Variation and Preferences in Modern Hebrew Nonce Verbs

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Introduction

This extended abstract reports preliminary results from a production experiment conducted in Israel in the summer of 2012 as a follow-up to a 2008 perception experiment testing variation and exceptionality in Modern Hebrew spirantization.

In Modern Hebrew, spirantization is characterized by the alternation of the stops [p], [b], and [k] with their fricative counterparts [f], [v], and [χ]. As seen in the spirantization distribution in (1), fricatives generally occur in post-vocalic position and stops occur elsewhere.

(1) Spirantization distribution in Modern Hebrew

	Root[1]	Infinitive	3rd Person Sg. Past.m.	Gloss
[p] ~ [f]	/**p**gʃ/	[li**f**goʃ]	[**p**agaʃ]	'to meet'
[b] ~ [v]	/**b**gd/	[li**v**god]	[**b**agad]	'to betray'
[k] ~ [χ]	/**k**tb/	[li**χ**tov]	[**k**atav]	'to write'

In Modern Hebrew, there are some exceptions to spirantization. These exceptional segments are non-alternating [p], [b], [k], [f], [v], and [χ], which can surface as stops in post-vocalic position or as fricatives elsewhere. These non-alternating segments did not participate in the spirantization distribution in older forms of Hebrew due to their status as underlying spirants, emphatic stops, or geminates. In some cases, the distinction between alternating and non-alternating segments is encoded orthographically in Modern Hebrew. Specifically, exceptional /k/ (<*q), /χ/ (<*ħ), and /v/ (< *w) have a different orthographic representation from alternating /k/ and /b/. Examples of these appear in (2).

(2) Examples of exceptions to spirantization in Modern Hebrew

	Root	Infinitive	3rd Person Sg. Past.m.	Gloss
/k/ (< *q)	/krʔ/	[likro] (*liχro)	[kara]	'to read'
/v/ (< *w)	/vtr/	[levater]	[viter] (*biter)	'to give up'

Variation in alternating segments has also been reported in the literature (Adam 2002, Temkin Martínez 2010). This variation is characterized by segments that normally do conform to the spirantization distribution (in (1)) surfacing as stops where fricatives are expected or as fricatives where stops are expected, as illustrated in (3).

(3) Variation in Modern Hebrew spirantization

	Root	Expected	Acceptable Variant	Gloss
/b/	/kbr/	[likbor]	[likvor]	'to bury'
/k/	/ksh/	[jexase]	[jekase]	'will cover'

[1] No claim is being made here as to whether the UR of spirantized segments is a stop or fricative.

Adam (2002) claims that this variation is due to the presence of non-alternation in the language, characterizing it as "conflict [which] entails a competition between two grammars: one which allows alternation and one which blocks it." In Temkin Martínez (2010), the results of an acceptability-rating task showed variation is acceptable in alternating segments, and an interesting pattern emerged when looking at word position, such that variation was more acceptable in post-consonantal position than in word-initial or post-vocalic positions. No overall preference for stops or fricatives was apparent in that study. The experiment described here look at speakers' production patterns and more specifically preferences when presented with novel verbs.

Method

Forty-eight native speakers of Modern Hebrew (19 males and 29 females) participated in the study. All were residing in Israel and ranged in age from 22 to 46 years old. All had at least a high school education and some had some higher education.

The stimuli contained both real and nonce verb roots, but the focus of this abstract will be the 27 nonce roots used in the experiment. Roots contained the segments in question ([p], [b], [k], [f], [v], and [χ]) in either root-initial and root-medial position, and each root was conjugated into two tenses, requiring the segment to appear in two distinct word positions. Filler nonce roots containing only sounds not affected by spirantization ([d], [r], [l], etc.) were also included. Nonce verbs were inflected in accordance with the spirantization distribution in (1), making it impossible for participants to know whether the segment was alternating or exceptional. Sample inflections for nonce roots are given in (4).

(4) Sample inflections for nonce verbs

Segment Pair	Root	Template 1 (pi'el)		Template 2 (pa'al)	
		Past	Infinitive	Past	Infinitive
k/χ	/krl/	[kirel]	[leχarel]	[karal]	[liχrol]
b/v	/bgl/	[bigel]	[levagel]	[bagal]	[livgol]

Target words were inserted into carrier sentence pairs. Each pair contained a verb in the first sentence, but lacked the verb of the second sentence. The sentences were recorded and presented to participants aurally. A sample sentence pair appears in (5). Participants were asked to listen to the first sentence and then complete the second one with the correct form of the verb. Crucially, the tenses in the two sentences in each pair were such that the target segment's position would be different in the first and second sentences and participants' realization of each target segment would indicate whether they perceived it as alternating or exceptional.

(5) Sample target sentence

[dani	ohev	*levagel*	dvarim.	Amru	li	ʃeʔetmol	hu_____]
Danny	loves to	*NONCE*	things.	Told	to me	that yesterday	he_____

'Danny loves to NONCE things. I've been told that yesterday he_____'

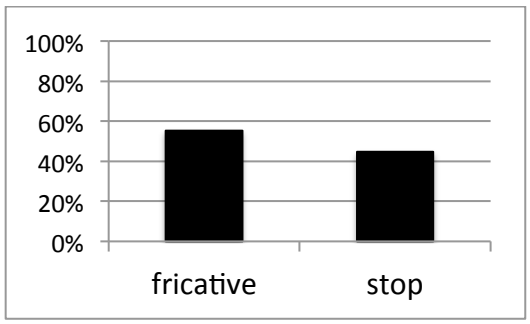
The tokens were divided into two lists, each containing two target forms of each of the nonce verbs. The same inflection for Template 1 and Template 2 were used within a particular list so that participants would not be primed to produce a certain form because it was previously heard. Each list contained a total of 84 randomized tokens.

Participants were instructed to complete the sentence pairs using the appropriate inflection of the verb. In sentences containing nonce verbs, participants were also asked to write down the verb root, thus revealing whether their non-alternation was a case of variation in an alternating segment or exceptionality.

Results

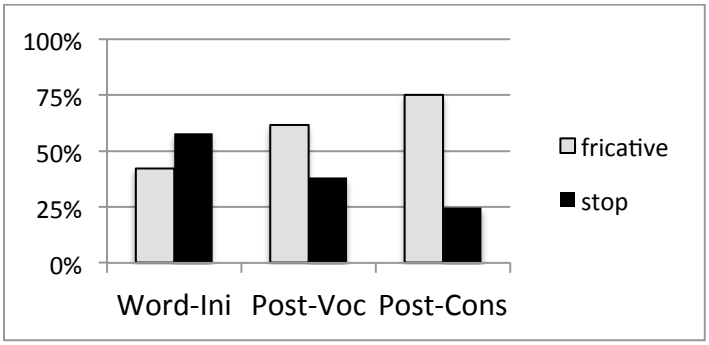
The results showed no overwhelming preference for fricatives over stops, consistent with the findings of Temkin Martínez (2010) and is seen in (6).

(6) All segments: fricatives vs. stops



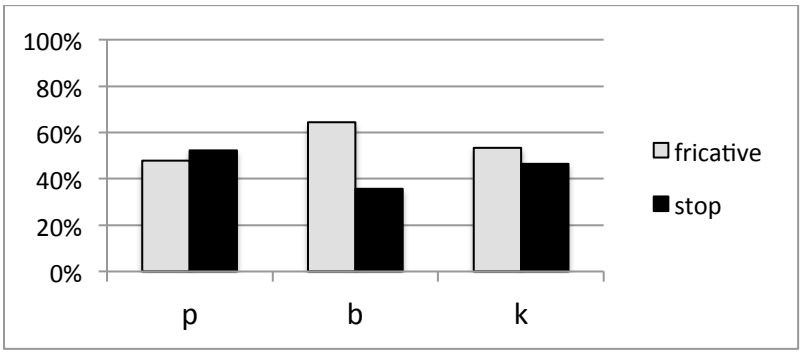
Within each position, across all segments, patterns of preference also matched those in Temkin Martínez (2010). In word-initial position, participants produced more stops than fricatives, despite having heard a fricative in the first sentence of the pair. This indicates that participants preferred alternation over maintaining the stop. Alternation was also the predominant choice in post-vocalic position, where participants spirantized the stop they heard in the first sentence. In post-consonantal position, however, consistent with preferences revealed in the 2010 study, participants did not alternate and overwhelmingly produced fricatives in lieu of the expected stop. In summary, production in word-initial and post-vocalic positions followed the spirantization distribution, but in post-consonantal position did not, as in (7).

(7) All segments: by word position



An interesting pattern emerges when looking at individual segments. In (8), we see that participants treated /p/ differently from /b/ and /k/, showing a slight preference for the stop realization of /p/, but favoring the fricative version of /b/ and /k/.

(8) Preference by segment



Discussion

A closer look at the trends within each of the segments reveals several interesting contrasts. First, the velar behaves differently than the labials in word-initial and post-vocalic position. This means that participants did not alternate this segment regardless of whether they first heard a fricative or a stop, opting for both an exceptional stop and fricative. Secondly, looking at the opposing trends in the voiceless labial, the overall preference for fricatives seems to be driven by a preference for stops in post-consonantal position, as is expected according to the spirantization distribution. However, we see the opposite pattern in /b/ and /k/, with a preference for post-consonantal fricatives.

Recall that the exceptional velar stop and fricative are each represented differently from the alternating velar orthographically; the voiceless labial is the only segment that does not have a distinct orthographic representation for the fricatives, which may explain the preference for a stop in post-consonantal position. Following Adam's (2002) explanation, it may be that because these exceptional segments are plausible, there are more instances of acceptable variation in the alternating segments in these positions. This will become clearer when participants' written responses are compared to the production of nonce verbs.

References

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