Acceptability of Variation in Modern Hebrew Spirantization

Modern Hebrew spirantization is an allophonic distribution where the stops [p], [b], and [k] regularly alternate with their fricative counterparts [f], [v], and [χ], with the fricatives surfacing post-vocalically and the stops elsewhere. An example of the Spirantization Distribution appears in (1).

		root	**3p.sg.past.m**	**infinitive**	
(1)	/p/ → **[f]**	/prs/	[**p**aras]	[li**f**ros]	'to spread'

Historical mergers, degemination, and recent borrowings have produced many fixed exceptions to spirantization, with [b], [p], and [k] occurring post-vocalically and [v], [f], and [χ] surfacing elsewhere, as in (2).

(2)	**/k/**	[li**k**ro]	'to read'
	/v/	[**v**iter]	'conceded'

According to Adam (2002), variation in regularly alternating cases like those in (1) occurs in colloquial speech. Like the exceptions in (2), this variation is instantiated by stops and fricatives in contexts not predicted by the Spirantization Distribution. Unlike exceptions, however, these are segments that normally *do* conform to the Spirantization Distribution.

A pilot study we conducted found that variation is acceptable in regularly alternating segments. This paper describes a follow-up study confirming the acceptability of variation in regularly alternating consonant pairs and testing its acceptability in exceptional ones.

We selected tri-consonantal roots with a regularly alternating or exceptional segment in either root-initial or root-medial position. Eight roots were selected for each regularly alternating pair and four for each exceptional segment. The roots were conjugated in different ways, placing the target segments in word-initial, post-vocalic, and post-consonantal position respectively. Each conjugation was embedded in a carrier sentence and recorded in the expected and variant forms. The expected form of a regularly alternating segment conforms to the Spirantization Distribution, whereas that of an exceptional segment matches its underlying representation.

Seventy-four native Hebrew speakers residing in Israel listened to the sentences online and rated the naturalness of the target word on a four-point scale. We hypothesized that tokens with the target segment in the expected form would be rated more natural than tokens with the target segment in the variant form, and that variation in exceptional segments would be rated less natural than variation in regularly alternating segments.

We ran a two (type: regularly alternating / exceptional) by two (allophone: expected variant) repeated-measures ANOVA. The results showed a significant main effect of allophone ($F(1,73)=820.043$, $p<.001$), showing that, as hypothesized, tokens with the target segment in the expected form were rated more natural than tokens with the target segment in the variant form. There was also a significant interaction between type and allophone ($F(1,73)=17.481$, $p<.001$), driven by the fact that, as hypothesized, variation in exceptional segments was rated less natural than variation in regularly alternating segments.

Following Temkin Martínez's (2008) extension of Pater's (2000) set-based approach to the segmental level, we argue that exceptional and regularly alternating segments are members of different sets, and posit that the set of exceptional segments is indexed to a more highly ranked faithfulness constraint for continuancy. This accounts for the fact that variation is more acceptable in regularly alternating segments than in exceptional segments.