The Dhaka University Journal of Linguistics: Vol. 2 No.4 August 2009 Page: 93-113, Published on August 2010 by the Registrar, Dhaka University ISSN-2075-3098

mÄbbx aŸwb‡KŠkj Z‡Ëi Av‡jv‡K evsjv aŸwbZ‡Ëi i¦c‡iLv

wkwki fÆvPvh¨[1]

1. mn‡hvMx Aa¨vcK, AvaywbK fvlv Bbw÷wUDU, XvKv wekwe`¨vjq
JSPS Post-doctoral Fellow
National Institute for Japanese Language and Linguistics, Tokyo, Japan
Email : shishir.bhattacharja@gmail.com

Abstract

According to the theory of G(enerative) P(honotactic) (elaborated in Singh 1984, 1990), a phonemic inventory and a list of the W(ell)-F(ormedness) C(onditions) in addition to three hierarchically arranged strategies (Assimilation/ Substitution > Epenthesis > Deletion) to repair the sequences that violate these WFCs represent the essentials of a phonological description. For instance, the phonology of Panjabi, Chittagonian and Walpiri has, each, a WFC which bans the cluster ʔskʔ in onset. If these languages must adapt the English loan word school, then, Panjabi and Chittagonian repair it with epenthesis (/səkul/ in Panjabi and /iʃkul/ in Chittagonian). In Walpiri, the word becomes /kul/ through deletion because no syllable begins with a vowel in this language, and its phonemic inventory lacks fricatives (/f/, /s/, /z/, etc.). The present is an exhaustive account of the phonology of Bengali in the light of GP.

Keywords: *Well-formedness condtitions, Epenthesis, Deletion, Substitution, Mechanism of repair*

1. Dcµgv‡YKv

Ab¨ ‡h ‡Kvb gvbefvlvi g‡Zv evsjv fvlvI wewfb Dcfvlvi mgvó (`: P‡Ævcva¨vq 1970:1 I fÆvPvh¨ 2007:41) Ges GB Dcfvlv¸‡jvi g‡a¨ GKwU n‡"Q Ôgvb PwjZ evsjvÕ eZgvb ce‡Ü iv‡R›` wmsn (1984, 1990) c¯wewZ *mÄbbx aŸwb‡KŠkj* (Generative Phonotactic) ZË AbymiY K‡i GB Dcfvlvwi GKwU Avcv¤úŸ aŸwbZvwËK eYbv ‡`qv n‡e (D‡jL¨ ‡h eZgvb ce‡Ü Ôevsjv fvlvÕ ev Ôevsjv Õ ej‡Z Ôgvb PwjZ evsjvÕ ‡evSv‡bv n‡e)| wØZxq Aa¨v‡q aŸwbweÁvb I aŸwbZ‡Ëi cv_K¨ wb‡`‡ki ci eZgvb Av‡jvPbvq Acwinvh Ggb wKQzaŸwbZvwËK e¯i m-D`vniY eYbv ‡`qv n‡e| ZZxq Aa¨v‡q mÄbbx aŸwb‡KŠkj Z‡Ëi eYbv cm‡½ Dc¯wcZ n‡e evsjv cvYweK eYgvjv ev evsjv aŸwbg¥‡ji Zwj Kv| PZz Aa¨v‡q _vK‡e evsjv fvlvi mÄbbx aŸwb‡KŠk‡ji GKwU Zwj Kv Ges Ae‡k‡l _vK‡e Dcmsnvi|

2. aŸwbweÁvb, aŸwbZË I wewfb aŸwbZvwËK e¯ (Phonological object)

gvbefvlv wP‡ýi mgvó Ges wP‡ýi i‡q‡Q `ywU w`K: ‡`¨vZK Avi ‡`¨vwZZ| ‡`¨vZK wjwLZ n‡Z cv‡i, ev (evKcwZeÜx‡`i ‡¶‡Î) gyÝwbfil n‡Z cv‡i| Z‡e fvlv cavbZ evKwbfi| e³v wK Dcv‡q Zvi evMhš ¿envi K‡i fvlvi ‡`¨vZK AskwU mvó K‡i Ges ‡kvZv wKfv‡e Zvi keYhš ¿envi K‡i `ywU ‡`¨vZ‡Ki g‡a¨ cv_K¨ K‡i DV‡Z cv‡i – G welqwU aŸwbweÁvb (Phonetics) I e¨vKi‡Yi aŸwbZË (Phonology) As‡ki AvjvP¨ welq| ‡mvRv K_vq, ‡Kvb fvlvfvlx wK Dcv‡q ‡mB fvlvi kã, eM (Phrase), c¯ve (Clause) I evK¨ D"PviY K‡i DV‡Z cv‡i Ges wewfb kã, eM, c¯ve I ev‡K¨i g‡a¨ cv_K¨ Ki‡Z cv‡i Zv eYbv-wePvi-we‡klY-e¨vL¨v Kiv aŸwbweÁvb I aŸwbZ‡Ëi KvR|[1]

evMhš ¿envi K‡i A‡bK iKg aŸwb D"PviY Kiv m¤e, wKš me aŸwb gvbefvlvq e¨eüZ nq bv| Avevi gvbefvlvq e¨eüZ aŸwb¸‡jv KL‡bvB GK iKg fv‡e D"PwiZ nq bv| evsjvfvlx-1 ‡hfv‡e ÔKÕ D"PviY K‡i evsjvfvlx-2 ‡mfv‡e ÔKÕ D"PviY K‡i bv| GKRb evsjvfvlx hw` `kevi ÔKÕ aŸwbLÐwU D"PviY K‡i Z‡e ‡Kvb `ywU ÔKÕ GK iKg n‡e bv| wewfb ÔKÕ Gi g‡a¨ GB ‡h cv_K¨ Zv aŸwbweÁv‡bi `wó‡Z LywB ¸iæZc¥, KviY GB cv_‡K¨i wfwË‡Z c‡qvR‡b wbaviY Kiv ‡h‡Z cv‡i ‡K BqvRÏxb Avi ‡K dKiæÏxb; A_ev mvBdzingvb ‡Kvb GjvKvi ‡jvK wQ‡jb ev w`jxc eoqvi ‡QvU‡ejv ‡K‡U‡Q ‡Kvb GjvKvq; Avi I Rvbv hv‡e, ÔKÕ D"Pvi‡Yi mgq e³v ‡Kvb Kvi‡Y D‡ËwRZ wQj, bwK ¯vfweK wQj, BZ¨w` A‡bK wKQyy aŸwbweÁv‡bi KvR ‡gvUvgywU fv‡e `ywU:

1) evMhš ¿envi K‡i fvlvq e¨envi‡hvM¨ ‡ †h me aŸwb ev aŸwbµg Avgiv D"PviY K‡i _wK ‡m¸‡jvi cKwZ. we‡klY Kiv Ges 2) keYhš e¨envi K‡i wKfv‡e Avgiv ‡m me aŸwb ev aŸwbµg Ômv_Kfv‡eÔ (Dfqv‡_) we‡klY K‡i DV‡Z cwi Zvi eYbv ‡`qv|[2] aŸwbweÁvb‡K mvaviYZ e¨vKi‡Yi Ask e‡j g‡b Kiv nq bv hw` I G‡Z ‡Kvb m‡›`n ‡bB ‡h aŸwbweÁvb e¨vKi‡Yi Acwinvh mnvqK| aŸwbweÁv‡bi KvR ‡hLv‡b ‡kl nq wVK ‡mLvb ‡_‡K ïiæ nq aŸwbZ‡Ëi KvR|

aŸwbZ‡Ëi `wó‡KvY ‡_‡K ‡`L‡j `Ø ÔKÕ Gi g‡a¨ D"Pvi‡Yi cv_‡K¨i wKQyÎ gÿ¨ ‡bB hZ¶Y bv GB cv_‡K¨i cfve ‡`¨wZZ ¯‡ii Dci co‡Q| GKRb evsjvfvlxi D"Pvi‡Y ÔcÕ Avi ÔKÕ Gi g‡a¨ ‡h cv_K¨ Zv aŸwbZ‡Ë LvøB ¸iæZc¥, KviY ÔKvbÕ Avi ÔcvbÕ Gi ‡`¨wZZ GK bq| evsjvfvlxiv cwZw`b ‡h j¶ j¶ iKg ÔKÕ D"PviY K‡i _v‡K aŸwbZwËK `wó‡KvY ‡_‡K ‡mB me¸‡jv ÔKÕ GKB *cYe* (Phoneme) (ev aŸwbgÿ¨) Gi wfb wfb i¦c ev ¯*be* (ev mnaŸwbgÿ¨) (Allophone)| Kv‡K Avgiv ejwQ cYe Avi ¯be? cYe n‡"Q ÔcÕ Avi ÔKÕ Gi g‡Zv ‡mB me aŸwb-GKK ‡h¸‡jv `ÿU ‡`¨vZ‡Ki ‡`¨vZbvi g‡a¨ cv_K¨ mwó¡ ¶gZv iv‡L| Avgiv Av‡MB e‡jwQ, ‡Kvb fvlvfvlx ‡Kvb GKwU cYe‡K `Ø evi GK fv‡e D"PviY K‡i bv| cwZevi D"Pvi‡Y cY‡ei ‡h wfb wfb i¦c ‡m¸‡jv‡K Avgiv ejwQ Ô¯beÕ| aŸwbweÁv‡bi A‡bK g‡W‡j (eZgvb ce‡Ü e¨eüZ mÄbbx aŸwb‡KŠkj g‡Wj Zvi g‡a¨ GKwU) ¯be¸‡jvi Av‡jvPbv ¸iæZc¥ bq, wKš aŸwbweÁv‡b cwZwU ¯be ¸iæZc¥|[3] ‡Kvb fvlvi me¸‡jv cYe wg‡j mwó nq GKwU mskq (System) hv‡K Avgiv ej‡Z cwi *cvYweK eYgvjv* (Phonological/Phonemic alphabet)|

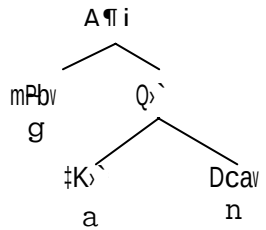
gvb PwjZ evsjvq ÔKjgÕ wPýwUi ‡`¨vZK /kɔlɔm/, wKš PÆMvwg‡Z ej‡Z nq /xɔlɔm/| Avgiv j¶¨ Ki‡Z cwi ‡h evsjvi GB `Ø Dcfvlvq ÔKjgÕ kãwU `Ø iKg fv‡e D"PwiZ n‡"Q| gvb PwjZ evsjvq ‡hLv‡b Av‡Q KÉ¨ (Velar), ¯úó/iæ× (Plosive/Occlusive) cYe /k/, PÆMvgx‡Z ‡mLv‡b i‡q‡Q KÉ¨, Nó (Fricative/Continuant) cYe /x/| ÔKjgÕ kãwUi `Ø iKg D"Pvi‡Yi KviY n‡"Q GB ‡h gvb evsjv Avi PÆMvwgi aŸwbZË Avjv`v| Ab¨ GKwU D`vniY ‡`qv hwK| gvb Bs‡iwR hvi gvZf.lv ‡mB e¨w³ /pɔt/ kãwU D"PviY Kivi mgq /p/ ‡Z gnvcvYZv (aspiration) ‡hvM K‡i| evsjvfvlx Bs‡iwR ejvi mgq mvaviYZ /p/ ‡Z gnvcvYZv ‡hvM Ki‡Z fyj hvq ev ‡hvM Ki‡Z PvB‡j I cv‡i bv, ev cvi‡jI gvb Bs‡iwRfvlxi g‡Zv K‡i cv‡i bv| Ab¨w`‡K evsjv ÔfvZÕ /bʰat/ kãwU D"PviY Kivi mgq Bs‡iwRfvlxiv mvaviYZ /bʰ/ Gi gnvcvYZv ev` w`‡q

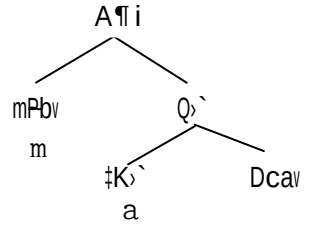
/bat/Gi KvQvKwQ wKQyGKUv D"PviY K‡i| G iKg nevi KviY n‡"Q gvb evsjvfvlx Bs‡iwR ejvi mgq gvbevsjvi aŸwbZË Av‡ivc K‡i Bs‡iwRi Dci, Avi gvb Bs‡iwRfvlx evsjv ejvi mgq gvb Bs‡iwRi aŸwbZË Av‡ivc K‡i evsjvi Dci| g‡b ivL‡Z n‡e G iKg Ki‡Z Zviv eva¨ Ges GB eva¨evaKZv aŸwbZ‡Ëi Ab¨Zg cavb ‰ewkó¨| gvbyl mvaviYZ gvZf.lvi aŸwbZwËK ‰ewkó¨ jÿv‡Z cv‡i bv, A_vr ‡ewki fvM gvbyl‡i ‡¶‡Îi wØZxq fvlvi D"PviY (we‡klZ hw` wØZxq fvlwU A‡c¶vKZ.‡ewk eq‡m AwRZ nq) gvZf.lvi aŸwbZË Øviv cfweZ n‡q _v‡K|

cYe¸‡jv n‡"Q Kw_Z fvlvi *mv½* GKK Segmental unit| cYe Qvovl aŸwbZwËK msk‡q (System) _vK‡Z cv‡i wewfb *Ab½* (Supra-segmental) GKK ‡hgb, *MgK* (Stress) ev kvmvNvZ, *Zvb* (Tone) I *Mvg* (Prosody)| Mg‡Ki Ae¯vb e`‡j w`‡j Bs‡iwR fvlvq bvgc` Import n‡q hvq wµqvc` Impórt| Pxbv, _vB BZ¨w` fvlvq ¯icY‡ei Zvb e`‡j w`‡q wfb wfb ‡`¨vZK ‰Zwi Kiv m¤e|[4] cvq me fvlv‡ZB Mvg cwieZb K‡i ckmPK evK¨ Avi Av‡`kmPK ev‡K¨i g‡a¨ cv_K¨ Kiv hvq| ‡hgb evsjvq Av‡`kmPK evK¨ ÔZwgÕ hvI!Õ Avi ckmPK evK¨ ÔZwgÕ hvI?Õ Gi Mvg Avjv`v| c_gvUi Mvg DaŸMvgx, D`vË ev Av‡ivnx, c‡iiwUi Mvg wb¤Mvgx, ¯wiZ ev Ae‡ivnx| Z‡e hZ¶Y chš bv ‡Kvb mv½ ev Ab½ GKK `ÿU ‡`¨vZ‡Ki ‡`¨vZbvi g‡a¨ cv_K¨ Ki‡Z cvi‡Q ZZ¶Y G¸‡jvi ‡KvbwU‡KB ‡mB fvlvi aŸwbZwËK Dcv‡½i Ask e‡j wePvi Kiv hv‡e bv| Ab¨w`‡K, ‡h ‡Kvb iKg MgK, Zvb I Mvg aŸwbweÁv‡b ¸iæZmnKv‡i we‡ewPZ nq| wewfb mv½ I Ab½ GK‡Ki we‡kl we‡kl Ômn‡hvMÕ (Combination) ‡Kgb K‡i *A¶i* (Syllable) ‡_‡K ïiæ K‡i kã, eM, c¯ve I evK¨ chš ‡`¨vZK ¯‡ii wewfb GKK MVb K‡i Zv wePvi Kiv aŸwbZ‡Ëi KvR|

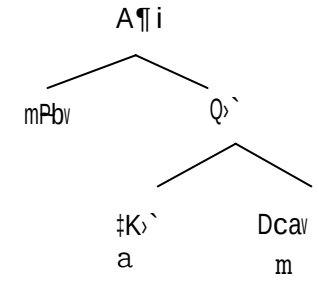
aŸwbZwËK Av‡jvPbvq `ÿU Ômsl¯vi Õ (Notion) eûj e¨eüZ nq: A¶i Avi kã| kã Avi A¶i‡K ÔavivYvÕ (Concept) bv e‡j Ômsl¯vi Õ ejv n‡"Q cavbZ `ÿU Kvi‡Y: 1. G `ÿU e¯i ‡KvbwUiB meRbMvn¨ ‡Kvb msÁv ‡bB, Ges 2. ‡Kvb fvlvi aŸwbZwËK eYbvi Rb¨ G `ÿU e¯i ‡KvbwUB Acwinvh bq| aŸwbZ‡Ëi Ggb wKQyg‡Wj Av‡Q ‡h¸‡jv‡Z A¶‡ii Aw¯Z‡KB ¯xKviB Kiv nq bv (D`vniY: Chomsky & Halle 1968)| i¦cZ‡Ëi A‡bK g‡W‡j k‡ãi Aw¯Z‡K A¯xKvi Kiv nq (D`vniY: Mel'čuk 2006)| Gi gv‡b Aek¨ GB bq ‡h aŸwbZwËK eYbvq A¶i ev k‡ãi g‡Zv msl¯vi G‡Kev‡iB e¨envi Kiv hv‡e

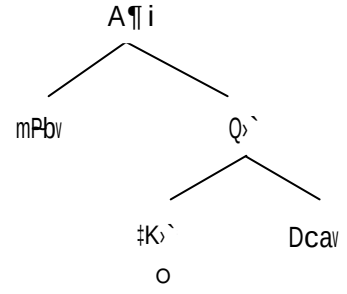
bv| aŸwbZ‡Ëi A‡bK g‡W‡jB G `ÿU ms¯‹vi e¨eüZ nq| Avgiv eZgvb ce‡Ü aŸwbZ‡Ëi ‡h g‡Wjwl e¨envi Ki‡ev ‡mwU GKvšfv‡e A¶i Avi kã wbfi| A¶i n‡"Q GKwU D"PviY-GK‡Ki bvg| D"PviYKv‡j ‡h bÿbZg aŸwbµ‡gi c‡i wei“Z ‡`qv hvq ‡mB D"PviY-GKKwU‡K A¶i ejv ‡h‡Z cv‡i| cwZwU A¶‡i _v‡K `ÿU Ask: *mPbv* (Onset) Avi *Q›`* (Rhyme)| Q›` AskwU‡K `ÿU fv‡M fvM Kiv hvq: *‡K›`* (Nucleus) Avi *Dcav* (Coda)| wb‡P GKv¶i ÔMvbÕ, ÔgvÕ, ÔAvgÕ Avi ÔlÕ – GB K‡qKwU kã‡K A¶i-KvVv‡gv‡Z we‡klY K‡i ‡`Lv‡bv n‡q‡Q|





Mvb kãwU‡K we‡klY Ki‡j Avgiv cvB mPbv /g/ Ges Q›` /an/| Gi ci Q›` /an/ ‡K we‡klY Ki‡j cvIqv hvq ‡K›` /a/ Avi Dcav /n/| ÔgvÕ-‡Z Dcav ‡bB, Avi ÔAvgÕ G ‡bB mPbv| I-‡Z mPbv ev Dcav wKQy ‡bB, Av‡Q ïay‡K›`| ‡`Lv hv‡"Q, mPbv ev Dcav Qvov A¶i MwVZ n‡Z cv‡i wKš ‡K›` Qvov ‡Kvb A¶i MV‡bi K_v Kíbv I Kiv hvq bv|





Avgiv a‡i wb"Q †h 1) GKwaK cYe GKwÎZ n‡q GK GKwU A¶i MwVZ nq, Ges 2) GKwaK A¶i wgwjZ n‡q MwVZ nq GK GKwU kã| D`vniY: ÔfvlvÕ

k‡ã Av‡Q `ÿU A¶i: fv [bʰa] Ges lv [ʃa]| Z‡e ‡Kvb ‡Kvb ‡¶‡Î GKwU gvÎ cYel A¶i MVb Ki‡Z cv‡i, ev ‡Kvb k‡ã _vK‡Z cv‡i GKwU gvÎ A¶i|GKcYe (Mono phonemic) A¶‡ii D`vniY: bvgcy¨l mebvg ÔlÕ; *GKv¶i* (Monosyllabic) k‡ãi D`vniY: bvgkã ÔPvÕ, ÔcvYÕ, ck‡evaK mebvg ÔwKÕ| wKQywKQy fvlv ‡hgb, evsjv I Rvcwb‡Z ‡ewki fvM kã *enŸv¶i* (Polysyllabic) (A_vr Ôeû A¶i wewkóÕ)| Pxbv fvlvi ‡ewki fvM kã GKv¶i|

3. mÄbbx aŸwb‡KŠkj ZË (Generative Phonotactic)

mÄbbx aŸwb‡KŠkj ZË Abyhv‡i ‡Kvb fvlvi aŸwbZwËK eYbvi R‡b¨ `ÿU wRwbl `iKvi: 1) *cvYweK eYgvjv* (Phonological alphabet) A_vr ‡mB fvlvi me¸‡jv cY‡ei GKwU m¤úK© Zwj¤v Ges 2) *aŸwb‡KŠkj Zwj¤v* (Phonotactic chart)|

3.1. evsjv cvYweK eYgvjv

fÆvPvh¨ (2006 I 2008) Abyhv‡i Avgiv `we KiwQ ‡h evsjv fvlvi aŸwbZwËK eYgvjvq ‡gvU 45wU cYe Av‡Q| Gi g‡a¨ 13 wU ¯‹icYe (7wU KÉ¨ I 6wU bwmK¨), 4wU Aa¯‹i (ev Aae¨Äb) cYe (mviwY 1) I 28wU e¨ÄbcYe (mviwY 4)| ‡h me cYe wb‡q weZ‡Ki AeKvk i‡q‡Q (‡hgb, /æ/ ev /f/) ‡m¸‡jvi e¨vcv‡i fÆvPvh¨ (2006) ce‡Ü we¯‹iZ Av‡jvPbv Kiv n‡q‡Q|

mviwY 1: ¯‹i cYe I Aa¯‹icYe				
		m¤ú~y (Front)		*cðvr* (Back)
mse‚Z	*D"P*	i ĩ ʲ		u ũ ʷ
	ga¨	e ẽ		o õ ʷ
wee‚Z		ɛ⁵		ɔ ɔ̃ ʸ
	wbg		a ã	

Dc‡ii ¯‹icYe¸‡jv wb‡Pi bÿbZg kã‡Rvo¸‡jv Øviv mgw_Z n‡Z cv‡i:

mviwY 2: bÿbZg kã‡Rvo (KÉ¨ ¯‹i cYe)						
i	**e**	**ɛ**	**a**	**ɔ**	**o**	**u**
/biʃ/ wek	/beʃ/ ‡ek	/bɛʃ/ e¨vm	/kal/ Kvj	/kɔl/ Kj	/kol/ ‡Kvj	/kul/ Kz‡j

j	y	w	u
/bɔʲ/ eB	/bɔʸ/ eq	/bɔʷ/ el	/bɔᵘ/ eD

mviwY 3: bÿbZg kã‡Rvo (bwmK¨ ¯i cYe)

ĩ	ẽ	ɛ̃	ã	õ	õ	ũ
/bĩdʰi/ wewa	/ẽr/ Gu	/tɛ̃k/ UüK	/bãʃ/ ewk	/ʃõrɔn/ ¯iY	/ʃõ/ ‡ku	/ʃũⁱ/ mÐ
/bidʰi/ wewa	/er/ Gi	/tɛk/ ‡UK	/baʃ/ evm	/ʃɔrɔn/ kiY	/ʃo/ ‡kv	/ʃuⁱ/ ïB

mviwY 4 : e¨Äb cYe

		¯úó Plosive	Nô-¯úó Affricate	bwmK¨ Nasal	K¤úb RvZ Trill	Nó Fricative	cwkK Lateral Approximant
Iô¨ Bilabial	AícvY	p b		m			
	gnvcvY	bʰ					
`‡šŠ‡ô¨ Labio-dental						f	
`š¨ Dental	AícvY	t[6] d					
	gnvcvY	tʰ dʰ					
`šgɟxq Alveolar	AícvY	t tʰ		n		s ʃ	l
	gnvcvY	ɖ ɖʰ					
cðvr-`š gɟxq Post-Alveolar	AícvY		c ɟ[7]		r		
	gnvcvY		cʰ ɟʰ				
wRnŸvgɟxq (KÉ¨)	AícvY	k kʰ		ŋ			
	gnvcvY	g gʰ					

Velar							
KÉbvjxq Glottal						h	

Dc‡ii e¨Äb cYe¸‡jv wb‡Pi bÿbZg kã‡Rvo¸‡jv Øviv mgw_Z n‡Z cv‡i:

mviwY 5: bÿbZg kã‡Rvo (e¨Äb cYe)

k	kʰ	g	gʰ	c	cʰ	ɟ	ɟʰ
/kɔr/ Ki	/kʰɔr/ Lo	/gɔr/ Mo	/gʰɔr/ Ni	/cɔr/ Pi	/cʰɔr/ Qi	/ɟɔr/ Ri	/ɟʰɔr/ So
ʈ	ʈʰ	ɖ	ɖʰ	t	tʰ	d	dʰ
/ʈik/ wUK	/ʈʰik/ wVK	/ɖak/ WvK	/ɖʰak/ XvK	/tan/ Zvb	/tʰan/ _vb	/dan/ `vb	/dʰan/ avb
p	f	b	bʰ	s	ʃ		h
/paʈa/ cvUv	/faʈa/ dvUv	/baʈa/ evUv	/bʰaʈa/ fvUv	/sil/ wmj	/ʃil/ kxj	/ʃal/ kvj/ mvj	/hal/ nvj
r	l	m	n		n		
/rag/ ivM	/lag/ jvM	/ma/ gv	/na/ bv	/rɔn/ iY	/rɔŋ/ iO		

3.2. mÄbbx aŸwb‡KŠkj

Avgiv aŸwbZwËK eYbvi c_g chvq cvi n‡q Gjvg| bÿbZg kã‡Rv‡oi wfwË‡Z Avgiv Dc‡i evsjvfvlvi aŸwbZwËK ev cvYweK eYgvjv ‰Zwi K‡iwQ| GLb Avgiv ‡`L‡ev, A¶i I k‡ãi wewfb Ae¯v‡b cYe¸‡jvi Dcw¯wZi wfwË‡Z wKfv‡e aŸwb‡KŠkj ZwjKv ‰Zwi Ki‡Z nq| Kgc‡¶ PviwU aŸwb‡KŠkj ZwjKv ‰Zwi Ki‡Z n‡e Avgv‡`i|

ZwjKv-1. ‡Kvb ‡Kvb aŸwb ev aŸwb¸”Q A¶‡ii mPbvq _vK‡Z cv‡i;

Zwwjwkv-2. ‡Kvb ‡Kvb aŸwb ev aŸwb¸”Q A¶‡ii Dcav MVb Ki‡Z cv‡i;

Zwwjwkv-3. ‡Kvb ‡Kvb aŸwb ev aŸwb¸”Q A¶‡ii Q› ` MVb Ki‡Z cv‡i;

Zwwjwkv-4. Avšÿwi K/¯ivšeZx Ae¯v‡b ‡Kvb ‡Kvb aŸwb ev aŸwb¸”Q _vK‡Z cv‡i|

aŸwb‡KŠkj Zwwjwkvi GKwU bgybv wb‡P ‡`lqv n‡jv| gvb PwjZ evsjvi Avcv Zm¤úY aŸwb‡KŠkj Zwwjwkvi R‡b¨ ‡`Lby fÆvPvh¨ (2008)|

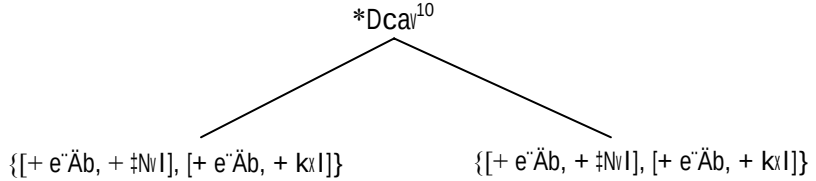
mviwY 6: Avš¶wiK/kãvf¨šixY e¨ÄbcYeµg (Askwe‡kl)							
	p	t	k	b	d	g	c
p	avàv	Avß	i¡cK_v				DcPv‡bv
t	Drcv`b	mZ¨	mrKvi				c_Pjv
k	KvKc¶x	k³	G°v				PvKwPK¨
b		Wvgv‡Zv	PveKv‡bv	‡RveŸv	kã	AveMvix	Wve‡Pvi
d		Qv`‡Zv	Q`Kv	DØv¯	D`¨vb	D`Mvi	g`‡Pvi
g	AvMcvQ	jvM‡Zv	fvMKiv	F‡M`	`M`‡M	fvM¨	fvMPvlx
c	c¨vPc¨v‡P	cP‡Zv	AvPKvb				ev”Pv
J	ivRcŷ	AvR‡Zv	ivRKgvi	gRevZ	gR`ỳ	AvR¸ex	
t	PUc‡U	KvU‡Zv	UvUKv	VvUevU		KvVMov	AvUPvjv
d			iWKvUv	iWwewµ			iW‡Pvi
t^h							
k^h							
b^h							
d^h							
g^h							
c^h							
J^h							
t^h							

d^h							
f	nvdc¨v›U	ndZv				AvdMvb	
s	G¯cvi	g¯Z					
ʃ	ev®c	Avm‡Zv	cwi®vi	‡Lvmey	Lvmw`j	gk¸j	cwðg
h							
m	mvgcvb	bvgZv	PgKv‡bv	Pzb	‡gvg`vbx	bvgMvb	Lvgwb
n	‡evb‡cv		Avb‡Kvov	Avbevi		ebMu	
ŋ	iOcy	ivsZv	c¼	iOevR	iO`vbx	A½	‡fOPv
r	`cb	evZv	ZK	Me	c`v	LiM	gi‡P
l	Aí	¸jwZ	nvjKv	gvjevnx	Rjw`	AvjMv	jvj‡P

aŸwbZwËK eYbvi ZZxq chv‡q aŸwb‡KŠkj Zwwjwkv¸‡jvi wfwË‡Z aŸwbZwËK cwZeÜ (Constraint) iPbv Ki‡Z n‡e| GB cwZeÜ¸‡jvi Ab¨ bvg *aŸwbZwËK mÿVb kZ* (Wellformedness condition ev ms‡ÿ‡c WFC)| iv‡R› ` wmsn (1984) g‡b K‡ib, ‡Kvb fvlvi aŸwbZwËK eYbvi Rb¨ (kã, eM ev ev‡K¨i) `ÿU ¯i Av‡Q e‡j a‡i wb‡Z n‡e: 1. *Aš¿xb ¯i* (Underlying Structure) l 2. *fwg¯i* (Surface Structure) (evK¨wenb¨v‡m e¨eüZ Aš¿xb ¯i l fwg¯‡ii mv‡_ aŸwbZ‡Ë e¨eüZ Aš¿xb ¯i l fwg¯‡ii cv_K¨ Av‡Q)| wZwb Avi l `wme K‡ib ‡h aŸwbZwËK mÿVb k‡Zi ‡Kvb e¨wZµg _vK‡Z cv‡i bv| ‡Kvb k‡ãi fwg¯‡ii cYeµg hw` ‡Kvb GKwU mÿVb kZ f½ K‡i Z‡e ‡m cYeµgwU ¯qswµqfv‡e ‡givgZ n‡q hv‡e| ‡givg‡Zi wZbwU mweRbxb (wekRbxb) l c‡qvMvbyuwgK (Hierarchic/Clinal) ‡KŠkj i‡q‡Q (Mechanism of repair)|[8] kã, eM ev ev‡K¨i aŸwbZwËK cwZ‡ek (Phonological context) l fvlwe‡k‡li we‡kl ‰ewkó¨ l gwRi Dci wbfi K‡i GB wZbwU ‡givgZ-‡KŠk‡ji ‡h ‡Kvb GKwU c‡qvMµgvbyw‡i Ges ¯qswµqfv‡e KvhKi nq|

1. cwZ¯vcb/mgxfeb (Replacement/ Assimilation),
2. ¯ifw³ ev Awcwbwnwz (Epenthesis) l
3. aŸwb‡jvc (Deletion)|

Gevi GKwU D`vniY ‡`qv hvK| Bs‡iwR‡Z Ggb GKwU mÿgvb kZ Av‡Q ‡hwU Aÿ‡ii Dcavq GKwaK kxl cY‡ei Ae¯vb Abyôgv`b K‡i bv| A_vr, Bs‡iwR‡Z ‡Kvb Aÿ‡iB /ʃ ʃ/, /zz/ ev /ss/ w`‡q ‡kl n‡Z cvi‡e bv| GB mÿgvb kZwU‡K wb¤i¦cfv‡e eYbv Kiv ‡h‡Z cv‡i|[9]



A_ev

*Dcav	
e¨Äb	e¨Äb
{[+ ‡Nvl], [+ kxl]}	{[+ ‡Nvl], [+ kxl]}

D`vniY¯¦c, Bs‡iwR rose kãwU ‡kl n‡"Q GKwU kxl e¨Äb cYe (Sibilant) w`‡q Ges Bs‡iwR‡Z eûePb‡`¨vZK cZ¨q {z} l GKwU kxl cYe| GB cZ¨qwU rose cwZcw`‡Ki mv‡_ hy³ Kiv n‡j AšjxY ¯‡i cvlqv hv‡e /rozz/| mgm¨v n‡"Q, Dc‡ii mÿgvb kZ GB cYeµgwU‡K Abyôgv`b K‡i bv| A_ev ejv ‡h‡Z cv‡i ‡h AšjxY ¯‡ii /rozz/ cYeµgwU Dc‡ii mÿgvb kZwU‡K Agvb¨ Ki‡Q| wKš mÄbbx aŸwb‡KŠkj ZË Abyôvi ‡Kvb cYeµgB ‡Kvb mÿgvb kZ Agvb¨ K‡i fwg¯‡i DbxZ n‡Z cvi‡e bv| GgZ cwi¯wZ‡Z cYeµgwU‡K ‡givgZ Kivi c‡qvRb n‡e| Avgiv Dc‡i wZbwU ‡givgZ-‡KŠkj chy³ nevi GKwU we‡kl Abyµg Av‡Q| c_gZ chy³ nevi ‡Póv Ki‡e cwZ¯vcb/mgxfeb| Zv hw` m¤e bv nq Z‡e chy³ n‡e ¯if³| hw` ¯if³ w`‡q KvR bv nq Z‡e chy³ n‡e aŸwb‡jvc|[11] ck n‡Z cv‡i, GB c‡qvMvbyµ‡gi KviY wK? ‡h ‡Kvb aŸwbZwËK cwieZb, Zv ‡m Kvjvbyµwg KB (Diachronic) ‡nvK ev GKKwjKB (Synchronic) ‡nvK, `ÿwU kZ ‡g‡b P‡j:

K. AšjxB ¯‡ii cvYweK ¯¦Y (Distinctive feature) ev ¯vZš¨mPK ‰ewk‡ó¨ bÿbZg cwieZb Avm‡e;

L. AšjxB ¯‡ii aŸwbµg ev aŸwbKvVv‡gv‡Z bÿbZg cwieZb Avm‡e|

cwZ¯vcb/mgxfe‡bi mwnZ GB ‡h Zv‡Z AšjxB ¯‡ii aŸwbµg ev aŸwbKvVv‡gv‡Z Lye GKUv cwieZb nq bv| ¯if³i ‡ÿ‡Î bZzb GKwU cYe ÔD‡o G‡m R‡yo e‡mÕ| Ab¨w`‡K aŸwb‡jv‡c ¸‡"Qi GKwU cYe nwi‡q wM‡q AšjxB ¯‡ii KvVv‡gv‡Z GZ e¨vcK cwieZb Av‡m ‡h ZLb A‡bKUv Ôfÿv PvB bv KxiZ mvgjvbÕ Ae¯v nq| G Kvi‡Y ‡Kvb fvlvi aŸwbZË GKvš evaï bv n‡j ¯if³ ev aŸwb‡jvc c‡qvM Ki‡Z Pvq bv| wb‡Pi D`vni‡Y Bs‡iwR rose we‡kl¨wUi eûePb i¦c roses Gi AšjxB ¯‡i aŸwbµg /zz/ fwg¯‡i /ziz/ ev /zez/ G cwiYZ n‡q‡Q (Avcwb Bs‡iwRi ‡Kvb Dcfvlv ej‡Qb Zvi Dci wbfi Ki‡e Awcwbwnz ¯icY‡ei cKwZ)| jÿ¨ Kiæb, hw` `ÿ /z/ mgxfZ nq, ev GKwU /z/ Gi ‡jvc nq, Z‡e Avgiv cv‡ev /roz/ hv w`‡q Avgv‡`i KvR Pj‡e bv KviY rose Gi GKePbl /roz/| mgxfeb w`‡q ‡h‡nZzKvR Pj‡Q bv ‡m‡nZz¯if³ w`‡q ‡givgZ n‡q MnY-A‡hvM¨ aŸwbµgwU fwg¯‡i DbxZ n‡e|

GLv‡b ‡h wZbwU ‡givgZ-‡KŠk‡ji K_v ejjvg Avgiv ‡m¸‡jv me fvlvq mgvbfv‡e KvhKi nq bv| wb‡Pi ZwjKvq j¶¨ Kiæb, GKB Bs‡iwR kã Ô¯¿zÕ /skul/ wewfb fvlvq wewfb fv‡e ‡givgZ n‡q‡Q| cvÄwe Avi PÆMwg – GB Dfq fvlv‡ZB A¶‡ii mPbvq ‡Kvb e¨Äb cYe¸"Q _vK‡Z cv‡i bv| GB `ÿwU fvlvB ¯if³i gva¨‡g MnY-A‡hvM¨ cYe¸"QwU ‡givgZ K‡i‡Q wKš `ÿ fvlvq `ÿwU Avjv`v ¯icYe e¨eüZ n‡q‡Q Avi ¯if³ chy³ n‡q‡Q wfb `ÿwU ¯v‡b, cvÄwe‡Z e¨Äb¸"QwU‡K ‡f‡O `ÿ e¨ÄbcY‡ei gv‡S Avi PÆMwg‡Z e¨Äb¸‡"Qi Av‡M| Ab¨w`‡K A‡÷wjqvi fvlv lqvjwcwi‡Z ‡Kvb kã ¯icYe w`‡q ïiæ n‡Z cv‡i bv Avi G fvlvq /s/, /f/ Gi g‡Zv Nó cYe ‡bB| mÿgZvs /s/ cYewU‡K ‡jvc K‡i ‡`qv Qvov lqvjwcwii MZ¨ši ‡bB|

	AšjxB ¯‡i	fwg¯‡i
/roz/ + /z/	/rozz/	/roziz/ A_ev /rozez/

wewfb fvlvq ‡givgZ-‡KŠk‡ji aiY			
Bs‡iwR	cvÄwe	PÆMwg	lqvjwcwi
/skul/	/səkul/	/iskul/ A_ev /iʃkul/	/kul/

4. evsjv aŸwb‡KŠkj ZwjKv I ‡givgZ-‡KŠkj

evsjvfvlvi AvcvZm¤úY aŸwb‡KŠkj ZwjKvi (`: fÆvPvh¨ 2008) Dci wfwË K‡i eZgvb Aa¨v‡q 10wU aŸwbZwËK mÿgvb k‡Zi c¯ve Kiv n‡e| wb‡Pi 1bs mÿgvb k‡Zi A_ n‡"Q, evsjv fvlvq A¶‡ii mPbv ev Dcavq GKB e¨Ä‡bi wØZ n‡Z cvi‡e bv A_vr /pp/ ev /kk/ ai‡Yi aŸwbµg A¶‡ii mPbv ev Dcavq _vK‡Z cvi‡e bv|

mÿgvb kZ 1	
*mPbv/Dcav	
e¨Äb$_i$	e¨Äb$_i$

(i mP‡Ki A_ n‡"Q GB `ßvwU GKB e¨Äb, ‡hgb /pp/ ev /kk/)

ck n‡Z cv‡i, hw` e¨ÄbcYe `ßvU GK bv n‡q Avjv`v nq Z‡e ‡Kvb ‡Kvb cYe¸"Q _vK‡Z cv‡i A¶‡ii mPbvq? evsjv fvlvq A¶‡ii mPbvq

K. ‡Kvb ¯úó (Plosive ev Occlusive) cYe (‡hgb /p/, /t/, /k/, BZ¨vw`) AbwmK¨ (non-nasal) iwYZ (Sonorant) cYe /r/ I /l/ Qvov Ab¨ ‡Kvb e¨Ä‡bi AMMvgx n‡Z cv‡i bv; Ges

L. `šgj¬xq (Alveolar) A‡Nvl (unvoiced) kxl (Sibilant) cYe /s/ Qvov Ab¨ ‡Kvb e¨Äb ‡Kvb ¯úó ev bwmK¨ e¨Ä‡bi AMeZx n‡Z cv‡i bv|

G `ßvU Z‡_¨i wfwË‡Z Avgiv mÿgvb kZ-2 Gi c¯ve Ki‡Z cwi|

mÿgvb kZ 2	
*mPbv	
e¨Äb	e¨Äb
{[+ ¯úó] [+ iwYZ] [+ Nó, + kxl,+ ‡Nvl]}	+ ¯úó

mÿgvb kZ 2 Gi A_ n‡"Q: A¶‡ii mPbvq ¯úó ev iwYZ ‡Kvb cYe ev GKB mv‡_ Nó, ‡Nvl (voiced) I kxl ‡Kvb cYe ¯úó ‡Kvb e¨ÄbcY‡ei mv‡_ ‡RvU eva‡Z cvi‡e bv|

‡givgZ ‡KŠkj (¯ifw³):

K. /mbutu/ (Drm: ‡Kvb AwdKvb fvlv)→ /mɔbutu/ geZ ÔGKwU AwdKvb bvgÕ

L. /nkumo/(Drm: ‡Kvb AwdKvb fvlv) → /nɔkumo/ or /ɛnkumo/ bK‡gv/Gb‡Kv‡gv ÔGKwU AwdKvb bvgÕ

M. /ŋguen/ (Drm: wf‡qZbwg) → /nɔguen/ b¸‡qb ÔGKwU wf‡qZbvgx bvgÕ[12]

Z_vKw_Z we‡`wk KZ…Y kã ‡hgb, Ôlqv³Õ, ÔUv·Õ, BZ¨vw`i cv‡šB ïay e¨Äb¸‡"Qi ‡`Lv ‡g‡j evsjvq| ‡h‡nZz G kã¸‡jv eû w`b hver evsjv kã‡Kv‡li Ask ‡m‡nZz Avgv‡`i g‡Z G¸‡jv‡K evsjv kã wn‡m‡eB wePvi Ki‡Z n‡e| ZvB hw` Kiv nq Z‡e evsjv fvlvq lô¨ (Labial) cYe /p/, /b/ Avi iwYZ cYe /r/, /l/, /m/, /n/ Qvov ewK me cYeB A¶‡ii Dcavq wØZxq m`m¨ wn‡m‡e _vK‡Z cv‡i| GB Z‡¨i wfwË‡Z Avgiv mÿgvb kZ 3 Gi c¯ve Ki‡Z cwi|

mÿgvb kZ 3	
*Dcav	
e¨Äb	e¨Äb
	{[+ lô, + ¯úó],[iwYZ]}

‡givgZ ‡KŠkj (¯ifw³):

1. /ketl/ (Drm: Bs‡iwR) → /keʈli/ ‡KUwj;
2. /bɒtl/ (Drm: Bs‡iwR) → /botol/ ‡evZj;
3. /ʃɛhr/ (Drm: dwm) → /ʃɔhɔr/ kni;
4. /bipr/ (Drm: ms¯Z) → /bipro/ wec

evsjvq GKgvÎ /h/ Qvov Avi ‡Kvb gnvcvY e¨Äb A¶‡ii Dcavq _vK‡Z cv‡i bv (D`vniY: Avn!, In!) (/h/ Gi ¯ijÿY [+ weeZ] KviY GB cYewU D"Pvi‡Yi mgq ¯iKcvU weeZ ev nvU K‡i ‡Lvjv _v‡K)| AšjxB ¯‡i ÔevNÕ (/bagʰ/), Ôjv fÕ /labʰ/ BZ¨vw` k‡ãi Dcavq ¯úó gnvcvY cYe _vK‡jI fwg¯‡i kã¸‡jv D"PwiZ nq /bag/, /lab/ wn‡m‡e| mÿgvb kZ-4 ‡g‡b Pjvi Kvi‡YB Dcavi gnvcvY e¨Äb cYe¸‡jv Zv‡`i gnvcvYZv nwi‡q ‡d‡j| wKš ‡Kgb K‡i

ejv hv‡e ‡h AŠjxb ¯‡i GB GKv¶i kã¸‡jvi cv‡š /gʰ/ ev /bʰ/ Av‡Q? ejv hv‡e G Kvi‡Y ‡h hLb ÔevNÕ ev Ôjv fÕ ‡_‡K bZzb kã MVb Kiv nq: Ôev‡NiÕ /bagʰer/ ev Ôjv‡fi Õ /labʰer/ ZLb /gʰ/ ev /bʰ/ Gi gnvcvYZv eRvq _v‡K| Gi KviY 1) GB kã¸‡jv ZLb Avi GKv¶i _v‡K bv, Ges 2) cYe¸‡jv A¶‡ii Dcavq _v‡K bv, _v‡K mPbvq| A¶‡ii mPbvq gnvcvYZv _vK‡Z ‡Kvb evav ‡bB|

mÿVb kZ 4
*Dcav
[+ e¨Äb, + gnvcvY, – weeZ]

‡givgZ ‡KŠkj (cwZ¯vcb): /bagʰ/ → /bag/; /labʰ/ → /lab/

evsjv fvlvq A¶‡ii mPbvq KÉ¨ bwmK¨ cYe /ŋ/ _vK‡Z cv‡i bv| GB Z‡_¨i wfwË‡Z mÿVb kZ 5Gi c¯ve Kiv ‡h‡Z cv‡i:

mÿVb kZ 5
*mPbv
/ŋ/

¯icYe Qvov Ab¨ ‡Kvb cYe gvb evsjvq A¶‡ii ‡K› ` MVb Ki‡Z cv‡i bv Ges ‡Kvb Aa¯i cYel evsjvq A¶‡ii ‡K› ` n‡Z cv‡i bv| evsjv aŸwbZ‡Ëi GB ‰ewkó¨wU cwZdwjZ n‡q‡Q 6bs mÿVb k‡Z|

mÿVb kZ 6
*‡K› `
+ e¨Äb

`šgjxq bwmK¨ e¨Äb /n/ ‡Kvb wRnŸvM (ev gÿKvZ) (Coronal) ¯úó e¨Äb (/t/, /d/, /ʈ/, /ɖ/) Ges ¯úó-Nó e¨Äb (/c/, /ɟ/) Gi AMeZx n‡Z cv‡i bv| D`vniY: ÔAvb‡ZvÕ /anto/, Ôkvb‡`qvÕ /ʃandeʸa/, ÔKvbPwe Õ /kancabi/, ÔSbSbÕ /ɟʰɔnɟʰon/, ÔeÈbÕ /bɔnʈon/, ÔevbWvKvÕ /bandɖaka/| Z‡e KÉ¨ l lô¨ ¯úó e¨Ä‡bi ‡¶‡Î G bqg KvhKi nq bv| D`vniY: Ô‡evb‡cvÕ, ÔAvb‡Kvi Õ, BZ¨w`| GB Z‡_¨i wfwË‡Z mÿVb kZ-7 Gi c¯ve Kiv ‡h‡Z cv‡i|

mÿVb kZ 7		
*	C	C

	[+ bwmK¨, + wRnŸvM]	[{+ ¯úó, + Nó} + wRnŸvM]

‡givgZ ‡KŠkj (mgxfeb/cwZ¯vcb): G ai‡bi ‡¶‡Î bwmK¨ e¨Äb /n/ cieZx e¨ÄbwUi mv‡_ *mg‡`nx* (Homorganic) n‡q hvq| wKš Ô‡evb‡cvÕ, ÔAvb‡KvivÕ, BZ¨w` k‡ã KÉ¨ l lô¨ ¯úó e¨Äb cYe¸‡jv w*fb‡`nx* (Heterorganic) _v‡K|

evsjvq ‡Nvl e¨Äb cYe A‡Nvl e¨Äb cY‡ei AMeZx n‡Z cv‡i, ‡hgb ÔfvMPvlÕ /bʰagcaʃi/ ev ÔivRcyÕ /rajputra/| wKš ‡Kvb A‡Nvl e¨Äb cYe ‡Kvb ‡Nvl e¨Äb cY‡ei AMeZx n‡Z cv‡i bv| Ab¨fv‡e ej‡Z ‡M‡j, ‡Kvb A‡Nvl e¨Äb cYe †Kvb †Nvl e¨Äb cY‡ei AMeZx n‡Z cv‡i bv| AŠjxb ¯‡i hv /golap/ + /ɟɔl/, ev /dak/ + /gʰɔr/ fwg¯‡i G‡m Zv n‡q hvq /golabjɔl/ ev /daggʰɔr/| G e¨vcvi wU‡K Avgiv *civMZ mgxfeb* (Regressive Assimilation) ej‡Z cwi| civMZ mgxfeb meÎ KvhKi nq| wb‡Pi D`vniY¸‡jv‡Z Ômvc f‡iÕ, ÔnvZ a‡iÕ BZ¨w` cYeµg kã bq, ‡Kvb e‡Mi AšfŸ³ wKš Zvi c‡il A‡Nvl e¨ÄbcYe /p/, /t/ Avi /k/ h_vµ‡g /b/, /d/ Avi /g/-‡Z cwiYZ n‡"Q: /ʃabbʰore/, /haddʰore/, /ɖagdaʷ/| j¶¨ Ki‡b: Ômvc bv f‡iÕ, ÔnvZ bv a‡iÕ, ÔWvK bv `vlÕ BZ¨w` kãµ‡g /p/, /t/ Avi /k/ Gi D"Pvi‡Yi cwieZb nq bv|

K. Swic‡Z *mvc f‡i* ‡e‡`iv Gw`K lw`K wb‡q hvq|
L. *nvZ a‡i* ‡gv‡i wb‡q P‡jv mLv|
M. mevB‡K *WvK `vl*!

j¶¨ Kiv ‡h‡Z cv‡i ‡h Nó e¨Äb¸‡jvi ‡¶‡Î civMZ mgxfeb KvhKi nq bv| ÔAvdMvbÕ Ô‡Lvmey Ôgm¸jÕ, Ô‡`k‡RvoÕ, ÔgvmWvjÕ BZ¨w` k‡ã A‡Nvl e¨Äb /f/ l /ʃ/ ‡Nvl e¨Ä‡bi AMeZx nlqv m‡Ël GB cYe¸‡jvi ‡Nvlxfeb nqwb| Z‡e GUvl wVK ‡h ‡h‡nZzevsjv aŸwbZwËK eYgvjvq Nó ‡Nvl e¨Äb cYe /v/ l /ʒ/ ‡bB (‡hgbwU Av‡Q divwm fvlvq) ‡m‡nZz/f/ l /ʃ/ Gi ‡Nvlxfeb m¤e bq| civMZ mgxfe‡bi e¨vcviwU mÿVb kZ 8 G cwZdwjZ n‡q‡Q:

mÿVb kZ 8		
*	e¨Äb	e¨Äb
	– ‡Nvl	+ ‡Nvl

‡givgZ †KŠkj (cwZ¯vcb):

mviwY 7: civMZ mgxfe‡bi D`vniY

/pb/→/bb/	/pd/→/bd/	/pg/→/bg/	/pɟ/→/bɟ/
/kãbbe/ Kuc‡e	/golabdani/ ‡Mvjve`vbx	/golabgac^{h}/ ‡MvjveMvQ	/golabjɔl/ ‡MvjvcRj
/pb^{h}/→/bb^{h}/	/tb/→/db/	/td/→/dd/	/tg/→/dg/
/pabb^{h}ar/ cvcfvi	/madbɔr/ gvZei	/do^{y}addani/ ‡`vqvZ`vbx	/sɔdguru/ m`¨i¤
/td^{h}/→/dd^{h}/	/tg^{h}/→/dg^{h}/	/kɟ/→/gɟ/	/kɖ/→/gɖ/
/hadd^{h}o^{y}a/ nvZ‡avqv	/hadg^{h}ori/ nvZNwo	/b^{h}alugjɔr/ fvjvkRi	/kagɖaka/ KvKwKv
/kd/→/gd/	/kg^{h}/→/gg^{h}/	/kb/→/gb/	/ʈb/→/ɖb/
/bagdebi/ ev‡ºex	/daggʰɔr/ WvKNi	/dagbo/ WvK‡ev	/fuɖbɔl/ dbzej
/ʈb^{h}/→/ɖb^{h}/	/ʈg/→/ɖg/	/cb^{h}/→/jb^{h}/	/ʈb^{h}/→/ɖb^{h}/
/maɖb^{h}ɔra/ gwVfiv	/kaɖgɔra/ KwVMov	/kajb^{h}ɔra/ KvPfiv	/maɖb^{h}ɔra/ gwVfiv
/cd/→/jd/	/cb/→/jb/	/cg/→/jg/	/cɟ/→/cɟ/
/elajdana/ GjvP`vbv	/najbar/ bvPevi	/najgan/ bvPMvb	/kucjugɔl/ KzhMj

‡Kvb evsjv k‡ã ci ci `ÿU bwmK¨ ¯icYe e¨eüZ n‡Z cv‡i bv| GB Z‡_¨i wfwË‡Z mÿMVb kZ 9 Gi c¯ve Kiv n‡jv:

mÿMVb kZ 9		
*	¯icYe	¯icYe
	+ bwmK¨	+ bwmK¨

†Kvb evsjv k‡ã ci ci `ÿU Aa¯icYe _vK‡Z cv‡i bv| GB Z‡_¨i wfwË‡Z mÿMVb kZ 10 Gi c¯ve Kiv ‡h‡Z cv‡i:

mÿMVb kZ 10		
*	¯i/e¨Äb_ Av¶wiK	¯i/e¨Äb_Av¶wiK

5. Dcmsnvi

†gvUvgyÿf‡e GB n‡”Q mÄbbx aŸwb‡KŠkj Z‡Ëi Av‡jv‡K gvb evsjvi AvcvZm¤úŸ awbZwËK weeiY|[13] Avgiv j¶¨ Ki‡Z cwi ‡h Dc‡i ewYZ 1 †_‡K 6 chš mÿMVb kZ¸‡jv A¶i-wfwËK| 7 †_‡K 10 chš mÿMVb kZ¸‡jv mvavi YZ e¨¸Ëi ‡Kvb GK‡K (kã, eM, evK¨) KvhKi nq| Dc‡ii weeiYvU‡K Avgiv m¤úŸe‡j `we KiwQ bv, GwU GKgvÎ i¦c‡iLvI bq| Avgiv g‡b Kwi ‡h Generative phonology ev mÄbbx aŸwbZË (Chomsky and Halle 1968), Optimality theory ev wbevPbev`x aŸwbZË (Kager 1999, Archangeli 1997, Kar 2008), Natural Phonology ev cvKwZK aŸwbZË (Stampe 1979, Donegan and Stampe 1979) mn aŸwbZ‡Ëi cPwjZ I AcPwjZ, Rbwcq ev ‡Zgb Rbwcq bq Ggb Ab¨ A‡bK g‡W‡ji Av‡jv‡K evsjv aŸwbZ‡Ëi we‡klY Kiv n‡j Gi cKZ.i¦c‡iLvwU ¯úóZi n‡q DV‡e|

Acknowledgements: I am grateful to the reviewer whose comments and suggestions have been very helpful. Usual disclaimers apply. For financial support, I gratefully acknowledge the beneficence of the Japan Society for the Promotion of Science (JSPS) and University of Dhaka, Bangladesh, while for logistic support, I am indebted to the University of Montreal, the Kwansei Gakuin University, Japan, and the National Institute for Japanese Language and Linguistics, Tokyo, Japan.

ce‡Ü e¨eüZ bZzb cwifwlK k‡ãi eYvbyqwgK ZwjKv:

Ab½ (Supra-segmental), Ašjx¯i (Underlying structure), Dcav (Coda), GKcYe (Monophonemic), GKvÿi/GKvÿwiK (Monosyllabic), ‡K›` (Nucleus), MgK (Stress), Mvg (Prosody), Q›` (Rhyme), Zvb (Tone), aŸwb‡KŠkj (Phonotactic), wbevPbev`x ZË (Optimality theory), civMZ mgxfeb (Regressive assimilation), cwZeÜ (Constraint), cwZ¯vcb (Substitution), cYe (Phoneme), cwZ‡ek (Context), c¯ve (Clause), cvKwZK aŸwbZË (Natural phonology), cvYweK eYgvjv (Phonological alphabet), eM (Phrase), *enŸv¶i* (Polysyllabic), wfb‡`nx (Heterorganic), fwg¯i (Surface structure), ‡givgZ-‡KŠkj (Mechanism of repair), mÄbbx aŸwbweÁvb (Generative phonology), mÄbbx aŸwb‡KŠkj (Generative phonotactics), mg‡`nx (Homorganic), mgxfeb (Assimilation), mskq (System), ¯iKcvU (Vocal cords), ¯if³/Awcwbwnwz (Epenthesis), ¯be (Allophone), ¯jÿY (Distinctive features), mv½ (Segmental), mÿMVb kZ (Well-formedness condition), mPbv (Onset), ¯úô/i¤× (Plosive/ Occlusive)

UxKv

1. eZgvb ce‡Üi AÁvZ wbixÿK gše¨ K‡i‡Qb, evsjvq fvlweÁvb cvV‡Ki R‡b¨ ceÜwU mÿgcvV¨ bq, KviY (Zvi g‡Z) GLv‡b Ggb wKQzÔ¯KwíZ cwifvlK kãÕ e¨envi Kiv n‡q‡Q ‡h¸‡jv cvV‡Ki Kv‡Q mÿgwiwPZ bq| GB ce‡Ü A‡bK bZzb cwifvwlK kã e¨envi Kiv n‡q‡Q, GUv wVK| Z‡e ‡ewkifvM ‡ÿ‡Î bZzb cwifvwlK k‡ãi mv‡_ cecPwjZ cwifvwlK kã Avi Gi Bs‡iwR cwZkãmn bZzb cwifvwlK k‡ãi GKwU ZwjKv| cecPwjZ ‡Kvb cwifvwlK kã hw` ‡Kvb ‡jL‡Ki cQ› bv nq Z‡e Zv e¨envi bv Kivi AwaKvi Aek¨B Zvi Av‡Q| Gi mv‡_ ce‡Üi mÿgcvV¨Zvi ‡Kvb m¤úK ‡bB| ZvQvov GKwU weÁvbm¤ú‡K Av‡jvPbvq bZzb me avivi R‡b¨ bZzb cwifvlK kã _vK‡e GUvB ¯'vfweK| wfb iæwPwn ‡jvKvt| wfb wfb cvV‡Ki wfb wfb iæwP _vK‡e| wfb wfb ‡jL‡Kil Avjv`v Avjv`v iæwP _vK‡e| me cvV‡Ki me Kvgbv ci¶Y Kiv ‡jL‡Ki c‡ÿ m¤e bq| ie›`bv_ e‡j‡Qb, cwZwU bZzb cwifvlK kã cv-KvUv bZzb RtÿZvi g‡Zv| GK mgq Zv m‡q hvq| cÖvi‡bv RtÿZv Av‡Q e‡jB bZzb RtÿZv ‡Kbv hv‡e bv? ZvQvov cwifvlv a¿e bq| bZzb cwifvwlK kã mwó nq, cÖvi‡bv cwifvwlK kã Zvgw` n‡q hvq| Ab¨vb¨ fvlv‡ZI GKB ‡`wZ‡Zi Rb¨ wfb wfb ‡`wZ‡Ki e¨envi weij bq| ‡hgb Bs‡iwR‡Z: Stop/Occlusive (¯úk cYe), Fricative/Continuant (Nó cYe); diwm‡Z Cerebral/Guttural/Post-alveolar (cðvr `šg¡xq cYe)|
2. eZgvb ce‡Ü ‡ewki fvM ‡ÿ‡Î DËgcÿ¨I GKePb mebvg ÔAwgÕ cwinvi Kiv n‡q‡Q| GwU GKvšB GKwU ‰kjxMZ wm×vš|
3. Avgv‡`i ¯b‡ei msÁvi mv‡_ cvM Nivbvi ¯b‡ei msÁvi Zdvr Av‡Q| cvM Nivbvq wfb wfb cvYweK/AvÿwiK cwZ‡e‡k (Context) GKB gnvcY‡ei (Archiphoneme) ‡h wfb wfb i¦c nq ‡m¸‡jv‡K ejv nq ¯be| ‡hgb, evsjvq `šg¡xq cYe /t/ Gi c‡e mvaviYZ `š¨ kxl aŸwb /ʃ/ _v‡K bv, /s/ _v‡K| Ab¨vb¨ cwZ‡e‡k _v‡K /ʃ/| mÿgZvis /ʃ/ I /s/ KwíZ gnvcYe /ʃ/ Gi ¯be ev mnaŸwbg¡-|
4. Pxbv fvlvi D`vniY: ev[1] (A_vr 1 bs ev D”P Zvb) (Gi A_ ÔAwUÕ) I ev[2] (A_vr 2bs ev Av‡ivnx Zvb) (Gi A_ ÔDc‡o ‡djvÕ), ev[3] (A_vr 3bs ev wb¤ Zvb) (Gi A_ Ôa‡i _vKvÕ), ev[4] (A_vr 4 bs ev Ae‡ivnx Zvb) (Gi A_ Ô‡¶‡Z e¨envi Kivi gBÕ)|
5. Avgv‡`i wbixÿK ck K‡i‡Qb ÔG¨v/A¨v = æ bv n‡q ‡Kb ε n‡jv?Õ Avgiv æ ‡K evsjvi cYe (aŸwbg¡-) g‡b Kwi bv| Avgv‡`i g‡Z GwU ε Gi gy³ weKí| GKB fv‡e /f/-‡K Avgiv e¨Äb cYe wn‡m‡e we‡ePbv Kwi Ges lô (Bilabial) Φ-‡K /f/ Gi gy³ weKí e‡j g‡b Kwi| Avgv‡`i wm×všmg‡ni mc‡ÿ Bhattacharja 2006 ce‡Ü chvß hy³ ‡`Lv‡bv n‡q‡Q Ges G hver Gme hy³ ‡KD LÐb K‡ibwb|

6. AvšRwZK aŸwbg¡- eYgvjvq (IPA) /t/ I /d/ wPý w`‡q cðvr `šg¡xq ¯úk cYe Ges /ḍ/ I /ḍ/ wPý w`‡q `šg¡xq ¯úk cYe wb‡`k Kiv n‡q _v‡K| eZgvb ce‡Ü /t/ I /d/ wPý w`‡q `šg¡xq ¯úk cYe /ṭ/ I /ḍ/ wPý w`‡q cðvr `šg¡xq ¯úk cYe wb‡`k Kiv n‡q‡Q| diwm fvlvi aŸwbZwËK weei‡YI /t/ I /d/ wPý w`‡q `šg¡xq ¯úk cYe ‡`wZZ Kiv nq|
7. c‡ev³ wbixÿK gše¨ K‡i‡Qb ‡h evsjv ‡gŠwjK aŸwbi R‡b¨ B‡Zvg‡a¨ ¯xKZ/Mp¡xZ KwZcq IPA wP‡ýi Rb¨ Avgiv ‡Kb Ab¨Zi wPý e¨envi K‡iwQ, Zvi ‡Kvb ‡hŠw³ KZv wZwb LÿR cvbwb| aŸwbZwËK Av‡jvPbvq IPA e¨envi Ki‡ZB n‡e Ggb ‡Kvb eva¨evaKZv ‡bB| IPA Qvov APA I‡Zv Av‡Q| A‡bK aŸwbZwËKB cÖvicvi IPA AbymiY K‡ib bv| eZgvb ce‡Ü `šg¡xq Nó-¯úó cYe ‡`wZZ Ki‡Z IPA c¯wZ wPý /ḍj/ Gi cwie‡Z /ɟ/ e¨envi Kiv n‡q‡Q Ges Avgv‡`i wbixÿK Gi ‡hŠw³ KZv wb‡qI ck Zzj‡Qb| g»Uqj wekwe`¨vj‡q Kiv Avgvi wc.GBP.wW. AwfmÜ‡f (Bhattacharja 2007) Awg cÖvicvi IPA AbymiY Kwiwb Ges AwfmÜ‡fi wbixÿK‡`i ‡KDB Zv‡Z AvcwË K‡ibwb| Avgiv hw` c_‡gB e‡j wbB ‡h J w`‡q ÔRÕ ‡`wZZ KiwQ Zv‡Z cvV‡Ki ‡Kvb cKvi Amyeav nevi K_v bq|
8. beŸB‡qi `k‡Ki ‡kl w`‡K cqvZ ûgvqby AvRv` kvnev‡Mi eBcvovq GK e¨w³MZ AvjvcPwiZvq ÔwekRbxbÕ Gi Zzjbvq ÔmveRbxbÕ kãwU AwaKZi Dchy³ e‡j D‡jL K‡iwQ‡jb| wZwb GI e‡jw‡jb ‡h Universal Grammar Gi cwZkã nlqv DwPZ ÔmveRbxb e¨vKiYÕ| Avgvi Ges Ab¨ A‡b‡Ki e¨eüZ cwZkã Ôweke¨vKiYÕ Zvi g‡Z mwVK bq|
9. Pgv¯‹ I nv‡j (1968) Gi ixwZ Abymv‡i ‡hme cvYweK ¯'j¶Y (Distinctive feature) ZZxq eÜbxi wfZ‡i _v‡K ‡m¸‡jv mwnwjZ fv‡e GKB cYe‡K wb‡`k K‡i| ‡h me ¯'j¶Y wØZxq eÜbxi g‡a¨ _v‡K ‡m¸‡jv Avjv`v Avjv`v cYe‡K wb‡`k K‡i| Ab¨fv‡e ejv hvq ‡h wØZxq eÜbxi wfZ‡ii ¯'jÿY¸‡jvi g‡a¨ ‡h ‡Kvb GKwU‡K ‡e‡Q ‡bqv hvq| ZZxq eÜbxi wfZ‡ii ¯'jÿY¸‡jv‡K GKmv‡_ we‡ePbv Ki‡Z nq|
10. c‡ev³ wbixÿK gše¨ K‡i‡Qb, ÔZviKv wP‡ýi fvlweÁvb k¨vLjvi Ávcb kZ GLv‡b m½xZc~Y bq|Õ fvlweÁvbK Av‡jvPbvq mvaviYZ ‡Kvb fwlK e¯ (kã, eM, evK¨) hw` MnY‡hvM¨ bv nq Z‡e Zvi Wvb w`‡K ZviKv wPý e¨envi Kiv nq| mÄbbx aŸwb‡KŠkj Z‡Ë ‡Kvb we‡kl AvÿwiK (Syllabic) Ae¯v‡b hw` ‡Kvb cYeµg (aŸwbg¡-µg) MnY‡hvM¨ bv nq Z‡e Zvi Wvb w`‡K ZviKv wPý e¨envi Kiv nq| G e¨vcv‡i ‡Kvb cKvi m‡›`n _vK‡j ‡`Lv‡bv: Singh 1984 ‹ Singh 1990| GQvov ZviKv wP‡ýi fvlweÁvb k¨vLjvi Ab¨ ‡Kvb Ávcb-kZ Av‡Q wKbv Avgv‡`i Zv Rvbv ‡bB| hw` ‡_‡KI _v‡K Z‡e mÄbbx aŸwb‡KŠkj Z‡Ëi ce³viv ‡mB kZ ‡Kb cvjb K‡ibwb Zvl Avgv‡`i c‡ÿ ejv m¤e bq| D‡jL¨

‡h Avgiv GB g‡W‡ji ce³v bB, g‡WjwU Ôevsjvi GKwU DcfvlvÕ gvb PwjZ evsjvi Dci c‡qvM K‡iwQ gvÎ|

11. iv‡R›` wmsn Zui (1981:140) ce‡Ü wZb ‡givgZ-‡KŠkj‡K wZb cavb wn›`y ‡`eZvi bvgvbyw‡i eþv, weòzI g‡nk bv‡g AwfwnZ K‡i‡Qb| GB i¦cKÎ‡qi Mpv_ n‡"Q mwóKZv eþv (mgxfeb/cwZ¯vcb) KvR bv Ki‡j Avm‡e cvjbKZv weòy(¯ifw³/AwcwbwnwZ) Ges weòzK w`‡qI KvR bv n‡j AMZ¨v msnvi KZv g‡nki ev wke‡K (cYe‡jvc) Avevnb Ki‡Z n‡e|

12. GB kã¸‡jv ‡h AwdKvb ‡Kvb fvlv ev wf‡qZbwg fvlv ‡_‡K mivmwi evsjv kã‡Kv‡l c‡ek K‡iwb ‡m m¤ú‡K Avgiv Iqv‡Kenvj| Bs‡iwR‡Z cwZeYxZ GB me bvg MB ev NG w`‡q ïiæ nIqv‡Z ‡Kvb Abyev`K-mvsevw`K nq‡Zv evsjvq ÔgeyZvÕ ev Ôb¸‡qbÕ wj‡LwQ‡jb| Avgv‡`i G e¨vcv‡i ‡Kvb m‡›`n ‡bB ‡h ¯ifw³ Qvov GB kã¸‡jv D"PviY Kiv hv‡e bv, Z‡e ‡m ¯ifw³i cKwZ. wK n‡e Zv kã¸‡jv mivmwi evsjv kã‡Kv‡l c‡ek Ki‡j ejv ‡h‡Z cvi‡Zv|

13. Avgv‡`i wbixÿ‡Ki Ab¨Zg gše¨: eZgvb ce‡Ü Ô10wU m‡Î ev cKi‡Yi c¯vebv gvÎ cvIqv ‡MjÕ...evsjvfvlvi aŸwbZwËK weeiY e‡j g‡b n‡jv bv!Õ c‡o iex›`bv‡_i ÿwYKvi GKwU KweZv Ô‡evjZv Kwnj, G ‡h ÿz ‡gŠPvK! Gwi Z‡i gayKi GZ K‡i RuK...Õ (Askwe‡kl) g‡b c‡o ‡Mj| ceÜwU Avgvi MZ 5 eQ‡ii (2005-2010) M‡elYvi dmj| GB `xN mg‡q Avwg GKv`kZg aŸwb‡KŠkjwU Avwe®vi Ki‡Z cvwiwb| cvV‡Kiv hw` G e¨vcv‡i mvnvh¨ Ki‡Z cv‡ib Z‡e DcKZ. nB|

References

Archangeli, D. 1997. Optimality theory: an introduction to linguistics in the 1990s. In Diana Archangeli & D. Terence Langendoen (eds.). *Optimality theory, an overview*,1-32. Oxford: Blackwell.

Bhattacharja, S. 2006. On the Phonemic Inventory of Bengali. *Journal of the Institute of modern languages* 2005-2006: 127-148.

Bhattacharja, S. 2007. *Word Formation in Bengali: A Whole Word Morphological description and its theoretical implications*. Munich: Licom Europa.

Bhattacharja, S. 2008. Bengali phonology in light of Generative Phonotactics, *Indian Linguistics*, 69:51-72.

Chatterji, S.K. 1970. *The Origin and Ddevelopment of the Bengali language* (3 vols).London: George Allen and Unwin Ltd. Original edition, Calcutta University, 1926.

Chomsky, N. & Halle, M. 1968. *The sound pattern of English*. New York: Harper & Row.

Donegan, P. J. and Stampe, D. 1979. The study of Natural Phonology. In Daniel Dinnsen (ed.) *Current approaches to Phonological theory*,126-173. Bloomington: Indiana University Press.

Kager, R. 1999. *Optimality theory*. Cambridge: Cambridge University press.

Kar, S. 2008. Gemination in Bangla: An Optimality theoretic analysis, *The Dhaka University Journal of Linguistics*, Vol 1, No. 2: 87-114.

Mel'čuk, I. 2006. *Aspects of the theory of morphology*. Berlin: Mouton de Gruyter.

Singh, R. 1984. Well-Formedness conditions and phonological theory. In W. Dressler et al. (eds.) *Phonologica*, 274-285. Cambridge: Cambridge University Press.

Singh, R. 1990. Vers une theorie phonotactique générative. *Revue québécoise de linguistique*,19: 131-163.

Singh, R. 1981. The English negative prefix in-. *Montreal Working Papers in Linguistics*, Montreal: McGill University, Université de Montréal and Université de Québec à Montréal, vol. 17: 139-148.

Stampe, D. 1979. *A dissertation on Natural Phonology*. Bloomington: Indiana University linguistic club.