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## SIMPLIFICATION OF CLUSTERS IN SYLHETI: AN OPTIMALITY THEORY ANALYSIS

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**Abstract:** Sylheti is an Indo-Aryan language spoken throughout Sylhet division in Bangladesh and Barak Valley of Southern Assam, India. Though the language is very closely related with Bangla and Assamese, yet the absence of consonant clusters in a syllable marks the idiosyncrasy of the language. For example, the Bangla word “Broto” (vow) /brətə/ is realised as /bɔr.tə/ in Sylheti breaking the “br” cluster by inserting a vowel in between; ‘christian’ becomes /kɪf.tan/ deleting a consonant from the syllable initial consonant cluster. This paper aims to investigate the different strategies that the language undertakes to keep the words devoid of consonant clusters.

**Keywords:** Sylheti, syllable, optimality theory.

**Introduction:** The idea of Syllable is much prevalent in the history of Phonology. A traditional view of Syllable defines the concept as an abstract organization of segments in natural language organised into independent units which is larger in size and weight than an individual segment. Syllable is the minimal distinct unit of the pronunciation of a word which is larger than a phoneme and smaller than an entire word. McArthur (1992) states that syllable is the "smallest unit of speech that normally occurs in isolation consisting of either a vowel alone...or a combination of vowel and consonant(s)..." (cited in Goswami, 2018). However, the formation of a syllable with consonants is not rare. For example, /m, n, l/ can act as syllabic consonants in English. Syllable is the minimal distinct unit of pronunciation of a word which is larger than a phoneme and smaller than an entire word. A syllable consists of onset, nucleus i.e. the peak and coda. Onsets are of two types: simple and complex onset. Simple onset contains only one consonantal sound and a complex onset contains more than one consonant.

Cross-linguistically it has been observed that CV is the most unmarked syllable structure, although world languages show a varied range of syllable structure. For example, languages such as English, Polish allow three onset segments, long vowels or diphthongs in the nucleus and three or even four coda consonants. On the other hand, languages such as Fijian, Senufo allow only a single onset consonant followed by a single nucleus vowel and never have coda segment. There are some languages where onset and coda may be obligatory while in some others they may be optional. The occurrence of consonant clusters or long vowels in a language is determined by the parameter that whether the elements

constituting each syllable can branch or not. For example, English allows onset, nucleus and coda elements to branch out. This results in long vowels and diphthongs occurring in the nucleus and consonant clusters occurring in the onset and coda.

**Syllable Structure in Sylheti:** Sylheti is an Indo-Aryan language spoken in Southern Assam, India and in Bangladesh. Sylheti lexicon does not include words with either complex onsets or complex codas. The language applies various strategies to keep the words simple and clutter free. For example, in case of /bɔr.tɔ/, a vowel is inserted in between two consonants to break the consonant cluster. In /iskul/, prothesis occurs in the case of sibilant+ stop clusters. The word 'christian' becomes /kɪʃ.tan/ in Sylheti deleting a consonant from the syllable initial consonant cluster. However, figuring out a unified pattern for the devices of breaking up the consonant clusters opens up the avenue for further research.

Following are the possible syllable structures in Sylheti:

Open syllable

V	/e/ 'is it?'	
VV	/ou/ 'this'	/ao/ 'come' (imperative)
CVV	/bɔi/ 'book'	/mɔi/ 'ladder'
CV	/za/ 'go'(imperative)	/ma/
	'mother' Closed syllable	
VC	/am/ 'mango'	/ar/ 'and'
VVC	/ain/ 'please come'	/ɔin/ 'this person'
CVC	/xam/ 'work'	/dam/ 'cost'
CVVC	/sair/ 'four'	/dɔur/ 'run'

The above examples show that the syllabic pattern is simple and it does not allow any consonant cluster at any point. Both onset and coda are optional. Instances of syllables consisting of only a vowel is scarce. CVC structure is most predominant in Sylheti. This shows that in Sylheti, consonants are not capable of occurring in strings in the initial and final positions. This fact provides insights into the Sylheti speakers' employment of weakening processes of de-clustering viz. epenthesis, deletion etc. at the syllabic level when they encounter a different syllable structure in lexical borrowings that is not part of Sylheti phonology to make them pronounceable. These strategies are discussed next.

The syllable initial cluster is broken by inserting a vowel either at the syllable initial position before the consonant or in the syllable medial position. For example, /bɔr.tə/. In this case, a vowel is inserted in between two consonants to break the consonant cluster. Another example can be cited as /iskul/ where prothesis occurs in the case of sibilant+ stop clusters.

Word-final CC sequences form the coda of the preceding syllable; for example, the sequence 'rd' is the coda in the word [gard] 'guard'. The economic nature of Sylheti does not prefer having a consonant cluster at the word-final position. Hence, [gard] 'guard' is realised as [gad] in Sylheti. In this case, the consonant cluster cc structure at the syllable final position is broken by deleting the penultimate consonant. This again establishes that in Sylheti CVC, CV, VC is the allowed syllable structure.

In case of Sylheti, owing to its de-clustering nature, the unmarked syllable structures are CV, VC and CVC. Breaking of Consonant Clusters in Sylheti: An Optimality Theoretic analysis: The word-initial clusters become the onset of the first syllable; the cluster 'tr' is the onset to the peak /i/ in the word [tri- no] 'grass'. Because of its non-tolerance towards the syllable initial cluster, the syllable initial cluster is broken by inserting a vowel either at the syllable initial position before the consonant or in the syllable medial position. For example, in the case of

/bɔr.tə/, a vowel is inserted in between two consonants to break the consonant cluster. In /iskul/, prothesis occurs in the case of sibilant+ stop clusters. The word 'christian' becomes

/kiʃ.tan/ in Sylheti deleting a consonant from the syllable initial consonant cluster. However, figuring out a unified pattern for the devices of breaking up the consonant clusters opens up the avenue for further research.

The phonological constraints used in the paper to analyse the optimal candidate are:

\*COMPLEX: Constraint clusters are not allowed (Kager, 1999)

SYLLABLE CONTACT: Sonority should not rise across a syllable boundary. (Gouskova, 2002)

MAX-IO: Input segments must have output correspondence. (No deletion) (Kager, 1999)

ONSET: Syllable should have an onset. (Kager, 1999)

**CONTIGUITY:** The adjacent elements in input should correspond in the output. (Kager, 1999)

**DEP IO:** Output segment must have input correspondents. (no insertion) (Kager, 1999)

**CLUSTER COND /r/:** Consonant clusters with /r/ cannot occur. (Based on CLUSTER COND by Wilson, 2001)

**ANCHOR-R:** Any segment at the right periphery of the output has a correspondent at the right periphery of the input. (Kager, 1999)

**MAX C/V:** Do not delete a consonant followed by a vowel (Cote, 2004)

**CONTIG C Stop:** An adjacent consonant and stop sequence standing in correspondence in the input form a continuous string, as do the corresponding portion in the output. (Karim, 2011)

The following tables exhibit the syllabification pattern in Sylheti using various repair strategies.

Tableau 1: Epenthesis in /brɔ.nɔ/

Input /brɔ.tɔ/	*COMPLEX	SYL CONTAC T	MA X IO	ONSET Y	CONTIGUIT	DEP- IO
□ a./bɔr.nɔ/					*!	
b./ɔb.rɔnɔ/		*!		*		
c./brɔ.nɔ/	*!					
d./rɔ.nɔ/			*!	*!		

Here, candidate a. is an optimal output as it abides by all the high ranked constraints Candidate b. Undergoes prothesis and thus violates crucial context specific markedness constraint ONSET. It also fatally violates the markedness constraint SYL CONTACT by not abiding by the sonority sequencing principle during syllable division. Candidate c. violates the highest-ranking constraint \*CC and hence is ruled out. Candidate d. gets ruled out as it violates the high-ranking faithfulness constraint Max IO as well as the markedness constraint ONSET

Tableau 2: Prothesis in /skul/

Input : /skul/	*CC SYL CONTACT	MAX IO	CONTIGUITY T	ONSE	DEP- IO
Candidate: ☞ a. /is.kul/			*		*
b. /si.kul/			*!		*
c. /sk.ul/	*! *!				
d. /is.ul/	*!	*!			

Here, candidate a. is the optimal candidate despite violating the low ranked markedness constraint ONSET and faithfulness constraint DEP IO. Candidate b. violates the high ranking markedness constraint CONTIGUITY and low ranked faithfulness constraint DEP IO. Hence its candidature is ruled out. Candidate c. violates the highest ranking markedness constraint \*CC and SYL CONTACT. Hence it can't be the optimal candidate

Tableau3.3: Deletion of /r/ in /kɾɪʃ.tan/

Input : /kɾɪʃ.tan/	Cluter Cond /r/	CONTIG C STOP	MAX C/V	MAX IO
Candidates ☞ a. /kɪʃ.tan/		*		*
b. /kɾɪʃ.tan/	*!			
c. /kɪʃ.ʃtan/		*!	*!	*
d. /kɾɪ.tan/	*!			*

Here, candidate a. Is the optimal candidate despite violating the low ranked faithfulness constraints MAX C/V and MAX IO as it abides by the crucial high ranking markedness constraints Cluter Cond /r/ and CONTIG C STOP. Candidate b. violates the high ranking markedness constraint Cluter Cond /r/. Hence its candidature is ruled out. Candidate c. violated the high ranked markedness constraint CONTIG C STOP and loses the candidature. Candidate d fatally violates the highest

ranked markedness constraint CLUSTER COND /r/. Hence, this is also ruled out.

Conclusion : In case of Syllable structure in Sylheti, the most important aspect is the economy. Sylheti does not allow consonant clusters in a syllable. Prothesis usually occurs to break the Sibilant + Nasal cluster at the word-initial position. For example, /smaɪl/ -->

/ɪsmaɪl/ 'smile'. A vowel is inserted medially when clusters consist of Obstruent + Sonorant sounds. For example, /bɔːrnɔ/ --> /bɔːrɔn/ 'colour'

Constraint ranking for Syllabification in Sylheti by vowel insertion: \*CC, SYL CONTACT >> MAX IO >> CONTIGUITY, ONSET >> DEP-IO

Sylheti does not allow consonant cluster at any position in a syllable. Hence, it adopts deletion process to break the consonant cluster at word initial position in a polysyllabic word. For example, /kɪf.tan/ □ /kɪf.tan/.

Constraint ranking for syllabification by deletion: Cluster cond >> Max C/V, CONTIG STOP >> MAX IO

Thus, we can conclude that owing to its de-clustering nature, the unmarked syllable structures in Sylheti are CV, VC, VV and CVC.

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