Long-distance Nasal Agreement in Bantu: Harmony or Allomorphy

Yongqing Ye
Michigan State University

Abstract

Long-distance nasal agreement (LDNA) is a process where consonants appear to agree in nasality across intervening 'neutral' or 'non-participating' consonants and vowels (Hyman, 1995; Rose & Walker, 2004; Walker, 2000, 2011). Previous analyses considered LDNA in Bantu languages to be a phonological process. This paper suggests that Bantu LDNA patterns can be accounted for as a case of phonologically conditioned allomorphy (PCA) (Paster, 2006).

A number of Bantu languages have been reported to have LDNA such as Kongo (Ao, 1991), Yaka (Hyman, 1995; Kidima, 1991; Van den Eynde, 1968; Walker, 2000, 2011), Lamba (Kenstowicz and Kisseberth, 1979), Bemba (Kula, 2002), Chokwe, Herero (Booysen, 1982; Choti, 2015), Ila (Greenberg, 1951), Kwanyama (Meinhof, 1932), Lunda, Subiya, and Tonga (Collins, 1962). LDNA is triggered by a stem nasal and targets the consonant /d/ or /l/ in the suffix, which assimilate in nasality across one or multiple segments. These non-participant intervening segments are transparent (neither triggering or blocking) to the harmony (Odden, 2015). Nasal-Consonant clusters (NC) do not trigger or block nasal harmony. Examples are shown below.

Yaka	[hyook-i**d**]	'go through.APPL'	[**m**iituk-i**n**]	'sulk.APPL'	Ruttenberg (1971)
Kongo	[suk-i**d**i]	'wash.PRF'	[**n**ik-i**n**i]	'grind.PRF'	Ao (1991)

Previous analyses of LDNA accounted for the pattern with spreading restrictions (Ao, 1991; Archangeli & Pulleyblank, 1986; Hyman, 1995; Odden, 1994, 2015; Piggott, 1996), correspondence (Rose & Walker, 2004; Walker, 2000) and representations (Pulleyblank, 1989). However, some unique properties of Bantu nasal harmony have not been addressed. First, the vast majority of nasal consonant harmony are reported to be from Bantu languages (Hansson, 2010; Rose & Walker, 2004); the LDNA pattern has not been reported in any language outside Bantu. In the Bantu data reported in previous literature thus far, there are only a couple of well-attested suffixes (the perfective suffix /-VdV/ and applicative suffix /-Vd/) that are affected by nasal harmony. Second, Bantu LDNA targets voiced stops. This is interesting given that typologically obstruents never nasalize in regular local nasal harmony (Durvasula, 2009; Walker, 2014). Hyman (1995) also stated that the only cases of LDNA are found with an underlying /d/, which alternates with [n]; but he has not found any alternation of /b/, /w/ and /y/ with their nasal counterparts. The limited application of the alternation between a voiced consonant and nasal (the fact that we have also observed alternation with /d/ thus far) suggests it may not be an active phonological process. In

addition, there is contrastive neutralization (Silverman, 2012). LDNA do not affect every consonant but only a handful of targeted consonants. Both /d/ and /l/ in Bantu LDNA are neutralising to [n]. This process is sensitive to structural preservation, thus suggesting it is not a purely phonological process.

This paper proposes that the Bantu LDNA pattern is phonologically conditioned allomorphy by showing it fits the typologically attested characteristics of PCA proposed in (Paster, 2006, 2009, 2014). First, PCA appears at the same edge of the stem as the trigger. This generalization is not applicable to Bantu LDNA because the process is limited to the derivational stem (root and its suffixes) and prefixes do not participate in LDNA (Hyman, 1995). Therefore, LDNA is consistent with the first generalization of PCA. Second, PCA is sensitive to underlying rather than surface forms, which may result in opaque interactions. Prefixing of /N/ can de-naslize the root-initial nasal consonants, but the suffix continues to be nasal (as shown below), resulting in an opaque pattern. Bantu LDNA applies prior to the effect of /N/ prefixation in Yaka (Kidima, 1991), which suggests that it is consistent with PCA characteristics. Third, PCA is not always optimizing. In Bantu LDNA, the distribution of different forms of allomorphs of the suffixes has no apparent optimizing effect on any aspect of phonological well-formedness of the words. In other words, there would not be less violations of any phonological constrains.

UR	SR		
/N-**n**uuk-i**d**i/	[n**d**uuk-i**n**i]	'(I) sniff.PRF'	Kidima (1991)

In conclusion, Bantu LDNA pattern is perfectly consistent with PCA. The case of Bantu LDNA is significant in helping us differentiate phonological and morphological processes. This case has been argued to be a genuine case of non-local harmony (Hansson, 2010). There are many cases of non-local harmony which turn out not to be so (Green, 2004; Rose & Walker, 2004). If Bantu LDNA is not phonological, it is perhaps possible that there are no non-local harmony cases in phonology. Bantu LDNA patterns shed light in our understanding of harmony, and it has theoretical implications for phonological representations, processes and acquisition of harmony processes.

Selected References

Ao, B. (1991). Kikongo nasal harmony and context-sensitive underspecification. *Linguistic Inquiry*, 193-196.

Hansson, G. Ó. (2010). *Consonant harmony: Long-distance interactions in phonology*(Vol. 145). University of California Press.

Hyman, L. M. (1995). Nasal consonant harmony at a distance the case of yaka. *Studies in African Linguistics, 24*(1), 6–30.

Kidima, L. (1991). *Tone and accent in kiyaka*(Doctoral dissertation). University of California, Los Angeles.

Paster, M. (2006). *Phonological conditions on affixation* (Doctoral dissertation). University of California, Berkeley.

Piggott, G. L. (1996). Implications of consonant nasalization for a theory of harmony. *Canadian Journal of Linguistics/Revue canadienne de linguistique,41*(2), 141–174.

Rose, S., Walker, R. (2004). A typology of consonant agreement as correspondence. *Language*, 475–531.

Walker, R. (2014). *Nasalization, neutral segments and opacity effects.* Routledge.