

## Bi-morphemic virtual length in Yiddish

Noam Faust, Université Paris 8 / CNRS UMR 7023

געוויידמעט מינינע באַבע-זיידע, רייזל און אבא קאופמאן

**Abstract:** This paper examines three apparent exceptions to general processes in the phonology and morphology of standard Yiddish. These are 1) the resistance of several final potentially syllabic consonants to syllabication; 2) the insertion of an extra consonant [n] in some infinitives; and 3) the absence of some diminutive patterns from some nouns. All three cases are resolved by showing that some phonetically short segments are in fact underlyingly long ones, created by morpheme concatenation. The analysis, conducted within CVCV phonology (Lowenstamm 1996), thus argues for virtual, or “non surface-true” length.

### 1. Introduction

This article treats three morphological constructions in Standard Yiddish (henceforth Yiddish) which under specific circumstances result in exceptions to general phonological and/or morphological processes. It is argued that once the underlying representation is considered, there is nothing surprising about the surface forms. They contain segments that are short on the surface, but underlyingly long, and thus do not undergo the processes that the same segment in the same position would undergo if it were underlyingly short. The type of Yiddish under discussion, Standard Yiddish, does not have length distinctions at the phonemic level; the underlying long segments are the result of morpheme concatenation. These phonetically short segments are thus in fact both bi-morphemic and phonologically long. In other words, their length is “virtual”.

All three cases discussed have to do with syllabic consonants. The first two scenarios concern syllabic [ŋ]. As can be seen in (1a), the infinitive in Yiddish is generally realized as a syllabic [ŋ], but [-ən] after nasal-final stems. One may assume that an unstressed sequence [ən] at the right edge of the word is impossible in Yiddish, other than when the presence of [ə] is needed to separate two nasals. However, this generalization finds many counter examples in the numerous verbs, principally from Slavic origin, whose stem ends in a vowel (1b): in these verbs, there is always a vowel between the stem and the suffix. A third type of verbs (1c), mostly from Hebrew origin, also have a vowel-final stem, visible in the unsuffixed form and in the past participle; but in the infinitive (and before the homophonous 1/3pl) they have an additional [n] (in bold), which does not appear elsewhere in the inflection.

(1) Exceptional patterns regarding syllabic [ŋ]<sup>1</sup>

	unsuffixed (=Present.1msg)	Infinitive	past participle	
a.	ʃik	ʃíkŋ, *ʃíkən	gə-ʃík-t	‘send’
	ʋed	ʋédŋ, *ʋedən	gə-ʋéd-t	‘speak’
	ʃmúəs	ʃmúəsŋ, *ʃmúəsən	gə-ʃmúəs-t	‘chat, converse’
	ʃem	ʃémən, *ʃemŋ	gə-ʃém-t	‘be famous for’
	din	dínən, *dinŋ	gə-dín-t	‘serve (trn)’
b.	tóʃə	tóʃən, *toʃŋ	gə-tóʃə-t	‘nag, gnaw’
	kóχə (ziχ)	kóχən, *koχŋ	gə-kóχə-t	‘be infatuated with’
c.	háʋgə	háʋgənən, *háʋgən, *háʋgŋ	gə-háʋgə-t	‘kill, beat severely’
	mlóχə	mlóχənən, *mloχən, *mloχŋ	gə-mlóχə-t	‘work, tamper with’

The data in (1b) are thus exceptional with respect to the ban on unstressed [ən] at the right edge of the word, and the data in (1c) are exceptional with respect to infinitival marking.

The third case concerns syllabic [l]. Yiddish has two types of nominal diminutives, the “1<sup>st</sup> diminutive” and the “2<sup>nd</sup> diminutive”. They are realized as [-l] and [-ələ] respectively. The same noun can take both (2a). Two types of nouns are described as taking only the 2<sup>nd</sup> diminutive (Jacobs 2005): nouns ending in a syllabic [l] (2b) and nouns ending in a vowel (2c). These nouns are thus morphologically exceptional.

(2) Exceptional patterns regarding syllabic [l]

	noun	1 <sup>st</sup> diminutive	2 <sup>nd</sup> diminutive	
a.	buχ	bíχl	bíχ-ələ	‘book’
	kalb	kélb	kélb-ələ	‘calf’
b.	fojgl	-	féjg-ələ	‘bird’
	himl	-	hím-ələ	‘sky’
c.	tátə	-	tát-ələ	‘dad’
	kátʃkə	-	kátʃk-ələ	‘duck’

Several explanations of the four exceptional scenarios immediately come to mind. Assuming that the final schwa belongs to the verbal base in (1b,c) and (2c), these cases could be explained by postulating some enhanced faithfulness to the root material; (2b) could be related to the difficulty - indeed, the impossibility - of having two syllabic consonants in a row (or a syllabic geminate). As we will see in this paper, these are not the precise explanations for the attested effects. Once the correct underlying representations are posited, the context for deletion is not present phonologically in (1b,c); the forms in (2b) are in fact applications of the 1<sup>st</sup> diminutive, not the 2<sup>nd</sup> diminutive; and the impossibility of the first diminutive in (2c) does follow from faithfulness to the final vowel, but this faithfulness is made possible specifically because a second diminutive is available.

<sup>1</sup> All examples in this article are taken from Niborsky and Vajsbrot (2011).

The analyses of (1) and (2) will both unveil bi-morphemic long segments, vowels and consonants, which despite surfacing as phonetically short betray their phonological length in their distributional behavior. Many languages that do not allow for surface length distinctions morpheme-internally do allow them at the morpheme juncture (e.g. Modern Hebrew /ʃavat-ti/ => [ʃavat:i] ‘I went on strike’, alongside [ʃavateti]); Yiddish, in turn, is a language in which bi-morphemic length is not surface true, but phonologically detectible.

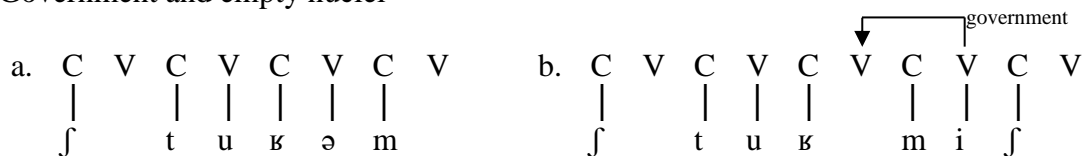
The structure of the paper is as follows. The next section briefly introduces the framework of Government Phonology (Kaye et al. 1990) in its CVCV format (Lowenstamm 1996, Scheer 2004). Section 3 offers a basic analysis of the phonological behavior of the potentially syllabic consonants [n] and [l] in Yiddish within that framework. Section 4 returns to the exceptional processes above and shows how they all follow from general phonological principles. Section 5 concludes.

## 2. Government Phonology

The theory of Government Phonology (GP; Kaye et al 1985, 1990) is concerned principally with structural relations between skeletal positions and segments. Its CVCV version (Lowenstamm 1996, Scheer 2004) argues that the skeletal tier has only one constituent, the CV unit. This implies that structurally, two (non-syllabic) phonetically-adjacent consonants are always separated by a V slot. Another implication is that consonant-final words end in an empty nucleus (because every C is followed by a V). These two claims can be seen in the representation of the word [ʃtuxəm] ‘storm, assault’ (3a) below: the first two consonants are represented as separated by a V-slot, and the last consonant is followed by an empty nucleus.

The second vowel in [ʃtuxəm] is epenthetic: a final [xəm] cluster is not possible in several dialects of Yiddish (Albright 2010; this is related to the impossibility of syllabic [m]). In other words, the position that [ə] realizes in this case is lexically empty. Government Phonology takes its name from the relation whose main manifestation is the management of the realization of such lexically-empty V-slots. When an empty V-slot is followed by a contentful V-slot, the former is governed by the latter, thereby permitting the former’s non-realization. This is illustrated in (3b) by the derived adjective [ʃtuxmiʃ] ‘stormy, violent’: because of the vowel of the suffix, the slot between [x] and [m] is governed, and its non-realization is possible.

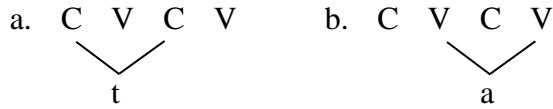
### (3) Government and empty nuclei



Long segments are represented in CVCV as branching onto two slots of the same nature: geminates as in (4a) and long vowels as in (4b). Importantly for our purpose, geminates include an empty nucleus. Like all other empty nuclei, it must be governed in order to be inhibited: this correlates with the extreme rarity of word-final geminates in the languages of the world.<sup>2</sup> In contrast, engulfed onsets such as the one in (4b) are assumed to be unproblematic.

<sup>2</sup> Word-final non-geminate clusters are nevertheless not as rare; the difference can be explained by assuming licensing relations between different segments that cannot hold between geminates (e.g. Cyran 2010).

(4) Long segments in CVCV



For further details and a full presentation of the CVCV framework see Scheer (2004). We now move to the issue of syllabic consonants in Yiddish.

### 3. Syllabic segments in Yiddish: the CVCV take

There are two syllabic consonants in Yiddish, [l̩] and [ŋ̩]. Let us refer to both of the potentially-syllabic phonemes /l/ and /ŋ/ as L. As Jacobs (2005) convincingly argues, two lexical representations may lead to a syllabic consonant: /CL/ and /CVL/, wherein /V/ is any unstressed vowel (and much more often than not, /ə/). What the representation should be in each particular case follows from the alternations it exhibits (or does not exhibit). The words in (5a) must be represented as ending in /əL/ at some level, since once a vowel is added, [ə] resurfaces between /L/ and the preceding consonant. If that [ə] were epenthetic, we would not expect it to surface in these cases, as its absence would not result in a phonological impossibility: the forms marked with an asterisk in (5a) are completely acceptable phonologically. Indeed, there are cases in which vowel-initial suffixes do not result in the appearance of such a schwa (5b): in these cases, one assumes /CL/.<sup>3</sup>

---

<sup>3</sup> In the context of Jacobs' view of the [ə] of the stem as lexical, a peculiarity must be mentioned with respect to the alternations in (5). Agentive [l̩gn-ər] 'liar' in (5b) indeed contrasts with other agentives such as [dávən-ər] 'praying person'; but no such contrast is to be found in adjectives and verbs. That is, there isn't a single example to be found in this morphological domain which has a syllabic consonant in the unsuffixed base, and no schwa preceding it in the suffixed form. Raffelsiefen (1995) explains the similar facts of German through paradigm uniformity and a constraint called SHELL against /CL<sub>1</sub>əL<sub>2</sub>#/ sequences in which L<sub>2</sub> is equal or superior in sonority to L<sub>1</sub> (wherein C is any consonant and L is a potentially syllabic consonant). In the inflection of the adjective and the verb, there are suffixes of the form /əN/ (masc.dat for adjectives, infinitive and 1/3pl for verbs), before which the base must therefore be /CəLəN/. By analogy to this base, all bases have [ə] in this position. Since the agentive and diminutive plurals in (5b) don't have such a suffix in their paradigm, they need not have [ə] before the otherwise syllabic consonant.

The SHELL constraint, while expressing a true generalization, seems ad-hoc and not immediately natural. For instance, why does it not apply to /VLəN#/? In addition, Raffelsiefen's account is somewhat challenged by the Yiddish facts, since unlike in German, Yiddish does have SHELL violations in adjectives, as in [módənə-m] 'strange (masc.dat)', cf. [ofn̩]-[ofən-əm] 'open'. This happens only when the unsuffixed base, here [módənə], also contains the schwa. However, in Raffelsiefen's account it is precisely the unsuffixed base that must not be taken into account - let alone given priority - in the calculation of the form of inflected words. Assuming that SHELL can somehow be motivated, I would venture to say that paradigmatic effects such as those identified by Raffelsiefen contribute to the establishment of an *underlying* form. The unsuffixed [ofn̩] 'open' is compatible with both /ofən/ and /ofn/ due to the rule transforming /əL#/ into a syllabic [L]. The inflected form has a preference for [ofən-əm] 'open (masc.dat)' over [ofnem], and so the UR is established as /ofən/. In contrast, a base like [modnə] cannot be underlyingly /modənə/, because there is no rule that would delete the first schwa. The underlying form is established as /modnə/, and no schwa will appear in the inflected [modnəm], because there is no schwa in the underlying form.

(5) Syllabic consonant have two lexical origins

	unsuffixed		suffixed	
a.	éjdl̩	‘refined (predicative)’	éjdl̩ə, *ejdl̩ə	‘refined (attributive)’
	gəbít̩n̩	‘modified (predicative)’	gəbít̩n̩ə, *gəbít̩n̩ə	‘modified (attributive)’
b.	ʃtikl̩	‘prank, joke’	ʃtikl̩əχ, *ʃtikəl̩əχ	‘(plural)’
	lign̩	‘lie’	lign̩əχ, *ligən̩əχ	‘liar’

In addition to the facts in (5a), it is an exceptionless generalization about Yiddish that *monomorphemic* forms (such as [éjdl̩] and [lign̩] in (5)) *never* end in an unstressed [CVL] sequence. It is therefore logical to assume that an unstressed /CVL#/ sequence at the end of the word is never realized as such Yiddish (6a). In cases such as the unsuffixed forms in (5a), when /L/ is preceded by /ə/, the position of the vowel will be occupied by /L/ in what will be referred to here as syllabication.<sup>4</sup>

The problem with /CVL#/ can be understood by assuming that certain segments are attracted to syllabic nuclei, which in the present formalizations are represented by V-slots. While stressed vowels can resist being evicted from their nucleus, unstressed vowels are nearly always reduced to schwa in Yiddish, and so their resistance is not as strong. Unstressed /CVL#/, as in (6a) below, will pose a problem because /n/ will seek to occupy the slot lexically associated to /ə/, and the latter will not be strong enough to resist being evicted. And if the consonant does occupy the V-slot, the vowel will not be realized. This is represented in (6b), which also adopts Scheer’s (2004) proposal that syllabicated consonants occupy both a V-slot and a C-slot.<sup>5</sup>

(6) The representations of final /əL/



In order to motivate syllabication, Scheer (2004) presents an interesting analogy between the cross-linguistic phenomenon of nasal place assimilation and the process of syllabication of /n/. Under this view, /n/ syllabicates *in order to* obtain a place feature. I will adopt this view, too.<sup>6</sup>

When another /-ə/ is added, we see that the /n/ may not syllabicate, cf. [gəbít̩n̩ə] (5a above), not \*[gəbít̩n̩ə], and [lign̩əχ], not \*[lign̩əχ]. I assume that in such cases, the attraction of /n/ to the preceding nucleus is neutralized by the occupation of the nucleus of its own CV. The

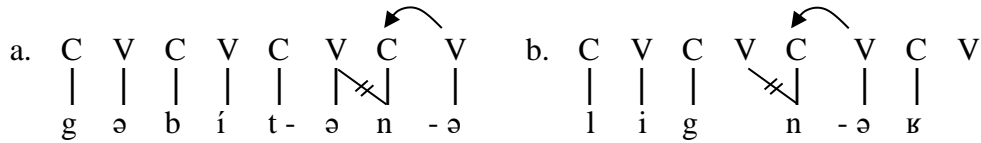
<sup>4</sup> Syllabication is the process by which a consonant comes to occupy a syllabic nucleus. It is distinct from syllabification, which is the general arrangement of consonants and vowels into syllabic constituents.

<sup>5</sup> Blaho (2004) proposes yet another representation, in which the syllabic consonant occupies the following V slot. Scheer (2009) adopts this position specifically for syllabic consonants in Slavic. In his analysis, he makes an analogy between branching onsets and C+L clusters. But this claim is difficult to maintain for C+/n/ clusters, which form branching onsets.

<sup>6</sup> Indeed, syllabic nasals do assimilate to the preceding consonant in their place of articulation: I avoid transcribing this assimilation because of the graphic difficulty of syllabic [ŋ]. Note however that the motivation for /n/ syllabication proposed by Scheer does not extend to /l/, which does not undergo any place assimilation.

effect is represented by the arched arrow.<sup>7</sup> If the form had an underlying /ə/, it will surface (7a); but if the nucleus before L was lexically-empty, it will remain so (7b).<sup>8</sup>

(7) The representations of final [əLə] and [CLə]



To summarize, we have established two generalizations about possible representations in Yiddish: i. word-final /CVL/ sequences are generally illicit, and are realized as such only for OCP reasons; and ii. when the nucleus after L is occupied, it is not attracted to a preceding empty nucleus. These representational principles will be central to the analysis of the exceptional patterns discussed in the introduction, to which we now return.

#### 4. Bi-morphemic virtual length

In the preceding section, we entertained the idea that word-finally, the sequence /əL/ yields a syllabic L. The first of the three cases presented in the introduction was exceptional with respect to this generalization. It is repeated with some additional details in (8). While with C-final bases, avoidance of \*[CəL#] by syllabication is the general case (8a), bases with unstressed final /ə/ surface with exactly that violation, namely a final [Cən] sequence, where /n/ does not syllabicate (8b). At least on the surface, these examples constitute an exception to the generalization about the illicitness of [CəL#].

(8) Exceptional patterns regarding suffix [n]~[ən] I

	base	infinitive	inflection	past part.	
a.	ʃík	ʃík-ən, *ʃík-ən	eʁ ʃík-t, du ʃík-st	gə-ʃík-t	‘sent’
	dín	dín-ən, *dín-ən	eʁ dín-t du dín-st	gə-dín-t	‘serve’
b.	tóʃə	toʃ-ən, *toʃ-ən	eʁ tóʃə-t, du tóʃə-st	ge-tóʃə-t	‘nag, gnaw’
	kóχə (ziχ)	koχ-ən, *koχ-ən	eʁ kóχə-t, du kóχə-st	ge-kóχə-t	‘be infatuated with’

In the preceding section, we saw that surface alternations between prevocalic [əL] and word-final [L], whether in a suffix or at the right edge of a base, are best analyzed as lexically containing the /ə/. Specifically this was argued for the participial suffix [ən]~[n]. However, the underlying

<sup>7</sup> The relation between the final [ə] and the [n] is reminiscent of the relation of “licensing” in Scheer (2004): the contentful nucleus licenses the preceding onset position for association, and so /n/ is associated to it. Adopting this view, one can say that /n/ needn’t branch if it is licensed to be an onset from a following vowel. More has to be said of this, since /n/ in [dín-ən] ‘to serve’ or [dín] ‘I serve’ seems to remain unlicensed. This is not the topic of this paper; I will nevertheless add that an interesting case to compare to this one exists is Catalan, in which final /n/ is deleted, rather than retained, if it is not licensed and unnecessary for metrical reasons (see Faust & Torres-Tamarit, to appear).

<sup>8</sup> The specific lexical representations of the relevant suffixes will be addressed below; they are not crucial for this initial stage of the analysis.

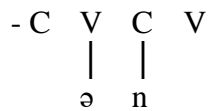
form of this suffix has not been established in full: the number of CV units accompanying it and their association to the segmental material have not been discussed.

The data in (8) concern not the participial suffix, but the homophonous suffix [ən]~[ŋ] of the infinitive. Unlike the participial suffix, we have not seen it in a prevocalic position, in which a purported underlying vowel is expected to surface. Yet there is reason to think that the [ə] vowel is underlying in this suffix too. Jacobs (2005) compares yet another homophonous suffix, the plural [ən]~[ŋ], to the masculine dative suffix. He shows that this suffix, which is usually syllabic [ŋ], appears as [ən] after sequences of a nasal followed by a velar, e.g. [júŋg-ən] ‘young men’, \*[júŋg-ŋ]. But it is not the case that a syllabic nasal after a sequence [ŋg] is impossible in Yiddish, since this is exactly the form of the homophonous adjective in the masculine dative case [júŋg-ŋ] ‘young.MS.DAT’, \*[júŋg-ən]. One must assume then that there is an underlying difference between plural /-ən/ and masculine dative /-n/.<sup>9</sup> The infinitive suffix behaves exactly like the plural, e.g. [ziŋg-ən] ‘to sing’, \*[ziŋg-ŋ], as does the participial suffix, e.g. [gəzúŋg-ən] ‘sung’, \*[gəzúŋg-ŋ].

Having established that the suffix is not /n/ but /ən/, one begins to see how the infinitives of vowel-final bases are in fact not an exception to \*/CəL/: underlyingly, the infinitive is /toʃə-ən/, with *two* consecutive schwas. But before this idea can be developed, the general case must be examined.

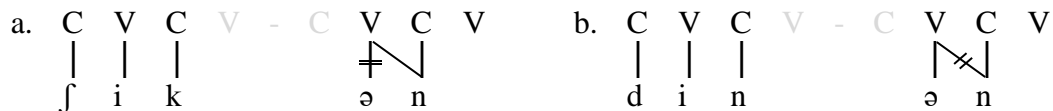
I assume that the skeletal support of the infinitival suffix is comprised of two CV units, exactly as many as its segmental makeup /-ən/ requires (9).

(9) The representation of the infinite suffix



When this suffix is attached to a consonant-final base, an empty V-C sequence arises between the base and the suffix, as shown in (10). It is standard in GP since Gussmann & Kaye (1993) to assume that unengaged VC sequences are removed from the skeleton, as expressed by their lighter color in (10). This gives rise to the already familiar structure in (10a), in which the nasal evicts a preceding /ə/, itself preceded by a consonant. The only case where no eviction occurs is when it will result in an OCP violation (10b).

(10) Regular cases: [ʃikŋ], [dínən]

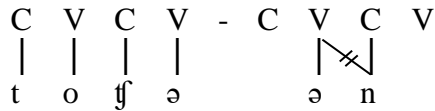


Now let us consider the case of the base /toʃə/. I assume that such bases end in a lexically-associated vowel (there is no reason for the speaker to assume otherwise). Accordingly, concatenating the infinitival suffix to this structure will result in (11): a stem and a suffix whose juxtaposed extremities are segmentally identical. Because of the final vowel of the stem, V-C

<sup>9</sup> Further support for this distinction is that the case suffix undergoes dissimilation after stems ending in [n], e.g. [ʃéjn-ənm] ‘beautiful.MS.DAT’, whereas the plural suffix remains [ən] (e.g. [babún-ən] ‘baboons’).

deletion cannot apply: only the C-slot is empty. Consequently, the /n/ of the suffix is not attracted to the preceding nucleus, because it is itself not preceded by a contentful onset.

(11) Infinitives of vowel-final stems: a problem

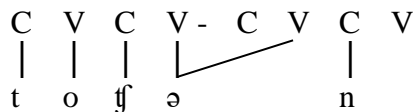


Yet we know that the form is not \*[tóʃə.ən]: there is only one unstressed syllable [toʃən].

The structure in (11) is problematic for two reasons. The first is hiatus, the concatenation of two heterosyllabic vowels. While Strict CV does not rule out hiatuses, languages are known to avoid them. Specifically for Yiddish, hiatuses are not impossible, e.g. monomorphemic [nóənt] ‘near’ or bi-morphemic [gə-árβet];<sup>10</sup> but in all the cases I have encountered, one of the vowels is stressed. In (11), both vowels are unstressed and of a reduced quality to begin with.<sup>11</sup> The second problem in (11) is the violation of OCP: the representation involves two identical vowels of different origins with no intervening entity.

Solving one of the two problems above immediately solves the other. A standard resolution for OCP violations is merger (Casali 2011): two identical entities of distinct origins are reinterpreted as two copies of a single entity. I therefore submit that the two consecutive schwas of (11) are merged into one long /ə:/, as in (12). As a result, the hiatus problem is also resolved, because, as we saw in section 2, engulfed onsets do not pose a problem.

(12) Infinitives of vowel-final stems: merger resolves both hiatus and OCP violation



The representation in (12) accounts for the apparent exception to the rule of syllabication: the phonetically short [ə] is a phonologically long /ə:/. As a result, there can be no syllabication, regardless of the identity of the last C of the word. I have thus explained the retention of [ə] in the surface form [toʃən] by assuming i) that the suffix is underlyingly /ən/, rather than /n/ (Jacobs 2005); and ii) that nasals evict preceding unstressed vowels only if these are preceded by consonants (consistent with Scheer’s 2004 motivation for syllabication). The advantage of the analysis is clear: such verbs, despite appearances, are not an exception to the ban on unstressed /CVL#/ being realized as such.

It is also important to note before we proceed that the phonological length I have proposed is both non phonemic - it is a result of morpheme concatenation - and “virtual”: it is not expressed as length phonetically. It is a case of bi-morphemic virtual length, as in the title of this paper. The fact that the vowel is realized as short is unsurprising, given that it is not stressed. Yiddish is a stress-timed language *par excellence*, with unstressed vowels nearly always being reduced in both length and quality.

<sup>10</sup> Unlike German, Yiddish does not insert epenthetic glottal stops in such hiatuses.

<sup>11</sup> The same is true for diphthongs, which in Strict CV are sometime also represented as involving two consecutive nuclei: there are no unstressed diphthongs.



We will see below that such virtual length is not exclusive to vowels. But before we do that, we must return to the second type of vowel-final stems in the introduction, repeated in (13). Verbs of this group have an extra [n] in their infinitival form (and in the homophonous 1<sup>st</sup> and 3<sup>rd</sup> plural persons), which is absent elsewhere in their inflection, including the past participle.

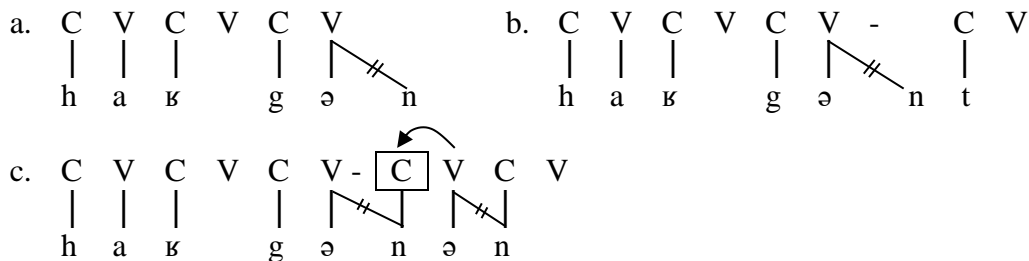
(12) Exceptional patterns regarding suffix [ŋ]~[ən] II

<i>base</i>	<i>infinitive</i>	<i>inflection</i>	<i>past part.</i>	
hæŋə	hæŋənən, *hæŋən, *hæŋŋ	ɛ hæŋə-t, du hæŋə-st	gə-hæŋə-t	‘kill, beat severely’
mloχə	mloχənən, *mloχən, *mloχŋ	ɛ mloχə-t, du mloχə-st	gə-mlóχə-t	‘work, tamper with’

The additional /n/ in the infinitival forms can have one of two sources: it can either be part of the base or part of the suffix. If it were part of the suffix, one would legitimately ask why it only surfaces in this case of vowel-final bases, and not with bases like /tɔʃə/, e.g. \*[tɔʃənən]. It must be concluded that the idiosyncrasy is lexically-recorded with the base. But how?

I propose that such bases are lexicalized with both a final vowel and a final unassociated /n/, as in (14a). Since all /n/'s, including syllabicated ones, must be associated to a C-slot, the final unassociated /n/ cannot surface in the unsuffixed form (14a). For the same reason, it cannot surface when a suffix other than /-ən/ is added, such as 2pl in /-t/ (14b). But when the vowel-initial suffix /-ən/ is added, the /n/ of the base finds an anchor in the empty C-slot of the suffix, framed in (14c). Since the final /n/ cannot associate to the preceding V-slot, the vowel of the suffix must be realized, and so the /n/ of the base cannot be syllabic. Accordingly, the last vowel of the base is also pronounced.

(14) Infinitives of vowel-final stems: problem II



The difference between [tɔʃən] and [hæŋənən] now reduces to their representation. Both bases are vowel-final in that the last associated segment is a vowel. But [hæŋənən] has an additional floating /n/, whose presence will be felt before vowel-initial suffixes.<sup>12</sup> In neither case is syllabication possible: in [hæŋə] because the floating /n/ does not have its own C-slot, and in

<sup>12</sup> As stated in the introduction, the two types of verbs correspond roughly to the Hebrew vs. Slavic components. However, there are wrinkles in this generalization: verbs from Slavic or Germanic origins may appear with the augment [-n-], e.g. respectively [koʃlən-nən] ‘murder’ and [ʃtixən-nən] ‘stare’; and verbs from the Hebrew component can have an [ə] that resists deletion, e.g. [malkən] ‘beat’. For this reason, it cannot be said that the difference follows from some lexical layering.

[tóʃən] because the /n/ is separated from the preceding occupied C-slot by two V-slots rather than one.

Both [háʁgənən] and [tóʃən] presented exceptions that ended up following from the existence of two adjacent schwas, rather than one as the phonetic form suggest. In [toʃə] the two schwas coalesced, whereas in [həʁgənən] the existence of the second schwa in the suffix allowed the floating /n/ to associate to its onset. We will now see that bimorphemic length - this time in consonants - underlies the exceptions in diminutive formation, too.

As is repeated below in (15), Yiddish has two diminutives: [-l] and [-ələ]. Most nouns can take both, the first usually denoting diminution and the second denoting endearment (15a). Yet there are several gaps in the distribution of the two diminutives. We will examine two. First, bases ending with a syllabic consonant [l] are described as taking only the second diminutive (15b) (though note that it is not the case that these are derived by suffixation of [-ələ]: this would have given \*[fėjglələ]). Second, vowel-final bases take only the second diminutive (15c).

(15) Exceptional patterns regarding syllabic [l]

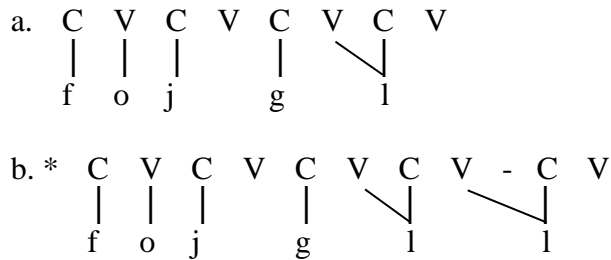
	noun	1 <sup>st</sup> diminutive	2 <sup>nd</sup> diminutive	
a.	buχ	bíχl	bíχ-ələ	‘book’
	kalb	kélb	kélb-ələ	‘calf’
b.	fojgl	-	fėjg-ələ	‘bird’
	himl	-	himələ	‘sky’
c.	tátə	-	tát-ələ	‘dad’
	kátʃkə	-	kátʃk-ələ	‘duck’

Jacobs (2005: 162) notes that the 1<sup>st</sup> diminutive may trigger umlaut in its base. He further notes that when only one of the two diminutives is possible, the meaning is one of either diminution or endearment. Interestingly, according to both of these perspectives, the diminutives in (15b) behave like the 1<sup>st</sup> diminutive, not the second: [fėjgələ] has umlaut and possibly denotes diminution. We will now see that this is indeed the case - [fėjgələ] is the application of the 1<sup>st</sup>, rather than the 2<sup>nd</sup>, diminutive suffix /-l/ to the base /fejgl/.

Consider first the representation of the [l]-final base in (16). Unlike the cases of [ŋ] discussed above, which was underlyingly /ən/, the final syllabic /l/ is not preceded by /ə/, as evidenced by the plural [fėjglən], \*[fėjgəlŋ], \*[fėjgələn]). Like [ŋ], [l] spans a VC sequence. In (16b), we see the problem posed by adding the regular “first” diminutive /l/ to the base in (16a). While the conditions for the diminutive /l/ to be syllabic do hold - it is final, and the preceding nucleus is empty - syllabication of both /l/’s gives rise to an OCP violation, similar to the violation found in vowel-final stems before the infinitive suffix:<sup>13</sup>

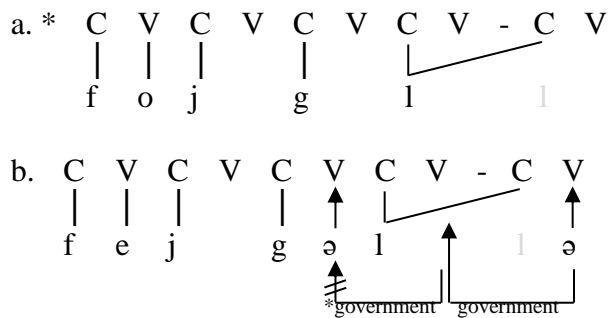
<sup>13</sup> The problem of the OCP violation is also raised by bases with non-syllabic /l/, e.g. [ʃul] ‘synagogue’, whose diminutive forms exhibit an epenthetic velar consonant [ʃulχl]. Evidently this is not a possible solution for bases with syllabic [l], though it is not entirely clear why. Inserting [χ] here would result in \*[fėjglχl]. To explain why this is not so, one may posit that two consecutive syllables with identical syllabic consonants are banned. Note that two consecutive syllables with syllabic [ŋ] and [l] are possible: they occur in diminutives of bases with final syllabic [ŋ], such as [nigŋ] ‘melody’ - [nigŋd|] ‘(dim.)’, with epenthetic <d>. Jacobs (2005) reports that speakers tend to have alternatives to such diminutives, but the speakers I checked did not reject them at all.

(16) Bases with syllabic [l] and the problem with their diminutive



The repair suggested by the analogy to cases like /toʃə-ən/ is again coalescence. Assuming that a long /l/ cannot be syllabic, we derive the situation in (17a), with a geminate /l:/. Cross-linguistically, geminates are only maintainable inter-vocally. In CVCV, this receives an immediate explanation in the fact that the engulfed V-slot must be governed, and since it is governed, a preceding empty V-slot cannot be. If so, to maintain (17a), there must be double epenthesis, on both sides of the bi-morphemic final geminate. Umlaut aside, we correctly derive [fɛjgələ], as in (17b).

(18) The diminutive of bases with syllabic [l]: solution



Under this analysis, there is no need to explain either the fact that there is no \*[fɛjglələ] - there is never a vowel /ə/ before the /l/ of the diminutive, and a final [ə] would only arise to preserve a geminate - or why the form has umlaut and possibly denotes diminution, like other 1<sup>st</sup> diminutive. [fɛjgələ] simply *is* a 1<sup>st</sup> diminutive. Note further that the bi-positional /l/ in (17b) is not realized as a geminate; again, by analogy to [toʃən], this is not surprising: length can be virtual, and bipositionality needn't necessarily be realized as length, especially in an unstressed environment in a stress-timed language such as Yiddish. If so [fɛjgələ] is another case of bimorphemic virtual length.

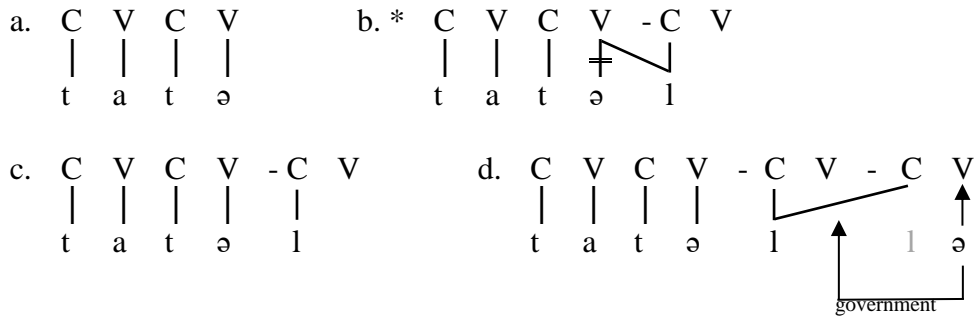
A major advantage of the present proposal is its unification of the representations of the two diminutives. Jacobs (2005) wonders whether the representation of the 2<sup>nd</sup> diminutive should be a discontinuous /ə...ə/ or /-ələ/, with no final conclusion. Consider a form with the 1<sup>st</sup> diminutive like [biχ-l] in (15a) above. This form is identical to the non-diminutive [fɛjgl]. We saw that /fɛjgl-l/ is realized as [fɛjgələ]. We may now say that *the representation of the 2<sup>nd</sup> diminutive is identical to that of the first: /biχ-l/ is only expected to give [biχələ].* In other words,

phonologically there aren't two different diminutives with two different representations, but rather only one applied twice.<sup>14</sup>

The availability of double diminutives underlies the existence of the second exceptional group in (15), which concerns vowel-final bases. As shown in (19a), a vowel-final base such as [tátə] presumably has a final associated /ə/, like the verbal base [toʃə]. The diminutive suffix is a single consonant /l/, so when it is attached, only one /ə/ separates base and suffix, unlike in the verbal case /toʃə-ən/. The /l/ is therefore expected to evict the final /ə/ and yield \*[tátl] (19b). This is not the case, but neither is the non-application of syllabication, namely \*[tatəl] (19c).

I submit that the reason for the ungrammaticality of \*[tatl] and \*[tatəl] is threefold. First, as we saw, sequences of final, potentially syllabic consonants preceded by unstressed [Cə] are dispreferred in general: they are only attested when motivated by OCP considerations, e.g. [dín-ən]. Second, the vowel to be elided here belongs to the base, rather than the suffix: presumably, deleting such vowels is costly, because it reduces the recognizability of the base. Finally - and most crucially - the language provides an independently-attested strategy of avoiding these problems, namely double diminutives. I therefore submit that diminutivization applies to vowel-final bases twice, *in order to* preserve the vowel of the base and avoid /CəL#/, *and* because this is possible. The result, depicted in (19d), is analogous to [féjgələ] in (18b): the OCP violation leads to merger, which creates a phonological geminate, which leads to the insertion of final [ə]. The only difference between (18b) and (19d) is that in the latter, the vowel preceding the geminate is not epenthetic.<sup>15</sup>

(19) The impossibility of a 1<sup>st</sup> diminutive with vowel-final bases, and its repair



I have thus explained both the form of the two diminutives and the exceptionality of the groups in (15b) and (15c). The analysis depends crucially on the view of [féjgələ] as hosting a bi-morphemic virtual geminate, despite the absence of phonetic length distinctions. The first advantage of the analysis is its unification of both diminutive exponents, proposed here for the first time. The second advantage lies in the support it provides to the analysis of cases like [tóʃən]: since we already saw bi-morphemic virtual *vocalic* length, virtual consonantal length

<sup>14</sup> It must now be asked why it is that unlike the regular nouns, nouns like [féjgələ] have only one diminutive. The present analysis provides an answer: if /l+l/ forms a virtual geminate, /l+l+l/ would form an illicit ternary branching geminate.

<sup>15</sup> One might object that if stem-final vowels have to be preserved, an alternative account of [toʃən] can be advanced without the “abstract” property of virtual length: the vowel of the suffix /-ən/ would simply be dropped and /toʃə-n/ will be realized as [toʃən]. However, such a view would wrongly predict “first” diminutives such as \*[tatə-l] to be possible. In the present account, in contrast, the need to preserve final vowels is never at the expense of creating /CəL#/ sequences. Thus, \*[tatl] can be avoided *only because* there is an independent double diminutive construction.

should not be surprising. The claim of course works in both directions: the analyses of diminutives and the analyses of infinitives lend support to each other, since both necessitate the same abstraction. Without further ado, the next section concludes the paper.

## 5. Discussion and conclusion

Morpheme boundaries are phonological “troublemakers”, in that they sometimes correlate with exceptionality with respect to general processes of the language. Why this is so is subject to one’s theory. Some analyses delimitate base and affix using phases or cycles (e.g. Embick 2010), others resort to different strength of faithfulness to bases vs. affix (McCarthy & Prince 1995); and yet another type of theory either assumes morpheme-boundaries when they are obviously needed (Kaye 1995), or simply devises rules making reference to morpheme boundaries. While this paper did not take a stand on this issue, it has shown three cases in which none of the above is necessary, and the inter-morphemic effect is derived phonologically.

We have examined two morphological configurations in Yiddish, for which there is reason to think that identical segments exist in the phonemic representation on both sides of a morpheme boundary. Standard Yiddish, like many other languages, does not have contrastive length morpheme-internally. But while many of these languages do allow for *phonetic* length bi-morphemically, Yiddish does not seem to allow for that either (at least under certain conditions, i.e. when stress is absent). It was the claim of this paper that such length is nevertheless present at the phonemic level, and results in the morpheme-boundary effects that are apparent on the surface. Thus, we may recognize three types of languages:

### (20) Typology of phonetic length distinctions

	morpheme-internal	inter-morphemic
A (Italian, Arabic)	YES Arabic <i>sannan</i> ‘he teethed’	YES /sakan-na/ => [sakanna] ‘we dwelled’
B (Catalan, Modern Hebrew)	NO	YES Catalan /sɛt kazəs/ => [sɛkkazəs] ‘seven houses’
C (Yiddish)	NO	NO Yiddish /tatə-l-1/ => [tátələ] ‘daddy’

Although a serious typological study is required to assess the claim, it would seem that there is an implication in (20): if a language does not allow for a phonetic length distinction at the morpheme boundary, it may not allow for one morpheme-internally.

Crucially, however, the typology in (20) has nothing to say about *phonemic* length. A language may also have virtual length, i.e. underlying length that is detectible through its phonological effects. This has been proposed for morpheme-internal segments (see for instance Scheer & Ségéral 2001); the present paper discussed cases where virtual length is a result of morpheme concatenation. These cases involved both consonants and vowels. Specifically, it was

shown that schwas on both sides of a morpheme boundary merged and thus resisted forming an illicit structure; and consonants merged to form a geminate which then necessitated epenthesis in order to be maintained. In both cases, the bi-morphemic length assumption explained facts that were otherwise mysterious, to wit, the resistance of certain infinitives to syllabication, the appearance of the extra consonant in other infinitives, and the alleged absence of 1<sup>st</sup> diminutive in some nouns, as well as the difference between the surface realizations of the 1<sup>st</sup> and 2<sup>nd</sup> diminutives. If some approaches to phonology can be described with “what you hear is what you get”, this short paper serves to show that this is not always the case.

## References

- Albright, Adam. 2010. Base-driven leveling in Yiddish verb paradigms. *Natural Language and Linguistic Theory* 28: 475–537.
- Blaho, Sylvia. 2004. Syllabic consonants in strict CV. MA thesis, Pazmany Peter University. WEB.
- Casali, Roderic F. 2011. Hiatus resolution. In *The Blackwell Companion to Phonology*, vol. 3, ed. by Marc van Oostendorp, Colin J. Ewen, Elizabeth Hume & Keren Rice. Malden, MA and Oxford: Wiley-Blackwell. 1434-1460.
- Cyran, Eugeniusz. 2010. *Complexity Scales and Licensing in Phonology*. Berlin: Mouton de Gruyter.
- Embick, David. 2010. *Localism versus Globalism in Morphology and Phonology*. Cambridge, Mass.: MIT Press.
- Faust Noam and Francesc Torres-Tamarit. to appear. Stress and final /n/ deletion in Catalan: combining Strict CV and OT. *Glossa*.
- Gussmann, Edmund. & Jonathen Kaye. 1993. Polish notes from a Dubrovnik Cafè. *SOAS Working Papers in Linguistics & Phonetics* 3: 427-462.
- Jacobs, Neil. 1990. *Economy in Yiddish Vocalism: A Study in the Interplay of Hebrew and Non-Hebrew Components*. Wiesbaden: Otto Harrassowitz.
- Jacobs, Neil. 1995. Diminutive Formation in Yiddish: A Syllable-based Account. In: Eds. Irmengard Rauch and Gerald F. Carr. *Insights in Germanic Linguistics 1*. Berlin: de Gruyter, 169-184.
- Jacobs, Neil. 2005. *Yiddish: A Linguistic Introduction*. Cambridge: Cambridge University Press
- Kaye, Jonathan. 1995. Derivations and Interfaces. In *Frontiers of Phonology*, ed. by Jacques Durand, and Francis Katamba, 289-332. London & New York: Longman.
- Kaye, Jonathan, Lowenstamm, Jean & Jean-Roger Vergnaud. 1985. The internal structure of phonological representations: a Theory of Charm and Government. *Phonology Yearbook* 2, 305-328.
- Kaye, Jonathan, Lowenstamm, Jean & Jean-Roger Vergnaud 1990. Constituent Structure and Government in Phonology. *Phonology* 7:2, 193-231.
- Lowenstamm, Jean. 1996. CV as the only syllable type. In Durand, Jacques and Bernard Laks (eds.), *Current trends in Phonology. Models and Methods*. Salford, Manchester: ESRI. 419-441.
- McCarthy, John J., & Alan Prince. 1995. Faithfulness and reduplicative identity. In J. N. Beckman, L. Walsh Dickey, & S. Urbanczyk, (eds.), *University of Massachusetts Occasional Papers 18, Papers in Optimality Theory*, Amherst: GLSA publication. 249–384.

- Niborsky, Yitskhok & Bernard Vajsbrot. 2011. *Dictionnaire Yiddish-Français*. Paris: Bibliothèque Medem.
- Raffelsiefen, Renate. 1995. Conditions for stability: the case of schwa in German. *Arbeiten des Sonderforschungsbereichs* 282, 69.
- Scheer, Tobias. 2004. *A Lateral Theory of Phonology. Vol 1: What is CVCV, and Why Should it Be?* Berlin: Mouton de Gruyter.
- Scheer, Tobias. 2009. Syllabic and trapped consonants in the light of branching onsets and licensing scales. In Eds. G. Zybatow, U. Junghanns, D. Lenertová & P. Biskup, *Studies in formal Slavic phonology, morphology, syntax, semantics and information structure*. Frankfurt: Peter Lang, 411-426.
- Ségéral, Philippe. & Tobias Scheer. 2001. Abstractness in phonology: the case of virtual geminates. In: K. Dziubalska-Kolaczyk (ed.), *Constraints and Preferences*. Berlin & New York: Mouton de Gruyter: 311-337.