

## ***Kinande phrasal harmony — gradient phonetic anticipation or phonological domino?***

The Bantu language Kinande propagates the feature ATR (Advanced Tongue Root) to the left. This regressive vowel harmony (RVH) process optionally extends into the preceding word within the same XP, affecting one, several or all vowels in this extended domain, if it crosses the word boundary (Schlindwein 1987, Mutaka 1990, 1995). The crucial data are given in (1). As shown, the [+ATR] value contributed by the last vowel of the word for ‘short’ –/mikuhi/ – obligatorily spreads leftward within the word and optionally crosses the word boundary, affecting the last vowel of the preceding word or a contiguous sequence of vowels that includes the last (Mutaka 1995).

- (1) a. e-mi-ti m<sub>i</sub>-kuhi [è<sup>mí</sup>tí míkù:hì] ‘short trees’  
b. e-mi-t<sub>i</sub> m<sub>i</sub>-kuhi [è<sup>mí</sup>tí míkù:hì]  
c. e-m<sub>i</sub>-t<sub>i</sub> m<sub>i</sub>-kuhi [è<sup>mí</sup>tí míkù:hì]  
d. e-m<sub>i</sub>-t<sub>i</sub> m<sub>i</sub>-kuhi [è<sup>mí</sup>tí míkù:hì]

Archangeli & Pulleyblank (2002, henceforth A&P) argue that this RVH process is not phonological but rather a phonetic anticipatory effect, because it is gradient. In this paper we argue that Kinande phrasal harmony is phonological and analyse the pattern and its variation within Optimality Theory.

A&P’s argument crucially relies on the interpretation of the term *gradience*: “The impressionistic evidence is that phrasal ATR harmony is gradient both in how far it goes in a word and in how strongly each vowel is affected” (p. 180) However, the vowels in the RVH domain are clearly classified as belonging to one of the two categories (+ATR or –ATR), which indicates that the strength or degree of affectedness is within-category variation, not the kind of gradience that blurs the boundaries of phonological categories. Variation in the application or range of application of a process can hardly be considered an argument for its non-phonological status. (See, e.g., Coetzee & Pater 2011.) Furthermore, as A&P note, phrasal RVH is phonologically-conditioned: it does not apply if the last vowel is non-high. As work like A&P (1994) argues, [–ATR] high vowels are typologically marked, while non-high vowels are compatible with both [+ATR] and [–ATR]. There is, therefore, no phonetic reason why non-high vowels should impede the articulatory anticipation of the tongue root advancement of the first vowel in the second word. In addition, Mutaka (1995) shows that RVH is morphosyntactically conditioned. We thus conclude that Kinande phrasal RVH is a genuinely phonological process, amenable to phonological analysis.

Our analysis of RVH is cast in Syntagmatic/ABC Correspondence (Hansson 2001; Krämer 1998, 2003; Walker 2011; Rose & Walker 2004), which considers harmony to be implemented by correspondence relations between vowels in surface representations. It furthermore exploits the observation that the phrasal spillover effect is only observed if the last vowel of the first word has the marked [–ATR, high] feature combination. We propose that the adjacent [+ATR] vowel in the next word offers an opportunity to reduce the markedness of the final [–ATR, high] vowel in word 1 by spreading/identity through correspondence. Once [+ATR] crosses the word boundary, a domino RVH effect is optionally triggered in the preceding vowels. The core idea of the analysis is illustrated in the tableau overleaf.

(2) OT account of Kinande variable phrasal harmony in a nutshell

/è mí tí mí kù :hì/	MAX(hi; +ATR)	DEP(+ATR)	LIC[+ATR]/{PWD	*Hi,-ATR	FAITH{PWD	S-IDENT <sub>stem</sub>	*Mid+ATR
a. è mí tí mí kù :hì			*!	****		*	
☞ b. è mí tí mí kù :hì				**	*		
☞ c. è mí tí mí kù :hì				*	*	*	
☞ d. è mí tí mí kù :hì					**		*
e. è mí tí mí kù :hì		*!		*			*
f. è mí tí mí kù :hì	*!			*****			

Unranked constraints are subject to random ranking in each evaluation.

### References

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