

Bat-El, Outi (2015)

In Sabrina Bendjaballah, Noam Faust, Mohamed Lahrouchi, and Nicola Lampitelli (eds)
The Form of Structure the Structure of Form. Essays in Honor of Jean Lowenstamm.
John Benjamins.

Staying away from the weak left edge

A strengthening strategy*

Outi Bat-El

Tel-Aviv University

The left edge of the word is a strong position; it tends to resist phonological processes and be the left anchor in the formation of hypocoristics, in Hebrew (e.g. [matitjáhu] → [máti]) as well as in other languages. However, when the left edge of the base name hosts a weak segment, it has a good chance of being truncated (e.g. [jisʁaéla] → [ʁéli]). Truncation at the left edge (apheresis), as I show, is gradual; the weaker the segment at the left edge of the base, the greater the tendency to truncate this edge. Truncation at the left edge, as I argue, is a strengthening strategy – strengthening by avoiding the weak.

1. Introduction

In his 1999 article, “The beginning of the word”, Lowenstamm draws our attention to word-initial position, which has been recognized in the linguistic and psycholinguistic literature as a “strong” position (Marslen-Wilson and Zwitserlood 1989, Goodglass *et al.* 1997, Beckman 1998, Smith 2002 among many others). Within the framework of Government Phonology (Kaye *et al.* 1985 and subsequent studies), Lowenstamm (1999) replaces the traditional # boundary in word initial position with a CV span, thus providing a phonological correlate to the strength of the left edge of the word (see further development in Ségéral and Scheer 2008b and Kula and Marten 2009).

This “active” manifestation of strength in word initial position is rather unique, contrasting with the more common “passive” one, where strength is manifested with resistance to weakening processes (Hyman 1975), often neutralization processes (Steriade 1994). This is known as positional faithfulness (Beckman 1998), i.e. the resistance of word initial position (and other strong positions) to phonological processes.

In this paper, I draw attention to another strategy of active strengthening in word initial position. On the basis of data from Modern Hebrew, I show that the formation of hypocoristics can involve truncation *at the beginning of the word*, in order to enhance the strength of this edge. While Hebrew hypocoristics are usually left-anchored with their base (e.g. [móʔdexai] → [móʔdi]), those beginning with a weak consonant or with a vowel tend to be mis-anchored (e.g. [ʔaxel] → [xéli], [alóna] → [lóni]).¹ The quantitative data reveal that the lower the initial segment on the segmental strength hierarchy, the higher the chance of truncation at the beginning of the name.

I start the discussion in §2 with a brief review of the notion of strength and strengthening. Attention is drawn to the distinction between segmental and positional strength and the optimal interaction between the two (§2.1), and the distinction between active vs. passive strengthening (§2.2). I then turn in §3 to hypocoristics, starting with the main parameters relevant to their formation (§3.1), with emphasis on the one relevant to the present study – the Left-edge Parameter (§3.2). In §4, I discuss the setting of the Left-edge Parameter in Hebrew hypocoristics, showing that it is usually set to the left edge of the base (§4.1). However, when the left edge of the base is weak, the parameter setting is somewhat dissolved and mis-anchoring arises (§4.2). Concluding in §5, I draw attention to other cases of left edge truncation and address their limitations and thus their rarity.

2. Strength and strengthening

A discussion of “strengthening” must be preceded by at least a short note on “weakening”, and both terms cannot be used without reference to their near equals “lenition” and “fortition”. The following is a very brief review, just enough to keep us going. For an extensive discussion on the topic, the reader is referred to the recent studies in de Carvalho *et al.* (2008) and Nasukawa and Bäckley (2009), as well as references therein.

2.1 Segmental strength and positional strength

As a domain of inquiry, the notion of strength hosts mostly weakening/ lenition. The empirical basis of weakening was mainly historical change, with attention to consonants, as in the much discussed historical change $t > d > \delta > \emptyset$ (Latin *vīta* ‘life’ > Older Spanish *vida* > Modern Spanish *viða* > Modern French *vie* [vi]). Weakening includes not only spirantization and intervocalic voicing, but also debuccalization, vowel reduction and vowel shortening (see a survey in Kirshner 1998). Note, however, that linguists may disagree with regard to the classification

of a particular process, and as Harris (1990, 257) put it, “one researcher’s lenition frequently turns out to be another’s fortition”.

Most studies on weakening or strengthening assume a segmental strength hierarchy, like the one given in (1) for consonants, or the one presented in Hyman (1975) for vowels.

(1) Consonantal strength hierarchy (Escure 1977, 60)

<i>Weaker</i>	1	2	3	4	5	6	<i>Stronger</i>
Ø	Glides	Liquids	Nasals	Voiced fricatives	Voiced stops	Voiceless stops	
					Voiceless fricatives		

The hierarchy in (1) is based on manner of articulation and voicing, and is thus similar to the sonority hierarchy.² At the strong edge of the hierarchy stand the voiceless stops, which are also the least sonorous and the least marked. At the weak edge of the hierarchy stands a Ø, indicating that the ultimate weakening is deletion (Hyman 1975). As deletion is also a prosodic phenomenon, weakening involves not only segmental alternation but also prosodic alternation, including processes like degemination and vowel shortening.

Deletion as weakening is addressed in Harris (1990), whereby strength correlates with structural complexity; the fewer the elements in the representation, the weaker the segment (see also Rice 1992). Within this framework, lenition/weakening involves deletion of an element (where elements replace the traditional features in segments; Kaye *et al.* 1985).

The segmental strength hierarchy is not the only player in strength related phenomena. It has long been recognized that “the weakness or strength of a consonant is very much a function of its position in the utterance” (Escure 1977, 57–58). Thus, in addition to a segmental strength hierarchy, there is also a structural strength hierarchy (see also Ségéral and Scheer 2008a), where structure refers here to units or sequences beyond the segment.

(2) Structural strength hierarchy (for consonants)

<i>Weaker</i>	1	2	3	<i>Stronger</i>
	Word final	Intervocalic	Word initial	
	Unstressed syllable		Stressed syllable	

There seems to be a positive correlation between the two hierarchies, connecting strong structures with strong segments and weak structures with weak segments

(Hyman 1975). This correlation is seen most clearly in the attraction between reduced vowels (weak segments) and unstressed syllables (weak structure) on the one hand and between full vowels (strong segments) and stressed syllables (strong structure) on the other hand. This is the case in English (e.g. [mɪnəsóɹə] ‘Minnesota’), where vowels in unstressed syllables are reduced to schwa, while vowels in stressed syllables (either primary or secondary stress) resist reduction, i.e. weakening.

The correlation between strong/weak positions and strong/weak segments is not without exceptions. Shiraishi (2009), for example, argues for word initial spirantization in Nivkh/Gilyak and Katamba (1979), who rejects the strength hierarchy as a universal principle, reports on spirantization in onset position in Luganda. In both cases, we find weakening in a strong position. Likewise, we find strengthening in a weak position in cases of final devoicing, since voiceless consonants are stronger than voiced ones (see (1) above), but final position is a weak position. This latter case is discussed in Harris (2009), who argues that word final devoicing is actually weakening.

2.2 Strength and strengthening

The strength hierarchies presented in §2.1 were developed mostly in the context of lenition/weakening; the notion of fortition/strengthening appeared later as a counterpart of lenition. Given the antonyms weakening and strengthening and the view that weakening involves a process that shifts a segment *down* on the strength hierarchy, one would expect strengthening to be a process that shifts a segment *up* in the strength hierarchy. As it turns out, strengthening in phonology is not exactly the counterpart of weakening. As Honeybone (2008, 10) notes, “...cases of real fortition are vanishingly rare, and it is by no means obvious that they really are the literal ‘opposite’ of lenition”.

Most crucially, while a weak position often induces weakening, a strong position rarely induces strengthening; rather, it merely blocks phonological processes, regardless of their effect. The propensity of strong positions to block phonological processes may paradoxically lead to *the preservation of the weak* in a strong position. An example for such a scenario is found in languages that prohibit onsetless syllables everywhere, except in word initial position (e.g. Berber, Diegueño). In such a case, the strength the syllable gains due to its position at the left edge allows it to resist alternation (e.g. vowel deletion or consonant epenthesis). However, this strength also forces its onset to remain weak (i.e. Ø). This is a case of positional faithfulness, which ignores positional markedness, where positional markedness requires the onset to host the less sonorous (i.e. the stronger) consonant.

In the rest of the paper, I discuss the reverse scenario, where positional faithfulness plays a lesser role and positional markedness wins, leading to strengthening in a strong position.

3. The beginning of the hypocoristic

3.1 Deriving hypocoristics

The formation of hypocoristics varies from language to language and even within the same language, but the variation is limited by a small set of parameters. Here, I focus on templatic hypocoristics that fit into a trochaic template, i.e. two syllables with penultimate stress (or two moras).

The formation of templatic hypocoristics usually involves truncation of segmental material that does not fit into the template (e.g. [dani~~é~~la] – [dáni]). Truncation is not a requirement but rather a process that serves the prosodic requirement – a foot-size hypocoristic (see Bat-El 2002 for the distinction between true and fake truncation). Several parameters are responsible for that shape of the hypocoristic, where the following two are rather basic; (3a) determines whether the foot is moraic or syllabic and (3b) determines whether the hypocoristic ends in a suffix.

(3) Parameters in the formation of templatic hypocoristics

a. *The Foot Parameter*

The hypocoristic fits into <a syllabic foot> or <a moraic foot>

b. *The Right-edge Parameter*

The segment at the right edge of the hypocoristic corresponds to <a segment at the right edge of a suffix> or <a segment of the base >

The two parameters in (3) provide four logical types of base–hypocoristic correspondence, and three of them, as shown in (4) below, are found in English (data from Weeda 1992).

(4) Base–hypocoristic correspondence in English

		<i>Foot parameter</i>			
		<i>Syllabic</i>		<i>Moraic</i>	
<i>Right-edge parameter</i>	<i>Base</i>	æligzændəɪ	æliks	mɪnʌɪvə	mɪn
		bəlɪndə	lɪndə	súzən	su
	<i>Suffix</i>	béndʒəmən	béndʒi		
		mɪnʌɪvə	míni		

The absence of the fourth type can be explained with a requirement to preserve the quantity of the base vowel. This type of hypocoristic would consist of a bimoraic (monosyllabic) template with a suffix, such as [súzæn] → *[sui], where the addition of the suffix requires to shorten the base vowel and also change its quality.

Hebrew does not enjoy the richness found in English templatic hypocoristics. First, in the absence of a moraic structure, the Foot Parameter is set in Hebrew to <a syllabic foot>, with a couple of counterexamples like [ʃoʃ] ← [ʃoʃána]. Second, the setting of the Right-edge Parameter is fixed to <the suffix>, with the exception of reduplicated hypocoristics which may end without a suffix.³ For example, the name [doʁon] serves as a base for [dóʁi], [dódi], and also [dódo], but not *[dóʁo]. That is, the identity of the two syllables in a reduplicated hypocoristic can override the setting of the Right-edge Parameter.

3.2 The left edge

The parameter most relevant to the present study is responsible for the left edge of the hypocoristic, i.e. the beginning of the word. This parameter, as stated below, allows the hypocoristic to select its left edge from two different strong positions in the name.

(5) The Left-edge Parameter

The left edge of the hypocoristic anchors with the left edge of
<the base> or <the base's strong foot>

The Left-edge Parameter provides two types of base–hypocoristic correspondence, which, again, may be found within the same language. Throughout the discussion, I refer to the <the base> setting in (5) as “base-anchoring” and <the base's strong foot> setting as “foot-anchoring”.⁴

(6) Base- and foot-anchoring

	<i>Base-anchoring</i>		<i>Foot-anchoring</i>	
	<i>Name</i>	<i>Hypo</i>	<i>Name</i>	<i>Hypo</i>
Spanish:	rikárðo	ríka	rikárðo	kájo
	konθepθjón	kónθe	konθepθjón	ṽjóna
Italian:	salvatóre	sálva	salvatóre	tóre
	nikóla	níko	nikóla	kóla
English:	æligzændrə	æliks	æligzændrə	sændrə
	gæbiélə	gæbi	gæbiélə	élə

Note that foot-anchoring is identical to stress-anchoring when the foot is trochaic. Foot-anchoring is however more general, as it includes French hypocoristics such as [norín] ← [honorín].

The Left-edge Parameter provides further support for the notion of positional strength, since it manipulates the two strong positions in the base, i.e. the beginning of the word and the stressed syllable. However, by manipulating a strong position in the input, there is no guarantee that the strong position in the output will host a strong segment. For example, foot-anchoring in [maɪgəɪtə] → [ɪtə] results in word initial [ɪ], a relatively weak consonant in a strong position. A better output with respect to the correlation between segmental and positional strength would have been [maɪgəɪtə] → [gɛɪ]. This is similar to the case mentioned in §2.2, where the strength of the left edge blocks epenthesis in word initial onset position, and thus paradoxically preserves the weak.

The distinction drawn here is between *manipulating* a strong position in the *input* and *strengthening* a strong position in the *output*. This distinction correlates with the distinction between positional faithfulness and positional markedness. Base- and foot-anchoring in hypocoristics usually involve the manipulation of the input's strong position (positional faithfulness). In [maɪgəɪtə] → [ɪtə], the input's strong position has been selected to be the output's strong position, but nothing has been done to enhance the strength of the segment in the strong position. In contrast, [wɪljəm] → [bɪl] (English) is a case of output strength since the strength of the segments in the strong position has been enhanced ([w] → [b]). Of course, [wɪljəm] → [bɪl] is also a case of input strength since the left edge of the base/base's strong foot is preserved. The enhancement of output strength is a reduction of markedness (a stop onset is less marked than a glide or fricative onset). As shown in Piñeros (2000), markedness reduction in Spanish hypocoristics also includes cluster simplification (e.g. [bráwɫjo] → [bálo], [alexandrína] → [dína]), where the stronger and least marked consonant survives (a stop rather than a liquid).

Hebrew rarely employs such strength enhancing strategies; in most cases, the segment in the hypocoristic is identical to its correspondent in the base name. However, Hebrew employs a different strength enhancing strategy – mis-anchoring (which may look like foot anchoring). By staying away from the weak left edge of the base name, Hebrew hypocoristics enhance the strength of the left edge of the hypocoristic.

4. Gradient mis-anchoring in Hebrew hypocoristics

As shown in (7) below, Hebrew seems to provide evidence for the distinction between base-anchored and foot-anchored hypocoristics.

(7) Base vs. foot-anchoring in Hebrew

<i>Base-anchoring</i>		<i>Foot-anchoring</i>	
<i>Name</i>	<i>Hypo</i>	<i>Name</i>	<i>Hypo</i>
daniéla	dáni	adás	dási
fulamít	fúli	anát	náti

I argue, however, that what looks like foot-anchoring is actually mis-anchoring, and that mis-anchoring is a strengthening strategy.

4.1 The left-edge parameter in Hebrew hypocoristics

Before presenting the Hebrew data, it is important to note that stress in Hebrew names varies quite often, as in [jónatan] ~ [jonatán], [jekutiél] ~ [jekutiél], and [jósef] ~ [joséf] (Bat-El 2005). In such cases, I transcribe the leftmost stress with acute and the rightmost one with underline. For example, [menáxem] means that both [menáxem] and [menaxém] are possible.

Given the variable stress, there are instances where the Left-edge Parameter would provide up to three different hypocoristics. This is possible when the number of syllables in the name is higher than two, and stress is variable, falling on non-initial syllables (e.g. [menáxem]). In such cases, the hypocoristic can be base-anchored ([menáxem] → [méni]) or foot-anchored with either the penultimate stressed syllable ([menáxem] → [náxi]) or the final one ([menaxém] → [xémi]).

Although variable stress allows many options for left-anchoring, we can still predict which types of form are not expected to appear, and which are expected:

1. A syllable that is not stressed and not initial in the name would not be initial (and thus stressed) in the corresponding hypocoristic. For example, given the name [jónatan], where stress can reside on the initial or final syllable, we expect to get the hypocoristics [jóni] and [táni] but not *[náti].
2. Since a given name often has more than one corresponding hypocoristic, it is predicted that every initial and stressed syllable in a name would get to be initial in a hypocoristic. For example, a name like [ʔisipóʔa] is expected to have two corresponding hypocoristics, [ʔísipi] and [póʔi].

Prediction (1) is much stronger than prediction (2), since it relies on positive evidence. Prediction (2) is weak because it is based on the absence of evidence. Since there is no actual paradigm here, the absence of forms could be accidental. Therefore, prediction (1) alone serves in the following section to support the mis-anchoring (rather than foot-anchoring) approach to Hebrew hypocoristics.

4.2 Mis-anchoring and the strength hierarchy

Against the prediction in (1) above, there are hypocoristics in Hebrew whose first (and stressed) syllable does not correspond to either the initial syllable in the name or the stressed one; e.g. [jisa(s)xáʔ] → [sási], [jekutiél] → [kúti], [eliézeʔ] → [zóʔi].⁵ Moreover, not only does [jisa(s)xáʔ] have a corresponding hypocoristic that does not anchor with a strong position, it does not have a corresponding base-anchored (*[jisi]) or foot-anchored (*[xáʔi]) hypocoristic.

Such examples are rare since most Hebrew names consist of fewer than three syllables, and stress, as noted in §4.1, is often variable.⁶ For example, within the group of disyllabic names, only those with invariable stress on the first syllable can potentially contradict the prediction in (1). For example, from the name [nóga] we expect to get only [nógi], where [gági] would serve to refute (1).

The few examples given above support my claim that the hypocoristics that are not base-anchored are mis-anchored, where mis-anchoring means that there is no designated anchoring site. This is actually not surprising given that stress is variable and thus the foot is not a reliable anchoring site. To further support this claim, I provide data showing that mis-anchoring is somewhat systematic. That is, the only designated anchoring site in Hebrew is the left edge of the base, but when this edge is weak, there is a tendency to truncate it.

A database of 195 hypocoristics corresponding to 161 names was collected from 19 linguistics students in Tel-Aviv University (the students were asked to provide disyllabic nicknames and the corresponding full names of people they know).⁷ Quite a few names had both mis-anchored and base anchored hypocoristics (e.g. [jósef] → [jósi], [séfi]); out of the 161 names, 80% (129) had base anchored hypocoristics and 41% (66) had mis-anchored hypocoristics. As shown in (8) below, the distribution of the mis-anchored hypocoristics among the strength groups is not sporadic. The lower the strength of the initial segment in the name, the higher the percentage of the mis-anchored hypocoristics.

(8) Distribution of mis-anchored hypocoristics in Hebrew

<i>Strength</i>	<i>Name's initial segment</i>	<i>Total names</i>	<i>Total hypos</i>	<i>Mis-anchored hypos</i>	
<i>low</i>	Vowels	43	63	35	81%
	Glides&Liquids	38	47	21	55%
	Nasals	23	24	4	17%
	Fricatives	28	30	4	14%
<i>high</i>	Stops	29	31	2	7%
	Total	161	195	66	41%

At the top of the scale are the vowel initial names, i.e. names beginning with Ø in the onset (see strength hierarchy in (1)). In Hebrew, Ø in onset position corresponds to the historical [ʔ], [h], or [ʕ] which rarely surface in casual speech (though do appear in the written form). In all cases, mis-anchoring results in a hypocoristic with an initial consonant, thus enhancing the strength of the left edge.

(9) Hypocoristics corresponding to vowel initial names

<i>Name</i>	<i>Base-anchored</i>	<i>Mis-anchored</i>
alíza	áli	lízi
ámnon	ámi	nóni
ósnaṭ	ósi	náti
eliézeʁ	éli	zóri
alóna		lóni
anáṭ		náti
éldaḏ		dádi

Mis-anchoring in vowel initial names is not unique to Hebrew. Weeda (1992) made this observation with regard to French hypocoristics, like the ones in (10) below.⁸

(10) French hypocoristics

<i>C-initial</i>	<i>Left-anchored</i>	<i>V-initial</i>	<i>Mis-anchored</i>
kaʁolin	kaʁo	elodi	lodi
doʁote	doʁo	elizabet	zabet
dominik	domi	ameli	meli

Nelson (1998) attributes the mis-anchoring in (10) to the constraint requiring an onset. This, as I show here, is only part of the story in Hebrew. It is not only a requirement for an onset, but rather a requirement for an “optimal” onset. Thus, the “better” the initial onset in the name, the smaller the chance for mis-anchoring. This is supported by the relatively high percentage of mis-anchored hypocoristics corresponding to names beginning with liquids or glides; 54% (15/28) of the hypocoristics corresponding to glide initial names were mis-anchored, and 32% (6/19) of those corresponding to liquid initial names.

(11) Names beginning with liquids or glides

<i>Name</i>	<i>Left-anchored</i>	<i>Mis-anchored</i>
joxéved	jóxi	xévi
jósef	jósi	séfi
jisa(s)xár		sási
jáκon		κóni
jisκaéla		κéli
κáxel	κóxi	xéli
κίνka	κíki, κívi	kíki
κeút		túti

The mis-anchored hypocoristics optimize the strength of the onset, given the consonants available in the name. Mis-anchoring can potentially go as far as the fourth syllable, though such cases are rare given the relatively small number of names with more than two syllables. Moreover, as the purpose of mis-anchoring is to increase the strength of the left edge, there is no reason to go further away from the left edge without enhancing the strength at the left edge of the hypocoristic. For example, the name [eliézeκ] has three hypocoristics, [éli], [lózi] and [zóκi], where each is further away from the left edge of the name and better in terms of initial onset strength. The same is true for [alíza] with its three hypocoristics, [áli], [lízi], and [zázi/záza]. The name [binjámin], however, does not enjoy this richness, having only base-anchored hypocoristics, [béni/bíbi]. Mis-anchoring in such a case would not increase the strength of the left edge, as the initial onset in the potential hypocoristics *[jámi] and *[míni] is weaker than that in [béni/bíbi].

5. Limitations on strengthening

I have argued above that mis-anchoring in Hebrew hypocoristics is a strengthening strategy; by truncating the left edge of the base name (apheresis), the mis-anchored hypocoristic avoids a weaker initial consonant.

Strengthening by avoiding the weak is also found within the phrase level. Weir (2012) considers ungrammatical phrases like those in (12), which he claims to be common in informal English.

(12) Left-edge drop in English (Weir 2012)

I don't think so

~~The~~ man over there seems to think so

Weir (2012) argues that prosodically weak elements, such as pronouns and clitics, are often deleted in informal speech to allow the phrase to begin with a prosodically strong element, i.e. a stressed syllable.

Truncation at the left edge is rather unique, due to the pivotal role of this edge in processing and word recognition (see, for example, Marlsen-Wilson's 1987 cohort model). However, when it comes to hypocoristics, the relation between the base name and the hypocoristic has little contribution to word recognition since a hypocoristic may stand as an independent name. In such cases, positional faithfulness is of less importance than positional markedness, and thus there is more freedom to reduce the markedness of the surface structure.

Truncation at the left edge is found also in children's productions (e.g. Hebrew [klemantína] → [tína], [atína], [tatína], [matína] 'tangerine', [gaɾbáim] → [báim], [abáim], [babáim] 'socks'), unless the initial syllable is stressed ([télefon] → [téfon] 'telephone'). In this case, however, it is not a strengthening process, but rather the effect of developmental procedure, where the prosodic word grows from right-to-left, syllable-by-syllable, nucleus first and then onset for each syllable (Ben-David 2012). Consonants of all kinds are subject to deletion in initial onset position, but as shown in Karni (2012), sonorants are more susceptible to deletion than obstruents in onset position.

As in the case of hypocoristics, word recognition does not play a major role in early speech. During the early stages of acquisition, when the basic lexicon is under construction, the children's attention is drawn mostly to acoustic prominence. As the acoustically prominent positions are the stressed and final syllables, the children truncate in their productions the less prominent position, i.e. the left edge (Adam and Bat-El 2009). As the lexicon grows, the children gradually shift their attention from the positions relevant for building the lexicon to the position relevant for word recognition, i.e. from the right edge to the left edge (Dinnsen and Farris-Trimble 2008a, b).

To conclude, the left edge of the word is of vital importance for processing and word recognition, and therefore it is usually preserved as is, regardless of its strength. The extreme example, mentioned in §2.2, is found in languages that amend onsetless syllables in word medial position but not in word initial position. In such cases, the strongest position in the positional hierarchy (2) hosts the weakest element in the segmental hierarchy (1), i.e. Ø. This is the limitation on strengthening in word initial position. However, in cases where access to the base does not play a major role, as in hypocoristics, the limitation on strengthening is weaker and a strong position induces active strengthening.

References

- Adam, Galit, and Outi Bat-El. 2009. "When Do Universal Preferences Emerge in Language Development? The Acquisition of Hebrew Stress." *Brill's Annual of Afroasiatic Languages and Linguistics* 1: 1–28. DOI: 10.1163/187769309X12581185581960
- Bat-El, Outi. 2002. "True Truncation in Colloquial Hebrew Imperatives." *Language* 78: 651–683. DOI: 10.1353/lan.2003.0003
- Bat-El, Outi. 2005. "The Emergence of the Trochaic Foot in Hebrew Hypocoristics." *Phonology* 22: 1–29. DOI: 10.1017/S0952675705000515
- Bauer, Laurie. 1983. "Consonant Strength Hierarchies and Danish." *Nordic Journal of Linguistics* 6: 115–128. DOI: 10.1017/S0332586500001037
- Beckman, Jill N. 1998. *Positional Faithfulness*. Ph.D. dissertation, University of Massachusetts, Amherst.
- Ben-David, Avivit. 2012. "The Development of Prosodic Structure: Evidence from Typical Longitudinal Data." *Brill's Annual of Afroasiatic Languages and Linguistics* 4: 55–79. DOI: 10.1163/18776930-00400003
- Carvalho, Joaquim Brandão de, Tobias Scheer, and Philippe Ségéral (eds). 2008. *Lenition and Fortition*. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110211443
- Dinnsen, Daniel A., and Ashley W. Farris-Trimble. 2008a. "Developmental Shifts in Phonological Strength Relations." In *Strength Relations in Phonology*, ed. by Kuniya Nasukawa, and Phillip Backley, 113–148. Berlin: Mouton de Gruyter.
- Dinnsen, Daniel A., and Ashley W. Farris-Trimble. 2008b. "The Prominence Paradox." In *Optimality Theory, Phonological Acquisition and Disorders*, ed. by Daniel Dinnsen, and Judith Gierut, 277–308. London: Equinox.
- Escure, Geneviève. 1977. "Hierarchies and Phonological Weakening." *Lingua* 43: 55–64. DOI: 10.1016/0024-3841(77)90048-1
- Foley, James. 1977. *Foundations of Theoretical Phonology*. Cambridge: Cambridge University Press.
- Goodglass, Harold, Arthur Wingfield, Mary R. Hyde, Jean Berko Gleason, Nancy L. Bowles, and Roberta E. Gallagher. 1997. "The Importance of Word-initial Phonology: Error Patterns in Prolonged Naming Efforts by Aphasic Patients." *Journal of the International Neuropsychological Society* 3: 128–138.
- Halicki, Eric C. 2008. "Accorciamenti, Hypocoristics, and Foot Structure: Against the Ternary Foot in Italian." *IULC Working Papers Online*. Catalina Mendez-Vallejo, and Ken De Jong (eds) 7: 1–13.
- Harris, John. 1990. "Segmental Complexity and Phonological Government." *Phonology* 7: 255–300. DOI: 10.1017/S0952675700001202
- Harris, John. 2009. "Why Final Devoicing is Weakening." In *Strength Relations in Phonology*, ed. by Kuniya Nasukawa, and Phillip Backley, 9–46. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110218596.1.9
- Honeybone, Patrick. 2008. "Lenition, Weakening and Consonantal Strength: Tracing Concepts through the History of Phonology." In *Lenition and Fortition*, ed. by Joaquim Brandão de Carvalho, Tobias Scheer, and Philippe Ségéral, 9–92. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110211443.1.9
- Hyman, Larry M. 1975. *Phonology: Theory and Analysis*. New York: Holt, Rinehart and Winston.
- Katamba, Francis. 1979. "How Hierarchical and Universal Is Consonant Strength?" *Theoretical Linguistics* 6: 23–40. DOI: 10.1515/thli.1979.6.1-3.23

- Karni, Noa. 2012. "Minimizing Faithfulness Violations in the Acquisition of Onset." *Brill's Annual of Afroasiatic Languages and Linguistics* 4: 80–103. DOI: 10.1163/18776930-00400004
- Kaye, Jonathan, Jean Lowenstamm, and Jean-Roger Vergnaud. 1985. "The Internal Structure of Phonological Elements: A Theory of Charm and Government." *Phonology Yearbook* 2: 305–328. DOI: 10.1017/S0952675700000476
- Kirshner, Robert M. 1998. *An Effort-based Approach to Consonant Lenition*. Ph.D. dissertation, UCLA.
- Kula, Nancy, and Lutz Marten. 2009. "Defining Initial Strength in Clusterless Languages in Strict CV." In *Strength Relations in Phonology*, ed. by Kuniya Nasukawa, and Phillip Backley, 47–77. Berlin: Mouton de Gruyter.
- Lipski, John. 1995. "Spanish Hypocoristics: Towards a Unified Prosodic Analysis." *Hispanic Linguistics* 6/7: 387–434.
- Lowenstamm, Jean. 1999. "The Beginning of the Word." In *Phonologica 1996: Syllables!?*, ed. by John R. Rennison, and Klaus Kühnhammer, 153–166. The Hague: Thesus.
- Marslen-Wilson, William. 1987. "Functional Parallelism in Spoken Word Recognition." *Cognition* 25: 71–102. DOI: 10.1016/0010-0277(87)90005-9
- Marslen-Wilson, William, and Pienie Zwitserlood. 1989. "Accessing Spoken Words: The Importance of Word Onset." *Journal of Experimental Psychology* 15: 576–585.
- Nasukawa, Kuniya, and Phillip Backley (eds). 2009. *Strength Relations in Phonology*. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110218596
- Nelson, Nicole. 1998. "Mixed Anchoring in French Hypocoristic Formation." *RuLing Papers* 1 (Working Papers from Rutgers University): 185–199.
- Nespor, Marina, Marcela Peña, and Jacques Mehler. 2003. "On the Different Roles of Vowels and Consonants in Speech Processing and Language Acquisition." *Lingue e Linguaggio* 2: 203–229.
- Piñeros, Carlos Eduardo. 2000. "Prosodic and Segmental Unmarkedness in Spanish Truncation." *Linguistics* 38: 63–98. DOI: 10.1515/ling.38.1.63
- Rice, Keren D. 1992. "On Deriving Sonority: A Structural Account of Sonority Relationships." *Phonology* 9: 61–99. DOI: 10.1017/S0952675700001500
- Ségéral, Philippe, and Tobias Scheer. 2008a. "Positional Factors in Lenition and Fortition." In *Lenition and Fortition*, ed. by Joaquim Brandão de Carvalho, Tobias Scheer, and Philippe Ségéral, 131–172. Berlin: Mouton de Gruyter.
- Ségéral, Philippe, and Tobias Scheer. 2008b. "The Coda Mirror, Stress and Positional Parameters." In *Lenition and Fortition*, ed. by Joaquim Brandão de Carvalho, Tobias Scheer, and Philippe Ségéral, 483–518. Berlin: Mouton de Gruyter.
- Shiraishi, Hidetoshi. 2009. "Modeling Initial Weakening." In *Strength Relations in Phonology*, ed. by Kuniya Nasukawa, and Phillip Backley, 183–218. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110218596.1.183
- Smith, Jennifer L. 2002. *Phonological Augmentation in Prominent Positions*. Ph.D. dissertation, University of Massachusetts, Amherst.
- Steriade, Donca. 1994. "Positional Neutralization and the Expression of Contrast." Ms., UCLA.
- Thornton, Anna M. 1996. "On Some Phenomena of Prosodic Morphology in Italian: Accorciamento, Hypocoristics, and Prosodic Delimitation." *Probus* 8: 81–112. DOI: 10.1515/prbs.1996.8.1.81

- Weeda, Donald S. 1992. *Word Truncation in Prosodic Morphology*. Ph.D. dissertation, The University of Texas at Austin.
- Weir, Andrew. 2012. "Leftedge Deletion in English and Subject Omission in Diaries." *English Language and Linguistics* 16: 105–129. DOI: 10.1017/S136067431100030X

Notes

* Simply put ... I owe Jean my career. It was 1980 when Jean came to teach phonology in Tel-Aviv University, where I was studying for my B.A. degree. With a fresh Ph.D. degree in his hands and a lot of enthusiasm, Jean was then, as he is now, unique and mesmerizing with his academic commitment and teaching methods. It was then when I decided that phonology is my niche, a decision I would make again today. Thank you, Jean.

1. Base names that are not marked for stress have variable stress patterns; see also §4.1.
2. This is, of course, not the only strength hierarchy available in the literature. See Foley (1977) for the integration of place features into a strength hierarchy, as well as the subsequent critique of Foley in Katamba (1979) and Bauer (1983).
3. As shown in Bat-El (2005), the suffix "-i" appears in templatic hypocoristics (e.g. [fojána] → [fóf-i]) as well as non-templatic ones (e.g. [mixál] → [mixál-i]). When the name is monosyllabic, one cannot tell whether the hypocoristic is templatic or non-templatic (e.g. [gad] → [gad-i]).
4. Base-anchoring and foot-anchoring hypocoristics are often referred to as type A and type B hypocoristics respectively. The data in (6) are drawn from Lipski (1995) and Piñeros (2000) for Spanish, and Thornton (1996) and Halicki (2008) for Italian. Spanish hypocoristics are relatively rich in consonant substitutions, which is the source of [tʃ] in [konθepθjón] → [tʃóna] (see a detailed discussion in Piñeros 2000).
5. I do not attend here to the rare cases of vowel replacement, like [e] → [o] in [eliézev] → [zóki] and [i] → [e] in [binjámin] → [béni]. Note also that a sequence of two vowels in the name is simplified in the corresponding hypocoristic (Bat-El 2005); e.g. [jiskaéla] → [xéli], [jául] → [fúli].
6. The database used in the present study consists of 161 names, with the following distribution by number of syllables: Monosyllabic 9% (14), disyllabic 59% (95), trisyllabic 27% (43), and quadrisyllabic 6% (9).
7. The number of hypocoristics was larger, but for the purpose of the present study, I did not distinguish between hypocoristics that anchor with the same edge in the name. For example, [dóvi], [dódi] and [dódo] all from the base [dóvɔn], were counted as one hypocoristic, and so were [xézi] and [xézki] from [xézɛkɛl].
8. Weeda (1992) lists two other properties that may lead to mis-anchoring: (1) the first syllable in the name is closed, and (2) the name ends in a schwa or a consonant.

