Bantu vowel copying harmony and domain structure

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Bantu vowel height harmony has been described in a number of works (see e.g. Hyman 1999), and has often been taken as evidence for the special status of the 'final vowel' (FV) - which is not included in the harmonic span of height harmony - as either inflectional, or as merely fulfilling prosodic requirements on syllable structure:

(1) a-li-m-[komb-ol-e]-a (< komb-Ul-I-a) [Swahili]
Subj1sg.-PAST-Obj3sg.-clean-Reversive-Applicative-FV
'S/he cleared him/her (e.g. of debt)'

In (1), all vowels are harmonised except for the final one which is *-a*. While in some Bantu languages, the final vowel is always *-a*, in others it appears to carry inflectional information (e.g. Swahili *-i* present negative), in either case permitting a clear distinction between a 'verbal base' (root + derivational suffixes, indicated by square brackets in (1)) and the final vowel. However, the distribution of Bantu perfects, for example in Bemba, upsets this division, since the perfect suffix *-ile* behaves differently with roots, where it is regularly suffixed (and subject to vowel and nasal harmony), and verbal bases, where it undergoes irregular suffixation which consists of changing the quality of the base final vowel ('imbrication') (cf. Bastin 1983):

(2) a-li-land-ile
Subj1sg.-PAST-say-PERF
'S/he had spoken'

(3) a-li-somw-een-e (< som-UL-iLe)
Subj1sg.-PAST- Reversive-see.PERF
'S/he had unplugged'

This pattern can be explained by postulating a complex morphological structure of Bantu verbs distinguishing between root, derivational stem, derivational suffix domain, and inflectional stem (Downing 1999, Kula 2001): [$_{\text{I-stem}}$ [$_{\text{D-stem}}$ [$_{\text{Root}}$ CVC] [$_{\text{D-suffix domain}}$ -VC-...-VC]] final V]. Assuming this structure, the perfect in Bemba is sensitive to whether it attaches to a root or to a D-stem. In this paper, we provide further evidence for this approach to domain structure from vowel copying harmony, which consists of copying the root vowel into the FV slot (4). If, however, a derivational suffix is intervening, the final vowel is invariably *-a* (5):

(4) tu-na-fúm-u
Subj1pl.-Anterior-come-FV
'we came'

(5) tu-na-fúm-in-a [Lucazi]
Subj1pl.-Anterior-come-Applicative-FV
'we came for'

The contrast between (4) and (5) shows that the choice of the final vowel is a function of the presence of melodic content in the D-suffix domain. These data thus provide primary evidence for an articulated phonological structure of Bantu verbs.

References

Downing, L, 1999, 'Prosodic Stem ≠ Prosodic Word in Bantu'. In T. A. Hall & U. Kleinhenz, eds., *Studies on the Phonological Word*. Amsterdam: John Benjamins, 73-98.