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LENITION PROCESS AND SYLHETI BANGLA OBSTRUENTS

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ABSTRACT

This paper examines the application of lenition processes such as spirantisation, deaffrication, debuccalisation and deletion in the historical development of obstruents of Sylheti Bangla (henceforth SHB), a dialect of Bangla spoken in the Sylhet district of Bangladesh, North Tripura and Barak Valley of Assam. The obstruent inventory of SHB exhibits that surface fricatives are attested for the underlying stops such as bilabial plosives /p p^h/ and velar plosives /k k^h/ develop as spirants /ɸ/ and /x/ respectively for example, (paṇa →ɸaṇa 'leaf', kaṭ^h→xaṭ 'wood'), in the same way underlying aspirates become deaspirates in the surface representation, such as /ṭ^h/ →/ṭ/ (maṇ^{h}a →maṇa 'head'), /b^h/→/b/ (b^{h}aṇ →baṇ 'rice'), surface fricatives /s/ and /z/ are attested for underlying affricates /ʧ/ and /ʤ/ respectively, for example, (ʧal →saul 'rice'), (ʤama →zama 'frock'), underlying /ʃ/ debuccalises as glottal /h/ for example, (ʃag →hag 'spinach') and segmental loss is noticed in the case of glottal /h/ for example, (haṇ →aṇ 'hand'). In this paper our main aim is to account for SHB lenition process in terms of segmental decomposition based on the outline of Government Phonology (Kaye, Lowenstamm & Vergnaud 1990).

Key Words: Deaffrication, Deaspiration, Debuccalisation, Government Phonology, Lenition, Obstruent, Spirantisation.

KY PUBLICATIONS

1.0 Introduction

Sylheti Bangla (henceforth SHB), a dialect of Bangla is spoken in the Sylhet district of Bangladesh, North Tripura and Barak Valley of Assam. This dialect has unique constellation of phonological, morphological and syntactical properties and these properties differentiate it from other dialects of Bangla. For that reason the speakers of other dialects of Bangla find very hard to understand the language of SHB. Even the people of Chittagong which is both geographically and linguistically so near to Cachar-Sylhet cannot recognise all sounds of this dialect. The historical development of the speech sounds of SHB exhibits that SHB obstruents have undergone a major reduction and restructuring of phonological processes which affects a number of them. In

this paper our main aim is to account for SHB lenition process in terms of segmental decomposition based on the outline of Government Phonology (Kaye, Lowenstamm & Vergnaud 1990).The data used in this paper was elicited from the Sylheti speakers of North Tripura, the district of Tripura near to Sylhet district of Bangladesh.

1.2 Lenition in SHB

Although there are numerous controversies surrounding the definition of lenition but the core concept of lenition accepted by most of the phonologists is that lenition involves a relatively simple set of segmental changes. The examples of lenition processes are degemination (a long consonant becomes short), debuccalisation (loss of supralaryngeal features), voicing (voiceless obstruents become voiced), spirantisation (stops become continuants) and loss or deletion (loss of segment) etc. In the previous works on lenition many approaches are proposed to give a unified account of lenition processes. One fine-grained view of lenition dictated by Theo Vennemann is recorded in Hyman (1975): "A segment X is said to be weaker than a segment Y if Y goes through an X stage on its way to zero" (cited in Kirchner 1998). This means that lenition is a progression from stop to zero via a number of intermediary stages. Following Kirchner (1998) it can be stated that the term "lenition" (< L. *lenis,* 'weak') or weakening refers to synchronic alternations, as well as diachronic sound changes. The lenition processes such as spirantisation, deaffrication, debuccalisation and deletion occur in the development of SHB sounds are illustrated with ample examples in the below sections.

1.2.1 Spirantisation

Spirantization is a process of weakening found in many dialects and languages across the world. According to Kenstowicz (1994) when stops weaken to fricatives (spirants), the process is called spirantization. In SHB bilabial plosive /p/ and velar plosive /k/ and their aspirated counterparts /p^h/ and /k^h/ respectively are observed to participate in spirantisation resulting fricative sounds /ɸ/ and /x/. The examples of spirantisation are demonstrated in the following.

1. p, p^h→ɸ

a) Pre-vocalic

Words with underlying p p^h	SHB Words	Gloss
paṭa	ɸaṭa	‘leaf’
peʈ	ɸɛʈ	‘belly’
p^hola	ɸula	‘heavy/bulky’
p^hɔl	ɸɔl	‘fruit'

b) Inter-Vocalic

Words with underlying p p^h	SHB Words	Gloss
k^hõ.pa	k^hu.ɸa	‘ban’
ka.poʈ	xa.ɸɔr	‘cloth’
ṭu.p^han	ṭu.ɸan	‘heavy storm’

c) Post-Vocalic

Words with underlying p p^h	SHB Words	Gloss
ʃap	ʃaɸ	‘snake’
map	maɸ	‘forgive’
laɸ^h	laɸ	‘Jump
kɔp^h	xɔɸ	‘cough’

2. k,k^h → x

d) Pre-vocalic position

Words with underlying k k^h	SHB Words	Gloss
kaʈ^h	xaʈ	'wood'
kaɟ	xam	'work'
k^{h}ali	xali	'empty'
k^{h}aʈ	xaʈ	'bed'

e) Inter-vocalic position

Words with underlying k k^h	SHB Words	Gloss
ʈa.ka	ʈɛ.xa	'money'
bã.ka	bɛ.xa	'curve'
pa.k^{h}a	ɸa.xa	'fan'
ra.k^{h}al	ra.xal	'shepherd'

1.2.2. Deaffrication

In this section we will examine the changes of underlying affricates /tʃ/ and /dʒ/ and their aspirated counterparts /tʃ^h/ and /dʒ^h/ into fricatives /s/ and /z/ respectively. Deaffrication is very pervasive rule in SHB as it applies obligatorily independent of any contextual specification. The below examples will make this point clear.

3) tʃ, dʒ→s, z

f) Pre-vocalic Position

Words with underlying tʃ, dʒ	SHB Words	Gloss
tʃal	saul	'rice'
tʃar	sair	'four'
dʒat	zaʈ̪	'caste'
dʒɔl	zɔl	'water'
dʒ^{h}al	zal	'bitter'
dʒ^{h}au	zau	'bushes'

g) Inter-vocalic position

Words with underlying tʃ, dʒ	SHB Words	Gloss
ko.tʃu	xɔ.su	'arum'
ka.tʃa	ka.sa	'raw'
ba.dʒar	ba.zar	'market'
ʃo.dʒa	hu.za	'straight'
ma.dʒi	ma.zi	'boatman'

h) Post-vocalic position

Words with underlying tʃ, dʒ	SHB Words	Gloss
katʃ	xas	'glass'
pãtʃ	ɸas	'five'
ʃadʒ	haz	'make up'
rodʒ	ruz	'daily'

1.2.3 Deaspiration

The underlying voiceless aspirates /p^h ʈ̪^{h} ʈ^h k^h tʃ^h/ and voiced aspirates /b^h d^h ɖ^h g^h dʒ^h/ loss their [Spr.gl] feature in the surface representation of SHB. The interesting observation is that voiced aspirates such

as /bʰ dʰ ɖʰ gʰ/ neutralize to already existing set of corresponding sounds with the specification [-son, +cons, +voice] i.e. /b d ɖ g/. In the same way, voiceless aspirates such as /t̪ʰ ʈʰ/ neutralize to already existing set of corresponding sounds with the specification [-son, +cons, -voice] i.e. /t̪ ʈ/ respectively. However, the derivational step in the case of voiceless stops /pʰ kʰ / and voiced and voiceless affricates /dʒʰ tʃʰ/ includes more than one step as they lose both the laryngeal feature [+Spr.gl] and manner feature [-Cont]. For example, aspirated bilabial stop /pʰ/ and velar stop /kʰ/ undergo deaspiration heading towards one more step of weakening that is spirantisation – /pʰ/→/ɸ/ (pʰul→ɸul 'flower'), /kʰ/→/x/ (kʰaʈ→xaʈ 'bed'). In the same way, transformation from aspirated voiceless and voiced palatal affricates /tʃʰ/ and /dʒʰ/ to fricatives — /s/ and /z/ as in tʃʰai→sai 'ash', dʒʰau→zau 'tamarind tree' respectively exhibits the involvement of two phonological processes that is deaspiration and deaffrication. The deaspiration of voiced aspirates /bʰ dʰ ɖʰ gʰ/ and voiceless aspirates /t̪ʰ ʈʰ/ demonstrated with ample examples in the following examples.

4. bʰ → b
   d̪ʰ → d̪
   gʰ → g
   ɖʰ → ɖ

i) Pre-vocalic Position

Words with underlying aspirated sounds	SHB Words	Gloss
bʰai	bai	'brother'
d̪ʰan	d̪an	'paddy'
gʰa	ga	'sore'
ɖʰol	ɖul	'one kind of instrument'

j) Inter-vocalic position

Words with underlying aspirated sounds	SHB Words	Gloss
ʃɔbʰa	hɔba	'assembly'
gad̪ʰa	gad̪a	'ass'
maʈʰa	maʈa	'head'
boiɽʰa	boiɽa	'oar'

k) Post-vocalic position

Words with underlying aspirated sounds	SHB Words	Gloss
laʈʰ	laʈ	'kick'
maɽʰ	maɽ	'field'

1.2.4 Debuccalisation

In the case of SHB sounds, it is noticed that surface glottal /h/ is used in many cases especially in word initial position for the underlying sibilant /ʃ/. The lenition process which displays the replacement of /ʃ/ into glottal /h/ is called debuccalisation. In SHB this change is restricted only in the case of word initial position i.e., prevocalic position. In the case of word medial and final position, debuccalisation gets blocked. The below examples will show how debuccalisation helps in the development of SHB sound.

5. ʃ→h

l) Pre-vocalic Position

Words with underlying sibilant sounds	SHB Words	Gloss
ʃag	hag	'spinach'
ʃap	haɸ	'snake'
ʃari	hari	'saree'
ʃaʤ	hadz	'make up'
ʃuʈki	huʈki	'dry fish'

1.2.5 Loss

The sound /h/ in Indo-Aryan is a laryngeal open consonant popularly called guttural spirant which can be both voiced and non-voiced. The development of SHB sounds exhibit that the underlying glottal gets deleted from its position and the adjacent vowel becomes lengthened than its usual pronunciation. The data given below demonstrates the occurrence of deletion process in SHB.

6. h → ø

m) Pre-vocalic Position

Words with underlying glottal sound	SHB Word	Gloss
hat	at	'hand'
haʈu	aʈu	'knee'
haʈ	aʈ	'bone'
haṇ̇ti	aṇ̇ṇ̇ti	'elephant'
haʃ	aʃ	'goose'

n) Word-Medial

Words with underlying glottal sound	SHB Word	Gloss
bahir	bair	'outside'
purohiṭ̇	pu.roiṭ̇	'priest'

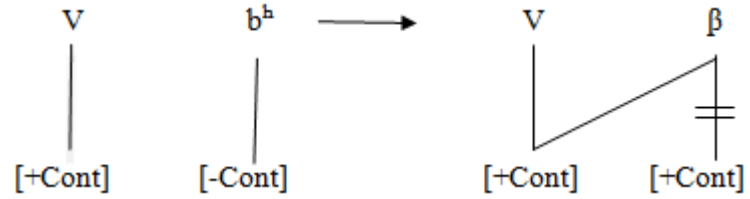
1.3 SHB Lenition Process in the Framework of Phonological Theory

In the history of phonology, it is noticed that a wide range of theoretical approaches have been made to give a unified account of lenition processes such as autosegmental phonology of feature spreading, sonority promotion, the Government phonology which treats lenition as the loss of privative feature, etc. We will try to account for SHB lenition processes from those theoretical approaches to examine which approach can cover all the lenition processes of SHB obstruents.

First analysing the data section of spirantisation (1; a,b,c) it can be stated that though intervocalic position, flanked by both preceding and following [+Cont] is found to be the most favourable environment cross-linguistically for a stop to lose its [-Cont] and turns into a segment bearing [+Cont] but in SHB spirantisation occurs not only in intervocalic position but also in prevocalic and postvocalic positions. In this regard we can cite Rhee (1998) who claims that spirantisation in most cases occurs in the contexts where

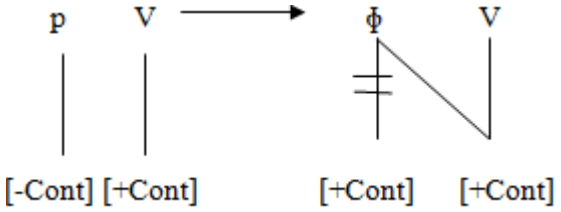
target stop is adjacent to a [+Cont] segment that is prevocalic, postvocalic, or intervocalic position. For examples, spirantisation occurs in prevocalic position found in Boro (Bhat 1968, Bhattacharya 1977) such as /pʰipʰa/ - /ɸipʰa/ 'father' and in post vocalic position found in Nepali (Bandhu & Dahal 1971) such as /gəpʰ/ - /gəɸ/ 'gossip' (cited in Dutta 2011). However, the examples of spirantisation occur in cross-linguistically exhibit the fact that spirantisation always involves the assignment of the feature [+Cont] to a stop. Based on this fact, phonologists tried to interpret spirantization process within the rubric of autosegmental model of feature spreading proposed by Selkirk (1982), Harris (1983), Mascaro (1983, 1987), Jacobs & Wetzels (1988), Cho (1990), and Lombardi (1991) (cited in Dutta 2012). According to this approach spirantisation occurs because of the spreading [+Cont] feature of vowel to adjacent [-Cont] segment. To give evidence that spirantisation is an instance of [+Cont] assimilation here one analogy is drawn to show post vocalic word final spirantisation occur in Nepali taking reference from Dutta (2012).

7. Autosegmental Analysis: Assimilation to [+Cont]

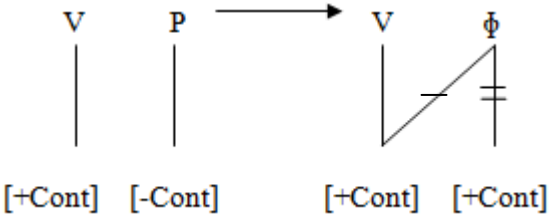


Following the above diagram spirantisation process occurs in SHB can be interpreted under the theory of feature spreading. In the case of SHB data, we find spirantisation occurs when [+Cont] is adjacent to targeted stop. The assignment of [+Cont] feature to adjacent stop is shown in the diagram below.

8. Spirantisation in Pre-vocalic Position:

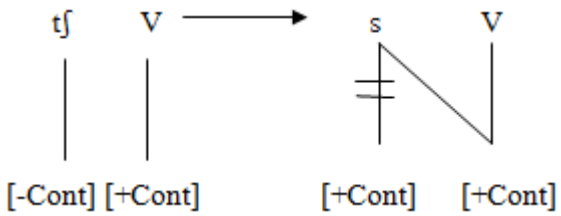


9. Spirantisation in Post-vocalic position:

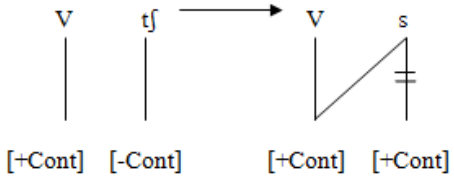


Now coming to data section of deaffrication (1; d,e) we find that like spirantisation it also occurs when [+Cont] segment is adjacent to [-Cont] which also can be explained from feature spreading theory. The deaffrication process found in the development of SHB fricative sound /s/ and /z/ is demonstrated under the autosegmental phonology of feature spreading in the following representation.

10. Deaffrication in Pre-vocalic Position:



11. Deaffrication in Post-vocalic position:



Though this feature spreading approach adequately explains the spirantisation and deaffrication process occurs in pre-vocalic and post-vocalic position, it fails to provide an explicit account of the intervocalic position that is two-sided lenition contexts as it suffices to spread the relevant feature from either adjacent vowel and hence the role of the other vowel in conditioning the lenition is unexplained.

This lacking of feature spreading theory drives us to take into consideration the another approach of lenition process that is sonority promotion theory which has been proposed by Foley (1977), Clements (1990), Hock (1992), and Lavoie (2001) (cited in Dutta 2012). Lenition as sonority promotion formalise lenition rule as replacing a sound by more sonorous version of itself in certain contexts. Sonority is determined based on the principle that the higher the sonority of a segment, the closer it is to the peak of the syllable (Vennemann 1972, Hopper 1976, Kiparsky 1981, Clements 1990, cited in Ewen and Van der Hulst 2001). On the scale of sonority stops are least sonorous followed by fricatives, nasals, liquids, glides and finally vowels, which are most sonorous. The sonority scale proposed by Dell & Elmedlaoui (1985) is stated below:

12) stops > voiceless fricatives > voiced fricatives > nasals > liquids > high vowels/glides > low vowels

So the spirantisation process where stops spirantises to fricatives can also be explained as a phenomenon occurs in order to promote sonorancy of a segment as we find in the sonority scale fricatives are more sonorous than stops.

However, the formalisation of lenition as feature spreading or sonority promotion fails to give unified explanation of other leniting processes of SHB that is deaspiration or debuccalisation as they include delinking of features rather than the acquisition of new ones and neither of which has more sonorous output than input. For that reason, to define SHB lenition processes we have to depend on other phonological theory that is element-based approach based on the outline of Government Phonology (Kaye, Lowenstamm & Vergnaud 1990) which treats lenition as a loss of element. In the Government phonology it is found that segments are composed of privative elements and these elements are the smallest units in the theory of segmental representations (KLV 1985, 1990, Harris 1990). Each element has autonomous identity and they are pronounceable in isolation. On the other hand, a segment can be formed by the combination of elements. In such combinations two or more elements form a HEAD - OPERATOR relation. Three basic resonance elements are 'A', 'U', and 'I' which, when pronounced, correspond to the corner vowels [a], [u] and [i] respectively. These elements may combine to form complex vowels. Such combinations take the form of asymmetric relations in which one of the elements acts as the head and the other as the operator. When 'A' is the operator and 'I' is the head (A.I), the resultant vowel is [e].

In segmental representation of consonants the resonance elements 'U', 'I', 'A', and v˚ are also found where their role is to define the place of articulation. Thus, 'U' defines labiality, 'I' is used to mark palatality, 'A' indicates pharyngeality, while the cold vowel (v˚) represents velarity. The following consonantal elements are found in Harris (1990).

R˚ - coronal gesture

ʔ˚ - occluded (constriction)

h˚ - noise

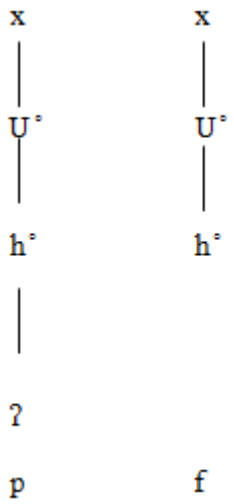
N^{+} - nasal

H^{-} - stiff vocal cords (fully voiceless)

L^{-} - slack vocal cords (fully voiced)

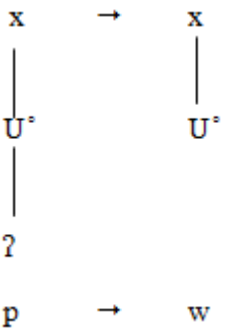
These elements may combine to produce complex segments. For example, labial fricative is formed by the combination of 'U' and 'h', while the combination of (h, ʔ, U) defines a labial stop. The below representation of fricative and plosive sound will make this point clear.

13)



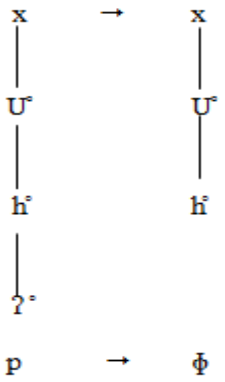
Now, in the light of the Government Phonology Harris (1990) shows that when one or more element from the internal structure of a segment gets deleted the output is the result of lenition process. So, all lenition phenomena can be characterised as segmental decomposition. According to Harris, these reduction phenomena decrease the segmental complexity which is directly calculable in terms of number of elements of which a segment is composed. Harris (1990) shows Korean vocalisation process where the loss of ʔ° occurs in the element-based framework.

14)



Now coming to SHB it is stated that all the lenition processes such as spirantisation, debucclisation, deaspiration and deletion, which act to develop SHB obstruents can be interpreted in the framework of element-based as they all exhibit the loss of internal structure of segments. Thus, spirantisation process of SHB can be expressed as the loss of a ʔ° element which is demonstrated in the following representation.

15)

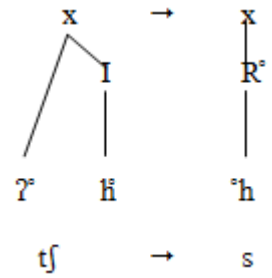


From the above representation, it is noticed that the result of the spirantisation that is the reduced output manifests the full phonetic identity of the remaining element. So, spirantisation occurs in SHB is identifiable as a reduction process simply by observing that stops are more complex than fricatives as the former contains at least one more element than the latter.

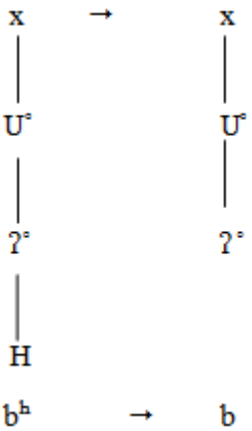
The element-based approach is the best framework to explain SHB deaffrication and deaspiration as in both the cases we find the loss of one element. In the case of deaffrication we find the loss of element ʔ˚ and the result is the fricative sound, whereas in the case of deaspiration element H gets deleted and reduced output is deaspirate sound.

The representation below of SHB deaffrication (16) and deaspiration (17) will make this point clear.

16)



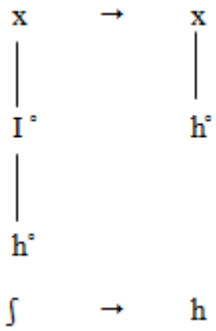
17)



In the above representations we find former contains at least one more element than latter.

Now coming to SHB debuccalisation, it also can be interpreted in the line of element-based approach as here we find the oral fricative ʃ differs from glottal h by one degree of complexity lost its place feature I˚ demonstrated in the representation below.

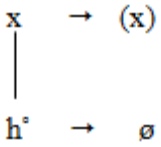
18)



The above representation of debuccalisation process shows that the former contains a place-defining element that is absent from the latter.

Now in the case of SHB deletion or segmental loss, we find that all privative elements get deleted from underlying segment. The representation below makes it clear.

19)



So from the above discussion it is noted that though many theoretical proposals have been made to unify lenition changes, element-based approach can persuasively cover all the lenition processes occur in the development of SHB obstruents. Another important thing should be mentioned that beside these abstract phonological notions of lenition, Kirchner (1998) gives a unified approach of lenition process by proposing that lenition is the result of a reduction in articulatory effort. According to him all lenition phenomena are driven by constraints in the grammar that refer to levels of physical effort. The author proposes that from the effort minimization constraint language specific constraints emerge termed as LAZY which interacts with some lenition blocking constraints within Optimality Theory. Kirchner shows that when faithfulness constraint PRESS (Continuant) will be dominated by LAZY the resultant output will be the spirantisation in the language. However, in this paper our focus is not on optimality account of lenition process of SHB; it is open for future research.

1.4 Conclusion

This paper has attempted to give a unify approach of lenition processes such as the pattern of spirantization, deaffrication, debuccalisation and deaspiration occur in the development of SHB obstruents. From our analysis, we have seen that phonological approaches such as feature spreading theory, sonority promotion are not able to define all the lenition processes of SHB as they fail to give unified explanation of deaspiration or debuccalisation processes which include delinking of features rather than the acquisition of new ones and neither of which has more sonorous output than input. We have also seen that all the lenition processes of SHB can best be understood with an element-based approach to segmental structure based on the outline of Government Phonology (Kaye, Lowenstamm & Vergnaud 1990) which treats lenition as a loss of element.

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