Gradient tones obviate floating features in Oku tone sandhi

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Main Claim Tonal Sandhi in Oku (Grassfields Bantu, Cameroon) involves tonal changes to both sides of a morpheme boundary. It has been analyzed by Hyman (2014) involving several floating tones to trigger and block tonal processes. We argue that these diacritic features can be superseded by integrating the intuitive notion of strength into our representations (Goldrick & Smolensky 2016).

Data In Oku Tone Sandhi neither element remains stable across different contexts. This affects most of its four level tones, as well as its contour tones. As exemplified by the Plural marker -**se** in (1) the second tone varies between a mid tone (only after underlying falling tone cf. (1-g)), an unreleased low tone (after underlying mid low and low tones cf. (1-a,f)) and a high tone. Some mid toned stems also change to high tones in this context (cf. (1-d.)). The generalizations are that: mid tones and unreleased low tones never cause changes meanwhile low tones cause lowering to their right and high tones cause raising to their left.

Proposal We propose that High and Low tones in Oku can either be strong or weak, which respectively corresponds to activations of 0.6 or 0.4. The two mid tones are represented by the relative amount of High and Low tones associated to a single tonal root node yielding a complex tone, as shown in (2). In the above mentioned plural examples we assume that the affix bears a weak high tone (=0.4). Three constraints are crucial ingredients to our OT analysis. Spreading is triggered by a version of the well established constraint SPECIFY(Tone) (Myers 2004; Prince & Smolensky 1993), which is only satisfied if a tonal root node is associated with a full activation (=1.0). This in turn also means that spreading of a strong tone is favored over spreading of a weak tone. The prohibition against mid and unreleased low tones is formalized as a constraint *MIXEDSPONSOR. This constraint uses terminology from Optimal Domains Theory (Cole & Kisseberth 1994) and states that a tone may not sponsor a domain (be the underlying correspondent of a spreading domain) if it is a mixed tone, i.e. a tonal root node associated to a high and a low tone. As shown in (3), no part of the unreleased low tone can spread, since it violates the constraint against mixed sponsors, even though this would help satisfying the SPECIFY constraint by fully specifying the affixal tonal root node. The third crucial constraint we call MAXMOSTLY keeps tones from changing too rapidly by penalizing tonal root nodes that are underlyingly associated to at least 0.6 of a different tone from the one they are associated to at the surface, again with 0.6 activation. This accounts for the different behaviour of the unreleased low tone and the mid tone, which would be otherwise indistinguishable for the constraints.

Discussion Unlike Hyman (2014) we do not assume any floating tones to trigger or block processes. The spreading is triggered by very general constraints and it is now the activation of these tones that distinguishes between them as triggering and blocking tone spreading. This notion is directly tied to the elements that undergo and trigger changes. There is no need for independent abstract underlying floating tones that never surface on their own. Building on this insight, we hope that future work will yield a less abstract analysis of similar patterns amongst the world's languages.

(1) Tone Sandhi in Oku plural forms

	SG	PL		SG	PL
a.	kà	kà-**sə̀**°	'basket(s)'	L	L.L°
b.	njàm°	njàm-**sé**	'axe(s)'	L°	L.H
c.	ndə̄i	ndə̄i-**sé**	'cloth(s)'	M	M.H
d.	sə̄ə	sə́ə-**sé**	'fish'	M	H.H
e.	yúo	yúo-**sé**	'bee(s)'	H	H.H
f.	ntō`k	ntōk-**sè**°	'bundle(s)'	ML	M.L°
g.	nyâm	nyám-**sē**	'animal(s) '	HL	H.M

(2) Representations of the four tones in Oku
a. High tone   b. Low tone   c. Mid tone   d. Unreleased low tone
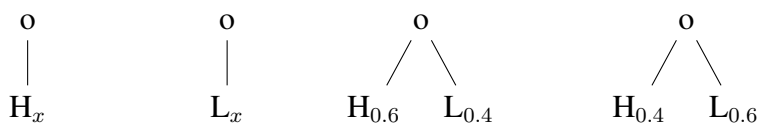
(3) Evaluation of a Low stem plural noun

Input: = c.	*MIXSP	MAXᴹ	SPEC(T)
a. H L H njàm° sə̀°	*!		
b. H L H njám° sə́		*!	*
☞ c. H L H njàm° sə́			*

References

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