Phonotactic universals in Modern Hebrew: Evidence for prosodic alignment of stops

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Abstract

Various distributional facts regarding stop consonants can be favorably explained as an alignment relation between stops and syllables, where stops are preferred in onsets ("left-aligned" with the beginning of a syllable) rather than codas ("right-aligned" with the end of a syllable). This can be formally captured with the alignment constraint (McCarthy and Prince 1993) Align-Left (Stop,σ), which is derived from a more generally-defined alignment relation, Align-Left (C,σ), that is assumed to cover *Coda Condition* cases (Itô 1986, 1989, McCarthy and Prince 1993, Itô and Mester 1999).

I present an articulatory description that serves as phonetic support for this left-alignment preference, and elaborate on it by considering stops' sub-segmental nodes — *closure* and *release* (Figure 1). I show that there is a phonetic motivation to, in fact, left-align the closure node of stops, as evident by spirantization processes (as well as other familiar weakening cases in medial onset stops).

Figure (1) *Prosodic nodes and sub-segmental alignment scheme*
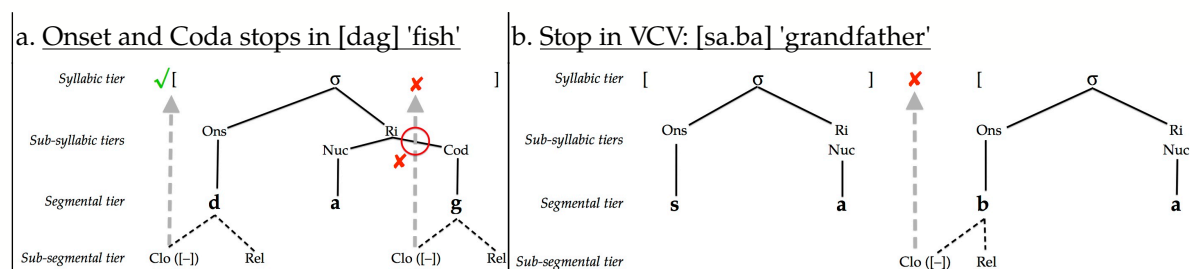
Further support for these alignment relations arise from phonotactic tendencies that are revealed in Modern Hebrew. Using experimental data, I show that the spirantization-related variation between stops and fricatives in cases like *yikfoc~yikpoc* '(he) will jump', do not constitute "free variation", as they exhibit trends that can be correlated with well-formedness phonotactic phenomena. In this case, stops-alignment can explain why *yikfoc* is evidently better than *yikpoc* (while both are licit).

Figure (2) *Mean values of post-consonantal C2 productions (0=stop; 1=fricative)*
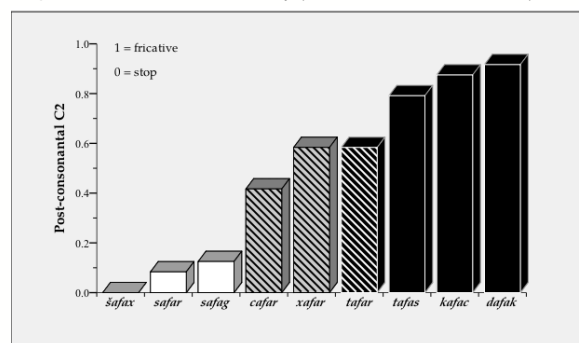
Lastly, I argue that the reality of the proposed alignment hierarchy, which is articulatory by nature, has been often obscured by the over-blown, and somewhat vague, notion of *Sonority* (see Parker 2002 for extensive overview). To complete this last argument about sonority, I briefly present a program to redefine sonority as a strictly perceptual phenomenon, which can be phonetically correlated with the cognitive sensation of pitch (based, to some extent, on Clements 2009). I discuss this sonority redefinition program and suggest, in its light, some speculative implications and predictions.

Selected References

Clements, George N. 2009. Does Sonority Have a Phonetic Basis? *Contemporary views on architecture and representations in phonology* 48: 165–175; **Itô, Junko. 1986.** *Syllable Theory in Prosodic Phonology.* PhD thesis, University of Massachusetts, Amherst; **Itô, Junko. 1989.** A Prosodic Theory of Epenthesis. *Natural Language and Linguistic Theory* 7: 217–259; **Itô, Junko and Armin Mester. 1999.** Realignment. *The prosody-morphology interface*: 188-217; **McCarthy, John J. and Alan Prince. 1993.** *Generalized alignment.* University of Massachusetts, Amherst and Rutgers University MS; **Parker, Stephen G. 2002.** Quantifying the sonority hierarchy. Ph.D. thesis. University of Massachusetts, Amherst.