

RESEARCH

Intonational phonology of Boro

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The pitch contour of an utterance in a tone language can surface with both tonal and intonational f_0 features. In this paper we set out to analyze the intonational phonology of Boro, a tone language, and establish that there are three levels of prosodic constituents in Boro: Prosodic Word, ip and IP. Prosodic Word is the domain for distribution of lexical tones. Phonological processes show that the next higher level of prosodic structure is that of the intermediate phrase. Downstepping is within intermediate phrases (ip) and does not cross ips. The highest level of prosodic constituency is the IP which is marked by both initial and final boundary tones. This study shows that in Boro intonational phonology, boundary tones and their scaling and alignment in the context of their lexical tones is more important than assigning pitch accents.

Keywords: Boro; intonation; prosodic organization; intermediate phrase; downstepping

1 Introduction

Boro¹ is a Tibeto-Burman language predominantly spoken in many parts of the Brahmaputra valley of Assam and also in some parts of West Bengal in India. The language is also known as Bodo (Hodgson 1847; Grierson 1903). The language has been described as vulnerably endangered by UNESCO Atlas of the World's Languages in Danger 2010, which is the lowest level of endangerment for any language. However, Boro is spoken by a large number of people and the number of Boro speakers in Assam in the 2011 census is 14,82,929² (1.4 million) and it is officially recognized as one of the scheduled languages by the Government of India, the only Tibeto-Burman language to attain national recognition.

1.1 Tone in Boro

Understanding the distribution of lexical tones is an important aspect in the description and analysis of tone systems. Most researchers agree that Boro is a tone language (Weidert 1987) and that Boro uses lexical High and Low tones and sometimes a default Mid tone is also assumed (Sarmah 2004). These tones can be employed to distinguish lexical meaning of Boro words as in (1) below (Sarmah 2004):

- (1a) [gaó] 'tear or split'
(1b) [gaò] 'shoot by arrow or gun'

¹ In terms of nomenclature, both Bodo and Boro are equally prevalent. The influential Bodo Sahitya Sabha (Bodo Literary Society) has approved the use of both Boro and Bodo to name the language. Many past and recent studies on the language like Burton-Page (1955), Bhat (1968), Bhattacharya (1977), Joseph and Burling (2001, 2006), Basumatary (2005), Boro (2007) and DeLancey (2010, 2011) have described the language as Boro. In this paper, we follow the name frequently used in these works on Boro and therefore use Boro.

² Retrieved from <http://www.censusindia.gov.in/2011Census/Language-2011/Statement-4.pdf> on 10th July 2018.

The tone bearing unit (TBU) in Boro is the syllable and the rightmost TBU hosts the lexical tone in disyllabic words. Joseph and Burling (2001) reiterate the view expressed in Burling (1959) and come to the conclusion that Boro has a two-tone system. In addition to this, Joseph and Burling (2001) also mention the presence of the phenomenon of tone spreading in Boro towards the right. Joseph and Burling (2006), while presenting a description of the comparative phonology of the Boro-Garo languages, reiterate Joseph and Burling (2001) by describing a two-tone system for Boro. They found no evidence for the four tones claimed by Bhattacharya (1977). Bhattacharya (1977) focused mainly on the tone pattern in monosyllabic words, but other studies have shown that Boro disyllabic words can have only one of the two tone patterns, whether it be a High tone or a Low (Joseph & Burling 2006). Sarmah (2004) presents further evidence to show that Boro has two tones: High and Low. Extensive discussion of Boro tones can be found in Das & Mahanta (2018), and Das (2017).

In our discussion in the following sections we do not claim that Boro is a densely tone marked system. It could be close to what Voorhoeve (1973) describes as a ‘restricted tone system’. Notably we do not make any proposition regarding its adherence to a pitch-accent system as there are no clear properties that a pitch-accent language attests. Hyman (2009: 213) notes “... alleged pitch-accent” systems freely pick-and-choose properties from the tone and stress prototypes, producing mixed, ambiguous, and sometimes analytically indeterminate systems which appear to be “intermediate”. Hyman presents a rigorous discussion arguing for the absence of any pitch-accent prototype, nor can prosodic systems be treated as a continuum placed along a single linear dimension. As far as Boro is concerned, apart from Hyman’s arguments, the attributes of stress are also not entirely clear and therefore Boro is not amenable to an analysis as a pitch-accent language where lexical tone is delimited to the vicinity of the stressed syllable.

In the following section, we attempt to look at a few delimiting properties of intonation across these types of languages in order to see if there’s indeed a pattern for such restricted tone languages. It appears that there are indeed intonational properties common to languages which attest lexically distinctive f_0 , whether restricted or not, and they may allow more intonational properties to appear but there are no fixed ways in which they can be predicted to show their intonational and prosodic effects, making it more difficult to classify these languages.

Section 1 describes the distribution of tones in Boro. Section 2 deals with the domain of prosodic word as the domain of tone assignment in Boro. Section 3 describes the methodology adopted for the experiments presented in the chapter and the speech material designed for the experiments. Section 4 highlights the way lexical tones surface at the sentence initial, medial and final positions. It also describes the basic intonation patterns in Boro and shows how downstepping and declination influence lexical tones. This section also shows how left edge boundary tone influences initial lexical tones in IPs. Section 5 presents a phonological account of intonation in Boro, based on the nature of prosodic phrasing allowed in this tone language. This section also highlights the fact that the left edge of Boro IPs are marked by an LH% boundary tone which interacts differently with the initial L and H lexical tones. Section 6 discusses the attributes of the Intonational Phrase in Boro. Section 7 summarizes the findings presented in this paper.

1.2 Tone and intonation in tone languages and pitch accent languages

The question whether tone languages and ‘pitch accent’ languages vary in terms of intonation does not lead to any forthrightly viable answers. This is because both tone languages, and the languages commonly identified in the literature as pitch accent languages, not