On Selective Harmony Systems in Bantu and the Kikongo Solution

Front / round asymmetry in Bantu vowel height harmony (VHH) has been previously interpreted in terms of absolute markedness. Specifically, Beckman (1997) justified root-suffix harmony of the shape CoC-iC- → CoCeC- *vs.* CeC-uC- → CeCuC- by the ranking *RoLo >> *Mid >> *High, *Low (with *RoLo, for *"Non-high rounded vowels are disallowed"*, following Kirchner 1993; see also Kaun 2004). This interpretation is seriously challenged by another case of front / round asymmetry found in various dialects of kiKongo, which favors the lowering of round targets. The present paper proposes a formal treatment of kiKongo front / round asymmetry that can render as well other types of asymmetric VHH found in Bantu languages (see Hyman 1999 for a typological presentation of VHH in Bantu).

Front / round asymmetry in kiKongo dialects is diachronic in nature and concerns evolution of disyllabic stems from Proto-Bantu (PB). It is characterized by a systematic lowering of high rounded vowels after a mid V, whereas high unrounded V's are systematically maintained. This is illustrated in (1) by PB reflexes in kiSuundi dialect.

KiKongo reflexes contradict interpretation in terms of absolute markedness (cf. *RoLo >> *Mid) because they favor realization of mid rounded V's, over realization of mid unrounded V's. In other words, diachronic evolution retains here candidates that violate higher ranked constraint in terms of absolute markedness (2a,c,e). On the other hand, the fact that final /i/ does not undergo harmony in kiKongo excludes interpretation via mere sequential identity constraints (see Krämer 2003 and references therein).

Accordingly, kiKongo front / round asymmetry strongly suggests that harmony-driving constraints are context-sensitive, which means that selective harmony is better analyzed with constraint conjunction. As shown in (3), post-initial round lowering in kiKongo is elegantly rendered by the conjoined constraint *σ_j=[+rd] *&* ID-V_iV_j[hi] that penalizes round V's in posit-initial position preceded by a V dissimilar in height (see IDENT-C_iC_j in Rose & Walker 2004 for consonant sequential identity; SYNTAGMATIC-IDENTITY in Krämer 2003 for sequential identity among V's; see also, among others, Zoll 1998 concerning positional markedness, and Moreton & Smolensky 2002 concerning constraint conjunction).

The type of context-driven agreement suggested here allows a diachronically coherent interpretation of the long-debated issue of front / round asymmetry in Bantu VHH (see in particular Hyman 1999 and references therein, Hong 1993, Beckman 1997, Riggle 1999). Specifically, the typical Central Bantu asymmetry is handled through the general ranking *RoLo *&* ID-V_iV_j[hi] >> *[-hi] *&* ID-V_iV_j[rd] >> *Mid *&* ID-V_iV_j[hi] (4).

The first and third conjunctions above penalize height dissimilarity involving mid or rounded mid V's. Their ranking reproduces the fact that mid rounded V's are more marked than mid unrounded (cf. *RoLo >> *Mid). As previous studies have noted, rounded mid V's are disfavored because their realization recourses to antagonistic gestures, i.e. lip rounding and lip protrusion vs. jaw lowering specific to non-high vowel production (see Beckman 1997, after Kirchner 1993; see also Hong 1993). As well, the second conjunction penalizes dissimilarity in roundness that involves a non-high V, which is justified as well by antagonism between roundness and openness.

Accordingly, asymmetry in Central Bantu VHH originates from the fact that round suffix lowering is ruled out by *[-hi] *&* ID-V_iV_j[rd] (cf. CɛCɔC- rejected in (4b)), whereas front V lowering is required after a mid round V, due to higher ranked *RoLo *&* ID-V_iV_j[hi] (cf. candidate CɔCɛC- preferred to CɔCɪC- in (4c-d). This is illustrated by example (5a) *vs.* (5d) from kiNande.

Correlatively, front *vs.* round "parasitic harmony" in kiChaga and chiSalampasu is justified by constraint re-ranking, i.e. top ranked *[-hi] *&* ID-V_iV_j[rd] (6b,d). Overall, context-driven agreement hypothesis offers comprehensive solution to asymmetric VHH in Bantu languages.

(1) Disyllabic PB reflexes in kiSuundi (kiKongo)

a.	*-gɛɛmbú > -géémbo *"bat sp."*	*vs.*	*c.* *-dɔgɪ > -dogi *"witchcraft"*
b.	*-pɔku > -phóvo *"blind pers."*		*d.* *-yɛ́di > -ési *"moon light".*

(diacritic marks = high tones; see Mabiala 1996; Hyman 1999).

(2) Markedness constraints select wrong candidates in kiKongo disyllabic reflexes (👎)

	PB	kiKongo	*RoLo	*Mid	*High
a.	CeCu	👎 CeCu		*	*
b.		☹ CeCo	*!	*	
c.	CeCi	👎 CeCe		*	
d.		☹ CeCi		*	*!

	PB	kiKongo	*RoLo	*Mid	*High
e.	CoCi	👎 CoCe	*	*	
f.		☹ CoCi	*	*	*!

(☹ = optimal candidate is eliminated by ranking)

(3) [+Round] / [-High] cooccurrence restriction in kiKongo disyllabic reflexes

	PB	kiKongo	*σ_j=[+rd] & ID-V_iV_j[hi]	ID
a.	CeCu	☞ CeCo		*
b.		CeCu	*!	

	PB	kiKongo	*σ_j=[+rd] & ID-V_iV_j[hi]	ID
c.	CoCi	☞ CoCi		
d.		CoCe		*!

(4) Central Bantu typical asymmetry in root-suffix VHH

	input	output	*[-hi] & ID-V_iV_j[rd]	*Mid & ID-V_iV_j[hi]
a.	CɛC-ʊC-	☞ CɛCʊC-	*	*
b.		CɛCɔC-	**!	

	input	output	*RoLo & ID-V_iV_j[hi]	*[-hi] & ID-V_iV_j[rd]
c.	CɔC-ɪC-	☞ CɔCɛC-		**
d.		CɔCɪC-	*!	

(5) Front / round asymmetry in root-suffix harmony in kiNande (Central Bantu; Hyman 1999)

a. bɔ́h-ɛr-a *"tie for/at"* c. bɔ́h-ɔl-a *"untie"*
b. ɛs-ɛr-a *"make a bed for/at"* d. sɛs-ʊl-a *"unmake bed".*

(6) Front / round disharmony in kiChaga and chiSalampasu

	input	output	*[-hi] & ID-V_iV_j[rd]	*RoLo & ID-V_iV_j[hi]	*[-hi,-lo] & ID-V_iV_j[hi]
a.	CoC-iC-	☞ CoCiC-		*	*
b.		CoCeC-	*!		
c.	CeC-uC-	☞ CeCuC-			*
d.		CeCoC-	*!		

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