The Case of /v/: Exploring sonorancy in Optimality Theory

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Previous research in various languages (Andersen 1969, Barkaï and Horvath 1978, Rice 1993, Padgett 2002) in phonetics and phonology has suggested that /v/ may not behave in the ways expected of other obstruents. Padgett (2002) provides an Optimality Theory analysis that suggests there is a special /v/ phoneme in Russian and similar languages. I propose a more economical analysis of /v/ voicing assimilation in Russian using positional faithfulness (Beckman 1998, Rubach 2008) and licensing constraints (Walker 2011).

Russian data shows that /v/ behaves differently in regressive obstruent voicing assimilation than other obstruents do (1ab), in that it fails to trigger the voicing assimilation process (1c) but successfully undergoes regressive voicing assimilation (1d):

(1) Russian regressive obstruent voicing assimilation

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a. /bɪs zɨnɨ / → [bɪz zɨnɨ] 'without a wife'
b. /bɪs ṣarə/ → [bɪs ṣarə] 'without a shell'
c. /bɪs vɐdɨ/ → [bɪs vɐdɨ] (expected: [bɪz vɐdɨ]) 'without water'
d. /v t͡sɛl/ → [f t͡sɛl] 'on target'
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Rubach (2008) uses IDENT(PRESON) to correctly predict the winning candidate in situations without /v/, but incorrectly predicts *[biz vedi] to be the winning candidate in cases like (1c).

(2) Russian voicing (Rubach 2008)

(3) Proposed	account for	Russian	voicing

	IDENT(PRESON)	AGREE	IDENT
/bis vedi/			
i. bīs ved i		*!	
☜ ii. bɪz vedɨ			*
iii. bīz fed i	*!	*	**
iv. bīs fed i	*!		*

	IDENT(PRESON)	AGREE	LIC-V[±son]	IDENT			
/bis vedi/							
r i. bis v[+son]edi							
ii. bız v[-son]edi			*!	*			
iii. bɪs v[-son]ɐdɨ		*!	*				
iv. bɪz v[+son]ɐdɨ	*!			*			

Adopting Rubach's use (2008) of the positional faithfulness constraint IDENT(PRESON), the tableau in (3) adds Lic-V[+son] to correctly predict the winning candidate by assigning a [+sonorant] feature to [v] when it appears to the left of another sonorant (i.e., [v]). This constraint is specific to [v] due to its phonetic differences of less frication and higher salience compared to other obstruents (Andersen 1969). The Lic-V[son] constraint allows [v] to carry a [+sonorant] feature, avoiding a fatal violation of Agree since there is no longer two neighboring obstruents that disagree in the feature [voice]. Under this analysis, [s] remains an obstruent, and [v] becomes a sonorant on the surface representation. Crucially, Rubach's (2008) presonorant faithfulness constraint, required to account for the majority of regressive voicing assimilation, still predicts the correct winning candidate, even when [v] is classified as a sonorant, creating a violation of the presonorant constraint in (3)iv. This proposal is an improvement on Padgett's (2002) proposal that relies on a special /v/ phoneme specific to languages that undergo this process, in that it proposes a single underlying phoneme with two possible realizations according to the following phonological environment.

The proposal presented here provides an account for the voicing assimilation pattern of /v/ which is more economical than previous analyses. This proposal also helps to motivate

research at the phonetics-phonology interface on the acoustic features of /v/ and its distribution, providing opportunity to consider further acoustic analysis of this segment.

References

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