri, 70%; Maithili, 60.46%; and Awadhi, 65.92%). Among the so-called dialects of Tharu, viz., Rana Tharu, Kathariya Tharu and Dagaura Tharu, Rana Tharu is much closer to Kathariya Tharu than to Dagaura Tharu. Both Sonaha and Khuna are closer to Dagaura Tharu than to Kathariya and Rana Tharu. The newly identified language, Tajpuriya is closer to Bhojpuri and Maithili than the well-established language, Rajbansi. Both Rana Tharu and Kathariya Tharu are closer to Bhojpuri than to Awadhi and Maithili. Bhojpuri, Maithili and Awadhi may play the functional role as per the degree of lexical similarity they have maintained.

4 Phonetic similarity

In this section, we present phonetic similarity matrix, comparison between lexical and phonetic similarity, some implications on the basis of the comparison and hierarchical and network relationship among the languages.

4.1 Phonetic similarity matrix

Like lexical similarity, phonetic similarity may be defined as a measure of the degree to which the word sets of two or more languages or dialects are similar. Unlike lexical similarity, phonetic similarity matrix, on the basis of phonetically similar sounds, assesses relatedness of the languages under question. As in a lexical similarity, phonetic similarity of 1 (or 100%) is meant to be a total overlap between segments, whereas 0 means there are no common sound

segments in the languages or dialects under question. Like in lexical similarity, Bhojpuri exerts the highest phonetic similarity with Bajjika and the least with Darai, Bote, Tajpuriya and Rajbansi. Maithili, unlike Bhojpuri, exhibits the highest phonetic similarity with Bhojpuri and least with Darai and Bote. Rana Tharu, Khatariya Tharu, Dagaura Tharu, Sonah and Khuna form a cluster with a hierarchical relation. Similarly, as in lexical similarity matrix, Maithili, Awadhi, Bhojpuri and Bajjika form a broader cluster. Table 5 presents the phonetic similarity matrix of the fourteen languages in percentages.

Table 5: Phonetic similarity matrix (in %)

	Bajjika	Bhojpuri	Awadhi	Rana Tharu	Khatariya Tharu	Khuna	Dagaura Tharu	Sonaha	Maithili	Darai	Bote	Kisan	Tajpuriya	Rajbansi
Bajjika		89	77	72	74	70	67	71	75	72	67	69	69	68
Bhojpuri	89		80	78	75	74	68	74	76	66	66	66	66	66
Awadhi	77	80		71	72	72	67	72	71	63	62	67	61	62
Rana Tharu	72	78	71		77	74	69	70	66	63	64	65	61	62
Khatariya Tharu	74	75	72	77		77	76	76	65	64	64	66	61	63
Khuna	70	74	72	74	77		79	79	64	63	63	64	60	61
Dagaura Tharu	67	68	67	69	76	79		74	62	63	64	62	60	62
Sonaha	71	74	72	70	76	79	74		64	64	63	65	59	60
Maithili	75	76	71	66	65	64	62	64		61	61	63	64	66
Darai	72	66	63	63	64	63	63	64	61		72	63	61	62
Bote	67	66	62	64	64	63	64	63	61	72		63	62	64
Kisan	69	68	67	65	66	64	62	65	63	63	63		63	65
Tajpuriya	69	66	61	61	61	60	60	59	64	61	62	63		76
Rajbansi	68	66	62	62	63	61	62	60	66	62	64	65	76	

Table 5 shows that Bhojpuri, as at the lexical level, exerts the highest degree of phonetic similarity (72.76%) with the languages under comparison. Such degree is followed by Bajjika (72.30%), Awadhi (69%) and Maithili (66%). Unlike at the lexical level, at the phonetic level, Kisan stands distinct from Rajbansi and Tajpuriya. At lexical level, Rana Tharu and Khatariya Tharu are paired whereas at the phonetic level, Khuna and Dagaura Tharu are paired**.** In neighbor-joining clustering method, at lexical level, Bote and Darai are paired with Kisan whereas in phonetic level Rajbansi and Tajpuriya are clustered with Kisan.

4.2 Phonetic and lexical similarity: comparison

Table 6 presents a comparison between phonetic and lexical similarity.

Table 6: Lexical and phonetic similarity

	Lexical similarity	Phonetic similarity
UPGMA	(Kisan (Rajbansi, Tajpuriya))	(Rajbansi, Tajpuriya)
	(Darai, Bote)	(Darai, Bote)
	(Awadhi (Maithili (Bajjika, Bhojpuri)))	Kisan *
	(Soinaha (Khuna(Dagaura Tharu (Rana Tharu, Khatariya Tharu)))	(Maithili (Awadhi (Bajjika, Bhojpuri)))
		(Rana Tharu (Sonaha (Khatariya Tharu (Khuna, Dagaura Tharu)))))
NEIGHBOR-JOINING	(Rajbansi, Tajpuriya)	(Rana Tharu (Khatariya Tharu (Sonaha (Khuna, Dagaura Tharu))))
	(Rana Tharu (Khatariya Tharu (Sonaha, (Khuna, Dagaura Tharu))))	(Maithili (Awadhi (Bajjika, Bhojpuri)))
	(Bajjika, Bhojpuri) (Maithili, Awadhi))	(Darai, Bote)
	(Kisan (Darai,Bote))	(Kisan (Rajbansi, Tajpuriya))

* With the rest except Rajbansi, Tajpuriya, Darai and Bote.

4.3 Hierarchical and network relationship

As at the lexical level, these languages present an interesting hierarchical and network relationship among themselves.

4.3.1 Hierarchical relationship

Such relationships may be presented by dendogram and network graph. Dendogram 3 presents the phonetic similarity among the languages by using clustering method: UPGMA.

Dendogram 3: Phonetic similarity (clustering method:UPGMA)
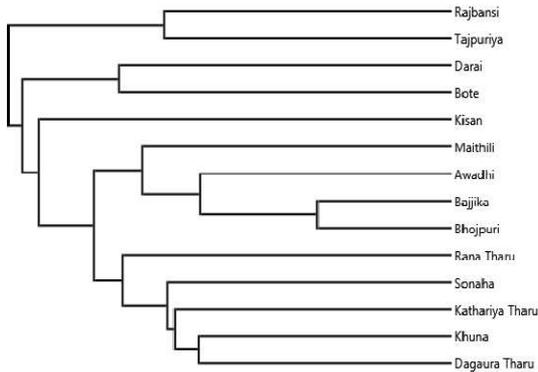


While using neighbor-joining technique of clustering method, we find a slightly different picture of the relationships among the languages. Dendogram 4 presents the situation of the relationship among the languages by employing the neighbor-joining approach of clustering method.

Dendogram 4: Phonetic similarity (clustering method: neighbour-joining)
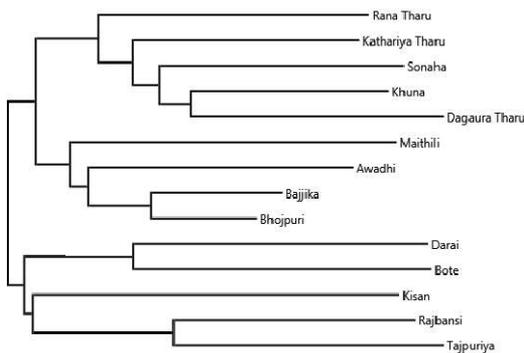
4.3.2 Network relationship

These languages present an interesting network relationship. Network graph 2 presents the clusters of similar the varieties/ languages at phonetic level (threshold 60%). The network graph 2 has shown all the fourteen languages under study. In this network graph, the similar languages/varieties such as Dagaura Tharu, Sonaha, Kathariya Tharu and Khuna are tending to cluster together. Moreover, the edges are drawn between languages that meet a specified similarity threshold.
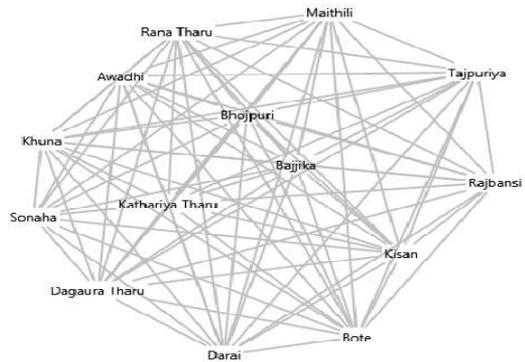
Network graph 2: Clusters of similar varieties /languages at phonetic level (threshold 60%)

5 Presumptions and projected functional role

5.1 Presumptions

There is a lack of basic grammatical descriptions except in Maithili, Bhojpuri, Awadhi, Rajbansi and Darai. Rana Tharu, Kathariya Tharu, Sonaha, Khuna, Darai, Bote, Kisan are preliterate languages. Many of these languages lack even lexicons. This situation led the people to make presumptions about the linguistic relatedness and functional roles of these languages. Such presumptions may be enumerated as follows:

a. The first presumption is that Rana Tharu, Kathariya Tharu, Dagaura Tharu, Sonaha and Khuna are simply the dialects Tharu (presumably, Dagaura Tharu). Consequently, despite the vigorous endeavour on behalf of the speech community, Rana Tharu was deprived of its right of being considered as an independent language.

b. The second presumption is that Bajjika, recently recognized as a national language, is a dialect of Maithili. It is one of the major dialects which Maithili speakers prefer to call it as Thainti.

c. Tajpuriya is a dialect of Rajbanshi even though it has been offered an opportunity to be recognized as a separate national language.

d. Tharu speech communities speak slightly different forms of speech of the dominant languages of the region. To further clarify the point, the Tharu speech community residing Siraha and Saptari speak Maithili induced Tharu whereas the Tharu spoken in Chitwan is Bhojpuri induced Tharu. The forms of speech

used by the Tharu communities in the far-western and mid-western regions of Nepal are induced by mainly Awadhi, Hindi and Bhojpuri.

e. Rajbansi, Maithili, Bhojpuri, Awadhi and Tharu are the dominant Indo-Aryan languages of the Tarai of Nepal.

f. Nepali may play a fundamental role for being a lingua-franca in the Tarai of Nepal.

g. Hindi is the second language spoken as a language of inter-group communication in Maithili, Bhojpuri, Awadhi and Bajjika speaking areas.

It is quite natural to pervade such presumptions about the fate of the Indo-Aryan languages spoken in Tarai until a detailed and comprehensive sociolinguistic survey of these languages is not conducted and comparative study is not accomplished. No definitive comments are in order to support or reject such presumptions.

5.2 Projected functional role

It is a fact that thanks to the monolingual education policy implemented by the government, Nepali, official language, is gradually getting hold as lingua-franca among the educated people living in urban or semi-urban areas in Tarai. However, in the remote and inhospitable villages, there are still large number monolinguals in Tarai. Such situations mainly persist in Maithili and Bhojpuri areas. For them, both Nepali and Hindi may be equally distant. Among the educated people, there is a strong tendency towards assuming Hindi is a lingua-franca. However, the fluency and accuracy are still the matters of further consideration. Different aspects of social demography and inclusive dimensions presented by Census of 2011 have to be considered.

In terms of lexical and phonetic similarity analysis, the Indo-Aryan languages of Tarai mainly fall into four broad clusters. Table 7 presents a recapitulation of the relatedness of the languages in Tarai in terms of phonetic and lexical similarity.

Table 7: Recapitulation of the relatedness of the languages (UPGMA method)

LEXICAL SIMILARITY	Kisan, Rajbansi and Tajpuriya
	Darai, Bote
	Awadhi, Maithili, Bhojpuri, Bajjika
	Sonaha, Khuna, Dagaura Tharu, Rana Tharu, Kathariya Tharu
PHONETIC SIMILARITY	Rajbansi and Tajpuriya
	Darai, Bote
	Kisan, Bajjika, Bhojpuri, Maithili, Awadhi
	Rana Tharu, Sonaha, Kathariya Tharu, Khuna, Dagaura Tharu

The clusters of the languages presented in Table 7 may suggest mainly the following considerations for assuming the functional role   for the languages under comparison:

a. It is Bhojpuri which exerts the highest degree of lexical and phonetic similarity to the rest of the languages of Tarai under study. Pragmatically, only a single language is not viable to play the role of lingua-franca in Tarai. Even from the nationalistic and inclusive point of views, it is practicable to promote the local dominant languages as lingua-franca and as the language of wider communication and the medium of instruction.

b. In the eastern part of Tarai, especially Jhapa and Morang, where Tajpuriya, a cluster member of Rajbanshi is spoken, Rajbanshi has to be promoted for increasing its functional role in wider communication as well in education.

c. Maithili, which is dominantly spoken in Rautahat, Sarlahi, Mahottari, Dhanusa, Siraha, Saptari, Sunsari and Morang, has to be promoted as language for lingua-franca and medium of instruction as well as the language of mass media.

d. Bhojpuri, which pervades the language area of Nepal, namely, Rautahat, Bara, Parsa, Chitwan, Nawalparasi and Rupandehi, should be promoted as the regional lingua franca for wider communication.

e. Similarly, Awadhi, which is spoken in Rupandehi, Kapilbastu, Dang, Banke, and Bardiya, has to be promoted in such way that this language will be used for delivering

political speech and imparting basic education. It is to be noted that Awadhi does not receive a strong hold in formal communication. Hindi is a prestigious form of speech for formal communication despite the fact that Awadhi speech communities have shown a very positive attitude towards the mother tongue.

f. Immediately, three forms of speech, i.e., Rana Tharu, Dagaura Tharu and Kathariya Tharu have to be recognized as separate languages. Indeed, like Yadava community, Tharu is not a single speech community. Among these three forms of speech, Rana Tharu stands distinct and distant. Thus, it would be wise to re-think by all the concerned communities about the sociolinguistic situations of these forms prior to thinking about preparing materials for informal or formal education or about making plans for developing these forms of speech.

g. Thus, it is a high time we recognized the status of all the forms of speech not only for the preservation, promotion and development of the minority languages but also co-existence and respect of the indigenous languages of Nepal.

6 Conclusion

This paper tried to explore and establish a new relationship among the major Indo-Aryan languages under study. It has revealed a number of interesting facts about these languages and suggests the speech communities as well as the scholars thinking and studying the relationship among these languages from a broad pragmatic, inclusive and co-existence perspectives. Despite the fact that this paper is limited to its scope, the findings so far exposed strongly suggest that Bajjika and Bhojpuri are likely to be dialects while comparing Bajjika with the Brahmin variety of Maithili and Bhojpuri, it stands that Bajjika is much closer to Bhojpuri than to Maithili. This study shows that Rana Tharu and Kathariya Tharu are not as close to Dagaura Tharu as Sonaha and Khuna are. Rana Tharu and Kathariya Tharu may be independent of Dagaura Tharu. Rajbansi and Tajpuriya are the dialects, not different languages. However, lexical similarity percentages are not strong enough as they are in between Bhojpuri and Bajjika. There is a high degree of lexical and

phonetic similarity as they belong to the same family, i.e., Indo-Aryan. Thus, conclusion drawn on the basis of lexical and phonetic similarity are not definitive, rather indicative, may be provisional. We have to test mutual intelligibility by using Recorded Text Test (RTT) and evaluate the attitudes and perceptions of the speakers before making any conclusion: whether a form of speech is an independent language or a dialect of a particular language. Different forms of speech used by Tharu ethnic communities residing in different parts of Nepal require to be studied linguistically. Non-Brahmin forms of Maithili have to be compared to see the real influence of Maithili in the languages of Tarai.

To conclude, the relatedness exhibited by the languages under study suggests a new scope for assuming and developing regional lingua-franca in the Tarai region. Besides, we have to be aware of this relatedness while preparing materials for mother tongue based multilingual education for the languages spoken in this region. Furthermore, this relatedness has to be taken into consideration while formulating a full and appropriate language policy for the development of the Indo-Aryan languages spoken in the Tarai region.

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ASPECTS IN MAGAR DHUT

Pratigya Regmi

This paper presents the aspectual system of Magar Dhut [1]. In this language, aspects are marked morphologically. It exhibits both lexical and grammatical aspects. Different grammatical suffixes are used to code the grammatical aspects.

1 Introduction

Aspect, as a grammatical category, shows the internal structure of a situation, such as the present perfect, an event that happens in the past but whose effect remains in the present. Present perfect is not used for present time but for past time, and it is an example of the internal temporal structure of a situation. According to Katamba (1993:221), "essentially, aspect indicates whether an event, state, progress or action that is denoted by a verb is completed or in progress." Basically, there are two types of aspects of a verb: lexical and grammatical (Givón 2001:287). Lexical aspect is an inherent property of a (semantic) eventuality, whereas grammatical aspect is a property of a (syntactic or morphological) realization. Inherent aspectuality of lexical verbs is an useful tool for understanding the behavior of grammatical aspects.

This paper is organized into three sections. Section 2 presents the lexical aspects. In section 3, we deal with the grammarical aspects. Section 4 summarizes the findings of this paper.

2 Lexical aspects

The lexical aspect, also referred to as 'Aktionsart', is an inherent property of lexical verbs. Languages appear to form the same Aktionsart classes in their lexicon (Whaley 1997). However,

a particular Aktionsart may evoke distinct morphosyntactic treatment. This forms the grammatical aspect. It is the Aktionsart of the verb which triggers varying shades of the meaning that is typically associated with grammatical aspectual categories, such as perfective and imperfective (Regmi 2012:77). According to Givón (2001), the verbs in the lexicon of all languages can be divided into four major groups in terms of their inherent aspectuality namely, compact, accomplishment, activity-process and stative. They were proposed originally in Vendler (1967) as achievements, accomplishments, activities and states. It shows that there is an only terminological difference between Vendler (1967) and Givón (2001).

In this section, we attempt to determine the lexical aspect of some of the most frequent verbs in Magar Dhut and examine how the lexical aspect of the verb triggers varying shades of meaning that is typically associated with grammatical aspectual categories, such as perfective and imperfective.

2.1 Compact-short duration verb

Compact verbs describe temporally compact events of extremely short duration (Givón 2001:287). The events coded by such verbs are sharply bounded at both ends-inception and termination. The lexical verbs having short duration in Magar Dhut are presented in (1).

(1) a. tʰok   'spit'
     b. ŋap   'shoot'
     c. pʰalka   'jump'
     d. latʰʌ   'kick'
     e. dʌdup   'slap/hit'
     f. tˢuɦu   'cough'
     g. pʰardʑo   'jump'

2.2 Accomplishment-completion verb

Accomplishment types of verbs code the completion of an event (Givón 2001: 287). These verbs may have both duration and a sharp terminal (final, end) boundary though the duration

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[1] Magar Dhut is a Tibeto-Burman language of Himalayish group spoken by 788,530 (i.e.2.98%) of the 1,887,733 ethnic Magar (CBS 2012). It is mainly spoken in Palpa, Syangja, Tanahun and Nawalparasi districts of Nepal (Regmi 2013). This study is mainly based on Magar Dhut spoken in Benimanipur V.D.C of Nawalparasi district.

is usually not in focus. The event may be of longer duration in comparison to compact verbs. Sometimes, duration is brought into focus with special grammatical aspect. Completion verbs in Magar Dhut are presented in (2).

(2) a. raɦi   'come'
     b. uŋ   'arrive'
     c. nuŋ   'go'
     d. ḍastˢis   'leave'
     e. ḍumuk   'accomplish'
     f. bʰjaṭ   'finish'
     g. ḍin   'get/ obtain'
     h. dᶻʰal   'fall'
     i. si   'die'

2.3 Activity-process verb

The events coded by the process verbs may have both duration and sharp initial and terminal boundaries, but their communicative perspective focus depends on the choice of the grammatical aspect (Givón 2001: 287). Process verbs in Magar Dhut are given in (3).

(3) a. gja   'break'
     b. gukak   'bend'
     c. ɦiwa   'walk'
     d. sjah   'dance'

2.4 Stative verb

On the final point of perfectivity scale, the stative verbs or adjectives can be found. These types of verbs have long relatively long duration but initial and terminal boundaries are not focused on unless the verbs are marked with the special grammatical aspect (Givon 2001: 288). Stative verbs in Magar Dhut are presented in (4).

(4) a. mʌraŋ   'happy'
     b. ḍamtˢʰos 'angry'
     c. mu   'sit'
     d. ṭoṛos   'stand'
     f. kʌṛaŋ   'big'
     g. gja   'red'

2.5 Lexical aspects and morphosyntactic treatment

It is more significant to observe the inherent aspectuality of verbs combining them with various grammatical aspects. So in this section, we observe the inherent aspectuality of verbs by combining them with various grammatical aspects like perfect, past-perfective, progressive and habitual. Grammatical aspect adds communicative value to the state or events above or beyond their inherent aspectuality. For example, compact verbs occur much more commonly in discourse in the perfective aspect. When the compact verbs are combined with imperfective aspects, they tend to give a progressive or repetitive sense and a communicative value is added.

(5) a. *rame*   *tˢuɦumʌnʌ*   *le*
         ram-e   tˢuɦiu-mʌ-nʌ   le
         ram-ERG   cough-NMLZ-EMPH   EXIST
         'Ram is coughing.'
     b. *rame*   *tˢuɦiuʌula*
         ram-e   tˢuɦiu-ʌu-le-a
         ram-ERG   cough-HAB-IPFV-PST
         'Ram used to cough.'

In example (5a), while combining the compact verb *tˢuɦiu* with the nominalizer *-mʌ and* emphatic particle *-nʌ* followed by existential copula *le,* the inherent action, having an extremely short duration (sharply bounded), is changed into a continuous or ongoing event in the present time. Likewise, example (5b) shows that when the same verb root *tˢuɦiu* is combined with the habitual marker *-ʌu* followed by the imperfective marker *-le* and the past tense marker *-a,* then the sharply bounded event is changed into a repetitive event in the past time.

When an accomplishment type of verb having a sharp terminal boundary is combined with the imperfective aspect then the inherently complete event changes into an ongoing or repetitive event with no terminal boundary as in (6).

(6) *kale bisṭarʌi imlak   nuŋmʌnʌ   le*
     kale bisṭarʌi im-lak   nuŋ-mʌ-nʌ   le
     kale slowly   house-ALL go-NMLZ-EMPH   EXIST
     'Kale is going towards the home slowly.'

In example (6), the nominalizer *-mʌ* with the emphatic particle *-nʌ* gets attached with the accomplishment verb *nuŋ,* and the inherently completed event is changed into ongoing action.

When activity-process verb is marked with a grammatical imperfective aspect then they provide either a habitual-repetitive or progressive

interpretation as in (7a). The activity verbs are combined with perfect aspect to show that the event has been sharpening into an initial and a terminal boundary as in (7b).

(7) a. *ɦosʌi*   *kiṭab*   *rikmʌnʌ*   *le*
         ɦo-se-i   kiṭab   rik-mʌ-nʌ   le
         D.DEM-   book   write-NMLZ-EMPH   EXIST
         DEF-ERG
         'He is writing a book.'

     b. *ŋa*   *bʌnaŋ*   *ɦwatsʌ*   *lja*
         ŋa   bʌn-aŋ   ɦwa-tsʌ   le-a
         1SG   forest-LOC   walk-NMLZ   EXIST-PST
         'I had walked in the forest.'

In example (7a), the progressive marker *-mʌ,* combined with the emphatic particle *-nʌ* is attached with the activity-process verb *rik* focuses on the event is in progress. Likewise in (7b), the nominalizer *-tsʌ* is attached with the process verb *ɦwa,* and shows the event presents a terminal boundary.

Finally, stative verbs (or adjectives) tend to reject the imperfective aspect because their perspective is already focused on an ongoing state. When we combine a stative verb having no initial and terminal boundary with perfect or perfective aspect, the inherent state changes into an event as in (8).

(8) *ŋa*   *mʌṛaŋtsʌ*   *le*
      ŋa   mʌṛaŋ-tsʌ   le
      1SG   happy-NMLZ   EXIST
      'I am happy.'

In example (8), the stative verb *mʌṛaŋ* is combined with the nominalizer *-tsɔ* and changed the state into an event having a long duration with an initial and terminal boundary.

When the same verb *mʌṛaŋ* is combined with the past-perfective then the event is marked and focused with initial and terminal boundary having no duration as in (9).

(9) *ŋa mʌṛaŋa*
      ŋa mʌṛaŋ-a
      1SG happy-PST
      'I became happy.'

In example (9), the inherent lexical aspect of verb *mʌṛaŋ* is a state. It is temporally unbounded, and when it is combined with the past-perfective *-a*, the state is changed into a terminally bounded event.

3 Grammatical aspect

According to Givón (2001:288), "unlike inherent aspect, grammatical aspect is the adding of communicative perspective to states or events above or beyond their inherent aspectuality." Givón (2001:345) has suggested a framework to analyze the tense, aspect and modality (TAM) system for Tibeto-Burman languages. This framework brings together the entire TAM system around the main distinction between perfective and imperfective. Magar Dhut is a Tibeto-Burman language. The tense markers (past and non-past) may interact with perfective and imperfective aspects. A single form of the suffix may encode more than one information such as tense-aspect or tense-modality markers.

In this section, we analyze the grammatical aspectual system of Magar Dhut on the basis of perfectivity: perfective and imperfective.

3.1 Perfective aspect

Perfective imposes a perspective focus on termination and boundedness (Givón, 2001:288). It has strong association with the past tense. According to Grunow-Harsta (2008:222), "perfective situations are those which are presented as complete and non-complex." Following Givón (2001:245), we elaborate the perfective into past-perfective and perfect in Magar Dhut.

i) Past-perfective

It describes the unitary past action. Perfective situations across languages are correlated with the past tense; this is due to the tendency for past situations to be perceived as whole and complete. The simple past tense marker *-a* is used to show the perfective situation in Magar Dhut (10a). Then, it characterizes the event as complete, and without discrete subparts. However, as the past tense marker can combine with the existential copula which is grammaticalized to show the imperfective aspect as in (10b), it cannot be

considered as a perfective marker; rather perfective aspect, in Magar Dhut, is unmarked.

(10) a. *kusʌi lʌpʰakoi dˀĩmke mafijoka*

    ku-sʌ-i lʌpʰa-ko-i dˀim-ke ma-fijok-a

    INTRG- friend-PL-ERG catch-INF NEG-able-PST DEF-ERG

    'No friends could catch (me).'

    b. *kaṭ ḍesaŋ kaṭ dʐʌŋgʌl lja*

      kaṭ ḍes-aŋ kaṭ dʐʌŋgʌl le-a

      one country-LOC one forest EXIST-PST

      'There was a forest in a country.'

Examples (10a-b) show the past event which is terminally bounded with the suffix -*a,* attached with the verb root. It has not left any effect in the present time.

3.2 Perfect

Perfect aspect normally describes a currently relevant state brought about by the situation (normally an event) expressed by the verb (Payne, 1999). It is functionally the most complex and most subtle grammatical aspect (Givón 2001:293). The perfect aspect bears a strong but not absolute similarity to the past tense. Givón (1984:280) has noted that "in semantic terms, the perfect describes a 'past occurrence with current relevance'." In Magar Dhut, perfect aspect is morphologically coded by the nominalizer -*tˢʌ* as in (11).

(11) a. *ilaŋ ʌbʌ bʰansaim kʰaske ṭetˢʌ le*

    i-laŋ ʌbʌ bʰansa-im kʰas-ke ṭe-tˢʌ le

    P.DEM now kitchen make-INF say-NMLZ EXIST -LOC -house

    'We have planned to build a kitchen here.'

    b. *ŋʌi ṭetˢʌ lamaŋ fiwamʌnʌ*

      ŋa-i ṭe-tˢʌ lam-aŋ fiwa-mʌnʌ

      1SG-ERG say-NMLZ way-LOC walk-NMLZ-EMPH

      le bʰʌja naniko rʌ

      le bʰʌja nani-ko rʌ

      EXIST brother sister-PL also

      'Brother and sister are walking along the same way, I have suggested.'

    c. *hosʌi tˢʰo dʐjatˢʌ lja*

      ho-se-i tˢʰo dʐja-tˢʌ le-a

      D.DEM-DEF-ERG rice eat-NMLZ EXIST-PST

      'He had eaten rice.'

In (11a-b), the nominalizer -*tˢʌ* with the existential copula *le* is used to code the event that may have occurred earlier but relevant at the time of speech. In example (11c), the same nominalizer -*tˢʌ* with the existential copula *le,* combined with past tense marker -*a* codes the event occurred prior to the time of speech.

In Magar Dhut, most of the derived adjectives are marked with the nominalizer -*tˢʌ* as in (12).

(12) a. *ŋəu mitˢʰam ṭuŋtˢʌ lja*

    ŋa-u mitˢʰam ṭuŋ-tˢʌ le-a

    1SG-POSS hair short-NMLZ EXIST-PST

    'My hair was short.'

    b. *sefietˢʌ bʰurmi kʰaske ḍusle*

      sefi-tˢʌ bʰurmi kʰas-ke ḍus-le

      good-NMLZ man make-INF help-IPFV

      'It helps to make a good person.'

In examples (12a-b), the adjectives *ṭuŋtˢʌ* 'be.short' and *sefitˢʌ* 'be.good' are derived from the verb root *sefi* and *fiwar* with the nominalizer -*tˢʌ.*

The nominalizer -*tˢʌ* also codes the prospective event.

3.3 Imperfective aspect

The Imperfective aspect imposes perspective focus is away from termination and boundedness (Givón 2001:288). Imperfective has no initial or terminal boundaries. In Magar Dhut, imperfective views an event as the process of unfolding or a repeated or habitual event (thus corresponding to the progressive/continuous aspect for events of short-term duration and to habitual aspect for longer terms).

In Magar Dhut, imperfectivity is indicated by the grammaticalized existential copula *le* functioning as an auxiliary within the verb complex. It has the auxiliary function of carrying inflectional information, but does not convey the primary semantic relation, state, or activity expressed by the clause; this is expressed by main verb as in (13a). The copula *le* that functions as an auxiliary can also occur as independently as a main verb as in (13b).

(13) a. *kanko   mismʌnʌ   lja*
      kan-ko   mis-mʌ-nʌ   le-a
      1PL-HON sleep-NLMZ-EMPH EXIST-PST
      'We were sleeping.'

   b. *hose   babudᶻa   le*
      ho-se   babu-dᶻa   le
      D.DEM-DEF boy-child   EXIST
      'He is a boy.'

Following Givón (2001:345), within imperfective, we elaborate progressive, prospective and habitual.

i) Progressive

It expresses the ongoing or incomplete action in progress at a specific time in Magar Dhut. nominlizer *-mʌ*[2] is attached with the verb root to code the progressive aspect. Very often the emphatic particle *-nʌ* is combined with the nominalizer *-mʌ* as in (14).

(14) a. *ŋʌu   bʰʌya   rahmʌnʌ   le*
      ŋa-u   bʰʌya   rah-mʌ-nʌ   le
      1SG-POSS brother come-NMLZ-EMPH EXIST
      'My brother is coming.'

   b. *hose   imaŋ   mumʌnʌ   lja*
      ho-se   im-aŋ   mu-mʌ-nʌ   le-a
      D.DEM-DEF house-LOC sit-NMLZ-EMPH EXIST-PST
      'He was sitting in the house.'

In example (14a), the nominalizer *-mʌ* with the particle *-nʌ* is combined with the verb root *rah* followed by the existential copula *le,* expresses its ongoing action in the present time. In (14b), the root of the verb is affixed with *-mʌ* and the emphatic particle *-nʌ* followed by the existential copula, combined with past tense marker *-a* codes the ongoing action or event in the past time.

In connected discourse, when the nominalizer *-mʌ* is affixed with the verb root, it functions as the sequential converb in Magar Dhut as in (15).

(15) *ŋʌi   tˢʰo   dʒamʌ   bʌdᶻar nuŋ-a*
     ŋa-i   tˢʰo   dᶻja-mʌ   bʌdᶻar nuŋ-a
     1SG-ERG rice eat-NMLZ bazar   go-PST
     'After having eaten, I went to the market.'

In example (15), the nominalizer *-mʌ* is attached with the verb root *dʒa* 'eat' to code the action which is in sequence. The nominalizer *-mʌ* is also affixed to the verb root and changes the verb into adverb as in (16).

(16) *seɦimʌkʌtʰa   ḍigri   pas   dᶻaṭnikʰiŋ* seɦi-
     mʌ-kʌtʰa   ḍigri   pas   dᶻaṭ-nikʰiŋ
     good-NMLZ-COM master's pass   do-AFTER
     sʌmadᶻ sewa dᶻaṭle
     sʌmadᶻ sewa dᶻaṭ-le
     society serve do-IPFV
     'After completing my master's degree properly, I will serve the society.'

In (16), the suffix *-mʌ* is attached to the verb root *seɦi*, functioning as the modifier, changes the verb into adverb.

ii) Habitual

Habitual aspect is used to indicate the habitual action in the past and present time in Magar Dhut. It doesn't refer to any particular event, hence not about any particular event-time. (Givón 2001:286) defines habitual aspect as "an event or state that either occurs always or repeatedly or whose event time is left specified." Consequently, it lacks one of the crucial features of tense. The verb can inflect for two types of habitual aspect in Magar Dhut: past and non-past habitual.

- Past habitual

In Magar Dhut, the past habitual aspect is seen when the suffix *-ʌu* followed by the imperfective marker *-le* with past tense marker *-a* is inflected with the verb root as in (17).

(17) a. *dᶻʌŋʌlaŋ   ḍʰerʌi kʰʌnḍʌu dᶻʌnaorko*
      dᶻʌŋʌl-aŋ   ḍʰerʌi kʰʌnḍʌ-u dᶻʌnaor-ko
      forest-LOC   many type-POSS animal-PL
      muke   dᶻaṭʌul-a
      mu-ke   dᶻaṭ-ʌu-le-a
      sit-INF   do-HAB-IPFV-PST
      'Various kinds of animals used to live in the forest.'

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[2] The nominalizer *-mʌ* also shows perfect meaning in some context. Further research is required for more clarification.

b. ŋa   bakʰra   artˢʰʌula pʌila pʌila
   ŋa   bakʰra   artˢʰ-ʌu-le-a pʌila pʌila
   1SG goat   graze-HAB-IPFV-PST first   first
   'I used to graze the goat.'

In example (17a), the suffix -ʌu followed by the imperfective marker -le with past tense marker -a is attached to the verb roots dᶻʌṭ and artˢʰ to code the events happened usually in the past time or the event assumed to be happened in the past.

Non-past habitual

According to Hrasta (2008:226), "non-past habitual expresses attributes or activities that are characteristic." Non-past habitual is one of the interpretations of the simple present tense. In Magar Dhut, the verb stem is simply followed by the imperfective marker -le codes the non-past habitual as in (18).

(18) a. ɦose   sendʰʌnʌi iskul   anle
       ɦo-se   sendʰʌnʌi iskul   an-le
       D.DEM-DEF always school   go-IPFV
       'He always goes to school.'

    b. ŋa   sendʰʌnʌi   bʰʌisi   artˢʰake anle
       ŋa   sendʰʌnʌi   bʰʌisi-PL artˢʰʌ-ke an-le
       1SG always   buffalo graze-INF go-IPFV
       'I always go to graze the buffalo.'

In examples (18a-b), the imperfective marker -le is combined with the verb root an to show the action which is usual and repeated in the present.

iii) Prospective

The prospective aspect is a grammatical aspect describing an event that occurs subsequent to a given reference time. According to Comrie (1976:64) "If languages were completely symmetrical, one might equally well expect to find prospective forms, where a state is related to some subsequent situation for instance, where someone is in state of being about to do something". Prospective is morphologically coded by the nominalizer -tˢʌ, when it is followed by the imperfective marker -le as in (19).

(19) a. kʌilei   rʌ   mʌn   mabijaktˢʌle
       kʌilei   rʌ   mʌn   ma-bijak-tˢʌ-le
       never   also heart NEG-break-NMLZ-IPFV

boi   mʌikuŋ
boi   mʌi-ko-uŋ
father   mother-PL-POSS
'I will never hurt my parents.'

    b. hʌri   bʌdᶻar   antˢʌle
       hʌri   bʌdᶻar   an-tˢʌ-le
       hari   market   go-NMLZ-IPFV
       'Hari will go to the market.'

In examples (19a-b), the nominalizer -tˢʌ followed by the imperfective marker -le combined with the verb root bijak and an to code the event that is likely or expected to happen in the future.

4 Conclusion

As a grammatical category, aspect is marked morphologically in Magar Dhut. We presented the lexical and grammatical aspects in the language. Four types of lexical aspect are presented namely, compact, accomplishment, activity and stative. Grammatical aspects are analysed on the basis of perfectivity: Perfective and imperfective. Perfective includes past-perfective and perfect. past-perfective is marked by -a and perfect is marked by the nominlaizer -tˢʌ. Within imperfective, progressive, habitual and prospective are analysed. Progressive is marked by -mʌ combined with the emphatic particle -nʌ. There are two types of habitual aspects: past and non-past. Past habitual is marked by -ʌu followed by the imperfective marker -le with the past tense marker -a and non-past habitual is coded by the imperfective marker -le. Likewise, prospective aspect is coded by the nominalizer -tˢʌ followed by the imperfective marker -le. Like other Tibeto-Burman languages, there is interconnection between tense, aspect and modality in Magar Dhut.

Abbreviations

1   first person
2   second person
ALL   allative
COM   commitative
DAT   dative
D.DEM   distal demonstrative
DEF   definite
ERG   ergative
EMPH   emphatic

EXIST	existential
GF	gap filler
HAB	habitual
IDEN	identificational
INF	infinitive
INTR	interrogative
IPA	international phonetic alphabet
IPFV	imperfective
LOC	locative
MNR	manner
NEG	negative
NHON	non-honorific
NMLZ	nominalizer
NTVZ	nativizer
PL	plural
PST	past
POSS	possessive
PROS	prospective
P.DEM	proximal demonstrative
SG	singular

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PERSONAL NAMING SYSTEM IN SHERPA

Amrit Yonjan-Tamang

This paper examines the personal naming system of Sherpa. Personal naming system is one of the most interesting phenomena in Sherpa. Basically five types of personal naming systems exist in the Sherpa community namely, Mingduo, Phoming, Siuming, Taaptse bulue and middle name system.

Keywords: Personal, gender, *Mingduo, Phoming, Siuming, Taaptse,* naming system

1 Introduction

In this paper we analyze the personal naming system in Sherpa of Thame as well as Khumjung valley of Khumbu region of Sulukhumbu district in eastern Nepal[1]. These valleys are located within the Sagarmatha National Park in the Mt. Everest region. It is a part of Nepal's high altitude area on the border to Tibet, where permanent settlement is located between an elevation of 3,400 and 4,200 meters above sea level. The Thame valley (3,810 m) is located in North-west of Namche Bazaar and Khumjung valley (3,750m) is located directly north of the Namche Bazaar (3,240m).

Thame Valley of the region is the homeland of Tenzing Norke Sherpa, the first climber of Mt Everest in 1953 As the villagers claimed with me indicating the thatched house, which belonged to him. It is also the homeland of Ang Rita Sherpa and Appa Sherpa.

2 The Sherpa people

The Sherpa[2] is recognized as one of the indigenous nationalities of Nepal by the government of Nepal. The Khumbu[3] region is the main homeland of the Sherpa people. The densely populated settlements of the Sherpa can be seen in the northern part of Solukhumbu, Ramechhap, Dolkha, Sindhupalchok and Okhaldunga districts. They are also scattered in Taplejung, Bhojpur and Ilam, and other parts of Nepal and India, too. Total number of population of Sherpa is 1,12, 946 and mother tongue speakers are 114,830 (CBS, 2011).

"The Sherpa culture is rooted in Buddhist teaching, which permeates the Sherpa value system and way of life, manifests itself in the daily routine, family, custom and in festivals. The entire Sherpa system of morals, ethics, discipline, care, and hospitality are appreciated ."Since the scaling of Mount Everest, Sherpa has become of 'celebrated people' and received a great deal of international exposure. The large number of Sherpas on Mountain Everest has even been recorded in the Guiness Book of World Records. Ang Rita Sherpa and Appa Sherpa, both from Thame valley, scaled the highest mountain of the world ten times and Appa is heading for further climbs while Ang Rita has retired for health regions." (Luger 2000:1)

"The word Sherpa is made up of two free morphemes *sher* and *pa*. *Sher* means east and *pa* means people. So the etymological meaning of 'Sherpa' is Eastern people" (Sherpa 2009:1).

The Sherpa language belongs to the Tibetan language group of the Tibeto-Burman family. It is tonal language as Tamang and Yholmo in Nepal. It is used in print audio, audio-visual and social media. I is also used in primary education in

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[1] Paper presented in the conference of Linguistic Society of Nepal (LSN), Kathmandu in November 26-27, 2002

[2] Gelu Sherpa (2009:1) states main home land of Sherpa quoting to Michael Oppitz (1974:122) as "Researchers and anthropologist have given different logics based on the oral history about the origin and the first Sherpa settlement in Nepal. Michael Oppitz (1974:122) suggests that Sherpa people might have left Kham, one of the main homeland of Sherpa in eastern Tibet because of the political tensions with Mongols and internal religions conflict among

different groups. He has also mentioned that the Sherpa people migrated in 1533 to Khumbu region."

[3] Khumbu is the upper region of Solukhumbu district where top of the world, Mountain Everest is located. The whole district is divided into three regions- Khumbu, Pharak and Solu. Solu is the lower belt where as the Pharak is the middle region of the district (Sherpa 2009:1-2).

Nepal. A very few books are published in this language. They use Sambhota script in their writing system.

3 Personal naming systems

A personal name is a part of a person's full nomenclature.[4] It identifies a specific person, and differentiates that person from other members of a group, such as a family or clan, with whom that person shares a common surname. The term given name refers to the fact that the name is bestowed upon, or given to children, usually by their parents or family members or priests at the time of birth or in the naming ceremony. This contrasts with a surname, which is normally inherited, and shared with other members of the child's immediate family or clan[5]

The Sherpa personal name or given name proceeds to the ethno-name or the family name. Personal naming in the Sherpa of the region is in five different ways. They are:

a. *Mingdou* system 'naming ceremony'
b. *Phoming* system 'naming system in a womb'
c. *Siuming* system 'inauspicious naming system'
d. *Taptse bulue* system 'hair shaving and offering to the god'
e. Middle naming system 'to identify gender of the child'

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[4] A full nomenclature consists of first, middle and surname (clan and ethnic names). A study of nomenclature is also known as "**Anthroponomastics** (or **anthroponymy**), a branch of onomastics, is the study of **anthroponyms** (<Gk. ἄνθρωπος *anthropos*, 'human', + ὄνομα *onoma*, 'name'), the names of human beings. As well as linguists, researchers in many fields take part in anthroponymic studies, including anthropologists, historians, political geographers and genealogists. The subdivisions of anthroponymy include: given names, surnames, clan names, matronyms, patronyms, teknonyms, nicknames, ethnonyms, autonyms/endonyms, exonyms. (https://en.wikipedia.org/wiki)

[5] Personal or given names are often used in a familiar and friendly manner in informal situations. In more formal situations the surname is more commonly used, unless it is necessary to distinguish between people with the same surname. The idioms "on a first-name basis" and "being on first-name terms" allude to the familiarity of addressing another by a given name. (https://en.wikipedia.org/wiki/Given_name)

3.1 Mingduo system

The term *ming* means 'name' and *duo* means 'keep'. Thus *ming duo* means to keep name or to give name to the child. Child name is kept in naming ceremony which is celebrated by the Lama within 3-7 days.[6] Personal naming in Sherpa community is mainly based on the name of the days of the week. They are:

a. Ngimaa   'Sunday'
b. Daawaa   'Monday'
c. Mingmaa(r)   'Wednesday'
d. Lhaakpaa   'Wednesday'
e. Phurbaa   'Thursday'
f. Paasaang   'Friday'
g. Pembaa   'Saturday'

These are common personal names for both the male and famale. Name generating system, which is typical in the Sherpa community is giving below:

a. Ngima (Sunday): Ngimaa, Ngimaa Dorjee, Ngimaa>Nimaa Lhaaki, Ngimaa>Nimaa Rhitaa, Nimaa Gyaalzen, Nima Gombu, Nimaa Tembaa, Chewaang Nimaa etc.

b. Daawaa (Monday): Daawaa, Daawaa Dorjee, Daawaa Ongchu, Dawaa Nuru, Daawaa Lhaamu, Daawaa Tembaa, Daawaa Taashi, Daawaa Sonaa, Daawaa Tshering and Daa(waa) Yaangji etc.

c. Mingmaa(r) (Tuesday): Mingmaa, Mingmaa Diki, Mingmaa Ongel, Mingmaa Tsering, Mingmaa Nuru, Mingmaa Saarki Sherpaa, Mingmaa Tembaa, Mingmaa Tenzing, Ang Mingmaa Sherpaa etc.

d. Lhakpaa (Wednesday): Lhaakpaa, Lhaakpaa Diki, Lhaakpaa Dorje, Lhaakpaa Gelu, Lhaakpaa Tsheri, Lhakpaa Tshering, Lhaakpaa Nuru, Lhaakpaa Phuti, Lhaakpaa Tenjing,

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[6] Kunwar (1989:190) writes "there is no hard and fast rule of performing the naming ceremony of the newly born child on certain date, the name giving ceremony is known as *tho* or *thosul* (purification) and *ming daup* (to give the name) among the Sherpas. Generally the name is given within eight days." … "So far as the Sherpa's name is concerned most of the people use to give the child's name according to his birth day of week which is related with nature".

Lhaakpaa Tenji, Lhaakpaa Thundu, Lhaakpaa Rhitaa, Lhaakpaa Sonaam etc.

e. Phurbaa (Thursday): Phurbaa, Phurbaa Tenzing, Ang Phurbaa Sherpaa etc.

f. Paasaang (Friday) : Paasaang, Paasang Diki, Paasaang Domaa, Paasaang Lhaamu, Paasaang Naamgyaal, Paasaang Nuru, Paasaang Nurbu, Paasaang Phuraa (baa), Paasaang Phuti, Paasaang Rhitaa, Paasaang Rinji, Paasang Kitar, Paasaang Tsiri, Paasaang Tsiring, Paasaang Tendi, Paasaang Tenzing, Paasaang Tendi, Paasaang Tenzing, Paasaang Tembaa, Paasaang Rinzi, Paasaang Daawaa, Paasaang Naamgel, Ang Paasaang Sherpaa etc.

g. Pembaa (Saturday): Pembaa, Pembaa Diki, Pembaa Damaa, Pembaa Dorzi, Pembaa Chhuti(n), Pembaa Nurbu, Pembaa Nuru,Pembaa Tenji, Pembaa Rinzi, Pembaa Gyaalzen, Pembaa Tsiri, Pembaa Tshering, Pembaa Thundu etc.

3.2 Phoming system

The term pho means 'womb' and ming means 'name'. It indicates that name giving to the child in the womb. The rempoche 'incarnated lama' or head lama of the monastery gives name on written form when child is in the womb. This is disclosed in the time of the name giving ceremony of the child. These names are based on the blessing e.g. Tsering, Dolmaa, Ngaawaang, Tsewaang, Taashi etc.

3.3 Siuming system

The term siu means 'inauspicious'. This naming system comes into existence when the first child dies. Second child is named as bad as possible, for example - Kaami Chhering, Kaami Rhitaa, Kaami Tembaa, Kaami Tenzing, Kaami Yaangjeen, Aang Saarki, Mingmaa Saarki, Aang Dome (<Daamaa) etc. This Kind of an inauspicious name is given to the child by their parents.

3.4 Taaptse bulue system

The term taaptse means 'hair shaving' and bulue means 'offering'. So phrase taaptse bulue means 'hair shaving and offering' to the god. It is religious name specially given by the lama guru. When anyone recovers from the fetal disease or accident then s/he gets different name. These names are taken as the blessing of the head lama

e.g. Tshewaang, Ngaawaang, Thaarwaa, Woshaar, Tshoki etc.

3.5 The system of middle name

Sherpa language is genderless language as other Tibeto-Burman languages of the world. It means there is no grammatical gender in the Sherpa language. Gender is seen only in Noun, which represents the biological gender. As mentioned before, Sherpa naming system is based on the name of the days. Second or middle name is given at the time of mingdou ritual. It indicates the biological gender of the child (i.e. female or male). Table 1 presents the list of middle name in Sherpa.

Table 1: Middle name in Sherpa

Masculine name with middle name	Feminine name with middle name
Ngimaa>nimaa	Ngimi>Nimi
Ngimaa Rhitaa	Ngimaa>Nimaa Lhaaki
Daawaa Dorjee	Daawaa Chhiri (<chhiring)
Daawaa Ongchu	Daa (<daawaa) Yongji
Daawaa Nuru	Daawaa Lhaamu
Daawaa Tembaa	Daawaa Chhoki
Daawaa Tshering	
Mignmaa Lhaamu	Mingmaa Diki
Mingmaa Nuru	
Mingmaa Saarki	
Mingmaa Tembaa	
Mingmaa Tenzing	
Aang Mingmaa Sherpaa	
Lhaakpaa Dorje	Lhaakpaa Diki
Lhaakpaa Nuru	Lhaakpaa Phuti
Lhaakpaa Tenji	Lhaakpaa Chhaamji
Phurbaa Tenzing	
Aang Phurbaa	
Paasaang Naamgyaal	Paasaang Diki
Paasaang Nuru	Paasaang Domaa
Paasaang Phuraa(baa)	Paasaang Lhaamu
Paasaang Rhitaq	Paasaang Phuti
Paasaang Tembaa	Paasaang Rinji
Paasaang Chhiring	
Paasaang Tenjing	
Aang Paasaang	
Pembaa Nurbu	Pembaa Diki
Pembaa Thundu	Pembaa Chhuti(n)
Pembaa Chhokpaa	Pembaa Chhoki
Pembaa Tshering	
Aang Pembaa	

4 Gender markers in personal name

The Sherpa language is genderless language and thus it is difficult to find out gender name in this community. Only noun words possess the biological gender.

a. Feminine gender markar - /maa, mi, mu/ are seen in Domaa, Dolmaa, Sumi, Nimi, Lhaamu,

b. Feminine gender marker - /ka, ku, nu/ are seen in Dokaa (<Dolkar), Daaku, Lhaaku, Riku, Siku, Daanu

c. Feminine gender marker - /i/ is seen in Nimi <Nima; Tshiri <Tshiring; Phuri <Phurbaa; Tenji<Tenjing; Chhiki; Diki; Daati; Paassi; Phuti; Soni; Chhoki, Taki, Yongji.

Gender (Masculine and Feminine) in nominal phrase is given in Table 2.

Table: 2 Gender in nominal phrases

Masculine	Feminine
Pho 'male'	mo 'female'
Phujing 'son'	phum 'daughter'
Paapaa /aapaa 'brother'	haamaa/maama 'mother'
Aachu 'elder brother'	aai/aaji 'elder sister'
Muk 'younger brother'	num 'yonger sister'
Khyowaa 'husband'	phirming 'wife'
Aaukhyowaa 'man'	aamphum 'woman'
Mi gaawaa 'old man'	aamphum 'old woman'
Jaambu 'noble man'	jaammu 'noble woman'
Lhaa 'god'	lhaamu 'goddess'
Gyaalbo>gyaalu 'king'	gyaalmo 'queen'

5 Conclusion

There is no grammatical gender in the Sherpa language and it reflects in the personal naming such as Ang Rhita, Ang Phurba, Lhakpa Chhiri etc. These names are used for both of the male and female nomenclature. Thus it is challenging task to identify the gender by personal name of the Sherpas for outsiders.

The Sherpa personal names are less influenced with main streaming culture than Tamang community.

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MOOD IN TAMANG

Sizar Tamang

This paper examines mood and modality in the Tamang language spoken in Khahare Pangu area of Kavre district. It also explains the Tamang verbal categories. The paper is based mainly on the modal category of D.N.S. Bhat (1999) and supplements from Bybee, Revere and Pagliuca (1994).

Keywords: Mood, epistemic, deontic, realis, irrealis

1 Introduction

Mood[1] is concerned with the actuality of an event. The three parameters used by language in modal distinctions are (i) judgement (ii) evidence and (iii) need. The judgement of the actuality of on event and the evidence from which the speaker forms the judgement are the parameters of the "epistemic" moods. The third parameter needs something that forces the speaker to get involved or carry out an action that is related to "deontic" moods (Bhat 1999: 63).

2 Epistemic mood

Epistemic mood involves the notion of possibility and necessity but to any modal system that indicates the degree of commitment by the speaker to what he says (Palmer 1995:51). In this context, Bybee, Revere and Pagliuca (1994:179) note: "Epistemic modality applies to assertions and indicates the extent to which the speaker is committed to the truth of proposition. The unmarked case in this domain is total commitment to the truth of the proposition, and markers of epistemic modality indicate something less than a total commitment by the speaker to the truth of the proposition. The commonly expressed epistemic modalities are possibility, probability, and inferred certainty".

2.1 Realis and irrealis

2.1.1 Realis mood

Realis mood is related to speech events that are habitual or have already been finished at the time

of speaking. The realis[2] stem in Tamang is *-ji* that marks for the past tense. These markers show the completion of events. Examples of the realis mood are presented in the examples (1a-b).

(1) *ŋani   dep   kʰetji*
   ŋa -ni   dep   kʰet -ji
   1SG -PL   book   read -RLS
   'We read a book.'

(2) *aŋa dimri   niji*
   aŋa dim -ri   ni -ji
   sister house -LOC go -RLS
   'Younger sister went home.'

The examples (1-2) represent the events of the past time.

2.1.2 Irrealis mood

The irrealis mood expresses the potential of an event to occur at future time. In Tamang irrealis mood is expressed by the *-la* non-past tense marker attached to a verb. Examples of irrealis mood are presented in the examples 3 and 4 below.

(3) *ŋani   teme   caban*
   ŋa-ni   teme   ca -ban
   1SG-PL   potato   eat -PROG
   mula
   mu -la
   be -IRR
   'We are eating sweet potato.'

(4) *tʰe cʰe   tʰaban*
   tʰe cʰe   tʰa   -ban
   3SG grass   cut   -PROG
   mula
   mu -la
   be -IRR
   'S/he is cutting grass.

2.2 Judgements and evidentials

2.2.1 Judgements

Judgements denote a speaker's own assessment of the occurrence of the event based on the evidence

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[1] Bhat (1999) have used the term "mood" for both mood and modality.

[2] Mazaudon (2003:203) also have asserted the use of *ci-* in realis mood but here it is written as *-ji.*

that was actually seen or experienced, heard or of the source which it is reported. The judge events can be real or unreal, certain, definite, probable or improbable (Bhat 1999: 64).

A Declarative

Declarative can be regarded as the unmarked or "unmodalized" member of an epistemic system (Palmer, 1995: 51). Tamang declarative is unmarked and indicates the strong commitment of a speaker towards the proposition he has made. The declaratives are presented in (5-6).

(5) *ŋa kra-ji*
    ŋa   kra -ji
    1SG weep -RLS
    'I wept.'

(6) *aŋa dimri nila*
    aŋa dim -ri   ni -ji
    sister house -LOC go -RLS
    'Younger sister went home.'

The examples (5-6) express the strong commitment of speaker towards the proposition.

B Probability

Probability expresses the speaker's belief of some event to occur in the future or the situation described to be probably true. Examples of probability are presented in (7).

(7) *tini nam taila*
    tini   nam   tai -la
    today rain   fall -PROB
    tala
    ta -la
    be -IRR
    'It will rain today.'

Here the example (7) expresses the probability in Tamang. The speaker is more confident that an event expressed will occur in the future. In the example (7) the construction of probability is with modal verb *ta-* in non-past tense denoting the future time.

2.2.1 Evidentials

Evidentials express that a speaker can use for specifying the reality of an event by actually observing it or experiencing it through one own senses (Bhat 1999: 64). In Tamang evidential is marked by the suffix *-m* after it is attached to the past tense marker *-ji*. The examples of evidential are presented in (8-9).

(8) *tirem tʰe memamase*
    tirem tʰe   me -mama -se
    once   that cattle -female -ERG
    kola   najim
    kola   na -ji -m
    baby   birth -RLS -EVID
    'Once, that cow gave birth to a calf.'

(9) *kola naba belari tʰe*
    kola na -ba   bela -ri tʰe
    baby birth -NMLZ time -LOC that
    mela   kola yarsi
    me -la   kola yar -si
    cow -GEN baby run -CP
    nijim
    ni -ji -m
    go -RLS -EVID
    After the birth, the baby calf ran away.'

In the examples (8-9) expressed that the event has been experienced by the sense or has been observed.

A Report

Report indicates that speaker was told about the information by someone else and the evidence of its truth-value can not be justified. Report in Tamang is marked with post verbal particle *om*. The example is presented in example (10).

(10) *tirem tʰe aba ama*
     tirem   tʰe   aba   ama
     that time that   father mother
     siji   om
     si -ji   om
     die -RLS REP
     'One day, father and mother passed away.'

In example (10) the speaker is only reporting about the incident and the speaker is uncertain about the proposition made.

2.3 Interrogative mood

Bhat (1999:64) asserts that the speaker uses the interrogative sentence in order to augment or strengthen his knowledge about an event. Interrogative in Tamang is formed by using i) content words and ii) by raising intonation. Examples (11-12) and (13-14) represent these.

(11) *ela   min tiga*
     e -la   min   tiga
     2SG -GEN name what
     'What is your name?'

(12) *ela   dim   hanaŋ*
    e -la   dim   hanaŋ
    2SG -GEN   house   where
    'Where is your home?'

(13) *tʰese   tini   kan   taiji*
    tʰe -se   tini   kan   tai -ji
    3SG -ERG   today   rice   boil -RLS
    'Today s/he cooked rice?'

(14) *ese   benan   kan   caji*
    e -se   benan   kan   ca -ji
    2SG -ERG   all   rice   eat -RLS
    'You ate all the rice?'

In examples (11-12) questions words like *tiga* 'what' and *hanaŋ* 'where' are content words. Similarly, in examples (13-14) questions are made by uttering the statements in raising tone.

3 Deontic mood

Deontic mood denotes the compulsion, which makes it possible or necessary for an event to take place. This compulsion may be internal to one or more of the participants of the event, or external to them; that is, internal notions like ability, willingness and desire and external notions like necessity, request and order can be brought under Deontic mood (Bhatt 1999: 64).

3.1 Imperative

Bhat (1999:62) notes that imperative encodes the external compulsions that force an event to take place. Imperative is an issuing of direct command to a second person (Bybee, Revere and Pagliuca 1994:179). It is used directly by a speaker as a speech act in order to get something done from the addressee. In Tamang *-u, -o* and *-go* markers are used as imperative and an example is given in (15-20).

(15) *e   niu*
    e   ni -u
    2SG.N-HON   go -IMP
    'You go.'

(16) *curi   hau*
    cu -ri   ha -u
    this -LOC   come -IMP
    'Come here.'

(17) *tʰeda   brigu   pino*
    tʰe-da   brigu   pin -o
    3SG -DAT   pen   give-IMP
    'Give him the pen.'

(18) *tʰe   rʰada   boro*
    tʰe   rʰa -da   bor -o
    that   goat -DAT   take -IMP
    'Take that goat.'

(19) *ale   tʰe   kamara   cuŋgo*
    ale   tʰe   kamara   cuŋ -go
    brother   that   camera   buy -IMP
    'Younger brother buy that camera.'

(20) *aa raju   ka kʰa   paŋgo*
    aa raju   ka kʰa   paŋ -go
    aa Raju   ka kha   tell -IMP
    'Ah Raju say ka kha.'

The examples from (15-20) are the imperative statements in Tamang. The imperative marker with the vowel ending verbs are marked with *-u* imperative marker in examples (15-16). Consonant ending verbs with imperative marker *-o* is presented in (17-18). Examples (19-20) presented shows the verbs ending in breathy sound.

3.2 Request

Request is the softer imperative where the speaker is courteously to the addressee for action in a polite way. In Tamang *-le* is suffixed after the imperative stem of the verb. The elicited examples of request are presented in example (21-22).

(21) *e   tʰe   dim   ge*
    e   tʰe   dim   ge
    2SG   that   house   work
    briule
    bri -u -le
    write -IMP -REQ
    '(You) write your homework'

(22) *tʰe   cʰoyidep   ŋada*
    tʰe   cʰoyidep   ŋa -da
    that   book   1SG -DAT
    pinole
    pin -o -le
    give -IMP -REQ
    'Will you give me that book?'

The examples (21-22) are the request in Tamang.

3.3 Hortative

Bybee, Revere and Pagliuca (1994:179) note that in hortative, the speaker encourages or incites someone to perform an action. In Tamang suffix -

ke is added to a verb by the speaker in order to encourage other for an action. Examples of hortative are presented in (23-24).

(23) *tamaŋla   yigi   tamyig*
taman -la   yigi   tamyig
Tamang -GEN letters   Tamyig

lopke   kʰetke

lop -ke   kʰet -ke

read -HORT   teach –HORT

'Lets read and teach Tamang's alphabet Tamyig.'

(24) *cu   kʰaba   namduŋla*

cu   kʰa -ba   namduŋ -la
this come -NMLZ   Namdung -GEN

19 20 21 re   kunu   tasela

19 20 21 re   kunu   ta -se -la
19 20 21 time day   be -FOC -IRR

yambu   tamaŋ   gheduŋla

yambu   tamaŋ   gheduŋ -la
Kathmandu   Tamang Ghedung -GEN

som jomna   jyana lage

som jomna   jyana la-ke
third assembly   well   do-HORT

'Let's make this third Tamang Ghedung third assembly successful on coming month of Namdung on 19, 20 and 21.'

Examples (23-24) are the hortative statements for encouraging someone for action.

3.4 Optative

Optative mood expresses the speakers will and wishes. It is seen as a weaker imperative to make an event occur. In Tamang suffix -*gai* is used to express wish or hope in a form of blessing from elders or from respected persons. The example of optative is presented in examples (25-26).

(25) *ela   mriŋse ja nagai*
e –la   mriŋ -se ja na-gai
2SG -GEN   wife -ERG son birth-OPT

'May your wife give birth to a son.'

(26) *ta   lʰocʰar   san 2002-200 ri*

ta   lʰo -cʰar san 2002-2003-ri
horse year -new ad 2002-2003-LOC

mokkon tamaŋduguda   koncʰok

mokkon tamaŋ-dugu-da   koncʰok
all   Tamang -pl-DAT   precious

sumse   cʰereŋ   pingai

sum -se   cʰe -reŋ   pin -gai
three -ERG   life -long   give –OPT

'On this Horse New Year 2002-2003, may the trinity give longevity to all Tamangs.'

In the example (25), the speaker is wishing for bearing a son in future. Similarly, in the example (26) New Year's wish for longevity for all is expressed.

3.5 Prohibition

In Tamang, negations are expressed with *a*- marker but strong negation i.e; prohibition, command is done with *tha*- morpheme. The use of *tha*- is the strong negative command from the speaker to cease the event that is ongoing or likely to happen in the future. The examples (27-28) presented the use of *tha*-

(27) *e   tʰiri   tʰaniu*

e   tʰiri   tʰa -ni-u
2SG   there PROH-go-IMP

'You don't go there.'

(28) *lʰanan   tam   tʰalau*

lʰanan   tam   tʰa -la-u
much   talk   PROH-do-IMP

'Don't talk to much.'

Examples (27-28) express the strong negative command.

3.6 Necessity

Bybee, Revere and Pagliuca (1994) note that, "Necessity reports the existence of physical condition compelling an agent to complete the predicate action". In Tamang the obligation marker -*to* is also used in expressing the necessity as in example in (29-30).

(29) *pac baje   resi   tayar*
pac baje   re   -si   tayar
five o'clock get up -CP   ready

lasi   cʰa baje   nitola

la -si   cʰa baje   ni -to -la
do -CP   six o'clock go -NEC -IRR

'I get up at five o'clock and be ready   and then have to go (to college) at 6 o'clock.'

(30) *ese   lopkʰenla   tam*

e -se   lopkʰen -la   tam
2SG -ERG teacher -GEN saying

ŋyantola

ŋyan -to -la
listen -NEC -IRR

'You need to listen to the teacher's lecture.'

Example (29) expresses the agent's is compelled to perform some physical action in order to complete the predicate action. In example (30) the speaker is expressing the need of listening to teachers.

3.7 Ability

Bybee, Revere and Pagliuca (1994:177) describes ability reports the existence of internal enabling conditions in the agent with respect to the predicate action. The suffix *-ham* express the ability in Tamang. It is attached to the verb stem and the tense marker as an infix. Examples are provided from (31-32).

(31) *nima   kan   cahamla*
    Nima   kan   ca -ham -la
    Nima   rice   eat -ABLY -NPST
    'Nima can eat rice.'

(32) *tʰe   tʰiri   ni   aham*
    tʰe   tʰi -ri   ni   a-ham
    3SG   place-LOC   go   NEG-ABLY
    'S/he cannot go there.'

The example (31) is a positive sentence expressing the physical ability of an agent to perform the action and example (32) is the negation of it.

4 Conclusion

In this paper we discussed about the moods in Tamang categorically the epistemic and deontic moods. In Tamang moods are expressed both lexically and morphologically. Under the epistemic moods, realis is marked with past tense marker *-ji* marker and irrealis with non-past tense marker *-la* and evidential with *-m* after the realis marker. Besides, the morphological marker post verbal particle *om* does help in knowledge reporting in Tamang.

Under the deontic moods, imperative is marked with *-u* for vowel ending verbs, *-o* for consonant ending verbs and for breathy ending verbs *-go* is used. In Tamang, speakers make a request through marker *-le* and for inciting an action *-ke* is used as hortative. Wishing for well-being *-gai* is used for optative. Necessity is expressed with *-to* where the ability is expressed with *-ham*. Prohibition is marked with *-tha* in Tamang. Mood analysis does suggest that Tamang language is prone towards mood prominent language.

Abbreviations

1	first Person
2	second Person
ABLY	ability
CP	conjunctive particle
DAT	dative
ERG	ergative
EVID	evidential
FOC	focus
GEN	genitive
HON	honorific
HORT	hortative
IMP	imperative
IRR	irrealis
LOC	locative
NEG	negative
NEC	necessity
NEG	negative
NMZL	nominalizer
NPST	non-past
OPT	optative
PL	plural
PROG	progressive
PROH	prohibitive
REDUP	reduplication
REP	report
REQ	request
RLS	realis
SG	singular

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CORDINATE CLAUSES IN MAITHILI

Indresh Thakur

This article analyzes coordinate clauses in Maithili from functional-typological perspective. The major types of coordinate clauses in Maithili are conjunction, adversative conjunction, disjunction, and rejection/negative disjunction.

Keywords: Maithili, coordinate clauses, juxtaposition

1 Introduction

Maithili, an Indic language belonging to the group of the modern Prakrit Vernaculars is a Modern Indo-Aryan language. It is spoken in India and Nepal. In Nepal it is spoken in Jhapa, Morang, Sunsari, Saptari, Siraha, Dhanusha, Mahottari, Sarlahi, and Rautahat districts. It is spoken by 3.09 million people in Nepal as per census, 2011 and 31.90 million people in India (Lewis et.al. 2013).

In this paper, we deal with coordinating constructions in Maithili within the framework proposed by Haspelmath (2004). A coordinating construction consists of two or more coordinands i.e. coordinated phrases (Haspelmath 2004: 4). Coordination is a term in grammatical analysis to refer to the process or result of linking linguistic units which are usually of equivalent syntactic status, e.g. a series of clauses, or phrases, or words (Crystal 2003: 110).

2 Types of coordinate clauses in Maithili

For the process of coordination, Maithili permits the following four logical possibilities of coordination:

i. Conjunction
ii. Adversative conjunction
iii. Disjunction
iv. Rejection/negative disjunction

2.1 Conjunction

This type of coordination is also called combinatory/additive coordination. The most common means of coordination in Maithili involves the use of the coordinating conjunction *a* (in written forms *aor*, *ebəm*, *tətha*) 'and' which links any number of similar grammatical and semantic units. In other words, when two constructions of equal importance can function independently they can be coordinated with the conjunction *a*.

2.1.1 Conjunction with *a* coordinator

In Maithili, "the coordinator *a* (*aor, ebəm, tətha*) permits coordination to occur at both the sentential and phrasal levels." (Yadav 1996: 333) *a, aor, ebəm, tətha* are semantically same but *ebəm* and *tətha* are used in more formal situations. *a* (*aor, ebəm, tətha*) 'and' is primarily used to conjoin two noun phrases, as can be seen in example (1).

(1) | *mədən* | *ekṭa* | *gæ* | *a* |
|---|---|---|---|
| mədən | ek-ṭa | gæ | a |
| Madan | one-CLAS | cow | and |
| *duṭa* | *bəkri* | *kinlək* | |
| du-ṭa | bəkri | kin-l-ək | |
| two-CLAS | goat | buy-PST-3NH | |

'Madan bought one cow and two goats.'

As can be seen in (1), the coordinator *a* 'and' connects two NPs. Likewise, conjunction *a* also connects two verb phrases of equal status as presented in the example below:

(2) | *həri* | *ghər* | *gel* |
|---|---|---|
| həri | ghər | ge-l |
| Hari | house | go-PST.3NH |
| *aor* | *kitab* | *pədhlək* |
| aor | kitab | pədh-l-ək |
| and | book | read-PST-3NH |

'Hari went home and read a book.'

In examples (2), the coordinator *a* 'and' connects two VPs. Similarly, conjunction *a* also connects two adjective phrases of equal status as presented in the example below:

(3) | *u* | *chəuɽa* | *bimar* | *a* |
|---|---|---|---|
| u | chəuɽa | bimar | a |
| that | boy | sick | and |
| *kəmjor* | *chəik* | | |
| kəmjor | ch-əik | | |
| weak | be-PRES.3NH | | |

'That boy is sick and weak.'

In the example (3), the coordinator *a* connects two adjective phrases of equal status. In the same way, coordinating conjunction *a* also connects two postpositional phrases of equal status as given in (4):

(4) *o*   *bəblusə̃*   *a*
    o   bəblu-sə̃   a
    3SG.H   Bablu-ABL   and
    murarisə̃   *bat*   *kəeləinh*
    murari-sə̃   bat   kəe-l-əinh
    Murari-ABL talk   do-PST-3H
    'He talked to Bablu and Murari.'

As can be seen in the example (4), the coordinator *a* 'and' connects two postpositional phrases of equal importance. Similarly, two independent clauses can also be connected with the coordinating connector *a* as presented in the example below:

(5) *bəs*   *khujəl*   *a*
    bəs   khujə-l   a
    bus   open-PST   and
    həm   *cərhləũh*
    həm   cərh-l-əũh
    1SG   get on PST-1
    'The bus started and I got on it.'

Examples (1-5) illustrate that two noun phrases (NP), verb phrases (VP), adjective phrases (AP), postpositional phrases (PP), and two independent clauses are coordinated with the conjunction *a*.

However, sentential and phrasal coordination by *a* are permissible only if the two conjuncts exhibit similarity in topic and structure (Yadav, 1996: 334). Some of the examples are given below:

(6) a. *həmra*   *mach*   *amaŭs*
        həmra   mach   a
        maus
        1SG-ACC/DAT   fish   and
        meat
        bəd   *pəsənd*   *əi-ch*
        bəd   pəsənd   əi-ch
        lot   like   be-PRES.1
        'I like fish and meat a lot.'

    b. **ram*   *a*   *ləggi*   *am*
        ram   a   ləggi   am
        Ram   and   long stick   mango
        torlək
        tor-l-ək
        pluck-PST-3NH
        *'Ram and the long stick plucked mangoes.'

Example (6b) is not permissible since in this sentence, the two conjuncts do not exhibit similarity in topic and structure. There is no collocation between *ram* and *ləggi* in (6b).

2.1.2 Juxtaposition

Another type of conjunction is juxtaposition, which can be used for the coordination of two or more noun phrases or clauses. We use the term "juxtaposition" here in the sense of the adjacency of two or more elements (noun phrases or clauses) as being the sole indicator of the coordination, and not in the wider sense of merely successive clauses in a discourse. The conjuncts are simply juxtaposed, with no additional markers of conjunction. Such a strategy is probably available to all languages and Maithili is not an exception. This process has been described as "zero-strategy" by Payne (1985: 25). Occasionally, coordination of more than two conjuncts is achieved by a zero strategy in the Maithili language:

(7) a. *həm*   *dəhi*   *cura*
        həm   dəhi   cura
        1SG   curd   flattened rice
        cini   *əcar*   *kheləhũ*
        cini   əcar   khe-l-əhũ
        sugar   pickle   eat-PST-1
        'I eat curd, flattened rice, sugar and pickle.'

    b. *nəɖhiya* *ael*   *pəthru*
        nəɖhiya   ae-l   pəthru
        jackal   come-PST   kid
        kha   *gel*
        kha   ge-l
        eat   go-PST
        'Jackal came and ate up the kid.'

In (7 a-b), two clauses are coordinated without any coordinators. In (7a), four noun phrases are juxtaposed, and in (7b) two clauses are juxtaposed. But very often, in Maithili, *a* is used when more than two conjuncts are coordinated:

(8) *Ram*   *ləkchmən*   *a*   *sita*
    Ram   ləkchmən   a   sita
    Ram   Laxman   and   Sita
    bən   *chəil*   *gelah*
    bən   chəil   ge-l-ah
    forest   walk   go-PST-3H
    'Ram, Laxman and Sita went to the forest.'

In (8), three conjuncts are coordinated by *a*.

In Maithili, negation of either or both conjuncts at the sentential level is possible:

(9) a. | *ram* | *nəi* | *əelah* | *a* |
|---|---|---|---|
| ram | nəi | əe-l-ah | a |
| Ram | not | come-PST-3H | and |

mohən	*cəil*	*delah*
mohən	cəil	de-l-ah
Mohan	walk	give-PST-3H

'Ram did not come and Mohan went away.'

b. | *həm* | *hunka* | *jənəkpur* |
|---|---|---|

həm	hun-ka	jənəkpur
1SG	3SG.H-ACC/DAT	Janakpur

nəi	*jae*	*kəhəliəinh*
nəi	jae	kəh-əli-əinh
not	go	say-PST-1.3H

a	*o*	*nəi*	*gelah*
a	o	nəi	ge-l-ah
and	3SG.H	not	go-PST-3H

'I did not ask him to go to Janakpur and he did not go.'

In example (9a), there is the negation of one of the conjuncts whereas in (9b), negation of both the clauses is possible.

Finally, a regular feature of coordinate conjunction is the deletion of shared items. Thus, for example, the subject of the conjunct linked with the coordinator *a* may be deleted if it is co-referential with that of the preceding conjunct:

(10) | *həm* | *klas* | *leb* | *a* | *pəraeb* |
|---|---|---|---|---|
| həm | klas | le-b | a | pəra-eb |
| 1SG | class | take-FUT | and | run-FUT |

'I will take the class and go away quickly.'

In example (10), the subject *həm* 'I' is deleted in the second clause as it is co-referential with the preceding conjunct.

2.2 Adversative conjunction

Payne (1985: 6) states, "Coordinations with the marked feature [+Adversative] differ from the unmarked ones by specifying that a contrast exists between the conjuncts, or between the implications of the conjuncts. The most general realization in English is with the coordinating conjunction *but*. Because of the very nature of contrast the number of conjuncts is almost universally restricted to two, and we very rarely find the iterated coordinators which frequently occur in other coordination types." The adversative sentence consists of two contrasting clauses (conjuncts). The conjunction occurs obligatorily at the beginning of the second conjunct. (Wilde, 2008: 343)

Adversative/contrastive coordination can also be called as opposite coordination. In Maithili, when two conjuncts are coordinated by an adversative conjunction *muda*, it is implied that a contrast or an opposition exists between the two conjuncts. Mostly, *muda* permits the coordination to occur at the sentential level (Yadav, 1996: 338):

(11) | *moti* | *tej* | *əich* | *muda* |
|---|---|---|---|
| moti | tej | əi-ch | muda |
| Moti | intelligent | be-PRES | but |

tõ	*bhuskol*	*che*
tõ	bhuskol	ch-e
2SG.NH	dull	be-PRES.2NH

'Moti is intelligent but you are dull.'

In example (11), two conjuncts are coordinated by an adversative conjunction *muda*. In this example, there is a contrast or an opposition exists between the two conjuncts.

In Maithili, negation of either or both contrastive clauses at the sentential level is permissible:

(12) a. | *o* | *həmra* | *bəjeləinh* |
|---|---|---|
| o | həm-ra | bəj-el-əinh |
| 3SG.H | 1SG-DAT | call-PST-1.3H |

muda	*həm*	*nəi*	*geləũh*
muda	həm	nəi	ge-l-əũh
but	1SG	not	go-PST-1

'He had called me but I did not go.'

b. | *u* | *besi* | *pərhəl* | *nəi* |
|---|---|---|---|
| u | besi | pərh-əl | nəi |
| 3SG.NH | much | educated | not |

əich	*muda*	*buɽiban*	*seho*
əi-ch	muda	buɽiban	seho
be-3NH	but	stupid	also

nəi	*əich*
nəi	əi-ch
not	be-3NH

'He is not very educated but he is not stupid either.' (Yadav: 1996: 338)

Sentences (12a - b) above express the notion of contrast or opposition. Another type of adversative, with a denial of expectation implied, is also formed with a particle *muda*. In the examples (13) *muda* clarifies a denial of expectation:

(13) a. | *mohən* | *pərhə* | *me* |
|---|---|---|
| mohən | pərhə | me |
| Mohan | reading | LOC |

nik	*nəi*	*chəl*
nik	nəi	ch-əl
good	not	be-PST.3NH

muda	*pərikcha*	*me*
muda	pərikcha	me
but	examination	LOC
pas	*kə*	*gel*
pas	kə	ge-l
pass	do	go-PST.3NH

'Mohan was not good at study but (he) passed in the examination.'

Likewise, *muda* conveys a preventive meaning if the first conjunct contains a counterfactual conditional-*it* (Yadav 1996: 339):

b. *həmhu   sinema   dekhə*

həm-hu	sinema	dekhə
1SG-EMPH	cinema	watch
jəitəũh	*muda*	*həmər*
jə-it-əũh	muda	həm-ər
go-COND-1	but	1SG-GEN
saikil	*bigəir*	*gel*
saikil	bigəir	ge-l
bicycle	disorder	go-PST

'I would have gone to watch a movie but my bicycle went disorder.'

So far we have discussed the adversative conjunction at the sentential level. However, in Maithili, adjectival phrasal adversatives are also acceptable (Yadav 1996: 340):

(14)	*mənoj*	*gərib*	*muda*	*iməndar*
	mənoj	gərib	muda	iməndar
	Manoj	poor	but	honest
	əich			
	əich			
	be-pres.3NH			

'Manoj is poor but honest.'

Adjectival phrasal adversatives are acceptable in (14), as *gərib* and *iməndar* are coordinated by the adversative conjunction *muda* 'but'.

Payne (1985: 39) notes 'adversatives are also formed by means of simple juxtaposition which is akin to the zero strategy' where adversative marker is simply juxtaposed with no additional markers.

(15)	*u*	*burhiya*	*həmra*
	u	burhiya	həm-ra
	that	old woman	1SG-ACC/DAT
	nəi	*okra*	*gərielək*
	nəi	ok-ra	gəri-el-ək
	not	3SG.NH-ACC/DAT	abuse-PST-3NH

'That old woman abused him, not me.'

In the example (15), two clauses are juxtaposed without adversative coordinator.

2.3 Disjunction

Payne (1985:39) mentions, "Disjunction is possible by means of simple juxtaposition or by use of an identical coordinator." Maithili allows the second strategy i.e. by the use of an identical coordinator. The disjunctive coordinators in Maithili are *ki* 'or' and *ki ... ki* 'either… or', etc., express the idea that at most one of the two alternatives can be realized.

(16)	*əhã*	*roti*	*ki*	*bhat*	*ki*
	əhã	roti	ki	bhat	ki
	2SG.H	bread	or	rice	what
	khaeb?				
	kha-eb				
	eat-FUT				

'What will you eat: bread or rice?'

The example (16) illustrates the use of unmarked disjunctive coordinator *ki* at the phrasal level.

(17)	*əhã*	*git*	*sunəb*	*ki*
	əhã	git	sun-əb	ki
	2SG.H	song	listen-FUT	or
	o	*gair*	*o?*	
	o	gair	o?	
		abuse		

'What will you listen: song or abuse?

Example (17) illustrates a sentential-level interpretation of disjunctive coordination due to the inclusion of the verb phrase within the sentence.

(18)	*ki*	*əhã*	*au*	*ki*
	ki	əhã	au	ki
	either	2SG.H	come-IMP	or
	həmra	*phon*	*kəru*	
	həm-ra	phon	kər-u	
	1SG-ACC	phone	do-IMP	

'Either (you) come or (you) make me a call.'

In example (18), disjunctive coordinator *ki…ki* is used to join two independent clauses. Examples (16-18) exhibit that disjunctive coordinator *ki...ki* provide exclusive choices in Maithili. On the other hand, it may also be used for inclusion of more than two options:

(19)	*əhã*	*cah*	*pib*	*ki*
	əhã	cah	pi-b	ki
	2SG.H	tea	drink-FUT.2H	or
	0	*kəphi*	*0*	*ki*
		kəphi		ki
		coffee		or

0	*dudh*	*0?*
	dudh	
	milk	

'What will you drink: tea or coffee or milk?'

In Maithili, negation of the second disjunct is permissible with both the unmarked and marked disjunctive particles (Yadav 1996: 342):

(20)	*hunka*		*kərja*	*diəunh*
	hun-ka		kərja	d-iəunh
	3SG.H-ACC/DAT		loan	give-IMP.1.3H
	ki		*nəi*	*0?*
	ki		nəi	0?
	or		not	

'Should I give him the loan or not?'

In the example (20), the verb of the disjunct *diəunh* is deleted as it is an interrogative sentence. But the verb is repeated in the negative disjunct. Consider the following examples:

(21)	*o*	*nɔt*	*swikartah*
	o	nɔt	swikar-t-ah
	3SG.H	invitation	accept-FUT-3H
	ki	*nəi*	*swikartah*
	ki	nəi	swikartah
	or	not	accept-FUT-3H
	nəi	*jain*	
	nəi	jain	
	not	know	

'I do not know whether he will accept the invitation or not.'

Example (21) is an indicative sentence; therefore, the verb *khau* is not deleted. Likewise, the verb *swikartah* is repeated in the negative disjunct as in sentence (21).

2.4 Rejection/ negative disjunction

Payne (1985:40) states "Strategies for rejection consist of standard conjunction and standard negation permitted at sentential and all phrasal levels. Distinct strategies frequently consist of iterated particles." In Maithili, the rejection consists of negative particles which are formed by the use of iterated particles *ne ne* 'neither nor'; the iterated particles express the idea that none of the alternatives provided in the disjuncts is available. The following example is illustrative:

(22)	*ləṭki*	*ne*	*sundəre*
	ləṭki	ne	sundər-e
	girl	neither	beautiful-EMPH
	əich	*ne*	*pəṭhle*

əi-ch	*ne*	*pəṭh-le*
be-pres.3NH	nor	read-EMPH

'The girl is neither beautiful nor educated.'

In (22), two clauses are coordinated by the negative disjunction *ne ne* 'neither nor.'

In the Maithili language, *ne ne* sentence may also be analyzed by inserting coordinating conjunction *a* between them as *ne a ne* 'not and not / not and also not' (Yadav 1996: 343):

(23)	*ne*	*o*	*khait*
	ne	o	kha-it
	neither	3SG.NH	eat-IMPERF
	chəik	*a*	*ne*
	ch-əik	a	ne
	aux-PRES.3NH	and	nor
	khelait	*chəik*	
	khel-ait	ch-əik	
	play-IMPERF	aux-PRES.3NH	

'Neither does he eat nor play.'

In (23), two clauses are coordinated by inserting coordinating conjunction *a* between negative disjunction *ne ne* as *ne a ne* 'not and also not.'

3 Conclusion

In this paper we discussed coordinate clause and its types in Maithili. The types of coordinate clauses in Maithili are as follows: conjunction, adversative conjunction, disjunction and rejection/ negative disjunction. In Maithili, the coordinator *a* permits coordination to occur at both the sentential and phrasal levels. *a* (*aor, ebəm, tətha*) 'and' is primarily used to conjoin two noun phrases (NP), verb phrases (VP), adjective phrases (AP), postpositional phrases (PP), and two independent clauses. In Maithili, when two conjuncts are coordinated by an adversative conjunction *muda*, it is implied that a contrast or an opposition exists between the two conjuncts. Negation of either or both contrastive clauses at the sentential level is permissible. The disjunctive coordinators in Maithili are *ki* 'or' and *ki ki* 'either or', etc. which express the idea that at most one of the two alternatives can be realized. Disjunctives are used to provide exclusive alternatives in Maithili; nevertheless, disjunctives may also be understood as inclusive, i.e., more than two alternatives may be available. The rejection which consists of negative particles is formed by the use of iterated particles *ne ne* 'neither nor'; the iterated particles express the idea that none of the alternatives provided in the disjuncts is available.

Abbreviations

1	first person
2	second person
3	third person
ABL	ablative
ACC	accusative
CLAS	classifier
COND	conditional
DAT	dative
EMPH	emphatic
FUT	future tense
GEN	genitive
H	honorific
IMP	imperative
IMPERF	imperfective
LOC	locative
NH	non-honorific
PRES	present tense
PST	past tense
SG	singular

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PERSONAL PRONOUNS AND MORPHOLOGICAL CONSTRUCTION IN TAMANG

Rajendra Thokar

This article highlights personal pronouns and morphological construction in Tamang and comparison between the Western and Eastern dialects. The data of the article are based on the research reports carried out by scholars and are also based on the personal communication with the native speakers of Tamang.

1 Introduction

Different scholars categorize the Tamang language into western and eastern dialects. The eastern dialect is further subdivided into central eastern Tamang (Temal Tamang) and outer eastern Tamang (Sailung Tamang) (Varenkamp, 1996) and Southwestern Tamang (Ethnologue, 2012:83). Taken together, the eastern Tamang dialects alone, excluding western Tamang, cover a greater number of speakers.

This article introduces personal pronouns and morphological construction in the Tamang language spoken in different regions. It focuses on how the personal pronouns are capable of holding morphological construction in number suffixes and case markers. The data of the article are based on research reports carried out by different scholars and are also based on personal communication. Tamang is a non-pronominalizing language like Kaike (Regmi 2013:122), Gurung and Thakali. It consists of free personal pronouns. Similarly, gender is not marked in Tamang as in Dongwang (Bartee, 2007).

2 Theoretical perspective

As Bhat (2004)[1] and Regmi (2013:122) mention two types of pronouns, Tamang presents two categories of pronouns, viz. personal pronouns and pro-forms. The pro-forms include demonstrative pronouns, interrogative pronouns, reflexive pronouns, possessive pronouns, and reciprocal pronouns in Tamang. However, in this article, only personal pronouns are analyzed. "First person" refers to the speaker. "Second person" refers to the hearer. First and second persons are sometimes collectively referred to as speech act participants. "Third person" usually refers to any non-speech act participants (Payne 1999:44). Many languages have an inclusive/exclusive distinction within the category of first person. First person inclusive includes speaker and hearer (second person) and may or may not include a non-speech act participant (third person). Some languages have an "inclusive dual" form, even though dual may not be specified in any other part of the grammar. This form refers only to speaker and hearer and excludes a non-speech act participant. First person exclusive includes the speaker and a non-speech act participant, but excludes the hearer (Payne 1999: 45). The personal pronouns in Tamang can be analyzed in terms of four categories: speech-act participants (SAPs, 'persons') (Payne 1997:44), number, inclusion vs. exclusion and case-role (Givón, 2001:401)[2].

Like nouns, pronouns and anaphoric clitics can vary for number. The most common number distinctions are singular vs. plural; less common are singular, dual and plural. Systems with more number distinctions than these are rare, but do exist. For example, Austronesian languages, particularly in Vanuatu (independent republic consisting of more than 80 islands in the southwestern Pacific Ocean, east of Australia), indicate singular, dual, trial, and plural (Payne 1999:45). The number of personal pronouns in both Western Tamang Dialect (henceforth: WT) and Eastern Tamang Dialect (henceforth: ET) is not same. The WT has six personal pronouns. Of them, there are three of first person, two of second person and one of third person. Of them, there are three of first person, three of second person and

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[2] Tamang is a non-pronominalized language like Kaike (Regmi 2013:122), Gurung and Thakali. Thus, it contains free personal pronouns. Similarly, gender is not marked in Tamang as in Dongwang (Bartee, 2007).

one of third person. The ET has seven pronouns.

3 Personal pronouns

Pronouns are free forms (as opposed to affixes) that function alone to fill the position of a noun phrase in a clause. They normally have all the distributional properties of noun phrase. Inflectional operations do not normally alter the basic meaning of the concept expressed; rather they ground the concept expressed by a root according to place, time, participant reference, etc. (Payne 1999:43, 26).

3.1 First person

First person dual/plural exclusive in WT is *ŋi* as in Kaike (Regmi 2013:123) and plural exclusive in ED is *ŋa-ni*. First person inclusive includes speaker and hearer (second person) (Payne 1999: 45). The first person pronouns in both dialects are presented in example (1) and (2).

(1) WT   First person
     ŋa   SG
     ŋi   DU/PL.EXCL
     ŋjaŋ   PL.INCL

(2) ET   First person
     ŋa   SG
     ŋa-ni   PL.EXCL
     jaŋ   PL.INCL

Though the first person plural inclusive and exclusive pronouns are different, the first person singular pronoun ŋa is same in both dialects. In WT, the first person pronoun ŋi refers to two meanings - dual exclusiveness and plural exclusiveness. This type of first person pronoun is not found in ET. The first person plural inclusive yaŋ is also spelled as jʰaŋ.

3.2 Second person

The second person pronouns in both dialects are presented in example (3) and (4).

(3) WT   Second person
         e   NH
         raŋ   H

(4) ET   Second person
     ai   NH
     e   NH
     raŋ   H

There are two pronouns in second person in the WT, e.g. e and raŋ. Here, raŋ is also spelled as rʰaŋ. However, in ET, there are three, e.g. ai, e and raŋ. In ET, there are two singular, non-honorific second person pronouns. Semantically, they are the same, but lexically different. The second person pronoun ai is spoken in Tilpung VDC in the eastern side of Tama Koshi River and Pinkhuri VDC in the western side of Tama Koshi and down to the Sailung of Ramechhap (Tamang, 2003:35) and in the far eastern district Dhankuta (Poudel, 2006:93-94).

3.3 Third person

The second person pronouns in both dialects are presented in example (5).

(5) ET and ET   3rd person
                 the   'S/he'

The third person singular pronoun in both dialects is same, e.g. tʰe. There is no gender distinction in third person pronoun. So, the third person singular pronoun *tʰe* refers to both 'he' and 'she'.

4 Morphological construction

Words may have multiple affixes either with different suffixes appearing in a sequence (Katamba 1993:53). The possible morphological constructions in personal pronouns in Tamang are presented in example (6).

(6) a. Pronoun…root+case marker/pl suff+case
     b. Pronoun…root+pl suff
     c. Pronoun…root+pl suff$_1$+pl suff$_2$
     d   Pronoun…root+pl suff+dual suff (ET)
     e   Pronoun…root+dual suff+pl suff (WT)
     6   Pronoun…root+refl suff/pl suff+refl suff

These morphological constructions are as follows:

4.1 Pronoun   root+case marker construction

A root is the irreducible core of a word, with absolutely nothing else attached to it. It is the part that is always present, possibly with some modification, in the various manifestations of a lexeme (Katamba 1993:41).Case markers are affixed to the root of personal pronouns. The case markers are not same in both dialects. Some case markers are different. They are presented in example (7) & (8).

(7) Case   WT
ERG/AGN   *<-i>, <-ce>*
DAT   *<-da>*
ABL   *<-gjam>, <-gjam-ce>*
ASS/COM   *<-diŋ>, <-tʰen>, <-den>*
GEN   *<-la>*

(8) Case   ET
ERG/AGN   *<-i>, <-se>*
DAT   *<-da>*
ABL   *<-gjam>, <-gjam-se>*
ASS/COM   *<-den>, <-tʰen>, <-pre>,*
             <-den-cʰjam>
GEN   *<-la>, <-na>*

Some examples of *root+case marker* construction with personal pronouns in the WT and ET are presented example (9) and (10).

(9) Ergative/Agentive   Dative   Ablative
        WT   WT & ET   WT
     ŋa-i (EMP),   *ŋa-da*   *ŋa-gjam-ce,*
        ŋa-ce   *ŋa-gjam*
        ET   ET
        ŋa-i   *ŋa-gjam,*
                                          ŋa-gjam-se

(10)   Associative   Genitive
     WT   *ŋa-diŋ, ŋa-tʰen,*   WT/ET   *ŋa-la*
          ŋa-den
     ET   *ŋa-tʰen, ŋa-den,*
          ŋa-pre,
          ŋa-den-cʰjam

The use of associative/comitative case markers differs in the ET. The associative/comitative case marker *<-tʰen>* or *<-den>* is commonly used in the Bomtang village of Nuwakot district, in Tilpung VDC in the eastern side of Tama Koshi River and Pinkhuri VDC in the western side of Tama Koshi and down to the Sailung of Ramechhap and in the far eastern district Dhankuta.

In far eastern district Dhankuta (Poudel, 2006:103), the associative/comitative case clitic *<-tʰen>* or *<-pre>* occurs in free variation with *<-pre>*. Let's consider example (11).

(11) *rita ŋa-tʰen cu-ri klaŋ-mu-la*
      rita   ŋa-tʰen   cu-ri   klaŋ-mu-la
      Rita   1-COM   this-LOC   play-
      be-NPST
      'Rita plays here with me.'

There are two types of associative/comitative case markers, e.g. *<-tʰen>* and *<-cʰjam>*. The use of associative/comitative case marker *<-tʰen>* or *<-*

den> is restricted. While using both comitative case markers, the first case marker *<-tʰen>* must be followed by another comitative suffix *<-cʰjam>*. However, the reverse and only use of *<-cʰjam>* are not possible. Let's consider the example in (12) and (13).

(12) *ŋa e-den-cʰjam dim-ri ni-la*
      ŋa   e-den-cʰjam   dim-ri   ni-la
      1SG   2SG.N.HN-COM-COM   house-LOC   go-NPST
      'I (will) go to house with you.'

(13) a.   *ŋa e-cʰjam-den dim-ri ni-la**
           ŋa   e-cʰjam-den   dim-ri   ni-la
           1SG   2SG.NH-COM-COM   house-LOC   go-NPST
           'I (will) go to house with you.'

      b.   *ŋa e-cʰjam dim-ri ni-la**
           ŋa   e-cʰjam   dim-ri   ni-la
           1SG   2SG.NH-COM   house-LOC   go-NPST
           'I (will) go to house with you.'

In ET, *<-ni>* is plural suffix marker, and *<-la>* is genitive case marker. Though the genitive case marker *<-la>* is widely applied in Tamang, it is generally spelled *<-na>* while the plural suffix *<-ni>* is followed. It is due to nasal alveolar harmony. In ET, the *<-l->* sound of genitive case marker in *<-la>* changes into *<-n->* to harmonize nasal alveolar sound. Then, the plural suffix *<-ni>* is reduced into *<-n>*. It happens when only *the* plural suffix *<-ni>* is followed by *<-la>*. Let's consider the examples in (14).

(14) a.   *ŋa-ni-la*>ŋa-ni-na*>ŋa-n-na*   1PL.EXCL
      b.   *e-ni-la*>e-ni-na*>e-n-na*   2PL.NH
      c.   *tʰe-ni-la>tʰe-ni-na*>tʰe-n-na*   3PL

Except restrictive context, the genitive case marker *<-la>* is applied in all personal pronouns. Let's consider example (15)-(23).

(15) *ŋa-la dim cʰar mu-la*
      ŋa-la dim   cʰar   Mu-la
      1SG-GEN   house   new   be-NPST
      'My house is new.'

(16) *ŋa-n-na dim cʰar mu-la*
      ŋa-n-na   dim   cʰar   mu-la
      1SG-PL.EXCL-GEN   house   new   be-
      NPST
      'Our house is new.'

(17) *ŋa-ni-gade-la dim cʰar mu-la*
      ŋa-ni-gade-la   dim   cʰar   mu-la1SG-
      PL.EXCL-PL-GEN house new be-NPST
      'Our house is new.'

(18) *e-la dim cʰar mu-la*
e-la   dim   cʰar   mu-la
2SG.NH-GEN   house new   be-NPST
'Your house is new.'

(19) *e-n-na dim char mu-la*
e-n-na   dim   cʰar   mu-la
2SG.NH-PL-GEN   house new be-NPST
'Your house is new.'

(20) *e-ni-gade-la dim char mu-la*
e-ni-gade-la   dim   cʰar   mu-la
2SG.NH-PL-GEN   house new   be-NPST
'Your house is new.'

(21) *tʰe-la dim cʰar mu-la*
tʰe-la   dim   cʰar   mu-la
3SG-GEN house new   be-NPST
'His/her house is new.'

(22) *tʰe-n-na   dim cʰar mu-la*
tʰe-n-na   dim   cʰar   mu-la
3SG-PL-GEN   house new   be-NPST
'Their house is new.'

(23) *tʰe-ni-gade-la dim cʰar mu-la*
tʰe-ni-gade-la   dim   cʰar   mu-la
3SG-NH-PL-PL-GEN house new   be-NPST
'Their house is new.'

The genitive suffix <-la> can also be used with plural suffix <-ni>, e.g. ŋa-n(i)-la, e-n(i)-la, tʰe-n(i)-la, but has lower frequency than <-na>, e.g. ŋa-n(i)-na, e-n(i)-na, tʰe-n(i)-na.

4.2 Pronoun …root+pl suff construction

Typically, inflectional operations include person, number, gender, tense, aspect, and mode (Bybee 1985). In the WT and ET, there are two types of first person plural pronouns – one is unmarked and the other is affixed with plural suffix$_1$ or plural suffix$_2$ to the root. Let's consider example (24) and (25).

(24) WT   1st Person
ŋa   'I'
ŋi   'we'   DU/PL.EXCL
ŋi-ma   'we'   PL.EXCL
ŋjaŋ   'we'   PL.INCL
ŋjaŋ-ma   'we'   PL.INCL

(25) ET   1st Person
ŋa   'I'
ŋa-ni   'we'   PL.EXCL
jaŋ   'we'   PL.INCL
jaŋ-ni   'we'   PL.INCL
jaŋ-kade   'we'   PL.INCL

Unlike some zero marked first person plural pronouns, the second and third person plural pronouns are all marked with plural suffixes. Though the WT and ET possess two types of plural suffixes, they are not the same. In the WT, the plural suffixes are <-ŋi> (plural suffix$_1$) and <-ma> (plural suffix$_2$). In the ET, the plural suffixes are <-ni> (plural suffix$_1$) and <-kade> (plural suffix$_2$). The first and second plural suffixes refer to the structural hierarchy while they are applied together. Here, only plural suffix$_1$ is described. Let's consider example in (26)-(29).

(26) WT   2nd Person
e   'you'   SG.NH
e-ŋi   'you'   PL.NH
raŋ   'you'   SG.H
raŋ-ŋi   'you'   PL.H
raŋ-ma   'you'   PL.H

(27) ET   2nd Person
ai   'you'   SG.NH
ai-ni   'you'   PL.NH
e   'you'   SG.NH
e-ni   'you'   PL.NH
raŋ   'you'   SG.H
raŋ-ni   'you'   PL.H

(28) WT   3rd Person
the   'S/he'
the-ŋi   'They'
the-ma   'They'

(29) ET   3rd Person
the   'S/he'
the-ni   'They'
the-ni-gade   'They'

4.3   Pronoun…root+pl   suff$_1$+pl   suff$_2$ construction

Though the WT and ET possess two kinds of plural suffixes, viz. plural suffix$_1$ and plural suffix$_2$, they are not the same. In the WT, the plural suffixes are <-ŋi> and <-ma>, and <-ni> and <-kade> in the ET. The plural suffixes <-ŋi> and <-ni> are leveled as plural suffixe$_1$, the rest <-ma> and <-kade> as plural suffix$_2$ in both dialects in structural hierarchy. It is restricted while

applying two plural suffixes together. While applying the structure of *Pronoun…root+pl suff₁+pl suff₂*, the second plural suffix must follow the first one. The reverse structure is not possible. However, it is not applied in the first person pronoun in the WT. Let's consider example in (30)-(34).

(30) ET   First person
    ŋa-ni1   'we'   (PL.EXCL)
    ŋa-ni1-kade2   'we'   (PL.EXCL)
    jaŋ-ni1   'we'   (PL.INCL)
    jaŋ-ni1-kade2 'we'   (PL.INCL)
    jaŋ-kade2-ni1* 'we'

(31) WT   Second person
    e-ŋi1   'you' (PL.NH)
    e-ma2   'you' (PL.NH)
    e-ŋi1-ma2   'you' (PL.NH)
    raŋ-ŋi1   'you' (PL.H)
    raŋ-ma2   'you' (PL.H)
    ra-ŋi1-ma2   'you' (PL.H)
    ra-ma2-ŋi1* 'you' (hierarchy violation)

(32) ET   Second person
    e-ni1   'you' (SG.NH)
    e-ni1-kade2   'you' (SG.NH)
    raŋ-ni1   'you' (PL.H)
    raŋ-ni1-kade2   'you' (PL.H)
    raŋ-kade2-ni1* (hierarchy violation)

(33) WT   Third person
    the-ŋi1   'they'
    the-ma2   'they'
    the-ŋi1-ma   'they'
    the-ma2-ŋi1* (hierarchy violation)

(34) ET   Third person
    the-ni1   'they'
    the-ni1-kade2 'they'
    the-kade2-ni1* (hierarchy violation)

4.4 Pronoun…root+pl suff+dual suff (ET) construction[3]

The construction *Pronoun…root+pl suff+dual suff* is only possible in ET. The dual suffix in ET is <-ŋi>. It cannot be affixed to singular pronoun. The plural suffix marker must precede it. Let's consider example (35)-(37).

(35) First person
    ŋa   'I'
    ŋa-ni   'we'
    ŋa-n(i)-ŋi   'we two'

(36) Second person
    e   'you' (NH)
    e-ni   'you' (PL.NH)
    e-n(i)-ŋi   'you two' (NH)

(37) Third person
    tʰe   's/he'
    tʰe-ni   'they'
    tʰe-n(i)-ŋi 'they two'

Without using plural suffix, it is restricted to apply dual suffix marker in singular pronoun in ET. Let's consider example (38).

(38) a. First person
      ŋa   'I'
      ŋa-ŋi*   (unacceptable)
   b. Second person
      e   'you' (NH)
      e-ŋi*   (unacceptable)
   c. Third person
      the   's/he'
      the-ŋi*   (unacceptable)

4.5 Pronoun…root+dual suff+pl suff (WT) construction

The dual suffix in the WT is same as in the ET. It is <-ŋi>. However, it is only suffixed to the singular pronoun root – not with plural ones as in ET. If plural suffix <-ma> is applied, the dual suffix must precede it. However, it loses the meaning of duality. The meaning changes into plurality.

However, this suffix cannot be applied with first person pronouns as in the ET. Let's consider example (39).

(39) WT
    e   'you'   (SG.NH)
    e-ŋi   'you two' (DU.NH)
    e-ma   'you'   (PL.NH)
    e-ŋi-ma   'you'   (PL.NH)
    e-ma-ŋi* hierarchy violation

4.6 Pronoun…root+refl suff construction

The reflexive suffixes vary in Tamang dialects. In the WT, spoken in Bomtang village of Nuwakot district, the Tamang speakers employ only <-

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[3] This suffix hierarchy in ET is similar to the Bahing language (Thokar 2005/06). In Bahing, while using dual suffix in pronoun, the plural suffix must precede it, e.g. am 's/he', am-dwa 'they' and am-dwa-si 'they two'.

raŋno> suffix marker in personal pronoun to denote reflexiveness. Let's consider example (40).

(40)   WT   Reflexive suffix <-raŋno>
    a.   First person
         ŋa   *ŋa-raŋno* 'myself'
         ŋi   *ŋi-raŋno* 'ourselves' (EXCL)
         ŋjaŋ   *ŋjaŋ-raŋno* 'ourselves' (INCL)

    b.   Second person
         e   *e-raŋno* 'yourself' (NH)
         raŋ   *raŋ-raŋno* 'yourself' (H)
    c.   Third person
         tʰe   *tʰe-raŋno* 'him/herself'

In the ET, more than one reflexive suffixes are used in personal pronouns to denote reflexiveness. They are <*-non*>, <*-no*>, <*-cʰen*> and <*-sen*>. Let's consider example (41)-(43).

(41)   First Person   Reflexive suffixes
                           <*-non, -no, -sen, -cʰen*>
       ŋa 'I'   ŋa-i-non, ŋa-sen, ŋa-non
       ŋa-ni 'we'   ŋan-sen, ŋa-ni-sen,
       (EXCL)   ŋa-ni-non, ŋan-chen
       ŋa-ni-kade 'we'   ŋa-ni-kade-sen,
       (EXCL)   ŋa-ni-kad-sen
       jaŋ 'we'   jaŋ-no, jaŋ-non,
       (INCL)   jaŋ-sen
       jaŋ-ni-kade 'we' jaŋ-ni-kade-sen, jaŋ-ni-kad-
       (INCL)   sen

(42)   Second Person   Reflexive suffixes
                           <*-non, -no, -sen, -cʰen*>
       ai 'you' (NH)   *ai-sen, ai-non*
       e 'you' (NH)   *e-non, e-sen*
       e-ni 'you' (PL.NH) *e-ni-sen, e-n-sen,*
                           e-ni-cʰen, e-n-cʰen
       e-ni-kade 'you'   *e-ni-kade-sen,*
       (PL.NH)   *e-ni-kad-sen*
       raŋ 'you' (H)   *raŋ-non, raŋ-sen*
       raŋ-ni 'you' (PL.H) *raŋ-ni-sen, raŋ-ni(n)-cʰen*
       raŋ-ni-kade 'you' *raŋ-ni-kade-sen*
       (PL.H)

(43)   Third Person   Reflexive suffixes
                       <*-non, -no, -sen, -cʰen*>
       tʰe 's/he'   *tʰe-non, tʰe-sen,*
       tʰe-ni 'they' *tʰe-ni-sen or tʰe-n-sen or tʰe-ni-*
                       cʰen or tʰe-n-cʰen,
       tʰe-ni-kade   *tʰe-ni-kade-sen or*
       'they'   *tʰe-ni-kad-sen*

In Tilpung VDC in the eastern side of Tama Koshi River and Pinkhuri VDC in the western side of Tama Koshi and down to the Sailung of

Ramechhap (Tamang, 2003: 19, 40), the reflexive suffix in personal pronouns are <-sen> and <-non>. Both reflexive suffixes retain the same semantic value. So, to say <ŋa-sen> or <ŋa-non> reflects the same meaning as 'myself'. Besides, the reflexive suffix <-cʰen> is also employed by the Tamang speakers of Khaharepangu VDC of Kavre district. The suffix marker <-no> is shortened from <-non>. Likewise, affricative sound <-cʰ-> in the suffix <-cʰen> is simplified into fricative sound <-s-> in <-sen>. However, the frequency of usage of reflexive pronoun suffix /-se/ is higher than other ones in the ET.

5 Conclusion

Although the number of personal pronouns in both dialects is not same, almost all personal pronouns in both dialects are identical. The WT has 6 pronouns, e.g. 3 first person, 2 second person and 1 third person. The ET has 7 pronouns, e.g. 3 first person, 3 second person and 1 third person. The morphological construction in personal pronouns in Tamang can be presented as (i) pronoun … root+case marker; (i) pronoun ..root+pl suff, (iii) pronoun … root+pl suff$_1$+pl suff$_2$ (ET), (iv) pronoun … root+pl suff+dual suff (ET), (v) pronoun … root+dual suff+pl suff (WT), and (vi) pronoun … root+refl suff. The morphological construction (ii) is different in WT and ET. (iv) and (v) are just reverse in WT and ET. However, the structure (iv) in the ET retains the meaning of duality, and the meaning of duality fuses into plurality in WT in the structure (v). The hierarchical suffixation can be shown as: Root>Number>Person>Case Marker>. The personal pronouns of the ET are more productive than the WT.

Abbreviations

1	first person
2	second person
3	third person
ABL	ablative
AGN	agentive
COM	comitative
DAT	dative
DU	dual
EMP	emphatic
ERG	ergative
ET	eastern Tamang dialect

EXCL	exclusive
GEN	genitive
H	honorific
INCL	inclusive
N	non
NPST	non-past
NH	non-honorific
PL	plural
pl	plural
PAST	past
REFL	reflexive
refl	reflexive
SG	singular
suff	suffix
suff$_1$	first (plural) suffix
suff$_2$	second (plural) suffix
WT	western Tamang d ialect
LOC	locative

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A PRELIMINARY ACOUSTIC STUDY OF VOWELS AND TONES IN KOKBOROK

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This paper represents the results of acoustic study of vowels and tones in Kokborok, a language of North East India spoken in Tripura. This research work proves that there are six phonemic monophthongs: /i/, /u/, /e/, /ə/, /o/ and /a/. The confusion with the non-peripheral vowel has been a debate for the Bodo-garo languages (see Sarmah et al. 2015) which is described as [ə] or [ɯ] or [ɨ]. This research proves that the non-peripheral vowel is [ə]. From the data collected, there are five diphthongs.

1 Introduction

Kokborok (ISO 639-3, Ethnologue) is a Trans-Himalayan language spoken in the state of Tripura and also in some parts of Bangladesh. According to 2001 census report of India, there were 778,000 speakers in Tripura.This study aims to provide a first preliminary analysis of the acoustic properties of Kokborok vowels and tones. The central vowel is confused whether it is [ɯ] or [ə] or [ɨ] in Kokborok; this has been a debate for the Bodo-Garo languages (see Sarmah et al. 2015). Similarly, Jacquesson (2008) has described the non peripheral vowel as [ɯ] instead of [ə] in Kokborok. The confusion with non-peripheral vowel is proved as [ə] by acoustic study, looking at the vowel space.

When analyzing the vowels, we look into the spectral features and the first two formants. With the help of instrumental acoustic analysis, tones are examined in this language with a comparison to other related languages. We have also discussed a similar tonal pattern in Bodo-Garo languages: Bodo, Dimasa and Rabha.

Kokborok belongs to the Bodo-Garo sub-group of the Tibeto-Burman family, and has thirteen different varieties among which Debbarma, Riang, Halam and Tipra or Noatia are the larger groups.

Debbarma variety, which is the standard variety, is spoken by the members of the royal family and has been the medium of communication within the community for a long time. According to Driem (2014a), Kokborok is clubbed under Brahmaputran in his Fallen Leaves model.

There is not much linguistic work available on Kokborok; few notable works found are the two grammars written by Karapurkar (1976) and Jacquesson (2008), a trilingual dictionary by Debbarma (2001), and a brief description of the structure of Kokborok by Subbarao et.al. (2010). According to F.Jacquesson (2008) there are six vowel phonemes namely, /i/,/u/,/ɯ/,/e/,/o/ and /a/. He described [ə] as [ɯ]; which is purely not a high back vowel looking at the formant frequencies (see figure 1). This vowel is described differently, for instance, [təi] 'water' is transcribed as [tɯɯi] in F.Jacquesson (2008), whereas Joseph & Burling (2001:42) transcribed it as [təi] for 'water' in Kokborok. DeLancey (2012) mentioned that Bodo-Garo languages are similar in phonology, lexicon and grammar.Tone in Kokborok is least studied to date. In Joseph & Burling (2001), the presence of tone in Kokborok is not confidently claimed, due to lack of data, but it was compared with Garo that Kokborok does not have glottal stop, which is assumed that this glottal stop has replaced the tonal feature for high tone in Garo.

2 Methodology

2.1 Speakers

Data were recorded from 5 native speakers of which two are female (AF and MF)) and three are male (SM, NM and DM). The speakers are in the age between 20 to 30 years of age. All the speakers can speak three languages, namely, Kokborok (Debbarma), Hindi and English.

2.2 Materials and recording

The data were recorded using Samson 01 USB, unidirectional, microphone with the help of the praat (v.4.5.04) in which the microphone was

connected straight to the laptop using a USB cable. During the recording the sampling frequency was set at 44100 Hz. The recording was conducted in a quiet room. The sound files were saved in Wav format, and were stored in WD Elements hard drive.

For the acoustic analysis, minimal sets were selected (see section 3, 4 and 5). Each word was recorded in isolation from four speakers with two iterations, and for one speaker the target words were recorded using a carrier phrase for two iterations, see (1).

Carrier phrase: 'I said x' (aŋ sao x), where x is the target word.

3 Monophthongs

3.1 Phonemic analysis of monophthongs

The minimal pairs set from (4) to (11) are constructed to develop a monophthongs phonemic inventory. All these minimal pair sets are elicited from two male speakers; the data are crosschecked with all the native speakers involved in this research.

3.1.1 Monophthongs

(2)	/i/	vs	/u/	
/bisi/	'year'		/busu/	'thorn'
/uɾi/	'ant house'		/uɾu/	'messy'
/kʰi/	'dung'		/kʰu/	'hit'

(3)	/i/	vs	/ə/	
/kʰinai/	'nature call'		/kʰənai/	'hair'
/tɕiŋ/	'best friend'		/tɕəŋ/	'clean'
/bisi/	'year'		/bəsək/	'how much'

(4)	/e/	vs	/ə/	
/belai/	'very'		/bəlai/	'leaf'
/tɕeŋ/	'start'		/tɕəŋ/	'we'
/tɕenai/	'loose'		/tɕəna/	/'glowing'

(5)	/o/	vs	/e/	
/dok/	'six'		/dek/	'cooking vessel'
/bolai/	'attracting'/belai/			'very/extreme'
/oɾo/	'here'		/eɾ/	'spread'

(6)	/a/	vs	/o/	
/ɾa/	'100'		/ɾo/	'give'
/ɕadi/	'say'		/ɕodi/	'pull'
/naɾdi/	'swinging'		/noɾdi/	'remove'

(7)	/u/	vs	/o/	
/uɾo/	'there'		/oɾo/	'here'
/bobuk/	'intestine'		/bobok/	'breast'
/tɕudi/	'wrap'		/tɕodi/	'prison'

(8)	/i/	vs	/o/	
/uɾi/	'ant house'		/uɾo/	'there'
/ɾi/	'cloth'		/ɾo/	'give'
/biɾ/	'fly'		/boɾ/	'mad'

(9)	/ə/	vs	/u/	
/nəŋ/	'you'		/nuŋ/	'drink'
/bəlai/	'leaf'		/bulai/	'fight'
/bəsək/	'how much'		/busuk/	'grandson'

Following the Phonemic principle, the above minimal pairs prove that Kokborok has six phonemic vowels namely, /i/, /u/, /e/, /o/, /ə/ and /a/. So, Kokborok has similar vowel system with other Bodo-Goro languages such as Bodo (Sarmah et.al. 2015)

3.2 Acoustic and statistical analysis monophthongs

For monophthongs, the first two formats, F1 and F2, were calculated at mid point using Burg algorithm. The sounds, which are in Hertz values, were converted to Mel using a Praat's script using the formula (10)

(10) $x = 550 \ln(1 + x/550)$

The formant values in Mel are then normalized for speaker variations using the Labanov normalization method in Norm (Thomas & Kendall 2007).
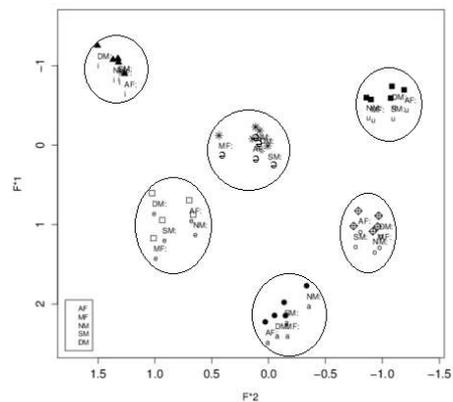

Figure 1: Average Lobanov normalized F1-F2 values for each speaker on same plot.

Figure 1 depicts the average Labanov normalized frequency of the first and second formants of each of the six vowels for each speaker on the same plot. For F1 and F2 mean values and standard deviations, see Table 1. Each individual has different vowel space; this can be due to the variation in size of the oral cavities and the size of the speech articulators by each speaker. So, this proves that Kokborok has six distinct vowels. The acoustic results enable us to conclude that the non-peripheral vowel is [ə]; the F1 and F2 values for [ə] is relatively larger than that of [ɯ] (see table 1).

Table 1: Non-Normalized formant values in Mel for all the speakers with standard deviation in parenthesis.

Vowels	F1 Fem	F1 Male	F2 Fem	F2 Male	F1 All speakers	F2 All speakers
a	516 (40)	455 (30)	711 (44)	681 (31)	481 (46)	694 (39)
e	408 (34)	377 (20)	871 (86)	828 (52)	388 (29)	842 (67)
i	257 (22)	254 (23)	949 (48)	909 (32)	255 (23)	927 (44)
ə	326 (28)	324 (30)	773 (55)	713 (39)	325 (29)	736 (55)
o	408 (28)	393 (19)	567 (31)	575 (63)	399 (24)	572 (53)
u	284 (25)	287 (25)	542 (79)	552 (63)	286 (25)	547 (70)
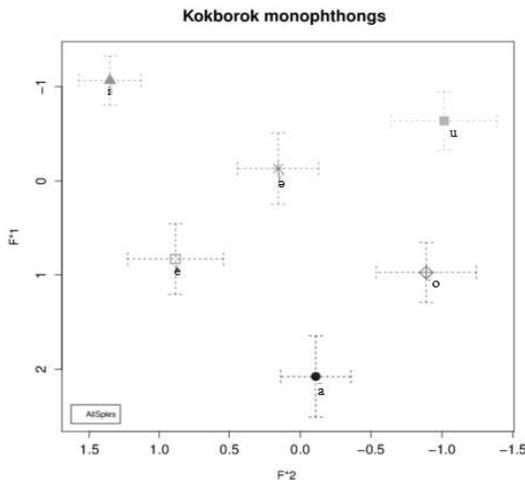
Figure 2: Average Labonov normalized F1 and F2 values for all speakers.

Figure 2 indicates the average Labonov normalized F1 and F2 for all the speakers. This result is the optimal vowel space of Kokborok monophthongs from 5 native speakers. According

to the UPSID corpus of 317 languages (Maddieson 1984), there are mostly five to six contrastive vowels, which are [i] [u] [e] [ə] [o] and [a], found in majority of the languages. There are no more than three vowels in 5.7% of languages, and, at the other extreme, 4.1% of languages have 17 vowels or more. Considering this study, Kokobork has those most common vowel phonemes namely, /i u e ə o a/ in comparison to world languages.
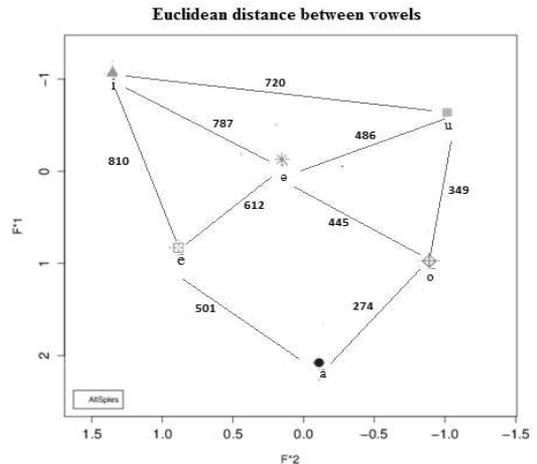

Figure 3: Euclidean distance between vowels.

Figure 3 shows the distance between the vowels. For the calculation to find out the distance between vowels, we used the Euclidean distance calculation formula for two dimensions (11)

$$(11) \qquad d(\mathbf{p}, \mathbf{q}) = \sqrt{(q_1 - p_1)^2 + (q_2 - p_2)^2}.$$

The results show that the distance between /i/ and /e/ is roughly around 800 Mel. The shortest distance between the two vowels is the distance between /a/ and /o/ in Kokborok. In general, /i/ seems to be the farthest vowel in comparison to other vowels. The distance between these vowels can be a further research.

4 Diphthongs

In diphthongs, similar to monophthongs, the two formants were calculated, but at 30% and 70% of the onset of the vowels in order to know their dynamic nature. There are four diphthongs present in Kokborok namely, /ai/, /əi/, /ei/, /oi/ and /ao/. The description is given below from (12) to

(16).While eliciting the data, it is noticed that [ui] and [əi] are free variation. For instance, [sui] (write) can also be pronounced as [səi].

4.1 Diphthong sets

(12)	/mai/	'rice'
	/bai/	'and'

(13)	/təi/	'water'
	/məi/	'curry'
	/pəito/	'faith'
	/bəi/	'stranger'

(14)	/ei/	'exclamation'
	/çeidi/	'snatch'
	/kepei/	'aqua liquid'
	/tei/	'more'

(15)	/tçao/	'eat'
	/kaodi/	'climb again'

(16)	/toi/	'aunty'
	/soi/	'truly'

The above data show that there are five diphthongs in Kokborok. Only one speaker was recorded for diphthong analysis; this was due to lack of resources.
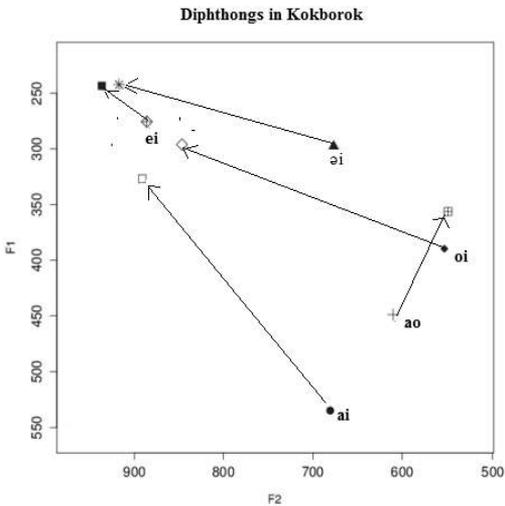
Figure 4: Average F1 and F2 of Kokborok diphthongs at 30% and 70% of the onset of the vowels.

Figure 4 represents the dynamic formant pattern for these diphthongs that are found in this study. It depicts the direction of spectral change in F1 and F2 from the onset points to the offset points for each of the five diphthongs in Kokborok. This study shows that diphthong [ai] and [oi] have relatively low [i] formants. [e] for [ei] seems higher than that of [i] for both [oi] and [ai] diphthongs. Whereas, formants of [i] for [əi] and [ei] are higher when observed carefully (see figure 4)
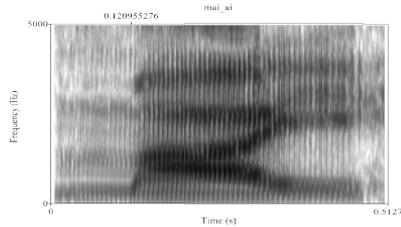
Figure 5: Spectrogram of /ai/ in /mai/ (rice)
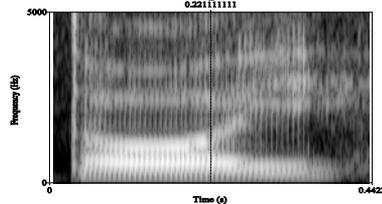
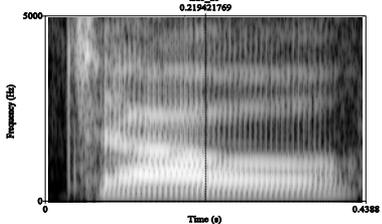Figure 6: Spectrogram of /oi/ in /toi/ (aunty)

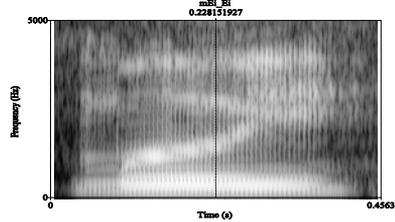Figure 7: Spectrogram of /ao/ in /tçao/ (aunty)
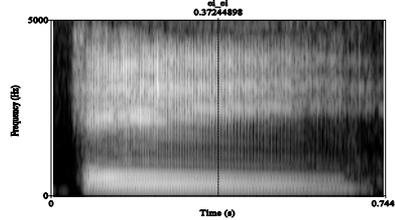

Figure 7: Spectrogram of /əi/ in /təi/ (water)

Figure 8: Spectrogram of /ei/ in /ei/ (exclamation)

5 Tones

The Bodo-Garo languages, a subgroup of Tibeto-Burman, are tonal languages except Garo; tonal

feature in Garo seems to be replaced with glottal stop (see Joseph & Burling 2001). According to Jacquesson (2008) there are two tones. The following minimal pairs are constructed to prove that tone is phonemic in Kokborok. These data are combination of both primary and secondary data; at initial stage, some Debbarma's words (Debbarma 2001) were used. All these data are cross checked with all the subjects, and are recorded to digitize for acoustic analysis.

5.1 Tones minimal sets

The minimal sets from (17) to (31) prove that there are two tonemes in Kokborok. 44 represents the high tone and 22 represents the low tone in all the data.

5.1.1 Tones in mono syllables:

(17) lai^{22} 'easy'
     lai^{44} 'crossed'

(18) boɾ^{22} 'mad'
     boɾ^{44} 'plantation'

(19) kʰok^{22} 'steal'
     kʰok^{44} 'to fetch'

(20) təi^{22} 'water'
     təi^{44} 'spiky'

(21) tʰəi^{22} 'death'
     tʰəi^{44} 'blood'

(22) kʰa^{22} 'to tie'
     kʰa^{44} 'bitter'

(23) hoɾ^{22} 'night'
     hoɾ^{44} 'fire'

(24) ɾa^{22} 'cut'
     ɾa^{44} 'hundred'

5.1.2 Tone is disyllabic

(25) nu^{22}kʰuŋ^{22} 'family'
     nu^{22} kʰuŋ^{44} 'roof'

(26) ba^{22} hai^{22} 'smell'
     ba^{22} hai^{44} 'how'

(27) kə ^{22}lai^{22} 'easy'
     kə ^{22}lai^{44} 'slip'

(28) kə ^{22}pla^{22} 'a hole'
     kə ^{22}pla^{44} 'sweet'

(29) tɕi ^{22}ni^{22} 'our'
     tɕi ^{22}ni^{44} 'sugar'

(30) bo ^{22}ɾok^{22} 'they'
     bo ^{22}ɾok^{44} 'human'

(31) bi^{22}si^{22} 'year'
     bi^{22}si^{44} 'disease'

5.2 Acoustic results of Tones

For tone analysis, the fundamental frequency (F0) is analyzed to describe the tone pattern. The F0 values are extracted, from the TBU (tone bearing unit), at 2% interval of the whole duration of TBU.
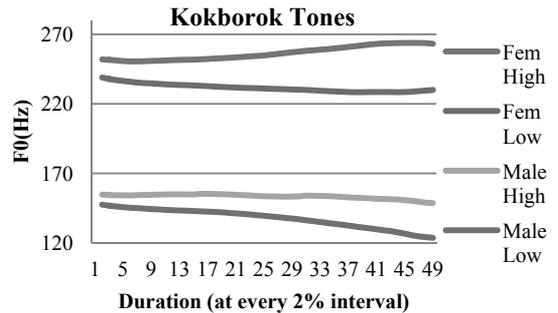

Figure 9: F0 values at every 2% interval of duration for both male and female (duration is compressed due to the size of the graph).

Looking at the F0 values for all the speakers, there are two distinct tones in Kokborok; figure 9 shows the result of these two tones in Kokborok. It is noticed that there is a clear difference between the male and female F0 values, so these differences are accounted in figure 9 and also figure 10. Low tone is the unmarked tone in Kokborok as the majority of the lexical items carry this tone, whereas the high tone is considered as the marked tone. The Frequency differences between the two tones for both male and female are represented in figure 10.
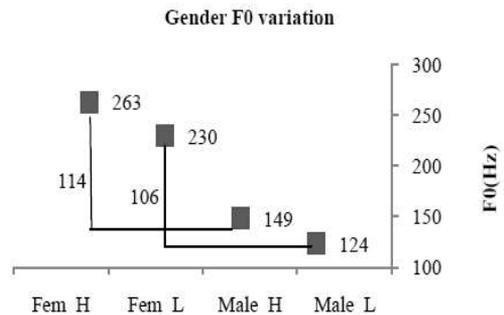

Figure 10: F0 difference between the male and female speakers at 90% time interval.

6 Conclusion

The purpose of the present study was to provide a first systematic acoustic account of vowels and tones of Kokborok produced by 5 native speakers. The results indicate that the subjects distinguished all contrastive vowels and tones in Kokborok. The confusion on non-peripheral vowel is now confirmed as [ə]; therefore the vowel system of Kokborok consist of six vowels namely, /i u e ə o a/. The acoustic results from the diphthong sets indicate that there are five diphthongs in Kokborok. The height of high front [i] vowel for [ai] and [oi] diphthongs are relatively low (see figure 4), than the normal [i] in monophthongs, that it indicate below [e] vowel; this needs further research to understand the phenomenon on these vowels which is not accomplished in this preliminary work. Similar to Bodo, Kokborok also has two tonemes namely, high and low. The marked tone is the high tone in Kokborok. The pitch difference between the male a female speakers show a great variation, yet, there is a clear, distinct difference to show that the two tones are phonemic. In comparing with the other Bodo-Garo languages, Kokborok vowels and tones are closely related to Bodo, Dimasa, Rabha, and Tiwa. Considering the Kokbrorok tonal pattern and the previous works on tones for Bodo-Garo languages (Sarmah & Wiltshire 2009, Joseph & Burling 2001), it can be generalized that in disyllabic words, the tones (low or high) are only assigned in the second syllable whereas in first syllable a default tone (mid/level) is present in Bodo-Garo languages. The reason for this in Kokborok is that, in disyllabic words, the stress is always on the second syllable. Similar pattern in Bodo and Dimasa were also noticed in disyllabic words; the first author has assisted in tone analysis for Mushahary (2015) and Longmailai (2015).

The results presented in this paper, although confined to only 5 speakers with limited data, provide a first indication of the acoustic properties of Kokborok vowels and tones. As such, they constitute a meaningful starting point for future work, and contribute to the ongoing work on Bodo-Goro languages.

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COMPLEMENT TYPES IN MAITHILI

Dev Narayan Yadav

This paper presents the major complement types in Maithili. These are: NP, AP and VP complements. The finite complements are like independent clauses which carry their own tense and aspect and express their subjects directly. Non-finite clauses are infinitival, nominalized, and participial.

Keywords: Maithili, complement clauses, infinitival, participal

1 Complement clauses

By complementation we mean the syntactic situation that arises when a notional sentence or predication is an argument of a predicate. A predication can be viewed as an argument of a predicate if it functions as the subject or object of that predicate Noonan (1985:42). Functionally, complement clauses or verbal complements are clauses that function as subject or object arguments of other clauses (Givón 2001b: 39). According to Noonan (1985: 44-45), "A word, particle, clitic, or affix whose function is to identify the entity as a complement. Such forms are known as complementizers." The complementizers in Maithili are *je*, *ki*, *je ki*, *se* – all meaning 'that' and zero complementizer. According to Singh (1979:185), Maithili has two main complementizers: *je*, (comparable to Hindi *ki*, and Bengali and Oriya *je*,) and '*ək-əb*' (comparable to Hindi *kaa-naa* and Bengali *er-a*). The former is a finite complementizer and in that sense similar to that-comlementizer in English, while the latter is an indefinite complement marker. Yadava (1998) mentions Maithili grammar presents a contrast between two kinds of embedded clauses: verb complements and noun complements. NP consists of a demonstrative adjective/pronoun*: i/se*, representing the preceding embedded clause and an (optional) N from the following set. Noonan (1985:47) mentions "Complementizers typically derived historically from pronouns, conjunctions, adpositions or case markers, and rarely verbs and so may resemble words currently used in these capacities". In this section, we discuss different types of complementizers -*je*, *ki*, *se* or *jeki*

(comparable to '*that*' complementizer in English) and '*ək-əb*' (comparable to Hindi '*kaa-naa*') in Maithili.

2 Complement types

Complement clauses may precede or follow the matrix clause. The complement clause may be either finite (i.e. tense-bearing) or non-finite (see Kroeger 2005:220). Thus, the forms of the complementizer may vary. Complement clauses licensed by lexico-semantic classes of Maithili predicates have been presented with formal description and later matched with the semantic groups of the predicate they are subcategorized for. It has been found that Maithili has two major forms of complement clauses: finite and non-finite. Both these forms, which can occur as subject or direct object, are selected by the intrinsic properties of the predicates which require them (Yadava, 2008).

There are three types of complement clauses which are as follows:

i. NP Complement

ii. AP Complement

iii. VP Complement

2.1 NP complement

The noun phrase (NP) complement with a clause complement may consist of a clausal complement in apposition to an abstract nominal or pronominal need, or simply a clausal complement.
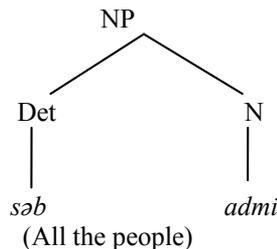

Figure 1: NP complement

In other words, noun phrase complement concerns itself with the study of the process of noun phrase complementation in Maithili. The embedded S

can occur as a complement of the subject noun, as in sentence (12a) or as a complement of the object noun as in sentence (12b) (Subbārāo, 1984: 1).

(1) a. *i*   *səmbhəvabna*   *əich*
        i   səmbhəvabna   əi-ch
        it   possibility   AUX-PRES.3NH
        je   *səb*   *bidyarthi*
        je   səb   bidyarthi
        COMP   all   student
        æl
        æ-l
        come-PST.3NH
        'There is possibility that all students came.'

   b. *həm*   *hunkasəbhək*   *əebak*
       həm   hun-ka-səbh-ək   əe-bak
       1SG   3H-DAT-PL-GEN   come-GER
       khəbər   *sunləũh*
       khəbər   sun-l-əũh
       news   hear-PST-1.3H
       'I heard the news of their coming.'

The embedded sentence occurs as a complement of the subject noun: *bidyarthi* 'student', as in (1a) and a complement of the object noun: *hunkasəbhək* 'their' as in (1b). In normal spoken style it is more natural to rephrase such sentences using a dummy subject. This construction is called extraposition. Let us consider the following examples that illustrate NP complement and extraposition from NP too.

(2) a. *həm*   *i*   *bat*
        həm   i   bat
        1SG   this   fact
        je   *həri*   *bimar*
        je   həri   bimar
        COMP   Hari   sick
        chəl   *kəhləũ*
        ch-əl   kəh-l-əũ
        be-PST.3NH   say-PST-1
        'I said it that Hari was sick.'

Extraposition from NP

   b. *həm*   *i*   *bat*   *kəhləũ*
       həm   i   bat   kəh-l-əũ
       1SG   this fact   say-PST-1
       je   *həri* *bimar*
       je   həri   bimar
       COMP   Hari   sick
       chəl
       ch-əl
       be-PST.3NH
       'I said it that Hari was sick.' (Nominal)

   c. *həm*   *həri*   *bimar*   *ch-əl*
       1SG   Hari   sick   be-PST.3NH
       se   *bat*   *kəhləũ*
       se   bat   kəh-l-əũ
       that   fact   say-PST-1
       'I said it that Hari was sick.'

Sentences (2 b and c) are the examples of extraposition of NP of the sentence (2a) as these sentences are the paraphrase of the sentence (2a) and the position of the NP 'Hari' is extraposed in both the sentences.

(3) a. *həmra*   *i*   *bat*   *je*
        həm-ra   i   bat   je
        1SG-ACC/DAT this   fact   COMP
        ahã   *khisia*   *geləũh*
        ahã   khisia   ge-l-əũh
        2SG.H   be angry go-PST-2H
        bujhael
        bujhae-l
        feel-PST.3NH.1
        'I felt that you became angry. '

Extraposition from NP

   b. *həmra*   *bujhael*
       həm-ra   bujhae-l
       1SG-ACC/DAT   feel-PST.3NH.1
       je   *ahã*   *khisia*
       je   ahã   khisia
       COMP   2SG.H   be angry
       geləũh
       ge-l-əũh
       go-PST-2H
       'I felt that you became angry. '

   c. *həmra*   *ahã*   *khisia*
       həm-ra   ahã   khisia
       1SG-ACC/DAT 2SG.H   be angry
       geləũh   *se*   *bujhael*
       ge-l-əũh   se   bujhae-l
       go-PST-2H   that   feel-PST.3NH.1
       'I felt that you became angry.'

Sentences (3b and c) are the examples of extraposition of NP of the sentence 3a as the sentences (3 b and c) are the paraphrase of the sentence (3a) and the position of the NP *ahã* is extraposed in both the sentences.

2.2 AP complement

In Maithili, there are a number of adjective phrases. The internal structure of adjective phrases consists of head and modifier. The head of an adjective phrase is realized by an adjective. The function modifier may be realized by a

constituent following the head (post-modifer) and by an interrupted constituent on either side of the head (discontinuous modifier). The figure 2 illustrates this fact.
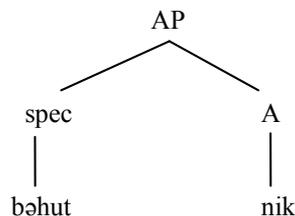

Figure 2: AP complement

The adjective phrases help to complete a sentence. When it plays a role as a complement, we call it adjective phrase complement. Consider the following examples.

(4) a.　*i*　　*nik*　　*bhel*　　*je*
　　　i　　nik　　bh-el　　je
　　　it　　nice　　be-PST　　COMP
　　　əhã　　*ciṭhi*　　*pədhləũ*
　　　əhã　　ciṭhi　　pədh-l-əũ
　　　2SG.H　　letter　　read-PST-2H
　　　'It was nice that you read the letter.'

　　b.　*i*　　*bəḍhiya*　　*nəi*　　*bhel*
　　　i　　bəḍhiya　　nəi　　bh-el
　　　it　　good　　Not　　be-PST
　　　je　　*əhã*　　*paḍhai*
　　　je　　əhã　　paḍhai
　　　COMP　2SGH　study
　　　chorləũh
　　　chor-l-əũh
　　　leave-PST-2H
　　　'It was not good that you discontinued your study.'

　　c.　*i*　　*əhãk*　　*məhanta*
　　　i　　əhã-k　　məhanta
　　　it　　2SG.H-GEN　　greatness
　　　əich　　*je*　　*okra*
　　　əi-ch　　je　　ok-ra
　　　be-PRES　　COMP　　3SG.NH-DAT
　　　maph　　*kə*　　*deliyaəi*
　　　maph　　kə　　de-l-iyaəi
　　　forgive　　do　　give-PST-2H.3NH
　　　'It is your greatness that you forgave him.'

The adjective phrases *nik bhel* 'was good' in (4a), *bəḍhiya nəi bhel* 'was not good'in (4b), and

məhanta əich 'be greatness' (4c) help to complete the sentences.

2.3 VP complement

The term verb complement refers to the description of the complement taking properties of verbs, i.e. which complements they take and how these complements are realized.

a. Finite

　i. *Je*-type comp

b. Non-finite

　i. Infinitive comp
　ii. Nominal comp
　iii. Participial comp

Consider the following examples that illustrate the verb phrase (VP) complements:

(5)　a.　*o*　　*kəhləinh*　　*je*
　　　o　　kəh-l-əinh　　je
　　　3SG.H　　say-PST.3H　　COMP
　　　həm　　*bimar*　　*chələũh*
　　　həm　　bimar　　ch-əl-əũh
　　　1SG　　sick　　be-PST-1
　　　'He said that he was sick.'

　　b.　*həm*　　*jənəit*　　*chi*
　　　həm　　jən-əit　　ch-i
　　　1SG　　know-IMPERF　　be-PRES
　　　je　　*rajiw*　　*bəḍ*
　　　je　　rajiw　　bəḍ
　　　COMP　　Rajiv　　much
　　　cəlak　　*əich*
　　　cəlak　　əi-ch
　　　clever　　be-PRES.3NH
　　　'I know that Rajiv is very clever.'

　　c.　*məusəmbid*　　*kəhlək*
　　　məusəmbid　　kəh-l-ək
　　　meteorologist　　say-PST-3NH
　　　je　　*kailh*　　*pain*
　　　je　　kailh　　pain
　　　COMP　　tomorrow　　water
　　　pərət
　　　pər-ət
　　　fall-FUT
　　　'Meteorologist said that it would rain tomorrow. '

　　d.　*o*　　*kəhləinh*　　*je*
　　　o　　kəh-l-əinh　　je
　　　3SG.H　　say-PST-3H　　COMP
　　　mohən　　*nirdos*　　*əich*
　　　mohən　　nirdos　　əi-ch

Mohan innocent AUX-PRES.3NH
'He said that Mohan was innocent'

In the examples (5 a-d), complements are realized by the verbs *kəhlək/kəhləinh* 'said'and *jənəit* 'know'.

There are two categories of complement clauses regarding the finiteness:

i. Finite
ii. Non-finite

i. Finite

The finite complements are like independent clauses, as evidenced by the following characteristics:

i. They carry their own tense and aspect.
ii. They express their subjects directly; subject reference is not restricted to that of the matrix clause (Payne, 1997: 314).

Some examples of finite complements follow:

(6) *həm*   *jənəit*   *chi*
    həm   jən-əit   ch-i
    1SG   know-IMPERF be-PRES.1
    je   *həri*   *bimar*
    je   həri   bimar
    COMP   Hari   sick
    chəl
    ch-əl
    be-PST.3NH
    'I know that Hari was sick.'

In (6) *je həri bimar chəl* 'that Hari was sick' is a finite complement which has its own tense and aspect as its tense is past and aspect is perfective.

Prototypical complement clauses behave like independent clauses

i. Subject and tense/aspect can be expressed within them.
ii. For this reason, the complementizer *je* often becomes redundant and is often omitted in discourse.

A finite complement clause which functions as subject may be extraposed.

(7) *u*   *Nirdos*   *əich*
    u   Nirdos   əi-ch
    3SG   Innocent   AUX-PRES.3NH
    se   *gələt*   *əich*
    se   gələt   əi-ch

that false AUX-PRES.3NH
'That he is innocent is false.'

But, when it is extraposed, the complementizer *se* is replaced by *je* that can be seen in (8):

(8) *i*   *gələt*   *əich*
    i   gələt   əi-ch
    this   false   AUX-PRES.3NH
    je   *u*   *nirdos*
    je   u   nirdos
    that   3SG.NH   innocent
    əich
    əi-ch
    AUX-PRES.3NH
    'That he is innocent is false.'

It is to be noted that the complementizer *se* may be followed by *bat* 'fact'. If so then its transposition is a case of extraposition from an NP, e.g.

9a. *həm*   *jənəit*   *chi*
     həm   jən-əit   ch-i
     1SG   know-IMPERF   be-PRES.1
     (je)   *həri*   *bimar*
     (je)   həri   bimar
     COMP   Hari   sick
     chəl
     ch-əl
     be-PST.3NH
     'I know that Hari was sick.'

b.   *hərikẽ*   *həm*   *jənəit*
     həri-kẽ   həm   jən-əit
     Hari-ACC   1SG   know-IMPERF
     chi   *(je)*   *u*
     ch-i   (je)   u
     be-PRES.1   COMP   3SG.NH
     bimar   *chəl*
     bimar   ch-əl
     Sick   be-PST.3NH
     'I know that Hari was sick.'

In sentence (9b), the NP of (9a) is extraposed.

ii. Nonfinite

The non-finite verb phrase consists of non-finite elements infinitive, nominal and participle complement. "The non-finite complements are more tightly knit, less independent, less like a separate cause from the matrix clause than are finite complements. Non-finite complements tend to have the following properties" (Payne 1997: 315):

i. The identity of the subject is highly constrained. It often must be identical to the subject of the matrix verb.

ii. Tense, aspect, and mode are highly constrained or not specified at all. The complement verb is usually non-finite.

Non-finite clauses in Maithili can be of the following types (cf. Yadav, 1996):

a. Infinitival complement

The term infinitive has been used for rather different sorts of syntactic entities. The word infinitive itself, meaning not limited (e.g by person, number, tense), would suggest itself for use with complement types that do not express inflectional distinctions. The predicates require the subject of the main clause to be identical and coreferential with the subject of the complement clause. The predicates that take infinitival complements are:

(10) *sikhəb*   ' to learn'
      chorəb   ' to give up'
      bisarəb   'to forget'
      lagəb   'to begin'
      cahəb   'to want'
      kinəb   'to buy' and so on.

The examples (11a-b) illustrate the infinitival complements:

(11) a. *u*   *am*   *kinə*
          u   am   kin-ə
          3SG.NH   mango   buy-INF
          cahait   *əich*
          cah-əit   əi-ch
          want-IMPERF   be-PRES.3NH
          'He wants to buy mango.'

      b. *gita*   *lokgit*   *gabə*
          gita   lokgit   gab-ə
          Gita   folksong   sing-INF
          bisəir   *gelah*
          bisəir   ge-l-ah
          forget   go-PST-3H
          'Gita forgot to sing folksongs.'

The infinitival complements in the examples (11 a-b) are illustrated by the predicates *kinə* 'buy' (11a), and *gabə* 'sing' (11b).

b. Nominalized complement

A nominalized complement is a predication with the internal structure of noun phrase. It is a predicate which gets nominalized and assumes the form of a verbal noun, and takes over role of head noun of the noun phrase. The arguments may assume associative (genitival) relations with the predicate. The nominalized predicate bears a genitival relation with its subject and assumes a gerundival form. Such a nominalized complement may also be called a genitive-gerund type complement, and usually (but not necessarily) it takes a commentative predicate. Consider the following examples:

(12) a. *okra*   *pəʈhəb/pəʈhnai*
          ok-ra   pəʈhəb/pəʈhnai
          3sg.nh-dat   read-ger
          nik   *ləgait*
          nik   ləg-əit
          good   take-imperf
          chəik
          ch-əik
          be-pres.3nh
          'He likes reading.'

      b. *həmra*   *okər*
          həm-ra   ok-ər
          1SG-ACC/DAT   3SG.NH-GEN
          hə̃snai/hə̃səb   *nik*   *nəi*
          hə̃s-nai/hə̃s-əb   nik   nəi
          laugh-GER   good   not
          ləgait   *əich*
          ləg-əit   əi-ch
          take-IMPERF   be- PRES.3NH
          'I do not like his laughing.'

The nominalized complements in the esamples (12 a-b) are illustrated by the commentative predicates *pəʈhəb /pəʈhnai* 'read' and (12a), *hə̃snai/hə̃səb* 'laugh' (12b).

c. Participial complement

Noonan (1985: 62) mentions, "Participles are adjectival or adverbial forms of verbs. The role of participles in complementation is usually limited even in languages that make extensive use of participles. The reason for this is that, in their role as adjectives, participles are not the heads of constructions, but rather modify some noun which functions as the head, i.e. in complementation participles function as attributive not predicate, adjective." They occur with immediate perception predicates such as *see, hear, watch and feel* in English as Noonan (1985: 129) points out. In Maithili, participial complements play a rather

restricted role in complementation and typically use predicates of immediate perception, such as *dekhəb* 'to see', *sunəb* 'to hear'. These predicates are marked either by the present participial *-əit* or by the past participial *-əl* (Yadav 1996:351): Participial complement in Maithili is presented in the sentences (13 a-c).

(13) a. *ki   əhã   sãpke*
        ki   əhã   sãp-ke
        what   2SG.H   snake-ACC/DAT
        kəhiyo   nəcəit   dekhne
        kəhiyo   nəc-əit   dekh-ne
        ever   dance-IMPERF   see-PERF
        chi?
        ch-i
        AUX-PRES.2H
        'Have you ever seen a snake dancing?'

     b. *həm   Sitakẽ   kheləit*
        həm   sita-kẽ   khel-əit
        1SG   Sita-ACC/DAT   play-IMPERF
        dekhliəik
        dekh-l-iəik
        see-PST-1.3NH
        'I saw Sita playing.'

     c. *həm   oi   məugikẽ*
        həm   oi   məugi-kẽ
        1SG   that   woman-ACC/DAT
        jorjorsə̃   kənəit
        jorjorsə̃   kən-əit
        laudly   weep-IMPERF
        sunəliəik
        sun-əl-iəik
        hear-PST-1.3NH
        'I heard that woman weeping loudly.'

In the examples (13 a-c), the predicates of immediate perception *dekhəb* 'to see' and *sunəb* 'to hear' are marked by the present participial *-əit* as *nəcəit* 'dancing' (13a), *kheləit* 'playing' (13b) *kənəit* and 'weeping' (13c). Participial complement in (13 a-c) occurs as verbal modifier, i.e. as adverbs.

d. Oblique complement

In Maithili, oblique falls into two main classes: argument and adjuncts. The distribution of arguments is governed by potentially idiosyncratic specification on verb (or other predicates). Adjuncts, on the other hand, appear whenever they would be semantically appropriate. In fact, we shall see that it is reasonable to think of the argument/adjunct distinction as overlapping the core/oblique distinction, with all core NPs and some obliques being included in the class of arguments. Adjuncts, on the other hand, always seem to exhibit behavioral similarities to A, S and P.

14 a. *həm   okra*
        həm   ok-ra
        1SG   3SG.NH-ACC/DAT
        pəʈhbaklel   kəhliəik
        pəʈh-bak-lel   kəh-l-iəik
        read-GER-OBL   say-PST-1.3NH
        'I told him to read.'

     b. *həm   sitakẽ*
        həm   sita-kẽ
        1SG   Sita-ACC/DAT
        bəisbaklel   kəhliəik
        bəis-bak-lel   kəh-l-iəik
        sit-GER-OBL   say-PST-1.3NH
        'I told Sita to have a seat.'

In (14 a-b) the oblique complements are marked by gerundial ablique forms *pəʈh-bak-lel* and *bəis-bak-lel* respectively.

3 Conclusion

Complementizers in Maithili are *je, ki, se, jeki, ək-əb* and *zero*-strategy. Complements can be classified according to their use in Maithili. It has two major forms of complement clauses: finite and non- finite. Both these forms, which can occur as subject or direct object, are selected by the intrinsic properties of the predicates which require them. The major complement types are NP complement, AP complement, and VP complement. Verb complements are further divided into finite and non-finite complements. The finite complements are like independent clauses which carry their own tense and aspect and express their subjects directly; subject reference is not restricted to that of the matrix clause. Non-finite clauses are infinitival (*sikh-əb, chor-əb, bisər-əb, lag-əl, cah-əb, kin-əb*), nominalized (*ge-nai, ae-bak, khel-əb*), and participial (verb+*ait/əl*). Except this, distribution of complement within sentences are subject complement, object complement, and oblique complement.

Abbreviations

1   first person
2   second person

3	third person
ACC	accusative
AUX	auxiliary
COMP	complementizer
DAT	dative
FUT	future tense
GEN	genitive
H	Honorific
IMPERF	imperfective aspect
INF	infinitive
NH	non honorific
PER	perfective aspect
PL	Plural
PRES	present tense
PST	past tense
SG	singular

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KEYNOTE SPEECH: 35TH ANNUAL CONFERENCE
OFTHE LINGUISTIC SOCIETY OF NEPAL

Jaya Raj Acharya

Mr. Chairman, distinguished linguists and scholars from Nepal and abrolad and adies and gentlemen

First of all, I would like to thank the organizers of the 35th annual conference of Linguistic Society of Nepal for inviting me to speak here. Unfortunately, it's been quite long since I have left the field of linguistics although I studied it with a certain degree of passion in the past. I have just now revisited the field and published a book this year in 2014 entitled in Nepali *Bhashavijnanko Saiddhantik Vimarsha* (A Theoretical Discussion on Linguistics). However, I accepted the request to speak today with a considerable diffidence owing to time constraint on my part.

I know the study of linguistics in Nepal has taken long strides and has moved far ahead since I drifted from the field. I see also that the Linguistic Society of Nepal has travelled a long a way in the past 35 years. The number of participants and the list of papers to be presented in this conference give a very satisfying picture. It is remarkable that scholars of 26 universities and ten research centers from ten countries are going to present about 100 papers in the conference. I am sure the quality and depth of the papers will be just as satisfying as the variety of their topics. It was not like this when LSN started in 1979.

I remember when I was a student in the Department of English in the mid-1970s there was no separate department of Linguistics in Tribhuvan University. I studied some linguistics as compulsory courses of Master's degree in English. Earlier, I had started my education with Panini's Sanskrit Grammar. Contrary to general misconception among our educated elite, I found his grammar very descriptive, not prescriptive. We all know that Nepali, like many other languages of India, is a descendant of Sanskrit.

But to my utter surprise I found also that the Nepali grammar taught at our schools and colleges was influenced not by Panini's Sanskrit grammar but by traditional English grammar! The definitions and classifications of Nepali forms had strong imprint of traditional English grammar.

So I wrote my Master's thesis on the influence of traditional English Grammar on the Nepali grammar being taught in Nepal. The actual title of my thesis was *The Influence of J. C. Nesfield's Idiom, Grammar and Synthesis on Somanath Sharma's Madhyachandiraka.* Later on, I came to realize that Panini's categorization of Sanskrit words just into two classes as *Subanta* and *Tinganta* was not different from Chomsky's NP and VP – the first two branches under the S node of the tree structure. Even the case grammar of Fillmore, refined later on by Chafe, had its roots in Panini's case system. His system said: *kriyanvayitvam karakatvam, kriya va karakanvita,* or *sarvam vakyam kriyayam parisamapyate*, indicating the centrality of the verb in determining the structure of a clause. Let me not go into it at the moment as this is not a place for me to expatiate on it.

Now I understand that there is a Department of Linguistics in the Kirtipur campus of Tribhuvan University. So I believe that the teaching faculty and the students in the Department are studying well and that they would be doing an important work in the detailed linguistic survey of Nepal and also producing dictionaries and descriptive grammars of the languages that may be at the verge of extinction. It is reported by the national census of 2011 that there are about 120 languages in Nepal, some of which have less than a thousand or even one hundred speakers. Can we record their vocabularies in whatever basic dictionaries

and produce, at least, a sketch of their grammatical structure before they die?

I hope also that the Linguistic Society of Nepal will not only influence the program of studies and research in the Department of Linguistics in TU but also be involved directly or indirectly in the linguistic survey of the country. I feel that we need an army of young linguists at this moment in Nepal's academic history. I also feel very strongly that instead of going into greater details of some semantic nuances of certain particles in a language, we should be compiling its dictionary and writing its basic descriptive grammar before it is lost. Then we can move further into its detailed study of all the unique features.

I am talking in Nepal's context. So my conviction is that you are not a well-trained linguist if you cannot write a descriptive grammar of the language that you did not know before. Writing the grammar of a new language involves a discovery process that may be very long and tedious. We have to describe the language at phonological, morphological, syntactic and semantic levels as exhaustively as possible. We have to search for minimal pairs to establish the phonological inventory, isolating allophones from its phonemes. Then we have to discover and establish the morphemes, allomorphs and morphophonemic features of the language. There may be supra-segmental features making semantic differences. We may then move to describe its phrase and clause structures. For objectivity, one may choose the corpus — a written text, or if the language is still not written, then one may have to record it as spoken by its native speakers whom we call informants. Mastery of IPA is *sine qua non*. It may take years for us before we produce a good descriptive grammar of any unwritten language of Nepal. We have to do it, or no one else will do it for us.

Some of you may guess why I am emphasizing the need of descriptive grammar of our languages at the verge of extinction. If you think I am talking about it only because my Ph. D. dissertation at Georgetown University in Washington D.C. was *A Descriptive Grammar of Nepali and an Analyzed Corpus,* you are wrong. Of course, I wrote that dissertation to fulfill the requirement of my doctoral degree in theoretical linguistics. They liked it because there was no such descriptive grammar of Nepali describing it at all levels — phonological, morphological and syntactic levels. The book also describes Nepali in its social/national context so Georgetown University Press published it immediately in 1991. I have described the clause and sentence structures of Nepali choosing *Naso,* a famous short story by Guru Prasad Mainali as my corpus. I have not invented or concocted anything to fit my own clauses and sentence patterns. What I really mean to say is that we have to write descriptive grammars of our languages objectively based on corpus analysis. We need such grammars of all our languages that may be dying soon. Dictionaries of those languages are indispensable too.

It is a welcome development that the Government daily newspaper *Gorkhapatra* publishes materials in at least 28 different languages from Nepal. I see materials in Awadhi, Bajjika, Baram, Bhojpuri, Bhote, Danuwar, Dhimal, Jirel, Kiranti-Koich (Sunuwar-Mukhiya), Kisan, Kumal, Limbu, Lhomi, Magar, Maithili, Majhi, Marwadi, Nepal Bhasha (Newari), Rai, Rajbanhshi, Sherpa, Tajpuriya, Tamang, Tamu (Gurung), Thami, Tharu, Uraon and Urdu. I see that most of them are written in Devanagari; only some are written in their own script such as Bhote, Limbu and Persian (for writing Urdu). It would be very useful if the writers of material in *Gorphapatra* would also indicate (1) the location or district(s) of Nepal where the language is spoken, (2) the name of the ethnic community that speaks it, (3) the number of its speakers as reported in the national census and (4) the name of the language family that it belongs to. It is said there are Indo-European, Tibeto-Burman, Dravidian and Austro-

Asiatic language families in Nepal. There may be even more.

In this context I am induced to wonder about all these languages and their dialects, particularly the Rai language for instance. I have seen the Gorkhapatra publishing materials in Ambuley or Bambuley, Bantawa, Chamling, Dumi, Koyi, Puma and Yamphu dialects of Rai. It is reported that there are also Bahing, Chhiling, Chhintang, Dungmali, Hayu, Jerung, Khaling, Kulung, Lingkhim, Lohorung, Mewahang, Nachhiring, Sam, Sampang, Sunuwar, Thulung, Tilung, Umbuley and Yakkha dialects. May be there are even more. Now the question is: Are they the dialects of the same language, or are they totally different languages? What do the speakers of those dialects say about it? And how do the linguistic surveyors — some of them may be here in this very hall — determine the difference, and make a decision to treat one as a dialect or a different language altogether?

Now, may I say a little about the writing system? There are many Indo-European languages that are written in Devanagari script. But in Nepal we have many Tibeto-Burman languages that have not been written or transcribed yet. If they will be written at all, which script would they be written? As a linguist one would like to transcribe them undoubtedly using International Phonetic Alphabet (IPA). But for more practical purposes they may be written in Devanagari, although it may not as accurate at IPA. I have seen some works in Magar and Gurung languages written in Devanagari.

I do not know how much of field work the linguists of Nepal have already done. We should be producing graduates who can produce, at first, good descriptive grammars of the languages at the verge of extinction. For us, that is an urgent task at hand. Then they can explain further the very distinctive or unique features of the language in question.

Nepal as a country is a great linguistic laboratory. It is also a living lab for sociologists and anthropologists. Sociology, anthropology and linguistics are in fact all interrelated. So I would venture to suggest that the departments of linguistics and sociology-anthropology offer interdisciplinary courses and encourage the students and researchers to study these fields ensemble. Such studies will be useful for us as we are talking, at this historic juncture of Nepal, about its transformation into a federal republic. It has not been an easy task for us to do so as we can see that the First Constituent Assembly was dissolved without promulgating the constitution of new Nepal.

The second CA is also finding it very hard to agree on the federal states to be divided on ethnic, linguistic or geographic divisions. So let us not think about linguistics as something so esoteric or so academic that we can discuss about it in the ivory tower tucked away from our society or our national challenges.

It is the unitary state of Nepal owing to its very liberal nature that has preserved so many languages and ethnic identities in such as small area of land so far. We are not sure how in the age of globalization the languages of old and small communities will survive. Even Nepali, the national language of Nepal, may be under threat of extinction battered by global languages such as English. Linguists will have a great role to play in their preservation at least through their descriptive works.

I want to welcome and congratulate the organizers as well as the participants of this conference. As I said it before, it is a very satisfying experience to see the progress LSN has made in all these years. I am sure it will make even more impressive strides in the years to come. I hope that there will be more works on the indigenous languages of Nepal. I have all the best wishes for you all.

Thank you.

PRESIDENTIAL SPEECH: 35TH ANNUAL CONFERENCE
OF THE LINGUISTIC SOCIETY OF NEPAL

Bhim Lal Gautam

On behalf of Linguistic Society of Nepal, first of all, I would like to express my sincere thanks to Professor Dr. Churamani Bandhu, the founding member of Linguistic Society of Nepal for gracing and inaugurating the 35th Annual Conference of Linguistic Society of Nepal as the chief guest. I would like to extend my gratitude to the guests on the dais. Dr Jaya Raj Acharya, the key note speaker, linguist and an experienced diplomat, Prof. Dr. Parasar Koirala ,Chairman,University Grants Commission, Prof. Dr. Hira Bahadur Maharjan,Vice-Chancellor,TU, Prof. Dr. Jai Raj Awasthi VC, Far Western University ,Prof.Dr. Jibendra Deo Giri, Member Secretary Nepal Academy, Professor Dr Dan Raj Regmi, Head, Central Department of Linguistics, Former Presidents of Linguistic Society of Nepal and other distinguished guests and linguists from home and abroad on this august gathering.

 Let me begin my feelings with the idea of one of the famous linguists of this time Miki Makihara. "In recent years, new discourses and ideologies of language rights and endangerment have emerged in the context of increasingly effective indigenous and minority movements around the world. A growing pride in and appreciation for local histories, cultures, and languages have led communities to devote effort and resources to Recovering, documenting, and revitalizing cultural traditions and languages and to establishing and improving bilingual and multicultural education programs."(Miki Makihara: 2005)This indicates the linguistic diversity and newly developed language contact situation and multilingualism that have survived under shifting language ideologies, and despite a long term national negligence in Nepal. I feel pleasure standing in front of this august gathering that has become the common festival every year on November 26 -27 since 1979.Over the past three decades and more, Linguistic Society of Nepal has encouraged many young academicians and institutions towards 'Linguistic diversity' and nurtured 'linguistic culture' in Nepal.

Today, I would like to divide the bygone years of Linguistic Society of Nepal into three different stages .i.e. Early age (before 1996),Middle age (1996 to 2008) and Modern age (2008 and after).Those were the days in 1980s and 1990s when our respected pioneers and eminent linguists like Prof. KP Malla, Prof. C.M. Bandhu ,late Prof.Ballav Mani Dahal, Prof. TR Kansakar, Dr. Ram Awatar Yadav, Prof, Abhi Subedi , Prof. Nirmal Man Tuladhar, Prof. CP Sharma, Dr. Subhadra Subba and many others who have made a substantial contribution in laying foundation in this discipline. I prefer to say this period as the

The establishment of the Central Department of Linguistics at Tribhuvan University in 1996 is another era for Linguistic Society of Nepal's history. The department developed itself into an incomparable pioneering center of learning and research in linguistics in Nepal. It has produced 102 MA graduates with the dissertations on various areas of Nepalese languages and linguistics and 12 PhD graduates .Besides CDL has played the leading role on various research programs like CPDP(Chhintang Puma Documentation Program), Baram (Linguistic and Ethnographic Documentation of the Baram language) Project(SOAS), Bhasasanchar and Linguistic Survey of Nepal Project. The leaders after that Prof. Y.P. Yadava, Prof. Madhav Pokharel, Prof. Novel Kishor Rai and their team members developed and explored the wide horizon of linguistic diversity in Nepal focusing the preservation and documentation of Nepalese languages.

The official and legal registration of the Linguistic Society of Nepal in 2008 is the modern era. Since then Linguistic Society of Nepal has become the independent institution. The leaders including Prof. Jai Raj Awasthai, Prof. Gobinda Raj Bhattarai ,Prof. Dan Raj Regmi and Mr. Krishna Prasad Parajuli made their remarkable contributions and established LSN as one of the oldest and matured organizations in Nepal. No other discipline in Nepal has experienced such a rigorous journey and growth in its content and

structure. As a result, Linguistic discourse and activities in Nepal have crossed all the traditional boundaries.

This year we have about 100 papers to be presented in more than 25 different themes and areas of linguistic studies. The papers on 48 different languages from 10 different countries and 26 different universities and 10 institutions including home and abroad motivate the young scholars to think over and practice the latest theories and technologies in Linguistic study and research. At this moment, I would like to focus the following issues that still need to be addressed in order to maintain the linguistic and cultural harmony in Nepal.

1. The establishment of language academy in order to manage language and linguistic issues in Nepal.
2. The government of Nepal should realize LSN as a form of expertise required to preserve and promote different languages in Mother Tongue Education and other uses.
3. The Linguistic Survey of Nepal project should be given the highest priority from the government by restructuring its structure and objectives for new federal Nepal.
4. LSN should make everybody feel proud that he/she speaks a language which has local as well as national importance.

It gives me pleasure to mention the names of many institutions and organizations to make this mega event successful. I, on behalf of LSN would like to express my sincere gratitude to Nepal Academy, University Grants Commission, Ganeshman Singh Multiple Campus, Kalanki, Central Department of Linguistics, TU, CNAS,TU, Loyalty Academy, Mandikhatar ,MBM College, Anamnagar, Cosmopolitan College Chabahil, Jagat Mandir Higher Secondary School, Chabahil, Central Department of English, TU, Central Department of Sociology / Anthropology, TU, Mega Training Center ,Bagbazar, Cambridge University Press, India, BhrikuriAcademic Publication, Kathmandu, CEDA, TU and many more to mention here.

Under the leadership of Mr Krishna Prasad. Parajuli the team of editorial board has produced the regular issue of *Nepalese Linguistics*. The board deserves special thanks for their untiring and meticulous effort. I am thankful to my colleagues and executive members of LSN who have worked hard and spent their valuable time in voluntary basis. We hope the government will recognize the contribution of our predecessors and allocate some budget annually.

Lastly, I believe that the fruitful discussions and interactions among participants will make this conference productive and success. I wish all the participants a pleasant stay during the conference.

Thank you.

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Abbreviations used in this list:

CDC	Curriculum Development Centre	CDE	Central Department of English
CDL	Central Department of Linguistics	CDN	Central Department of Nepali
CIL	Campus of International Languages	CNAS	Centre for Nepal and Asian Studies
DEE	Department of English Education	IOE	Institute of Engineering
LinSuN	Linguistic Survey of Nepal		