## Don't sush me! Anti-harmonic feature migration in Modern Hebrew Noam Faust (Université Paris 8, CNRS SFL)

This talk reports on a hitherto understudied phonological process in Modern Hebrew (MH) concerning a co-occurrence restriction in sibilants. If a word contains two sibilants with a different places of articulation [coronal] and [palatal], the first of the two has to be [palatal].

The language has four native sibilants – the fricatives  $[s,z, \int]$  and the affricate  $[t_5]$  – and three sibilants occurring only in loans: fricative [3] and affricates  $[t_7, d_3]$ . There is no affricate  $[d_2]$ . The native/non-native distinction aside, the language has three anterior, coronal sibilants  $[s,z,t_5]$  and four posterior ones  $[\int,3,t_7,d_3]$ , which I will treat as "palatal" (though they are articulatorily palato-alveolar). Two identical sibilants can occur in the same word with or without an intervening consonant (1a).<sup>1</sup> Within the native vocabulary, there can be two distinct sibilants in the same word only if the first one is  $/\int/(1b)$ . Again, there may be an intervening consonant between the two sibilants or not. That said, speakers do not find it hard to pronounce words of foreign origin combining two distinct coronal sibilants like the ones in (1c), or those combining a foreign palatal followed by another sibilant of any place (1d). For graphic purposes, the palatal consonants are in blue.

(1)	a.	sakis zakiz jókej tsijuts sus zaz jej tsats	<pre>'eunuch' 'dexterous' 'root' 'tweet' 'horse' 'move' 'six' 'come up'</pre>	b.	∫s ∫z ∫ts *zs *tss	∫ines ∫ések hi∫χiz ∫azaĸ hi∫mits ∫étsef /ts/ʃ/	'belt' 'loquat' 'sharpen' 'intertwine' 'slander' 'strong flow'	c. d.	sotsjali striptiz zísale súzi suzúki tfizbat 3izel dzési	<pre>'social' 'striptease' 'sweetheart' 'Suzie' 'Suzuki' 'tall tale' 'Giselle' 'Jessie'</pre>
		Bab	come up		*Bz	/ts/ʃ/			dzof	'Josh'

Speakers do experience some difficulty in pronouncing non-native words with the order [coronal]... [palatal]. In such cases, they occasionally "err" and produce an interesting "repair", whereby the order of the two places is switched: the first sibilant becomes palatal and the second coronal (2). This occurs at a distance, too; that is, whether there is an intervening consonant or not. All of the examples in (2) were found in written form through google searches.

(2)		target	production	n		target	production		
	a.	sú∫i	∫úsi	'Sushi'	d.	svétfert	∫vé <b>ts</b> eʁt	'sweat-shirt'	
		sé∫en	∫ésen	'session'		séndvi <b>t</b> ∫	∫éndvi <b>ts</b>	'Sandwich'	
	b.	masa3	ma∫az	'massage'		smótri <b>tl</b>	<b>l</b> mǫtri <b>t</b> 2	'PropN'	
		pasa3	pa∫az	'passage'	e.	ma <b>s</b> at <b>f</b> úsets	ma <b>∫</b> a <b>ts</b> úsets	'Massachusetts'	
	c.	sapó3nik	∫apó <b>z</b> nik	'PropN'	f.	zam∫	<b>3</b> am <b>s</b>	'Suede' ( <yid.)< td=""></yid.)<>	

The phenomenon at hand is not segmental metathesis: only the place specifications are switched. Thus, in (2b,c,f) the voicing of two consonants is unchanged, and so is the fricative /affricate manner of articulation in (2d,e). Also, the process is purely about order: the first, palatal sibilant in the repaired forms is not necessarily the onset of the stressed syllable (2c) or even of the first syllable (2e). To be sure, the process is also not a case of sibilant harmony (Hansson 2001): the two sibilants remain different in terms of their place of articulation. Instead, it seems that speakers show a preference for the only order attested in their native language, [palata]...[coronal], **minimally** repairing the target words so that they accommodate that order and still contain two distinct sibilants. Words that are well-formed according to this generalization are not altered: e.g., [fnitsel] does not become [snitfel] 'schnitzel'.

<sup>&</sup>lt;sup>1</sup> Stress is final unless marked with an acute accent.

Having said all of the above, the repair process does seem to be blocked if its result would be the unattested [dz]: [mésendʒeʁ] 'messenger' does not seem to be produced as [meʃendʒer]. In this case, and only in this case, I found instances of anticipatory harmony, i.e.w [mésendʒer] being written [méʃendʒer].

While I am unaware of other cases of what I will argue here is feature migration, the pattern does fit within a larger array of consonant co-occurrence, whereby **marked values must occur first in the word**. In a cross-linguistic study of sibilant inventories, Kokkelmans (2021) shows that what I have been calling palatal sibilants are more marked than coronal ones: if a language has only one place of articulation for sibilants, it is (roughly) coronal. Gallagher (2020) reports that in Nkore-Kiga and Misantla Totonac, there is a statistically significant preference for the order [palata]... [coronal] among sibilants; and Hansson (2001) also reports on a similar preference in Bolivian Aymara (though between the stops [**t**] and [**t**], i.e., not sibilants). While these languages do not exhibit repairs such as the one shown here, they do constitute additional arguments for the relative markedness of the repaired order.

I propose this is a case of "anti-harmonic feature migration": the feature [palatal] migrates from its position in order to avoid the cross-linguistically common anticipatory sibilant



harmony: the problematic structure in (4i) goes to (4iii)  $(|\mathbf{h}| = \text{sibilant}, |\mathbf{I}|$ = palatal). The analysis assumes that [coronal] is the lack of place specification (e.g. Avery and Rice 1989), and

**manner is dependent on place.** MH seeks to establish anticipatory (left-aligned) sibilant harmony (as is indeed attested in [meʃendʒer] and in many languages, Hansson 2021). If such a process is established for the structure in (3i), the sibilant property of the second C is lost (3ii). A repair with rightward spreading of the place feature (3iii) is not possible, as it involves progressive palatality harmony. Therefore, the original structure remains unaltered (3iv). In (4i), in contrast, sibilant harmony is possible: |I| can be left-aligned, and therefore so can its dependent feature |h| (4ii). But this results in the loss of the distinction between the two sibilants; to avoid this harmony, the feature |I| "migrates" to the first C, thereby preserving both the existence of two sibilants and the difference between them. A possible drawback of this view is that it requires some sort of contrast preservation principle, as well as the dependence of manner on place. That said, it links the phenomenon to the more familiar process of regressive sibilant harmony.

**References:** Avery, J. Peter and Keren Rice. 1989. Constraining Underspecification. *Proceedings of NELS 19* • Gallagher, Gillian. 2020. Strident harmony from the perspective of an inductive learner. *Phonological Data and Analysis* 2(8): 1-29. • Hansson, Gunnar Olafur. 2001. *Theoretical and typological issues in consonant harmony*. Berkeley, CA: University of California dissertation. • Kokkelmans, Joachim H. (2021). *The Phonetics and Phonology of Sibilants: A Synchronic and Diachronic OT Typology of Sibilant Inventories*. Università degli Studi di Verona dissertation.