Intonation Patterns in Nepali Feedback Units

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Abstract

This paper analyzes the intonation patterns of Nepali Feedback units. Both eliciting and giving feedback units with basic, acceptance and additional level function have been collected from a spoken language corpus. The excerpts have been taken from transcriptions of 35 recordings, along with their audio files from 11 different social activities with both male and female participants, a total of 95 participants. Xaira and Adobe Audition were used to collect, convert and extract the excerpts and PRAAT was used to get the intonation pattern and annotate the sample examples. The study has found that rising intonation is used in all feedback eliciting units and in units where feedback has a giving non-accept function. All the other feedback giving units in Nepali have a falling intonation pattern. However, when these units function as turn holders they have rising intonation.

1. Introduction

Linguistic feedback is a common phenomenon in human communication. Language, as a means of human communication, contains both specialized feedback units and other units used in context with a feedback function. Participants in a conversation continuously give feedback as a way of providing signals about the success of their interaction. Feedback giving expressions are used by the participants to show their interlocutors whether they are willing and able to continue the communication and whether they are listening, paying attention, understanding or not understanding, agreeing or disagreeing with the message which is being conveyed. Feedback eliciting expressions are used to find out how the interlocutor is reacting in terms of attention, understanding and agreement with what they are saying [1]. Moreover, feedback conveys emotions and attitudes of the participants. The same feedback unit with different prosodic features such as length and intonation can have different functions in Nepali.

Study of feedback units in Nepali has just been initiated. However, Nepali particles have been discussed from the very beginning of the study of Nepali language. Thus, the feedback units covered in this study have already been discussed as particles. Among the earlier studies on particles, the research carried by Chapagai (2000) is an important since it is solely based on particle and represents traditional approach [2]. He has discussed relevant theoretical issues, reviewed related literature, and classified Nepali particles on different bases and described them. Though, as in other traditional studies, particles are taken as words which are not central to syntactic structure of a language and whose meaning is dependant to other words or context in his study. Earlier studies of Nepali particle have two weaknesses - i) they do not take particle as central unit to syntactic structure but use syntax level framework to analyze it; and ii) do not accept that particle has independent meaning. Besides, spoken language features of Nepali particles have not been studied yet. Thus, there is no previous study available on intonation patterns in Nepali feedback units.

The paper examines the function of Nepali feedback units by analyzing their intonation patterns.

2. Methodology

2.1. Concept

The classification and description of the feedback units in this study is a simplified version of the MUMIN Multimodal Communication Coding Scheme

[3]. The following table from this scheme presents the categories used in the study.

Table 1. Conceptual framework for feedback units

Function feature		**Specific function value**	**Short tag**
Giving Feedback	Basic	Contact/continuation Perception Understanding	C P U
	Acceptance	Accept Non-accept	Accept Non-accept
	Additional Emotion (E)/ Attitude	Happy Sad Surprised Disgusted Angry Frightened Certain Uncertain Interested Uninterested Disappointed Satisfied Other	
Eliciting Feedback	Basic	EContact/Continuation Perception Understanding Additional emotion E-Contact/continuation Perception	E-CPU C P U -E E-CP
	Acceptance	E-Accept E-Non-accept	E-Accept E-Non-accept
	Additional Emotion/ Attitude	Happy Sad Surprised Disgusted Angry Frightened Certain Uncertain Interested Uninterested Disappointed Satisfied Other	E-

2.2. Data

The study presented in this paper is based on the Spoken Corpus component of the Nepali National Corpus (NNC-SC) [4]. The Nepali Spoken Corpus (NNC-SC) is a part of the NNC that has been created to study the function of language in different social activities. All the recordings have been made with ecological validity outside of studio. Unfortunately, this at times compromised the quality of the recording. There are 116 audio and audio-video recordings with phonemic transcripts covering 17 different social activities. Altogether, this makes about 32 hours' of recording, the so far finished transcriptions of which contains about 260 000 words.

The data studied has not been based on statistical sampling principles since the study is more qualitative, but we believe the excerpts are representative. The data presented in this study comes from 35 files taken from 11 recorded, social activities, where we have balanced male-female participants. The following two tables give an overview of the activities, files, and participants, etc.

Table 2. Social activities and the number of files

S. N.	Activity type	Activity name	Files
1.	17	Phone	10
2.	1	Shopping	2
3.	2	Discussion	6
4.	5	Lunch	2
5.	7	Conversation while working (weaving, farming, etc.)	4
6.	9	Hotel	1
7.	12	TV Talk show	2
8.	13	Interview	1
9.	14	Hospital	5
10.	18	Market Place	1
11.	23	Thesis defence	1
		Total	35

Table 3. Participants, distribution of excerpts

Feedback	Activities	Files	Participants	Male	Female	Child	Excerpts
GFB	11	31	41	20	20	1	74
EFB	5	14	15	6	9	-	21
Total	11	35	48	23	24	1	95

GFB = giving feedback
EFB = eliciting of feedback

2.3. Procedure

The data excerpts in this study have been collected from phonemically transcribed files using Xaira [5]. All the files were imported to Xaira, then the wordlist was generated, the possible feedback items were selected manually, these words were located again in all the 116 files with Xaira, creating a concordance with at least one utterance before and one utterance after the feedback word. When it is confirmed that the selected expression has a feedback unit (single word,

phrase or repeated), it is marked. The examples with the shortest utterances before and after were selected for presentation in the paper wherever possible.

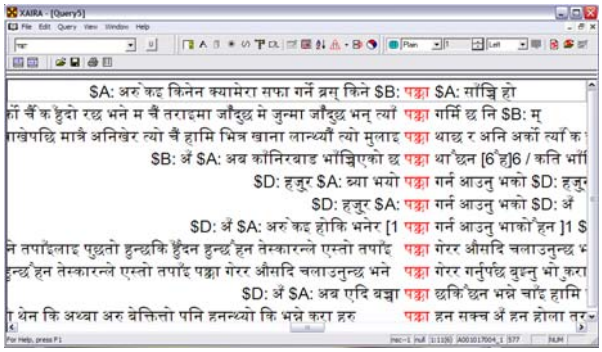

Figure 1. Concordance of EFB unit 'pakkaa' in Xaira

Audio and Audio-video files corresponding to the chosen transcribed excerpts were selected for the analysis of intonation pattern. The files were in MPEG format and needed to be converted into WAVE audio files to be analyzed with PRAAT [6]. Adobe Audition has been used to extract sound from audio-video files and convert audio files to the WAVE format.

The feedback units were extracted from the audio files with PRAAT.

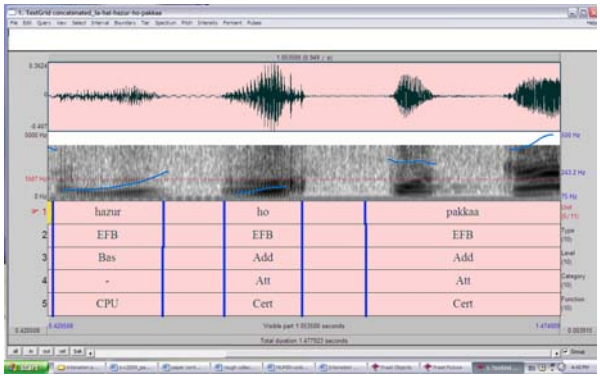

Figure 2. A view of annotated EFB units in PRAAT

3. Nepali feedback units

Nepali Feedback units can be classified into two broad categories viz. feedback giving and feedback eliciting units. These are dealt with separately in the following subsections.

3.1. Feedback giving unit

Expressions that can be used to give feedback (GFB) in Nepali include single words, phrases, and repeated word forms. These different units have not been differentiated here, instead, they have been analyzed in terms of their function. These GFBs are shown in the following tables along with a description of their typical intonation.

Expressions with a basic feedback giving function are used by a speaker for establishment and continuation of contact and to give information about perception and understanding (CPU). CP indicates that the interlocutor is continuing contact and perceiving the message. CPU indicates that the interlocutor understands the message as well.

All the Nepali GFB Basic CP units presented in Table 4 have rising intonation except *halo* 'hello'. However, the equivalent GFB unit *hazur* 'hello' has rising intonation. Table 4 presents the GFB Basic CP units in Nepali that have rising intonation, however, the exception *halo* indicates the need of more detailed description.

Table 4. Intonation pattern of GFB Basic, CP

FB Unit	Intonation
haN 'pardon', hazur 'hello', huN 'pardon', haN kere 'pardon'	Rising
halo 'hello'	Falling

All the Nepali GFB Basic CPU units as presented in Table 5 have falling intonation except ang 'mm'. This indicates a general trend of Nepali EFB basic CPU units to have falling intonation. However, there is an exception which needs explanation. The EFB unit ang 'mm' is, unlike other units, used in a context where it has to function as turn holder and also probably with an OCM (hesitation) rather than ICM function. This fact indicates that if a speaker in giving feedback uses a basic CPU unit to hold the turn, it has rising intonation otherwise it has falling intonation.

Table 5. Intonation pattern of GFB Basic, CPU

FB Unit	Intonation
hazur 'mm', *aN* 'mm', *e hazur 'O yes'*, *haa* 'mm', *aNhaha/aNhaNha* 'mm'	Falling
ang 'mm'	Rising

When a participant of a conversation accepts or denies another participant's proposal, idea, order, etc., the used feedback units are described as GFB acceptance or non-acceptance Both of these subcategories with their intonation patterns are presented in the Table 6 and Table 7 below.

The general trend found here is that the Nepali GFB acceptance units have falling intonation whereas Nepali GFB non-acceptance units have a rising intonation pattern. However, the farewell greeting *baai*, which expresses a kind of acceptance, has rising intonation. There is also another fact that the same

GFB unit *baai* 'bye' has falling intonation in another case (see Table 6). This confusion can also be resolved with the help of context. The example with rising intonation *baai* 'bye' is the only FB unit used by a child speaker among the FB units studied here. Thus it can be taken as non-representative item since the child speech is generally not stabilized.

Table 6. Intonation pattern of GFB Accept

FB Unit	Intonation
la 'ok', la baai 'ok bye', m 'yes', haN 'mm', baai 'bye', oke 'ok', aN huncha 'yes it is', m 'yes', ho 'yes, haN Thik cha 'yes its ok', la ta ni 'ok', aNhaN/ahaN 'no', has 'ok', dhannebaad 'thanks', has hazur has 'ok ok'	Falling
baai 'bye'	Rising

Table 7. Intonation pattern of GFB Non-accept

FB Unit	Intonation
aN 'no', aNha 'no', naai/naaiN 'no', aNkha 'no', naai/naaiN 'no', hoina 'no'	Rising

Additional Feedback expressions that are used for the expression of attitudes and emotions can be grouped into two categories. These feedback units function add extra information related to the thoughts and feelings of the interlocutors.

We have studied feedback expressions with intonation patters corresponding to the attitudes Certain and Uncertain, Interested and Uninterested, Agreement and Disagreement, Satisfied and Other in this paper. We have also studied expressions with the emotions/attitudes Surprised, and Angry

Both the Certain and Uncertain Nepali GFB units of Additional Attitude have been found to use falling intonation pattern as presented in the Table 8 and Table 9 below. However, there is one exception in the GFB Additional Attitude Certain *ho* 'yes' which has a rising intonation pattern. Though it needs to be examined in more data to confirm this generalization, the speaker of this example has been attested to be a non-native speaker of Nepali.

Table 8. Intonation pattern of GFB Additional, Attitude, Certain

FB Unit	Intonation
aN cha 'yes it is', aN ekdamai 'yes certainly', ho ta 'yes', hazur aN 'yes yes', ho ta ni 'yes it is', ho ni 'yes it is', um 'mm', *cha ni 'yes it is'*	Falling
ho 'yes'	Rising

Table 9. Intonation pattern of GFB Additional, Attitude, Uncertain

FB Unit	Intonation
khai 'may be', holaa 'may be'	Falling

In Nepali, both expressions that show interest and un-interest have been found to have both falling and rising intonation patterns, however, falling intonation pattern is found to be basic to these GFB units. The justification for this claim is that all the units of Interested and Uninterested GFB with rising intonation pattern are either used as turn holders and therefore probably also have an OCM function, or their second element is functioning as an EFB unit at the same time in the case of phrasal FB units. *Ani* 'then/and' and *aru* 'then/other' in the examples presented in Table 10 and 11 below are functioning as feedback giving and eliciting units at the same time.

Table 10. Intonation pattern of GFB/EFB Additional, Attitude, Interested

FB Unit	Intonation
aN ho 'yes', zhan 'even', aN 'mm', e la 'O ok', haN 'O', pliz 'please', hazur ani 'ok then', e he 'O', *e aN aN 'O yes yes'*	Falling
e ani 'ok then', ho ani 'yes and', e aru 'O then', aNha 'mm'	Rising

Table 11. Intonation pattern of GFB/EFB Additional, Attitude, Uninterested

FB Unit	Intonation
hyaa 'I don't care'	Falling
hyaa 'I do not care'	Raising

Agreement and Disagreement of GFB units of Additional Attitude also have falling intonation as in the examples *m* 'yes' (Agreement), *naai/naaiN* 'no' (Disagreement).

The Feedback unit *hai*, expressing satisfaction, has been found having a rising intonation pattern.

Similarly, the unit *ThikThaak* 'fine', expressing satisfaction of positive evaluation, also has falling intonation.

The FB units expressing Surprised have been found to have a falling intonation pattern. However, there were two exceptional cases where the FB unit also functions as a turn holder at the same time. They have rising intonation. Thus, the general trend for FB units expressing surprise is that they have falling intonation in Nepali. The examples of GFB Additional Emotion Surprised are presented in Table 12 below.

Table 12. Intonation pattern of GFB Additional, Emotion, Surprised

FB Unit	Intonation
abi 'wow', baaphre 'it is very strange', lau 'wow', lau 'wow'	Falling
e 'O', laa 'O'	Rising

For GFB the additional emotion, anger; *um la la* 'ok' also have falling intonation.

3.2. Feedback eliciting units

The behavior and types of feedback eliciting units (EFB) are similar to GFB, where EFBs elicit feedback from the interlocutor and GFBs provide feedback to the interlocutor.

EFBs in Nepali exist as single words and phrasal forms. The EFBs have a rising intonation pattern except for *kyaa* 'is it? . Thus, rising intonation is typical for Nepali EFB units. As indicated above, EFBs in Nepali can be classified similarly to what has been suggested above for GFBs. However, this seems unnecessary since all the EFbs have same intonation pattern, i.e., rising intonation. Therefore, all the Nepali EFBs have been presented in a single table together with their emotional/attitudinal functions. Table 13 below shows the examples found.

Table 13. Nepali EFB units and intonation pattern

FB unit	FB function	Int.
la 'ok?'	EFB, Acceptance, Accept	R
hai 'please'	EFB, Acceptance, Accept	R
hazur 'pardon'	EFB, Basic, CPU	R
ho 'is it?'	EFB, Additional, Attitude, Certain	R
pakkaa 'sure?'	EFB, Additional, Attitude, Certain	R
ni 'is it?'	EFB, Additional, Attitude, Certain	R
kyaa ho	EFB, Additional, Attitude, Certain	R
Thyaakkai 'exactly'	EFB, Additional, Attitude, Intersted	R
ni 'is it?'	EFB, Additional, Attitude, Certain	R
aN ho 'O is it?'	EFB, Additional, Attitude, Certain	R
Thik cha 'ok?'	EFB, Acceptance, Accept	R
kaaN 'where'	EFB, Basic, CP	R
kyaa 'is it?'	EFB, Additional, Attitude, Certain	F
e ho 'O is it?'	EFB, Additional, Attitude, Interested	R
ho ra 'is it?'	EFB, Additional, Emotion, surprised	R
haaN 'pardon'	EFB, Basic, CPU	R
aru 'any other?'	EFB, Additional, Attitude, Interested	R
haN 'ok?'	EFB, Acceptance, Accept	R
hagi	EFB, Acceptance, Accept	R

4. Multiple functions of the FB units

As has been discussed above, Nepali FBs have multiple functions. In some cases, their intonation pattern changes as they take on different function, but this is not always true. Many of the FB units have multiple functions in the same intonation pattern. However, this needs more detailed and in depth studies for a better description of FB units in Nepali. Some of the FB units with multiple functions are presented in Table 14. However, the list is not exhaustive.

Table 14. Nepali FB units with multiple meaning/function and intonation patterns

FB Unit	Function	Int
hazur 'mm'	GFB Basic, CPU	F
hazur 'hello'	GFB Basic, CPU	R
hazur 'pardon'	EFB Basic, CPU	R
aN 'mm'	GFB Basic, CPU	F
aN 'mm'	GFB Additional, Attitude, Interested	F
aN 'no'	GFB Acceptance, Non-accept	F
la 'ok?'	EFB, Acceptance, Accept	F
la 'ok'	GFB Acceptance, Accept	F

Apart from the complexities regarding the function of the feedback units in Nepali mentioned above, we can see that some units can function as GFB and EFB at the same time, e.g. the FB unit *hazur,* meaning 'pardon' is a GFB with a basic CPU function which can modify its function as follows: *hazur* informs the interlocutor that s/he has established contact and that something has been said but that it cannot be perceived or that it has been perceived it but cannot be understood. In this way, *hazur (pardon)* becomes an EFB informing the interlocutor that the speaker is asking for the information in the preceding utterance that s/he could not grasp.

5. Conclusion

Our study shows that Nepali feedback units can be used for basic feedback and acceptance as well as for additional emotions and attitudes. The basic feedback CP units, in general, have a rising intonation pattern whereas basic CPU feedback units generally have falling intonation pattern. The exceptions to these patterns, that we have found, make functional sense and can be described. Feedback giving units with an accepting function have a general tendency to have an falling intonation pattern whereas feedback giving units with an non-accepting function have a rising intonation pattern.

Feedback expressing certainty or uncertainty has a falling intonation pattern, with some explainable exceptions. FB units expressing interest and un-interest have falling intonation. However, if a FB unit functions as a turn holder, often with a simultaneous OCM function, it has a rising intonation. Units expressing agreement and disagreement have falling intonation. GFB units expressing satisfaction, surprise and anger also have falling intonation. GFB units expressing surprise and GFB units expressing anger both have falling intonation. However, units with surprise have rising intonation when they are also turn holders.

All the EFB units in Nepali have rising intonation pattern.

Finally, Nepali feedback units sometimes have multiple meanings/functions, and intonation patterns that are complex to describe.

10. References

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