Two-Dimensional Vowel Polarity in Bari

Jochen Trommer & Daniel Gleim, Leipzig University
jtrommer@uni-leipzig.de,gleimdani@gmail.com

Outline: Long-distance vowel dissimilation is a typologically rare and theoretically still poorly understood phenomenon (see Suzuki 1998 for a detailed crosslinguistic survey, and Blevins 2009 for more recent discussion). In this talk, we discuss an especially intricate case of height polarity in Bari (Eastern Nilotic, all data from Yokwe 1986) and argue that the pattern instantiates true phonological optimization, not morphological allomorph selection. **Data:** The antipassive suffix shows up either as a high back vowel ([u]/[ʊ]) or as a low back vowel ([a]/[ɐ], according to the ATR-specification of the root). The high variant appears after low vowels (1-a), the low one after high vowels, establishing the basic polarity pattern (1-b):

(1)	a.	i.	gáʔ	⇒	gáɟ-ʊ̀	'look for'	(p.31)
		ii.	ɟéʔ	⇒	ɟéɟ-ù	'visit'	(p.32)
	b.	i.	kúr	⇒	kúrjɐ̀	'borrow'	(p.32)
		ii.	mík	⇒	mìggɐ̂	'pull'	(p.32)
		iii.	sʊ́r	⇒	sʊ̀rjâ	'borrow'	(p.32)
		iv.	nín	⇒	níndyà	'twist'	(p.32)

An intriguing complication is the behavior after mid vowels. Here the high variant appears after [+ATR] roots (2-a), and the low variant after [-ATR] roots (2-b):

(2)	a.	i.	són	⇒	sóndù	'send away'	(p.31)
		ii.	rém	⇒	rémbù	'spear'	(p.31)
	b.	i.	sɔ́	⇒	sɔ̀jâ	'boil'	(p.31)
		ii.	dɛ́r	⇒	dɛ́rjà	'cook'	(p.31)

Theoretical Problems: For a phonological account, the central challenge posed by the Bari antipassive is the fact that the language has clear examples of stable high (cf. the ventive suffix -un in kùr-ún 'dig', mɔk-ʊ́n, 'catch', dàng-ʊ́n 'lick', p.49), mid (imperative -e in sùt-ê 'bet', bòn-ê 'belittle', lùsɐ̀k-ê 'melt', p.81-82) and low-vowel suffixes (passive -a in kʊ́k-â 'respect', mɔ̀k-â 'catch', ràl-â 'scorch', p.61-62); however these don't exhibit polarity, but different types of height harmony (low [+ATR] vowels are raised to mid after mid vowels, and [+ATR] mid vowels are raised to high before high vowels under specific conditions).

Analysis: Following Suzuki (1998) for South-Russian Jakan'e, we propose that the central polarity pattern is triggered by a constraint requiring maximal height contrast between syllable-adjacent vowels. The unique property of the antipassive vowel which makes it vulnerable for MaximalContrast is that it is unspecified for aperture (height features) and can hence assume distinct surface heights without violating higher-ranked Ident [hi/lo] (which in turn blocks changes in root vowels), an Emergence of the Unmarked Effect (TETU, McCarthy and Prince 1994), as shown in (3). The realizations after mid vowels instantiate two additional TETU effects under input underspecification: the avoidance of mid vowels triggered by *Mid and the well-known antagonism of [+ATR] for [+low] (*{ɐ}) and of [-ATR] for [+high] (*{ɪ,ʊ}) (Archangeli and Pulleyblank 1994, 2002).

(3) **Suffix Polarity: High/Low Roots**

Input: = gaf-jV

	Id [hi/lo]	MaxContr	*{ɪ,ʊ} *{ɐ}	*Mid
☞ a. gaf-jʊ			*	
b. gaf-jɔ		*!		*
c. gaf-ja		*!		

Input: = kur-jV

	Id [hi/lo]	MaxContr	*{ɪ,ʊ} *{ɐ}	*Mid
a. kur-ju		*!		
b. kur-jo		*!		*
☞ c. kur-jɐ			*	

(4) **Suffix Polarity: Mid-Vowel Stems**

Input: = ge-jV

	Id [hi/lo]	MaxContr	*{ɪ,ʊ} *{ɐ}	*Mid
☞ a. ge-ju		*		*
b. ge-jo		*		**!
c. ge-jɐ		*	*!	*

Input: = gɛ-jV

	Id [hi/lo]	MaxContr	*{ɪ,ʊ} *{ɐ}	*Mid
a. gɛ-jʊ		*	*!	*
b. gɛ-jɔ		*		**!
☞ c. gɛ-ja		*		*

Extensions: Building on this core analysis, we show how polarity interacts with higher-ranked constraints requiring specific types of height harmony. Crucially, we argue that polarity occupies a 'niche' in the harmony system – where higher-ranked constraints enforcing height feature spreading are inapplicable, polarity becomes possible – an account that also carries over to partially polarizing prefixes which alternate between o/ɔ and u/ʊ (e.g. causative to- in tò-kûr 'borrow', tòdôk 'wrap' tὸgâʔ 'look for', p.76).

Problems for an Allomorphy Analysis: The AP suffix poses substantial problems for a suppletion analysis based on morphophonological subcategorization (Bye 2006, Embick 2010, Paster 2015). Subcategorization doesn't capture that Bari vowel harmony reflects the well-established alignment of [ATR] and height values. More seriously, subcategorization presupposes a natural class of targets one or both of the allomorphs could select for, but requiring [+ATR -low] bases for the u/ʊ-allomorph incorrectly excludes [-ATR] [a] bases (1-a-i) and selecting for [-low] or [+high] overpredicts it for [-ATR] mid vowels (2-b).