Prominence-control and multiple triggers in vowel harmony: An ABC analysis

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This paper examines the problem of vowels that harmonize for different properties with triggers in distinct prominent positions. Extensions of the Agreement by Correspondence approach are proposed that obtain the potential for prominence sensitivity and simultaneous distinct triggers.

The Eastern Meadow dialect of Mari (EMM) (Uralic) exhibits two types of vowel harmony that affect full suffix vowels (Vaysman 2009). These are backness harmony and rounding harmony, which are triggered by vowels in different prominent positions.

The vowels of EMM are [i y e ø æ ə a o u]. Backness harmony operates from the word-initial vowel to a suffix vowel (1). Examples with disharmonic stems in (1d, f) show that backness harmony can operate across full (non-schwa) vowels with an opposite value for backness.

(1)

	Nom. sg. 2 pl. poss. suffix			*Dative suffix*	
a.	ˈem-dæ	‘medicine’	f.	merˈaŋ-læn	‘hare’
b.	ʃødrˈæ-tæ	‘forest’	g.	imɲə-lˈæn	‘horse’
c.	tyrə-tˈǽ	‘edge’	h.	kyzə-lˈæn	‘knife’
d.	uβˈer-ta	‘news’	i.	olmˈa-lan	‘apple’
e.	oləkˈa	‘meadow’	j.	munə-lˈan	‘egg’

Rounding harmony operates from the stressed vowel to a suffix vowel. The suffix in (2) exhibits [e] when the stressed vowel is unround, and [ø] or [o] when the stressed vowel is round. Examples in (2a-c) show that when the initial vowel and stressed vowel disagree in rounding, it is the stressed vowel that controls round harmony. In EMM, the vowel that controls the rounding quality of the suffix vowel is therefore in a different position from that which controls the suffix vowel’s backness quality.

(2)

	3 sg. poss. suffix	
a.	pykʃermˈe-ʃe	‘walnut tree’
b.	tʃødrˈæ-ʃe	‘forest’
c.	yrˈemə-ʃe	‘street’
d.	ʃˈoʃə-ʃo	‘spring’
e.	kˈyrtɲə-ʃø	‘iron’

I propose that the mechanism that gives rise to both types of vowel harmony in EMM is Agreement by Correspondence (ABC) (Hansson 2001, 2010, Rose & Walker 2004), which has been extended to vowel harmony in several previous studies (Hansson 2006, Sasa 2009, Walker 2009, Rhodes 2010). Extending a proposal by Kaplan (to appear), I propose that correspondence among full vowels in an output is driven by a CORR-XX constraint that refers to vowels that are non-minimal in prominence: $\text{CORR-VV}_{\text{Non-min-prom}}$. Since reduced vowels do not correspond with full vowels, their neutrality is straightforward.

$\text{CORR-VV}_{\text{Non-min-prom}}$ will enforce correspondence among full vowels, but it does not determine which full vowel will control harmony for a given property. To obtain feature-specific triggering by different positions, I propose position-sensitive surface correspondence IDENT constraints, as in (3) (cf. Rose & Walker 2004 on precedence-sensitive IDENT-CC constraints).

(3) a. IDENT-XX-$\sigma_{Initial}$([back])
Let S_1 be a segment in the initial syllable in the output and S_2 be a segment in the output that is in correspondence with S_1. If S_1 is [γback], then S_2 is [γback].

b. IDENT-XX-$^{\prime}\sigma$([round])
Let S_1 be a segment in the stressed syllable in the output and S_2 be a segment in the output that is in correspondence with S_1. If S_1 is [γround], then S_2 is [γround].

The constraints in (3) will enforce agreement for the feature in question between the vowel in the specified position and any corresponding vowels. When a stem vowel and suffix vowel stand in correspondence, trigger-control by the stem vowel is achieved by IO positional faithfulness to the stem (McCarthy & Prince 1995, Urbanczyk 1996). Strict enforcement for IO faithfulness to stem vowels achieves a second effect. When IDENT-IO([F]) and the IDENT-XX constraints in (3) dominate CORR-$XX_{Non\text{-}min\text{-}prom}$, then correspondence between the initial vowel and the stressed vowel will be prevented in forms where the following conditions are met: a) the initial and stressed syllables are both in the stem, b) they do not coincide, and c) their vowels have disharmonic backness and rounding qualities in the input.

The resulting surface correspondence structure is such that a suffix vowel may simultaneously correspond with two prominent stem vowels at once and and harmonize with them: with the initial vowel for backness and the stressed vowel for rounding; however, the initial and stressed vowels do not correspond with each other when their backness and rounding values disagree (cf. Bennett 2013, to appear).

This study opens up new avenues for understanding of harmony that is controlled by a prominent position and for targets that engage in multiple harmonies with distinct triggers. This account makes use of constraints that reference relative prominence. Hansson (2001, 2010) observed that consonant harmony does not show sensitivity to prosodic structure (cf. Rose & Walker 2004). However, prominence distinctions could be expected to be more relevant in vowel patterns than in consonant patterns, as vowels typically bear the brunt of expressing prosodic prominence. This suggests that vowel harmony systems that result from ABC could be more prone to show sensitivity to properties of prosodic prominence than consonant harmony.

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