On the Syllable Struture of Boro and Darlong

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Abstract

This paper makes an effort to investigate the internal syllable struncture of two related languages from Tibeto-Burman language family, Boro and Darlong. However, Boro belongs to Boro-Garo where Darlong is a Kuki-Chin language. It presents the different syllables templates, canonical syllable shapes in these two languages. It tries to find out similarities and dissimilaries in the types of syllable present in the two languages. It will also make an effort to throw some lights on the syllable structure of both the languages, for the further researches on the same and on the Tibeto-Burman phonology in general.

Keywords: Boro, Darlong, Boro-Garo, Kuki-Chin, Syllable

1. Introduction

Boro[1] is one of the 22 languages which are included in the VIII schedule of Indian Constitution (cf. Articles 344(1) and 351 of the Indian Constitution, 92nd amendment or later). The Bodo is a Tibeto-Burman language classified under Boro-Garo subgroup (Matisoff, 1991, 2003; Bradley, 1997,). Bodo is spoken in Assam and in some parts of Meghalaya, North Bengal and Nepal. According to 2011 Census of India the total number of the Boro speakers is 14,82,929. The Darlong is also a Tibeto-Burman language group under Core Central[2] Kuki-Chin subgroup. They are living in parts of three northern districts of Tripura: Unokoti, Dhalai and North Tripura. The local organization, known as Darlong Hnam Inzom reported their total population as around 8461. Till date there are many literature on the phonology of Boro-Garo group of languages and the language like Bodo happens to be relatively much studied language in those literatures. On the one hand, though there is no such notable linguistic work on Darlong but a sizeable literature has ben created related to Kuki-Chin languages by the lunguists from different parts of the world. This paper will be helpful, especially to the young researchers for their future works in Tibeto-Burman languages.

The linguistic data for the present work is collected from the two villages of the Darlongs: Darchawi and Saibual. The data were recorded in WAVE format by Zoom H4n and Zoom H6. In case of Bodo, the data were collected from two Boro speakers and the rest are provided by me being a native speaker of Boro langauge.

In the Darlong, there are twenty five consonantal sounds p, t, k, pʰ, tʰ, kʰ, b, d, f, s, h, v, z, m̥, ŋ̊, ŋ̊, m, n, ŋ, r̥, r, ts, tɬ, l̥, l and five vowels phonemes i, u, ɛ, ɔ, and a, while the Bodo has 16 consonantal sounds pʰ, tʰ, kʰ, b, d, g, s, z, h, r, l, j, w and six vowels i, u, e, o, a and ɯ.

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[1] Boro and Bodo are synonymous as in the case of Bengali and Bangla.
[2] Hammarström, Harald & Forkel, Robert & Haspelmath, Martin. 2018. Glottolog 3.3, classified Darlong as Core Central Kuki Chin under Tibeto-Burman language family.

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Practically it is difficult to give a precise definiton of syllable, however, Crystal (2008) makes an effort to define it as "A unit of pronunciation typically larger than a single sound and smaller than a word". Again Bussmann (1998) in Routledge Dictionary of Language and Linguistics defines syllable as "Basic phonetic-phonological unit of the word or speech that can be identified intuitively, but for which there is no uniform linguistic definition"

1.1. Internal Constituents and Template

To describe the internal structure of a syllable Hyman (1975:188) asserts that the syllable consists of three parts: (1) the onset, (2) the peak or nucleus, and (3) the coda. Keeping his rule in view Darlong and Bodo monosyllabic words can be shown with the help of a tree diagram as in Figure 1.
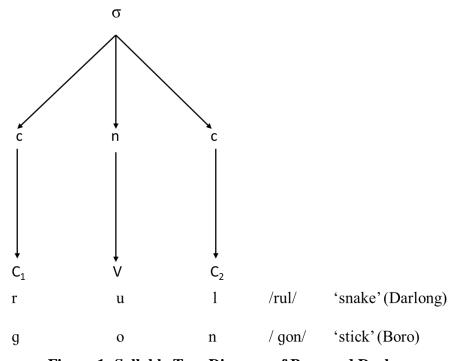
Figure 1: Syllable Tree Diagram of Boro and Darlong

However, for more analytical purpose, a further sub-grouping is relevant, namely (1) the onset, C1, and (2) the core or rhyme, consisting the phonetic peak and coda combined, V1C2. Besides the CVC template, Burquest (2001:150) states that "every language has CV syllable which is considered to be universal but since a number of languages do not have a CVC syllable type, the coda position must be a subordinated syllable position. This, along with some other facts, has given rise to the notion of a syllable rhyme as an intermediate node in syllable structure". In line with this structure the typical Darlong and Boro monosyllabic word can be analyzed as in Figure 2

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                σ   (syllable)

        o   r   (onset-rhyme)

                  n   c   (nucleus-coda)

        C1   V   C2   (consonant-vowel-consonant)

        tʰ   i   n   /tʰi:n/   'liver' (Darlong)

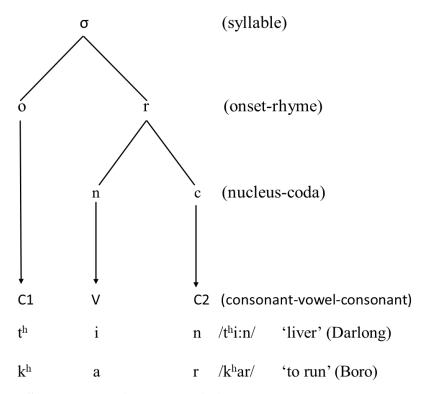   kʰ   a   r   /kʰar/   'to run' (Boro)

Figure 2: Syllable tree diagram depicting Boro and Darlong mono-syllabic word

Based on syllable structures discussed by the two linguists; Hyman and Burquest above, there are total of nine and ten syllable templates are possible in Boro and Darlong mono-syllabic words respectively. Syllable templates of monosyllabic words of both the languages are shown in two separate tables: Table-1 and Table-2.

Table-1: Boro Syllable Templates

Boro Lexemes	Gloss	Syllable types
/e/	'to express, now I know'	VT
/ai/	'mother'	VVT
/lài/	'leaf which is used for taking food'	CVVT
/o□r/	'to bite'	VCT
/ze/	'net'	CVT
/ɡon/	'stick'	CVCT
/sri/	'silent'	CCVT
/ɡruɯb/	'exactly fitting'	CCVC
/bruɯi/	'four'	CCVVT

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Table-2: Darlong Syllable Templates

Darlong Lexemes	Gloss	Syllable types
/a/	'his/her'	VT
/à:/	'locative'	V:T
/ùi/	'dog'	VVT
/à:ɹ/	'fowl'	V:CT
/kà/	'my'	CVT
/lu□:/	'head'	CV:T
/sai/	'elephant'	CVVT
/ìn/	'house'	VCT
/tɛ̀k/	'thunder'	CVCT
/la□:m/	'road'	CVVCT

From the above Table-1 and 2, it can be noted, that neither the onset nor coda elements are obligatory for a syllable to be well-formed in Boro and Darlong. It has been highlighted, that just a vowel can be a well formed monosyllabic word in both of the languages.

Looking into the syllable templates in Table-1, the canonical shape of well-formed syllable in Boro is:

$$(C_1)(C_2) \quad \begin{bmatrix} {}_1T(C_3) \\ V_1 \, V_2 \end{bmatrix}$$

Where, C1 is optional onset, C2 is optional liquids onset cluster where only l and r can occur in this position. V1 is obligatory nucleus with T tone in syllable and where C3 is optional coda consonant restricted to nasals, liquids, voided and voiceless stops and semi vowels. The vowel length is not phonemic in Boro.

Similarly, in case of the Darlong the maximal syllable would consist of (C1)V(:)(C2). Therefore, the canonical shape of well-formed syllable in Darlong is:

$$(C_1) \quad \begin{bmatrix} V_1(:)T(C_2) \\ V_1 \, V_2 \end{bmatrix}$$

Where, C1 is optional onset, V1 is obligatory nucleus with T tone in syllable (:) is optional vowel length and C2 is optional coda consonant restricted to voiceless stops, voiced nasals, liquids.

It has been noted that, the phonotactics of Darlong does not allow two onset segments in the syllable as in Boro where liquids l and r can occur between the preceding onset segment and nucleus. The phenomenon of consonant cluster is highly frequent in Boro adjectives and adverbial suffixes as in *kʰar.kʰrao* 'run desperately' *bu.**gli*** 'beating intensely and repeatedly' *zrw.zrw* 'very sharp (knife)'. However occurrence of consonant cluster is very rare in basic nouns in the language.

1.2. Onset Consonants

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In Darlong all the consonants from its phonemic inventory occurs in the onset position. Whereas, in Bodo; except velar nasal ŋ semi vowels j and w, all the consonants shown in the Table-3 can occur in onset position.

Table-3 : Onset Consonants (C1) of Boro and Darlong

Boro				Darlong			
pʰ	tʰ	kʰ		P	t	k	
b	d	g		B	d		
				m̥	n̥		
m	n			m	n	ŋ	
	s		h	f	s		h
z				v	z		
					ts		
					Tɬ		
					r̥		
r				r			
					l̥		
l				l			

Table-4: Occurence of onset consonants in Boro and Darlong

Darlong		Boro	
/pu□:/	'father'	/pʰàn/	'to sell'
/pʰu□:ŋ/	'abdomen'	/tʰar/	'true'
/bɛ.lɛ̀:m/	'flute'	/kʰapʰàl/	'forehead'
/ta□:r/	'old'	/bàr/	'air'
/tʰɛrɔ̀:/	'cloth'	/dao.zɯ/	'hen'
/dài/	'cold'	/gɔŋ/	'horn of animal'
/kà:l/	'to go'	/mài/	'paddy'
/kʰai/	'grasshopper'	/na/	'fish'
/m̥ài/	'face'	/soŋ.kri/	'salt'
/n̥à:r/	'nose'	/za/	'to eat'
/ŋ̊a.(rɔ)/	'keeping down the load'	/ha/	'soil'
/ma.hi:/	'this/it'	/rù/	'to boil'
/nai.nù:/	'daughter'	/la/	'to take'
/ŋà:/	'fish'		
/tsɛm.tɛ̀:/	'knife'		
/tɬa:/	'month'		
/fùizu□:m/	'spear'		
/va□:n̄/	'today'		
/sa.riak̄/	'oil'		
/za□:n/	'night'		
/hà:l/	'to scold'		
/l̥à.zài.pu□:/	'singer'		

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/làm̥pu□:/	'dancer'	
/r̥ik/	'louse'	
/ra:ŋ/	'silver'	

As shown in Table-3, entire series of consonants in the Darlong are attested in the onset (C$_1$) position of its syllable. However in case of Boro, velar nasal ŋ and semi vowels j and w are dropped in coda position. It is noted that though semi vowels j and w are not attested in initial word position but these two sounds are attested word medially in onset position and in word final position, for instance in *i.jun* 'future' *ao.wa.pao.wa* 'directionless' etc.

1.3. Onset Cluster

According to canonical shapes discussed in the above paragraphs, Boro does allow consonant clusters only in its onset position, but Darlong does not allow consonants cluster in any position. When we analyse C$_1$and C$_2$ of Boro canonical syllable as describe above we can find that only certain consonants are allowed to co-occur in the cluster. The voiceless aspirated stops p^h, t^h, k^h; voiced stops b, d, g, and fricative s, z are restricted to C1 position while liquid l and r are restricted only to C2 position. However some accidental cluster of fricative s and nasal n as in /sni/ 'seven' can be found in this language.

1.4. Coda Consonants

Both the languages under this analysis do not allow to attach two consonants in coda position. Therefore, the question of consonant cluster in word final position is irrelevant in the present context. Comparing coda consonant in a rhyme of a language is important for deciding the type of syllables: whether smooth or checked. The coda consonants of two languages are highlighted in Table-5

Table-5: Coda consonants of Boro and Darlong

Boro			Darlong		
b	d	*g	p	t	k
m	n	ŋ	m	n	ŋ
r			r		
*l			l		
w		j			

Occurence of coda consonats in the words these two languages can be conceptualised roughly from the following Table-6.

Table-6: Occurence of coda consonants in Boro and Darlong

Boro	Gloss	Darlong	Gloss
/ta**b**/	'quick'	/adì**p**/	'powder'
/aba**d**/	'cultivation'	/ribu□:**t**/	'ash'
/di**g**/	'direction'	/v**ɔ**k/	'pig'
/là**m**/	'to dry'	/sì:**m**/	'south'
/bo**n**/	'firewood'	/vu:**n**/	'skin'
/a**ŋ**/	'I'	/rua□**ŋ**/	'back'

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/bà**r**/	'air'	/ta□:**r**/	'old'
/nì**l**/	'blue'	/sù:**l**	'grasses'
/za□**w**/	'to dig'		
/nà**j**/	'to see'		

As shown in the Table 5, the voiced stops b, d can occur in the coda position as in *gab* 'to cry', *anzad* 'testing' and so on. Voiced velar stop g occurs only in case of loanwords, for instances in *dag* 'spot or mark', *tʰig* **'right'** or in *bahag* 'share' and so on. Liquids r and l occur frequently with the rhymes in this language. However, lateral l, again occurs basically with loanwords as in *nil* 'blue' *gazul* 'nail' *asul* 'main' and so on. Semivowels, j and w, though they occur in the coda position, it is more frequent word medially. Chainary (2005) in her unpublished Ph.D. dissertation "Boro and Garo a comparative linguistic analysis" states that pʰ, tʰ, kʰ, and g, s, h, l are not attested in words final position but occur only in loanwords.

In case of Darlong, voiced bilabial and alveolar stops are not allowed in the coda position. Notably, this similar phenomenon is also shared by other Kuki Chin languages like Mizo (cf. Chhangte, 1986:28 unpublished desertation) and Thado. Voiced nasals m, n, ŋ occur freely and frequently in the Darlong rhyme of a syllable, as in other Kuki-Chin languages, viz. Mizo, Falam Lai, Thado and Tedim, whereas Mara has lost all the nasal finals. (cf. VanBik, 2009:340). Liquids r, l are attested to coda position in these languages. VanBik (2009) claims that 'only central Chin lan guages have preserved rhymes with the rhotic liquid final –r. reflexes with the lateral liquid final –l are preserved in the both Central and Northern Chin groups'.

1.5. Syllable Structure of Words

Like other Tibeto-Burman languages, Boro and Darlong are basically monosyllabic and disyllabic language. Existence of numerous tri-syllabic or multisyllabic words are found in these two languages, however these are basically compounded words. The possible templates shapes of these languages have been discussed above and the structures of monosyllabic words of these two languages have been shown in Table-1 and Table-2. Most importantly is has been noted that infinite numbers of multisyllabic words can be formed by sequencing those different templates. Boro is a agglutinating language. There are instances, that Boro can have even up to ten syllabic words by suffixing its tense and case markers in a verb.

e.g. *dun₁.kʰar₂pʰla₃.la₄.bai₅.nai₆.kʰwu₇.sw₈.mwn₉.nw₁₀*

dun.kʰar - pʰla - la.bai nai - kʰwu – sw – mwn - nw   's/he was meant, elope – pretend - doing insincerely – SUBJ – EXCL-   nothing, but the
    PST.3(reporting)   pretending of eloping'
                                        In this process of multiple suffixation, all the suffixes are necessarily open syllabic. However this sort of multiple suffixation process is not convenient in Darlong since the grammatical markers in the language is occured in isolated manner.

1.6. Reduced Syllable

A smooth(or live) syllable is defined as any syllable ending with a long vowel or a sonorant consonant /m,n,ŋ,l,r,w,j/. Smooth syllables ending with a vowel can have all three tones. Mostly, vowel finals in smooth syllables are usually long as provided in Table 4. As an exception, the three syllables (possessive morphemes or subject agreement markers) /a/ 'her, his, it (or s/he,it)', and /ki/ 'my (or I)', which are always attached to following possessed nouns or verbs, have short vowels.
/a.vɔk̄/→[ɐ.vɔk̄]   his or her pig
/kipa□:/→ [kɪ.pa□:]   my father

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In case of some Darlong disyllabic words, the length of nucleus in initial open syllables contrastively become short and get centralised to an extent and, because of this phenomenon the preceding syllable become phonetically reduces stress and ralatively less prominent than the follwing syllable.

1.7. Sesquisyllable

Kenneth Gregerson summarises a number of parameters of Mon-Khmer IAMBIC patterning in terms of Reduction Effects. Darlong syllble also behave in principle very much like presyllables of Daai and Mon-Khmer languages which have phonological words that have been labeled as (Matisoff 1973) 'sesquisyllabic' (syllable and a half), having a weak syllable followed by a strong syllable.

/inkʰài/   → [ɪn.kʰài]   'to move'
/inkʰɛ̀ːk/   → [ɪn.kʰɛk]   'to scream'
/itʰàt/   → [ɪtʰàt]   'to kill'
/ipaːr/   → [ipaːr]   'to bloom'

However, this situation related to sesquisyllable in Darlong needs to be done a thorough research in future. But in case of Boro, I being a native speker, have never come across with such data which are sufficient to support the situation of reduced or sesquisyllables. All the vowels in disyllabic or polysyllabic words are relatively of equal length and the length of the vowel is not contrastive in Boro-Garo group. Unlike in Darlong, each syllables in either disyllabic or multisyllabic phonological words have relatively equal stress.

1.8. Conclusion

The analysis of core syllable structure of these two languages has proven, that neither onset nor coda consonants are obligatory to be a well-formed monosyllabic word while coda cluster is absent in both of the languages. All aspirated stops pʰ-, tʰ-, kʰ- can occur word initially, inter vocalically but not syllable or word finally. Voiceless stops p, t, k occur either in onset or coda position in Darlong. Voiced nasals coda –m, -n, -ŋ are present in both of the languages. Voiceless nasals m̥, n̥, ŋ̊ affricate ts, voiceless lateral affricate tɬ voiceless liquids l̥ and r̥ are only present in Darlong phonemic inventory and all these consonants occur only syllable or word initially but not syllable or word finally.

In Darlong, liquids l and r occur both in syllable onset and coda position, whereas in case of Boro l- occur only in onset position and attested in coda only in case of borrowed words.

In Boro semi vowels j, and w do not occur word initially but occur word medially or finally. However Darlong does not have semi vowels. VanBik, 2009 states that 'except in some southern-plain languages, e.g. Dai and Asho Chin initial *w- became a labio-dental voiced fricative in Kuki-Chin languages. According to Jordan, the M. Cho's orthographic v- is often pronounced like w- in the beginning of words' (VanBik 2009;271). There are voiced and voiceless labiodental fricative f- and v- in Darlong which occur syllable or word initially, but not word finally.

It has been noted, that after complex diphthong nucleus V_1V_2 , the coda consonant C_3 does not occur in Boro native words while in Darlong coda consonant C_2 are permitted after a complex nucleus V_1V_2 . The selective coda consonants like, liquids l, r; nasals m, n, ŋ and voiceless stops p, t, k which occur in the rhyme with diphthong in Darlong are given below:

/itʰiap/ 'to splash',

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/izia□t/	'to peel'
/bia□k̚/	'to worship'
/isia□m/	'to buil'
/lia□n/	'big'
/kua□ŋ/	'drum'
/bial/	'circle'
/ʦiar/	'to gossip'

Thus, the above examples of C2 after diphthong in Darlong demonstrates, that the second segment of nucleus are seems to be more sonorous [3]than the first segment Under Boro-Garo languages Dimasa also still retains coda consonants after diphthong.

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[3] See Selkirk, E. (1984). On the major class features and syllable theory. In Aronoff & Oehrle (eds.) Language Sound Structure: Studies in Phonology. Cambridge: MIT Press. 107-136.

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