Presentational focus realisation in Nalbaria Variety of Assamese

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Abstract

Intonation and prosodic structures, apart from other functions, play a significant role in conveying the focus in an utterance. The term ‘focus’ is applied to a constituent which is informationally more important or salient than other background parts of the same sentence [1] [2], and in a sentence the part that receives presentational focus which answers a wh-question. In this paper, we will try to establish that Nalbaria Variety of Assamese (NVA), which is a variety of Standard Colloquial Assamese (SCA), an Indo-Aryan language [3], employs phrasing as a marker of presentational focus. In marking the focus of the focused constituent, duration plays a significant role; it is not the durational increase of the focused P-phrase only which is significant but the decrease of duration in the given constituent is equally decisive. The present work considers sentences with presentational focus on Subject and on Object in two different word orders i.e. SOV (Subject-Object-Verb) and OSV (Object-Subject-Verb). Different phonetic cues of focus or prominence like F0-max, F0-min, F0-range and duration values are measured and compared against respective wide-focus baseline.

Index Terms: presentational focus, informational focus, Nalbaria Variety of Assamese, intonation, prosody

1 Introduction

Assamese is supposed to form a cohesive group with Bengali [4] which encouraged us to assume that Nalbaria Variety of Assamese (NVA) would exhibit an intonational pattern similar to Bengali [5] with regards to informational or presentational [6][7] focus manifestation. In Bengali declarative sentence, the focused P-phrase shows a pitch escalation at the boundary with L*H P pitch pattern. L* corresponds with the most prominent syllable of the focused P-phrase and H P aligns with its prosodic boundary. In Hindi also we see similar pitch rise on the focused phrase. In this paper we will discuss how presentational focus is marked in NVA and what are the phonetic and phonological cues signifying the focused constituent. As far as the definition of presentational focus is concerned, we will stick to the one given in [14] according to which it denotes a focused expression which is not contextually construable or given. However, the findings of the current experiment shows results which indicate that NVA adopts a different way of focus marking.

2 Methodology

We designed the experiment so as to measure the phonetic cues of presentational focus like pitch maximum, pitch minimum, pitch range and duration of the focused item, and also the phonological markers like phrasing; The experimental method was that of presentational focus where question-answer sets show that the part that corresponds to the answer to a question is marked by presentational focus [7] [8]. We selected three types of questions: Subject question, Object question and Neutral focus question as described below in 1.2 & 3.

1. Subject question:
   a) kuni kothal kinla?
   who.ERG jack-fruit.ACC buy.PAST?
   ‘Who bought the jackfruit?’
   b) [gahake]F kothal kinla
   customer.ERG jack-fruit.ACC buy.PAST
   ‘(The) customer bought the jackfruit.’
   c) kothal [gahake]F kinla
   jack-fruit.acc customer.ERG buy.PAST
   ‘(The) customer bought the jackfruit.’

2. Object Question:
   a) gahake ki kinla?
   cutomer.ERG what.ACC buy.PAST?
   What did the customer buy?
   b) gahake [kothal]F kinla
   who.ERG jack-fruit.ACC buy.PAST
   ‘Who bought the jackfruit?’
   c) [kothal]F gahake kinla

3. Neutral focus question:
   a) ki hol?
   What happen.PAST
   ‘What happened?’
   b) [gahake] kothal kinlaF
   who.ERG jack-fruit.ACC buy.PAST
   ‘(The) customer bought the jackfruit.’
   c) [kothal] gahake kinla

The response sentences to Subject and Object questions were uttered by the recorded speakers with narrow focus on the Subject and the Object respectively, i.e. in Subject question the Object is mentioned, so in the response sentence the Object will be given as it has its antecedent in the question, and the Subject will receive narrow focus; similarly in the response sentence of Object question, the Subject is given and Object is narrowly focused; answers were recorded in both the word-orders i.e. SOV (Subject-Object-Verb) and OSV (Object-Subject-Verb). F0 max (imum), F0 min (imum) and F0 range, duration, and intensity values of the preverbal constituents were measured for all the sentences using PRAAT. F0 max (Hz) value was taken at the right edge (last quarter) and F0 min was taken in the first half of the preverbal constituents. The motivation for doing so was the fact that the pitch accent (L*) falls on the 1st syllable and the F0 peak that comes after the pitch accent is the boundary tone (H P). The F0-range was derived by deducting the F0-min value from the F0-max value of the concerned constituent. We got the durational and intensity mean values for each pre-verbal constituent with the help of PRAAT script. Taking the values of the respective
wide focus sentence as base-line, the values of narrowly focused sentences were compared in STATA-12 (Statistics/Data Analysis package) for each preverbal P-phrase in both the word-orders. In order to determine the significance of the effects of focus on F0-max, F0-min, F0-range, duration and intensity of the focused constituent in comparison to the respective constituents in the wide-focus baseline, a two tailed T-test was conducted. If the value of the result was less than \(.05 (p \leq .05)\), then we accepted the result of the T-test to be statistically significant. This paper assumes that the P-phrase answering the question receives narrow focus, and the other argument is given, while the arguments of all-new information sentence (answer to neutral focus question) gets wide-focus. A set of 10 unique question-answer pairs was constructed for the experimented NVA data. Each pair was realized in 6 conditions, thus one speaker had 10 x 6 = 60 sentences to speak. For the data 5 (five) male speakers (20 to 27 years old) were recorded at Janigog village (Nalbari District) using a Roland D-05 PCM recorder in wav format at the sampling rate of 44 KHz with 16 bit resolution.

3 NVA declarative intonation

The basic intonation pattern of an asserted NVA sentence is L*H on the non-final constituents and H*L on the final constituent, which is essentially the verb of the sentence. In each of the tonal patterns, the T* is the pitch accent of the Phonological Phrase (P-phrase) and the second tone is the tone provided by the boundary – in non-final constituent, it comes from the P-phrase boundary and in the final constituent it is supplied by the Intonational Phrase (IP) boundary. In Standard Colloquial Assamese (SCA), the pitch accent falls on the stressed syllable; though there is no lexical stress, the left most syllable comes out as the most prominent syllable unless the second syllable is heavy and the first light [9]. We assume the same prominence pattern for NVA. The intonational representation of an NVA assertive sentence is given in (4).

4. L* H_p L* H_p H*L

gahake kothal kinla
Customer.ERGJack-fruit.ACC buy.Past
Customer bought the jack-fruit

In the present study it is found that in the unmarked word-order of SOV, presentational focus is marked on the first constituent only by longer duration of the focused constituent and there is a phrase break after that indicated by the greater pitch excursion in the focused constituent. The rest of the utterance is uttered as another phrase. Here phrasing aligns with syntactic phrasing where the Subject NP forms one phrase and the VP forms another phrasal unit. Whereas when the second constituent is focused, in SOV order we see pre-focal compression in the F0 trend of the Subject, though no durational increase in the focused P-phrase is observable. In the OSV word-order also, the Object when focused, stands out from the rest of the sentence as an independent phrase with F0 rise at the phrase boundary; although its durational value is significantly lower than the wide focus base-line. The presentational focus on Subject in OSV is marked by greater durational value and F0 rise at the P-phrase boundary. However, here phrasing does not follow syntax – as the Object phrases separately, we assume that this is predominantly prosodic phrasing.

4 Results

4.1 Pitch

It is interesting to note that in the NVA data we do not see a higher pitch maximum and pitch range in the focused constituent than a constituent with wide focus. Even the F0-min value does not show consistency in marking the focus. In both the orders, when the subject or the object is focused, the entire F0 pitch trend undergoes significant compression which can be seen in the following time-normalised pitch contours (Figure-1 & 2). In order to get time-normalised pitch contours, each P-phrase of each utterance was divided into five equal parts and the mean value was extracted for each part with the help of Prosody Pro 3.4, a PRAAT script developed by Yi Xu (2011). In SOV, when the first constituent (here, the Subject) is focused (SOVS), its F0-max value (225Hz) decreases significantly (p=0.001 < .05) in comparison with that of the same constituent when neutrally focused (227Hz) as can be seen in Table-1; we also see a decrease in the F0-Min and pitch range values of the constituent. We get similar results when in SOV order the second constituent (Object) is in focus (SOVO). Again in the OSV order, the results are not much different; the neutral focus pitch contour is always higher than the contour of narrowly focused utterance whether the focus is on Subject (OSVS) or Object (OSVO). The results of the statistical analysis show that the pitch cannot be taken as a reliable cue of focus marking at least in the data selected for the present experiment.

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Pitch (Hz)</th>
<th>Means</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Constituent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV Wide vs Narrow</td>
<td>227 vs 225</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Wide vs Given</td>
<td>227 vs 221</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>OSV Wide vs Narrow</td>
<td>234 vs 230</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Wide vs Given</td>
<td>234 vs 227</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Second Constituent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV Wide vs Narrow</td>
<td>205.3 vs 205.1</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Wide vs Given</td>
<td>205.3 vs 205.1</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>OSV Wide vs Narrow</td>
<td>203 vs 202</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>Wide vs Given</td>
<td>203 vs 198</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

Table-1: F0-max values on the first and second P-phrase for the word-orders of SOV and OSV in Given, Narrow and Wide focus conditions and their statistical significance test results.

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4.2 Duration

However, when we look into the durational values of focused constituents we can see a correlation between focus and duration of the focused item. In SOV, the duration of the first constituent increases significantly (p = .002 < .05) when focused, but if the second constituent is focused the duration does not increase significantly (p = .81 > .05). It may be due to the fact that the immediately preverbal position is focused by default. In OSV word order, as displayed in Table-1 when the Object is focused its duration decreases (400 ms compared to 407 ms) significantly but the value is significantly higher than when the first constituent is given (391 ms; p = .00 < .05). Here we can assume that the prominence of focused constituent is marked not only by its increased duration but also by the decreased durational value of the given constituent. In other words, the duration of the first constituent decreases (400ms) but this decrease is not so much when it is given (391ms), which is significantly shorter (p=.00 < .05); as the duration of the first constituent decreases, its prominence is indicated by the second constituent, which is given, by shortening its length considerably (p=.00 < .05). Again when the second constituent is focused in OSV, its duration increases significantly (381ms; p=.008 < .05) compared to the wide focus baseline and the duration of the given focus declines.

Table-2: Durational values on the first and second P-phrase for the word-orders of SOV and OSV in Given, Narrow and Wide focus conditions and their statistical significance test results.

One way may be to think that NVA does not employ any prosodic means to mark the focus on the Object phonologically. The motivation in support of this view is the durational value of Object when focused. In canonical SOV word-order, the duration of Object when focused is not significantly different from when it receives wide-focus. In OSV order its durational value is smaller than the wide-focus base-line. Whereas, when the Subject receives presentational focus, its duration always increases significantly in both the word orders. However, this view that the Object is not phonologically marked does not hold good when we observe the phrasing of P-phrases with reference to presentational focus. In the OSV word-order, when the Object is focused, the Subject and the following Verb form a single P-phrase; we get the evidence for this when we look at the segmental phonology of the P-phrases. In the OSV order, when the Object is in focus, as exemplified in (5), the Subject and the Verb undergo segmental alterations: [gahake] becomes [gahke] and [kinla] becomes [ginla]. The change in voicing is voicing assimilation and it shows that preserving the voicing distinction in the latter part of the phrase may not be important, thereby marking the prominence on the first constituent (Object), the rest of the sentence is uttered like one single P-phrase. This can be seen in Figure-2 where the second peak of the pitch contour is shallower for OSV (Object Focus) than for OSV (Subject Focus).

5. L* H_p L* H_p H* L_I

\\[[kothal]_P]_F \\
[[gahake]_P \\
[[ginla]_P \_]_I

The customer bought the jack-fruit.

Whereas in the same word-order (OSV) with focus on the Subject, we do not find such kind of phrasing; here the Subject forms an independent P-phrase as displayed in (6) and the second pitch-peak is higher than when the Subject is given (Figure-2). Here it may be mentioned that the second peak of
the IP, i.e. the Hₚ of the second P-phrase is immediately followed by the pitch accent H* of the final P-phrase (verbal phrase) and which makes the latter to undergo downstepping. Therefore, we do not see another peak or rise after the Hₚ; this can be observed in both the word orders and both the focus patterns.

6. \[ L^* \ H_p \ L^* \ H_p \ H^* \ L_i \]

\[ \text{[[kothal]}_p \quad \text{[[gahake]}_p \quad \text{[[kinla]}_p \quad \text{[t]} \]

The customer bought the jack-fruit.

In the SOV order when the Subject is focused, its durational value increases significantly marking its focused status as is reflected in Figure-1; here we see a post-focal pitch compression but no durational reduction of the second constituent as compared to the wide-focus baseline (Table-1). Although a phrase-break is perceptible when the Object is focused in the SOV word-order, (Figure-1) there is no significant durational difference. Here we may assume that similar to Hindi where the immediately preverbal position is the default syntactic position for focus [10], in NVA also the immediately preverbal position is focused by default. Therefore, the Object needs no aid to mark its focused status.

The durational findings of the current study reveal that NVA, although it is a language variety of Standard Assamese, adopts a slightly different strategy for marking presentational focus. In their work [11] show that in SCA Subject-Object-Verb (SOV) type declarative sentences, the Subject and Object constituents show a decrease in durational value when they are not focused compared to the wide-focus baseline. In SCA it is rather the decrease in durational value of the other constituents rather than the increase in the durational of the constituent in focus which indicates focus marking. In contrast, in the NVA data it is found that the durational increase is an important cue to the focused status of a P-phrase only when it is the Subject of the sentence. The focused status of the Object in an SOV sentence is not durationally marked in NVA as it occupies a position which is the syntactically focused position by default. However a study of the intensity values of the current data is due which may throw some more light on the phonetic details of focus marking in NVA.

5 Conclusions

It has been argued in this paper that unlike Bengali [5] [12] and Hindi [13]. NVA presentational focus is not marked by exceptional pitch excursion at the boundary of the focused P-phrase, though a pitch break is noticeable at the edge of the focused constituent. This is true for the NVA data in both the word-orders (SOV and OSV). Duration plays a very crucial role in marking the focus of a focused constituent; the focused status of a P-phrase is marked not always by its increased duration, the decreased value of the given P-phrase is equally vital. When focused, the Subject always displays increased durational value and the other argument(given) may or may not undergo significant decrease; whereas the Object never shows significant increase in its value, rather it is the decreased durational value of the given argument which indicates its prominence in the IP. Other phonetic markers of focus like F₀-max, F₀-min and F₀-range are not significantly greater than the wide-focus baseline; when an NVA declarative sentence is focused (either on the Subject or on the Object), the pitch contour of the entire IP undergoes a compression (Figure-1).

Moreover, it is seen in the present data that presentational focus has a phrasing effect on the focused P-phrase: this phrasing is either marked by durational increase and H boundary tone (Hₚ) in the focused P-phrase or by pre-focal or post-focal decrease in durational value. In other words, when the focus is on the first P-phrase in both the word orders, the rest of the sentence stands as one P-phrase, either because of the reduced duration of the post-focal given constituent or because of the shallower peak on the second P-phrase. However, when the focus is on the second P-phrase, it is marked by phrasing.

6 References