Voicing Polarity as Opaque Licensing Intervention

The Western Nilotic language Luo has a notorious morphophonological alternation where the voicing of a root-final obstruent is apparently reverted in nominal plural formation. Thus in (1-a), the last root consonant is voiced in the singular and unvoiced in the plural, and in (1-b) the voicing contrast is the other way around (data from Tucker, 1994). Although the last years have seen a wealth of alternative approaches to Luo voicing polarity, all these approaches have empirical or conceptual drawbacks: Antifaithfulness-based (Alderete, 2001) and allomorphy-based analyses (Wolf, 2005) have no principled account for the numerous "exceptional" roots where the stem-final obstruent is voiceless in singular and plural. Moreover, they predict that vowel-final and consonant-final roots should behave in the same way leading to alternations as in (2), but the pattern exemplified in (2-a) is completely unattested, and the one in (2-b) at best marginal. On the other hand, underspecification-based accounts (Pulleyblank, 2006) predict that there should be a substantial class of roots which maintain voicing in both forms, which is again only marginally attested. In this talk, I argue for a unified analysis where all cases of voicing polarity are a consequence of the fact that voiced obstruents must be licensed by a following sonorant.

The analysis is based on three crucial assumptions. *First*, faithfulness constraints for voice are split up into two separate constraints IDENT [+vc] and IDENT [–vc] (see Hall, 2007 for a similar proposal). *Second*, I adopt a version of Containment Theory (van Oostendorp, 2006), where "deleted" phonological material is still present in the output of phonology, but marked as phonetically invisible. As a consequence, deleted material while not pronounced might still be visible to specific constraints. *Third,* voicing in obstruents is subject to the constraints in (4) and (5). Since (4) requires that licensing happens in the same autosegmental span (i.e. licensor and licensee are associated to the same [+voice] feature), and (5) prohibits establishing spans across other segments (including phonetically invisible ones), deleted segments might act as defective intervenors for voicing licensing. Independent evidence for deleted segments acting as intervenors can be found in the nasal assimilation patterns in Dutch dialects (Trommer, 2008).

"Voicing Polarity" (and non-polarity) now emerges as follows: All nominal roots with final unvoiced obstruents retain voicing throughout the paradigm because IDENT [–vc] is crucially undominated. The roots which show polarity have all underlyingly final voiced obstruents. In consonant-final roots, this leads to straightforward final devoicing in the singular because there is no following sonorant to license the root-final obstruent (6). In the plural, the plural suffix -*e* serves as a licensor, and voicing is maintained (7). Just the same happens with vowel-final roots in the singular, where the root vowel licenses obstruent voicing (8). In the plural of vowel-final roots, the root vowel is deleted (becomes phonetically invisible, indicated here by gray shading): NOSKIP blocks the formation of a voicing span across the invisible segment, hence the only way to avoid a violation of the LICENSING constraint is to devoice the obstruents which only violates low-ranked IDENT [+voice] (9).

Besides of accounting for the observed alternations, this analysis predicts that the patterns in (2) should be impossible: (2-a) is excluded since voicing in the final obstruent cannot be licensed, and the underlyingly voiceless obstruent in *cogo* cannot become voiced in the plural due to high-ranked IDENT [–vc].

(1) a. kidi (sg.)   kit-e (pl.)   'stone'
    b. ɐrip (sg.)   ɐrib-e (pl.)   'milky way'

(2) a. *bad (sg.)   bet-e (pl.)
    b. *coko (sg.)   cog-e (pl.)

(3) a. cupa (sg.)   cup-e (pl.)   'bottle'
    b. ip (sg.)   ip-e (pl.)   'tail'

(4) **Licensing Constraint** (cf. Steriade, 1997):
    A [+vc] obstruent should be phonetically visible through a
    phonetically right-adjacent sonorant in the same voicing span.

(5) **NoSkipping:** Phonetically visible association spans should not skip root nodes

(6) **Input:** ɐrib, 'milky way'

		Id [–vc]	NoSkip	Lic	Id [+vc]
☞	a. ɐrip				*
	b. ɐrib			*!	
	c. ɐr(ib)			*!	

(7) **Input:** ɐrib-e, 'milky way (pl.)'

		Id [–vc]	NoSkip	Lic	Id [+vc]
☞	a. ɐri(b-e)				
	b. ɐrip-e				*!
	c. ɐrib-e			*!	

(8) **Input:** kidi, 'stone'

		Id [–vc]	NoSkip	Lic	Id [+vc]
☞	ki(di)				
	kidi			*!	
	kiti			*!	

(9) **Input:** kidi-e, 'stone (pl.)'

		Id [–vc]	NoSkip	Lic	Id [+vc]
	a. ki(di-e)		*!		
	b. ki(di)-e			*!	
☞	c. kiti-e				*

References

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