Deciphering the Verbal Morphology of the Mahale Language

Towhid Bin Muzaffar*, Haroonuzzaman
Department of English
Independent University, Bangladesh (IUB)
16 Aftabuddin Ahmed Road
Bashundhara R.A., Dhaka, Bangladesh
*Corresponding author: towhid@iub.edu.bd

Abstract

As the powerful languages of the world are continuously pushing the powerless languages to the fringe, the peripheral languages are always on the brink of extinction. That is why the key purpose of the current paper is to document an endangered language, Mahale, spoken by an indigenous community in Northern Bangladesh by describing its grammar for its revitalization. This process of documentation is one of the nine criteria deemed necessary for the revitalization of any endangered language. UNESCO states that out of the 6000 plus languages spoken today, about half will become extinct in about a hundred years (UNESCO 2003). Thus, the impact of our study ensures that this endangered language is described and documented for revitalization. The subjects of our study are the Mahale people who live in two villages in Northern Bangladesh. The data was collected through focused group discussions and interviews of native speakers of the Mahale language in these two villages. The onomasiological elicitations collected through intensive interviews of Mahale persons have been analyzed and compared to describe the various grammatical systems - nominal, pronominal, adjectival, adverbial, and verbal. The project is ongoing since 2012. The duration of this study is from 2017 to 2018. During this period, several field trips were made to the project sites. As the major area of this study is the verbal system, the different tenses and aspects have been looked into in this paper. The analysis of the data enables us to assert that there are morphological markings for at least two tenses and two aspects in the Mahale language. Mahale distinguishes the Past and Non-past tenses. The future tense is not morphologically marked. In terms of aspect, we find morphological markings for two aspects, namely, Perfective and Imperfective. The Imperfective aspect has a three-way marking system namely, Present Imperfective, Past Imperfective, and Future Imperfective. The Perfective aspect has a two-way distinction namely, the Perfective and the Future Perfective.

Keywords: endangered language, preservation, linguistics, morphology

Editor's Note

Mr. Towhid bin Muzaffar holds a Master's degree in Linguistics from Memorial University of Newfoundland, Canada. He also did his BA from the same university in English Literature and Linguistics. He worked for several years as a Research Assistant at the Department of Linguistics, Memorial University before returning to Bangladesh in 1998. He has been a lecturer since, and the Head of the Department of English from 2014. His areas of interest include Historical Linguistics with special emphasis on Algonquian and Indo-European languages; endangered languages; and computational linguistics. He has jointly published several papers on two endangered languages – Lahra and Mahale with his colleague, Mr. Haroonuzzaman and now working on a dictionary of the Mahale Language.

Mr. Haroonuzzaman, an Assistant Professor at the Department of English at Independent University, Bangladesh (IUB) since 1999, has completed his Bachelor of Arts (BA) with Honours in English Language and Literature from the University of Dhaka (1969-72) and a Master of Arts (MA) in English Language and Literature and American Literature from the same university (1972-1973). His teaching and research interest include Romantic Literature, Victorian Literature, and South Asian Literature, Literary Theory, Literature in translation, and Translation Studies. Being a litterateur, he has around 15 published books that have received wide acclaim and rave reviews. A 5-book Bangla Baul Series is particularly popular and available in reputed libraries across the world.

Introduction

In this study, we take a look at the verbal paradigms, including transitive and intransitive verbs. The entire pronominal paradigms of the simple present tense have been presented, followed by an exploratory analysis of the salient features of the tense-aspect system. Although there was no written language of the Mahale community in the past, the Mahale language was transcribed, using the Bangla script. As the language was not standardized, the outcome was, therefore, an inconsistent spelling system. However, in 2006, with the help of the Summer Institute of Linguistics (SIL), a script based on the Roman script, was developed for a formal and standardized writing system for the Mahale language (Hemrom 2006). This paper has used the Mahale script based on the Roman script developed by SIL. Besides, the Mahale people felt the need for preserving their written script and literature.

To pursue that goal, a workshop was held with the concerned Mahale group (also known as Raj Mahale) of the community at Damkura Haat in Rajshahi from April 5 to 12, 2006, and in collaboration with the SIL, a writing system was developed (Hemrom 2006). According to the informants, there are at least three dialects of the Mahale community. These are as follows: one dialect is spoken mainly in Rajshahi; another one is spoken in Dinajpur, Joypurhat, Naogaon, Rangpur, and Thakurgaon. The Mahalis living in Chapainawabgonj (Nachole Upazilla) speak another dialect which has some relationship with Shadri / Nagri.

Objectives

The primary objective of this paper is to document the Mahale language. In particular, we plan to document a portion of its grammar. As this documentation is a part of the overall preservation of the language, it is essential for the revitalization of this endangered language.

Research Questions

The three basic types of questions that research projects can address are descriptive, rational, and casual. Our research question aims to describe the verbal morphology of the Mahale language; in particular, we look at the tense-aspect system of the language. We review the data obtained through elicitations. By analyzing the data, we seek to answer the following questions:
1. How many tenses are there in the Mahale language?
2. How many aspects are there in the Mahale language?
3. How many tense-aspect categories can be identified?

Theory

        This paper is based on a functionalist approach. This means we view language as a means of communication in which each word, phrase, or sentence has a particular function to perform. Thus, in our view, each morpheme in a word has a particular function. So, a morpheme can carry the notion of tense and/or aspect. In this paper, we attempt to identify such morphemes from the data of the Mahale language.

Methodology

        The data was collected for this study from the subjects, Mahale residents, in Belpukur and Pachandar in Rajshahi, Bangladesh. Alongside focused group discussions, interviews of speakers of Mahale were used. The interviews were conducted during our field trips to the villages in Rajshahi, Bangladesh in 2017 and 2018. Using an onomasiological approach, verbal paradigms were obtained from some selected subjects from the villages. This method of elicitation is particularly helpful in collecting structured sets of language samples quickly. It allows for obtaining context-free samples and determining patterns (Nakayama 8).

        The structured data was obtained by providing sentences to native speakers. The subjects then gave the equivalent sentences in Mahale. These were transcribed and incorporated in the tables that are included in this paper in the Discussion section.

Literature Review

        As the Mahale language is a spoken language, it has not been documented. The grammar of the language, spoken in our project sites (the villages in Rajshahi, Bangladesh), has not been written. Our study intends to fill this void. It is one of the first steps in describing the grammar of this language.

        According to Ethnologue (Lewis 2009), Mahali (an alternate spelling) is a language spoken in India and Bangladesh with a total ethnic population of 278,000 in 2007. It indicates that the total number of users of the language is 36,000 in all countries. The Mahali population in Bangladesh is reported to be 3000 by SIL (2010 estimate). The status which is reported to be 6b (Threatened) in India and 6a (Vigorous) in Bangladesh, clearly suggests that the Mahale language is endangered.

        Therefore, the researchers felt the need for the documentation of the language for its revitalization. To revive the language, the basic verbal system of this language has been described.

        The analysis of the data indicates that there are at least two tenses and two aspects which are morphologically marked in the Mahale language.

        Reference works on the Tense and Aspect theories and concepts used in this paper include *The Oxford Handbook of Tense and Aspect* (Binnick 2012) and *Tense and Aspect in Into-European Languages: Theory, Typology and Diachrony* (Hewson, et. al. 1997) and *Aspect* (Comrie 1976).

        Similar analytical works on the verbal morphology of endangered languages include van Driem (1995),   Nyinondi, and Mohamed (2016). These two papers are on endangered languages in other regions of the world and have been cited here as examples of an analysis similar to the type of analysis below. There are thousands of undocumented endangered languages around the world. These languages have not been studied, documented, or analyzed. Thus, as pointed out earlier, this study aims to document and describe Mahale in an attempt to revitalize it and ensure its preservation for future generations.

Findings

The answers to the research questions are given below:

1. How many tenses are there in the Mahale language?
   Answer: There are two tenses in Mahale which are marked morphologically. For the detailed discussion, please see the Verbal Paradigm – Tense section on page 6.
2. How many aspects are there in the Mahale language?
   Answer: There are two aspects in Mahale which are marked morphologically. For the detailed discussion, please see the Verbal Paradigm – Aspect section on page 8.
3. How many tense-aspect categories can be identified?
   Answer: Seven tense-aspect categories are marked morphologically in Mahale. For the detailed discussion, please see the Verbal Paradigm – Tense section and the Verbal Paradigm – Aspect section on pages 6 and 8, respectively. The summary is presented in Table 1.

We have also found that there are at least two types of verbs which we have named *lid*-verbs and *lin*-verbs. The past tense is marked by these (-*lid* and –*lin*) morphemes. Thus, the morphemes marking the various tenses and aspects of *lid*-verbs and *lin*-verbs are shown in the following table:

Table 1
Morphemes Marking the Various Tenses and Aspects of Lid-Verbs And Lin-Verbs

Tense		
Past		Non-Past
-lid		ø
-lin		ø
Imperfective Aspect		
Past	Present	Future
-han	-d	-hatar
	-kan	
Perfective Aspect		Future Perfective Aspect
-kid		-hoyоќt__(-a / -ya)
-kan		

Morphophonemic Variations

There is some variation in the roots of some of the words. This variation may be explained by a morphophonemic analysis. However, the data that is available at this time has proven to be insufficient to make a complete analysis. So, the roots of the words have been shown in the various tenses and aspects in the following tables. These two tables may be used in the future for comparison with more data to complete the analysis.

Table 2
Variation within the Verbal Paradigm of Some Lid-Verbs

Tense	
Past	Non-Past
jom	jom
landa	landai
raḱ	rag

Imperfective Aspect		
Past	Present	Future
jom	jom	jom
landai	landai	landa
rag	raḱ	raḱ

Perfective Aspect	Future Perfective Aspect
jom	jom
landa	landa
raḱ	raḱ

Table 3
Variation within the Verbal Paradigm of Some Lin-Verbs

Tense	
Past	Non-Past
ńir	ńiroḱ
calao	calaḱ

Imperfective Aspect		
Past	Present	Future
ńiroḱ	ńiroḱ	ńir__ok
calaḱ	calaḱ	calao

Perfective Aspect	Future Perfective Aspect
ńira	ńir
calao	calaḱ

Discussion

The project sites are in the Rajshahi District (Rajshahi division) which has an area of 2407.01 sq km, and a large area is covered by Barind Tract, Diara, and *Char* lands. The main rivers are Padma (Ganges), Mahananda, Baral, and Barnai. The first project site is Belpukur, Sursunipara in Godagari Upazila (Rajshahi district) with an area of 472.13 sq km. The second project site is called Pachandar, Mahalipara in Tanore which has an area of 295.39 sq km.

The Mahale speaking community, a marginalized community, spreads over Rajshahi, Rangpur, Sylhet, Khulna and Chittagong Divisions of Bangladesh. According to 'Santals of Bangladesh', the population of the community is 25,000 (Ali, 2008), but Mahle Adibashi Artho-Shamajik Unnoyon Shongstha (MAASAUS), an NGO, sources say that there are 45,000 Mahales all over Bangladesh (Dumri, 2013). However, unofficial reckoning indicates that around 60,000 Mahalis are currently living in Bangladesh.

Morphology

Morphology is one of the five components of the grammar of a language. Morphology is the study of words and their structures (O'Grady 4). The smallest component of word structure is the morpheme. It contains information about meaning and

function. Besides cataloging the morphemes, the study presents some verbal paradigms of the Mahale language. Throughout the paper, the core vocabulary has been used (see Appendix). The entire paper is based on morphology. It does not deal with Syntax or Semantics. Although it is based on morphology, all the data that is presented here in the various tables are complete syntactic structures, that is to say, they are complete sentences. Verbal morphology is not presented in isolation. The morphemes have been drawn out from complete meaningful syntactic structures. In all cases, the English gloss is provided so that this is self-evident. Firstly, we present the following personal pronouns:

Table 4
The Pronominal Paradigm

	Singular	Plural
1st person	Iń / Ińdo (I)	Ale / Aledo (we)
2nd person	Am (you; singular)	Ape (you; plural)
3rd person	Unido (he / she)	Uṅku / Uṅkodo (they)

The Verbal Paradigms – Tense

Tense is a change in the form of the verb to mark the time of an event or situation (Crystal 432). Inflectional verbal suffixes are used to contrast the number and person in Mahale. The following sentences illustrate the different suffixes. The verb in this first verbal paradigm is *jom* meaning "to eat". The word for "rice" is *daka*. The verbal paradigm of the Simple Present Tense of Indicative Mood is as follows:

Table 5
The Simple Present Paradigm of the Verb Jom "To Eat"

	Singular	Plural
1st person	Ińdo daka jomiń	Ale / Aledo daka jomale
	I eat rice	We eat rice
2nd person	Am daka jomam	Ape daka jomape
	You eat rice	You (pl) eat rice
3rd person	Unido daka jome	Uṅku / Uṅkodo daka jomaku
	He / She eats rice	They eat rice

Thus, the inflectional suffixes marking the various numbers and persons are as follows:

Table 6
Inflectional Verbal Suffixes Marking Number and Person

	Singular	Plural
1st person	-iń	-ale
2nd person	-am	-ape
3rd person	-e	-aku

From the Simple Present Tense, we can now proceed to the Simple Past Tense. After analyzing the data that has been collected, we can present the verbal paradigm of the Simple Past Tense of the Indicative Mood.

Table 7
The Simple Past Paradigm of the Verb Jom "To Eat"

	Singular	Plural
1ˢᵗ person	Iń daka jomlidiń	Ale daka jomlidale
	I ate rice	We ate rice
2ⁿᵈ person	Am daka jomlidam	Ape daka jomlidape
	You ate rice	You (pl) ate rice
3ʳᵈ person	Uni daka jomlide	Uṅku / Uṅkodo daka jomlidaku
	He / She ate rice	They ate rice

By comparing the paradigms of the Simple Present Tense and the Simple Past tense, a clear pattern is evident. The morpheme "lid" is an inflectional suffix and marks the past tense. It is a suffix that is attached to the main word or base to form the stem. The inflectional verbal suffixes marking number and person are then attached to this stem.

The next paradigm is the Simple Future Tense which is presented below:

Table 8
The Simple Future Paradigm of the Verb jom "to eat"

	Singular	Plural
1ˢᵗ person	Iń daka jomiń	Ale / Aledo daka jomale
	I will eat rice	We will eat rice
2ⁿᵈ person	Am daka jomam	Ape daka jompe
	You will eat rice	You (pl) will eat rice
3ʳᵈ person	Uni daka jome	Uṅku / Uṅkodo daka jomaku
	He / She will eat rice	They will eat rice

This paradigm is identical to the Simple Present Tense paradigm. Further, by comparing the Simple Present Tense and the Simple Future tense of other verbs, we can safely claim that speakers of Mahale do not distinguish these two tenses morphologically. That is to say that there is no distinct marking on the Simple Present Tense to distinguish it from the Simple Future Tense. This is not uncommon in the world's languages, e.g. English, Japanese. Therefore, we can say that Mahale has a two-tense verbal system: past and non-past. The future is indicated not through overt morphological marking but by semantics and context. Thus, the following table shows all the suffixes marking the tenses:

Table 9
Suffixes Marking the Tenses

Tense	
Past	Non-past (Present and Future)
-lid	ø

The Verbal Paradigms – Aspect

Aspect is the duration of an action denoted by a verb. It indicates the completion or non-completion of an action (Crystal 415). The perfective aspect indicates the completion of an action. In English grammar, this includes Present Perfect Tense, Past Perfect Tense, and Future Perfect Tense. The imperfective aspect indicates the non-completion of an action. In English grammar, this includes Present Continuous Tense, Past Continuous Tense, and Future Continuous Tense. From the data that we have collected, we can identify the verbal paradigms which mark two perfective aspects in Mahale, namely, the

perfective aspect and the future perfective aspect. Besides, the verbal paradigms mark three imperfective aspects in Mahale, namely, present, past, and future. Thus, we can state that Mahale has at least five aspects. Each of these verbal paradigms is presented below starting with the three Imperfective aspects followed by the two perfective aspects. In each case, the equivalent term from English grammar is given in brackets for comparison. The verbal paradigm of the Present Imperfective Aspect is as follows (Present Continuous Tense):

Table 10
The Present Imperfective Aspect paradigm of the verb jom "to eat" (Present Continuous Tense)

	Singular	Plural
1st person	Iń daka jomdiń	Ale daka jomdale
	I am eating rice	We are eating rice
2nd person	Am daka jomdam	Ape daka jomdape
	You are eating rice	You (pl) are eating
3rd person	Uni daka jomde	Uṅkodo / Uṅku daka jomdaku
	He / She is eating rice	They are eating rice

This table shows that the Present Imperfective Aspect is marked by the suffix "d". The morpheme "d" is an inflectional suffix. It is a suffix that is attached to the main word or base to form the stem. The inflectional verbal suffixes marking number and person are then attached to this stem.

The verbal paradigm of the Past Imperfective Aspect is as follows (Past Continuous Tense):

Table 11
The Past Imperfective Aspect paradigm of the Verb Jom "to eat" (Past Continuous Tense)

	Singular	Plural
1st person	Iń daka jomhaniń	Ale daka jomhanale
	I was eating rice	We were eating rice
2nd person	Am daka jomhanam	Ape daka jomhanape
	You were eating rice	You (pl) were eating rice
3rd person	Uni daka jomhane	Uṅku / Uṅkodo daka jomhanaku
	He / She was eating rice	They were eating rice

This table (11) shows that the Past Imperfective Aspect is marked by the suffix "han". The morpheme "han" is an inflectional suffix. It is a suffix that is attached to the main word or base to form the stem. The inflectional verbal suffixes marking number and person are then attached to this stem.

The verbal paradigm of the Future Imperfective Aspect is as follows (Future Continuous Tense):

Table 12

The Future Imperfective Aspect Paradigm of the Verb Jom "to eat" (Future Continuous Tense)

	Singular	Plural
1st person	Ińdaka jomhatarińı	Ale daka jomhatarale
	I will be eating rice	We will be eating rice
2nd person	Am daka jomhataram	Ape daka jomhatarape
	You will be eating rice	You (pl) will be eating rice
3rd person	Uni daka jomhatare	Uńku / Uńkodo daka jomhataraku
	He / She will be eating rice	They will be eating rice

This table (12) shows that the Future Imperfective Aspect is marked by the suffix "hatar". The morpheme "hatar" is an inflectional suffix. It is a suffix that is attached to the main word or base to form the stem. The inflectional verbal suffixes marking number and person are then attached to this stem.

Thus, the following table shows all the suffixes marking the imperfective aspects:

Table 13

Imperfective Aspect Suffixes

Imperfective Aspect		
Past	Present	Future
-han	-d	-hatar

The verbal paradigm of the Perfective Aspect is as follows (Present Perfect Tense):

Table 14

The Perfective Aspect Paradigm of the Verb Jom "to eat" (Present Perfect Tense)

	Singular	Plural
1st person	Ińdaka jomkidińı	Ale daka jomkidale
	I have eaten rice	We have eaten rice
2nd person	Am daka jomkidam	Ape daka jomkidape
	You have eaten rice	You (pl) have eaten rice
3rd person	Uni daka jomkide	Uńku / Uńkodo daka jomkidaku
	He / She has eaten rice	They have eaten rice

This table (14) shows that the Perfective Aspect is marked by the suffix "kid". The morpheme "kid" is an inflectional suffix. It is a suffix that is attached to the main word or base to form the stem. The inflectional verbal suffixes marking number and person are then attached to this stem.

The verbal paradigm of the Future Perfective Aspect is as follows (Future Perfect Tense):

Table 15
The Future Perfective Aspect paradigm of the Verb Jom "to eat" (Future Perfect Tense)

	Singular	Plural
1st person	Ińaḱ daka jomhoyoḱtińa I will have eaten rice	Aleaḱ daka jomhoyoḱtaleya We will have eaten rice
2nd person	Ama daka jomhoyoḱtama You will have eaten rice	Apeaḱ daka jomhoyoḱtapeya You (pl) will have eaten rice
3rd person	Uniaḱ daka jomhoyoḱtaya He / She will have eaten rice	Uṅkoaḱ daka jomhoyoḱtakua They will have eaten rice

This table (15) shows that the Future Perfective Aspect is marked by the suffix "hoyoḱt" and an additional suffix "-a" or "-ya". The morpheme "hoyokt" is an inflectional suffix. It is a suffix that is attached to the main word or base to form the stem. The inflectional verbal suffixes marking number and person are then attached to this stem. The additional suffix "-a" or "-ya" is then attached at the end.

Thus, the following table shows all the suffixes marking the perfective aspects:

Table 16
Perfective Aspect Suffixes

Perfective Aspect	Future Perfective Aspect
-kid	-hoyoḱt__(-a / -ya)

The Imperative Mood

The imperative mood is marked by the suffixes "-me" and "-pe". The following table illustrates this:

Table 17
The Imperative Mood

Singular	Plural
Daka jomme!	Daka jompe!
Eat (sg) rice!	Eat (pl) rice!

Two Types of Verbs

The tables above show the paradigms of the verb *jom* "to eat". Paradigms of the Simple Present Tense (Table 5), the Simple Past Tense (Table 7), Present Imperfective Aspect (Table 10), Past Imperfective Aspect (Table 11), Future Imperfective Aspect (Table 12), Perfective Aspect (Table 14), Future Perfective Aspect (Table 15) and the Imperative Mood (Table 17) give a clear picture of the Tense-Aspect system. However, it cannot be claimed at this point that the picture is complete. More evidence is needed to complete this study. What we can confirm at this point is that other verbs such as *landa* "to laugh" and *raḱ* "to cry" have the same paradigms with the same suffixes or morphemes.

The Simple Past Tense of these verbs is marked with the suffix *-lid*. This is distinct from how the Simple Past Tense of ńir "to run" and calaḱ "to go" is marked. These verbs take the suffix *-lin*. The following table illustrates this difference:

Table 18
Comparison of the Simple Past Tense Paradigms of <u>Jom</u> "to eat" and <u>Calaḱ</u> "to go"

	Singular	Plural
1st person	Iń daka jomlidiń	Ale daka jomlidale
	I ate rice	We ate rice
2nd person	Am daka jomlidam	Ape daka jomlidape
	You ate rice	You (pl) ate rice
3rd person	Uni daka jomlide	Uṅku / Uṅkodo daka jomlidaku
	He / She ate rice	They ate rice
1st person	Iń calaolińiń	Ale calaolinale
	I went	We went
2nd person	Am calaolinam	Ape calaolinape
	You went	You (pl) went
3rd person	Uni calaoline	Uṅku / Uṅkodo calaolinaku
	He / She went	They went

The two types of suffixes are in bold in the table. The *calaḱ* vs *calao* alternation is due to morphophonemic variation and is beyond the scope of this paper. However, it may be pointed out here that they have the same root.

In addition to the different Simple Past suffixes, the *lid*-verbs and *lin*-verbs have different morphemes for the Present Imperfective Aspect and the Perfective Aspect. The Present Imperfective Aspect of the *lid*-verbs is marked by the suffix *-d* (Table 10) while that of the *lin*-verbs is marked by *-kan*. This is illustrated by the following table:

Table 19
Comparison of the Present Imperfective Aspect Paradigms of <u>Jom</u> and <u>Calaḱ</u>

	Singular	Plural
1st person	Iń daka jomdiń	Ale daka jomdale
	I am eating rice	We are eating rice
2nd person	Am daka jomdam	Ape daka jomdape
	You are eating rice	You (pl) are eating
3rd person	Uni daka jomde	Uṅkodo / Uṅku daka jomdaku
	He / She is eating rice	They are eating rice
1st person	Iń calaḱkańiń	Ale calaḱkanale
	I am going	We are going
2nd person	Am calaḱkanam	Ape calaḱkanape
	You are going	You (pl) are going
3rd person	Uni calaḱkane	Uṅku / Uṅkodo calaḱkanaku
	He / She is going	They are going

The Perfective Aspect of the *lid*-verbs is marked by the suffix *-kid* (Table 14) while that of the *lin*-verbs is marked by *-kan*. This is illustrated by the following table:

Table 20
Comparison of the Perfective Aspect Paradigms of Jom and Calaḱ

	Singular	Plural
1st person	Iń daka jomkidiń	Ale daka jomkidale
	I have eaten rice	We have eaten rice
2nd person	Am daka jomkidam	Ape daka jomkidape
	You have eaten rice	You (pl) have eaten rice
3rd person	Uni daka jomkide	Uṅku / Uṅkodo daka jomkidaku
	He / She has eaten rice	They have eaten rice
1st person	Iń calaokańiń	Ale calaokanale
	I have gone	We have gone
2nd person	Am calaokanam	Ape calaokanape
	You have gone	You (pl) have gone
3rd person	Uni calaokane	Uṅku / Uṅkodo calaokanaku
	He / She has gone	They have gone

Although the same suffix *-kan* is used to mark both the Present Imperfective Aspect and the Perfective Aspect, the Present Imperfective Aspect Paradigm has the *calaḱ* variant while the Perfective Aspect paradigm has the *calao* variant. This is because of morphophonemic variation, a discussion of which is in order, but this is beyond the scope of the paper.

Limitations

Identifying the lexical similarities and differences among Mahale, Santali, and Mundari is beyond the scope of this study. Despite having time and resource constraints, the team claims this research to be limited and analytical. Indeed, the in-depth inquiry into the morphological study of the Mahale language will provide an insight into furthering the work in this field in the future. Our study focuses only on the dialect spoken in Rajshahi (Bhelpukur and Pochondor). Although the team collected data for core vocabulary, the analysis in this paper, however, contains selected lexical items.

Ethnologue indicates that Mahali is a possible dialect of Santali with a lexical similarity of 68% to 93%. There is a 69% to 87% similarity between varieties of Mahali. It asserts that there is a lexical similarity with yet another language called Mundari (53% to 59%).

However, the limited number of works cited in this paper to illustrate the various paradigms, and some of the tense-aspect verb categories were matched in the Santali dictionary (Campbell 1899). There is total lexical similarity vis-a-vis the words used in this paper (see Appendix).

It may be noted here that this total similarity concerning these few words does not necessarily mean that Mahale is a dialect of Santali. Further description of the grammar will illustrate whether Mahale is a dialect of Santali or a separate language altogether.

Recommendations

Future research can focus on the validity of the claims regarding the morphemes marking the tenses and aspects mentioned in this paper. This can be done by obtaining more data from the field. Also, the collected data may be independently verified by other researchers. Thus, this will lead to a better description of the verbal morphology of the language. The more complete the description is, the more accurate the documentation will

be. This will entail a better and more robust process for the preservation of the language, which will ensure more concrete steps towards the revitalization of the language.

Conclusion

The process of describing the complete morphology of the Mahale language is a long and arduous task. In this paper, we have presented some of the data collected and attempted to analyze and describe the verbal morphology. The analysis is by no means complete. Based on the data that we have collected from the two villages, a pattern has emerged which allows us to assert that there are morphological markings for at least two tenses and two aspects in the Mahale language. Mahale distinguishes the Past and Non-past tenses. The future tense is not morphologically marked. In terms of aspect, we find morphological markings for two aspects, namely, Perfective and Imperfective. The Imperfective aspect has a three-way marking system namely, Present Imperfective, Past Imperfective, and Future Imperfective. The Perfective aspect has a two-way distinction namely, the Perfective and the Future Perfective. Clear morphological markings for the aforementioned tense-aspect categories have been found and presented. There may be more. To complete this study, more data and analysis are necessary. We hope to improve upon the analysis in our future works.

Mahale is in danger of extinction. This study has described a part of the grammar of Mahale and has documented a part of the language. This is essential both for the revitalization of the language and preservation of the language for future generations. Once a language is written down, it is easier for the community to pass it on to the next generation. Thus, intergenerational language transmission is ensured. This is another criterion for the revitalization of an endangered language. Thus, with further documentation along with help from the Mahale community and the government, we hope to facilitate the revitalization of Mahale.

References

Binnick, R.I. 2012. *The Oxford Handbook on Tense and Aspect.* Oxford: Oxford University Press.

Campbell, A. 1899. *A Santali-English Dictionary.* Manbhum: Santal Mission Press.

Comrie, B. 1976. *Aspect.* Cambridge: Cambridge University Press.

Crystal, D. 1987. The Cambridge Encyclopedia of Language. Cambridge: Cambridge University Press.

Dumri, Z. ed. 2013. *Mahle Sanskriti O Oitijjha.* (In Bangla). Rajshahi: Mahle Adibashi Artho-Shamajik Unnoyon Shongstha (MAASAUS).

Gain, P. ed. 2011. *Survival on the Fringe: Adivasis of Bangladesh.* Dhaka: Society for Environment and Human Development (SEHD).

Haroonuzzaman and Muzaffar, T. B. 2017. Preservation, Protection and Promotion of the Mahale Language. *Journal of Social Studies.* No. 153.

Hemrom, S.; Roy, A.; Sen, S. 2006. *Bangladesher Mahali.* (*The Mahalis of Bangladesh*). Bangladesh Resource Centre For Indigenous Knowledge (BARCIK).

Hewson, J and Bubenik, V. 1997. *Tense and Aspect in Into-European Languages: Theory, Typology and Diachrony.* Amsterdam and Philadelphia: John Benjamins.

Kamal, M.; Islam, Z.; Chakma, S. eds. 2007. Cultural Survey of Bangladesh Series – 5: Indigenous Communities. Dhaka: Asiatic Society of Bangladesh.

Lewis, M. P. ed. 2009. *Ethnologue: Languages of the World, Sixteenth edition.* Dallas, Tex.: SIL International. Online version: http://www.ethnologue.com/**.**

Nakayama, T and Ono, Y. 2014. *Toward understanding grammar through conversation.* Online version:

[https://www.linguisticsociety.org/sites/default/files/Nakayama_Ono-Toward_Understanding_Grammar_through_Conversation.pdf].

Nyinondi, O. and Mohamed, H. 2016. "The classification of morphological forms marking tense and aspect in Luguru". *Internet Journal of Language, Culture and Society*. 21-40.

O'Grady, W. and M. Dobrovolsky Eds. 1996. *Contemporary Linguistic Analysis: An Introduction*. Third Edition. Toronto: Copp Clark Ltd.

UNESCO Ad Hoc Expert Group on Endangered Languages. (2003). *Language Vitality and Endangerment*, UNESCO.

Van Driem, G. 1995. "Black Mountain verbal agreement morphology, Proto-Tibeto-Burman morphosyntax and the linguistic position of Chinese", pp 229-259 in Yoshio Nishi, James Alan Matisoff and Yasuhiko Nagano eds., *New Horizons in Tibeto-Burman Morphosyntax* (Senri Ethnological Studies 41). Osaka: National Museum of Ethnology.

Appendix

Mahale Wordlist: Alphabetical List of Mahale Words Used in This Paper

Mahale Word	Grammatical Category	English meaning	Example
ale / aledo	pronoun	we	Ale daka jomlidale (We ate rice)
am	pronoun	you, sg.	Am daka jomam (You eat rice)
ape	pronoun	you, pl.	Ape daka jompe (You (pl) will eat rice)
calaḱ	verb	to go	Iń calaḱiń (I go)
daka	noun	rice	Ińdo daka jomiń (I eat rice)
jom	verb	to eat	Ińdo daka jomiń (I eat rice)
iń / ińdo	pronoun	I	Iń calaḱkańiń (I am going)
landa	verb	to laugh	Iń landaiń (I laugh)
ńir	verb	to run	Ińdo ńiroḱiń (I run)
raḱ	verb	to cry	Iń raḱlidiń (I cried)
uni / unido	pronoun	he / she	Unido daka jome (He / She eats rice)
uṅku / uṅkodo	pronoun	they	Uṅku / Uṅkodo daka jomaku (They eat rice)