*Acta Linguistica Hungarica* Vol. **62** (2015) 2, 141–155
DOI: 10.1556/064.2015.62.2.2

# Consonant lenition inside and outside the "minimal foot"

## A Strict CV Phonology analysis

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**Abstract:** English represents stress-sensitive consonant lenition systems, in which the onsets of stressed syllables (as well as word-initial consonants) tend to resist diachronic lenition, resulting in synchronic alternations between foot-initial and foot-internal variants. However, there is empirical evidence that a further distinction needs to be drawn between two subtypes of foot-internal positions: one which is weak proper, included within a bimoraic domain (corresponding to the "minimal foot" in prosodic approaches); and a less weak ("semi-weak") position outside that minimal domain. Crucially, lenition outside the domain implies lenition within, and no cases of lenition in semi-weak only are on record. The paper uses the representations of Strict CV Phonology to capture the equivalence of two forms of the "minimal foot" (the CVCV sequence and the long-vowelled heavy syllable) and to connect this "bimoraicity" of the domain to the implications in consonant lenition, a benefit moraic theory does not offer. At the same time, it properly predicts the non-existence of the unattested lenition pattern.

**Keywords:** lenition; English phonology; parameters; Government Phonology; Strict CV Phonology

## 1. Introduction

The present paper aims to bring together earlier and more recent observations about lenition sub-systems in varieties of English. Phenomena like the "Withgott effect" (after Withgott 1982), the "*competitive* chain of reduction", as well as a recent proposal to split the "intervocalic" consonantal position into post-short and post-long (Balogné Bérces & Honeybone 2012), all suggest a phonologically relevant scale of strength relations primarily manifesting itself in consonant lenition.

From a purely descriptive point of view, this means that classical lenition taxonomies may need to be amended to include subtypes of the "weak(er)" phonological position in stress-sensitive lenition systems, along at least two dimensions: (i) distance from the foothead; (ii) length of the preceding vowel. This is justified by dialectal/register differences in varieties of English: in certain systems *ci̲ty* but not *vani̲ty, la̲tter* but not *la̲ter* will lenite.

Upon closer inspection, however, these two seem to be related and therefore collapsible: lenition may be confined to the "minimal foot" – the bimoraic minimal string familiar from minimal word phenomena, with an implicational relation among lenition systems such that lenition outside this minimal domain implies lenition within. In general, smaller/no variability is expected within this domain; the parametric variation outside this domain is due to more/less lenition inhibition.

The paper subscribes to representational, rather than procedural, solutions. It proposes an analysis set in a framework in which prominence relations are reduced to lateral interactions, with less hierarchical structure, or at least with more linear contextual relations. More specifically, it is claimed that the data fall out naturally if we assume a CVCV skeleton (Lowenstamm 1996) with two lateral relations, government (a destructive force) and licensing (supporting segmental expression of the target) (Ségéral & Scheer 1999). The further assumption that (i) stressed vowels distract the licensing charge of the following vowel, and that (ii) long nuclei are VCV sequences exhibiting right-to-left V-to-V licensing, properly derives a ternary distinction between licensed position (phonologically strong), governed position (within the "bimoraic minimum"), and licensed-governed position (a weak position outside the minimal foot domain).

The paper is structured as follows. In section 2, data are presented from lenition sub-systems in certain varieties of English, supporting the claims that lenition may be confined to the "minimal foot", and that an implicational relation is found between lenition inside and outside that domain (see above). Throughout the section, the discussion aims to be as theory-neutral as possible, and all terminology used is meant to be purely descriptive. Then, in section 3, a representational solution is offered, as sketched out previously. Finally, section 4 concludes.

## 2. The data

As explained in Balogné Bérces & Honeybone (2012), lenition theory is concerned with the types of consonantal processes that cannot be easily reduced to assimilation, dissimilation or to another type of interaction with a segment's immediate (sub)segmental neighbourhood. There are two aspects of lenition to be studied: (i) the set of phonological processes involved, and (ii) the set of environments in which those processes can or

cannot occur. The present paper concentrates on (ii).[1] One common terminological tradition (exemplified in Ségéral & Scheer 2008) distinguishes between phonologically weak and strong positions, where "weak" means that a position is a frequent site for lenition, both synchronically and diachronically, and "strong" means that a position inhibits lenition (with either absolute segmental stability or less weakening than in weak positions). The relation between strong and weak positions can be understood as an implicational hierarchy: if lenition occurs in a strong position, it must also occur in a weak position. That is, these categories are not absolute but relative – in fact, it is more adequate to refer to them as "strong**er**" and "weak**er**".

Most positional generalisations about lenition are universal observations about the basic prosodic positions (e.g., "initial/onset" positions are strong(er), while "final/coda" and "medial/intervocalic" positions are weak(er)); others are parameters along which individual lenition systems vary. One of these parameters that is relevant to our purposes is the "stress parameter": in systems in which it is switched on, (lexical) lenition only occurs if the vowel following the segment is not stressed.[2] This pattern is often found in Germanic languages, as is illustrated in this paper by data from varieties of English, a stress-sensitive consonant lenition system, in which the onsets of stressed syllables (as well as word-initial consonants) tend to resist diachronic lenition, resulting in synchronic alternations between foot-initial and foot-internal variants.

These parameterisations in lenition theory are necessary because **some** cases of lenition pattern in these ways, so phonology must be able to characterise them as significant phonological environments. In what follows, further parameters will be introduced, apparently dependent on the "stress parameter". First, the parametric variation found with respect to the distance from the foothead is discussed (section 2.1), then we illustrate the role the length of the preceding vowel plays (section 2.2). Eventually (section 2.3), it will turn out that the two are just different manifestations of the same single structural property circumscribing the parameter.

[1] In terms of (i), the paper assumes a fairly standard view of lenition scales (as in Lass 1984, for example), according to which all the phenomena discussed below qualify as forms of consonantal weakening.

[2] For other parameters, e.g., whether there is a difference between pre-consonantal and final codas, or between initial and post-coda onsets, etc., see Scheer & Ségéral (2008).

### 2.1. Distance from the foothead: The "Withgott effect" and the "*competitive* chain of reduction"

This section discusses non-core data from **t**-lenition systems in English revealing parametric variation. Two such systems are relevant: one is the phenomenon of **t**-tapping (or flapping) as witnessed in US English,[3] the other one is wide-distribution **t**-glottalling as in London English. Both cases show how the lenition target's distance from the foothead affects its degree of weakness: the immediate post-tonic consonant is more prone to lenite (i.e., it is what we will eventually call "weak"), while the weakening of a later consonant, in the third syllable of a dactyl, is conditional on the speaker's accent or the lenition of the "weak" segment ("semi-weak").[4]

The first example comes from **t**-tapping, which, according to its "classical" description, occurs in intervocalic position; but, while postlexically any word-final intervocalic **t** lenites, in the lexical phonology the "stress parameter" has an effect: the foot-internal environment triggers tapping (e.g., *cíty*), but the foot-initial one does not (cf. both **t**'s in *tattóo*, which are realised in their unlenited, aspirated forms). That is, roughly speaking, word-internal tapping affects the intervocalic position whenever the second vowel is unstressed.

However, as first highlighted and analysed by Withgott (1982) and then further discussed in Jensen (1987); Steriade (2000); Davis (2003; 2005), etc., tap suppression is found in certain positions for certain speakers. Withgott recorded that the **t** is tapped in words like *càpitalístic*, as expected, but aspirated in words like *mìlitarístic, sànitisátion, mònotonícity.* She pointed out that while *capitalistic* is morphologically related to *capital*, where the **t** is already tapped, the untapped **t**'s are all found in a derivative where there must be an untapped **t** in the base due to stress on the syllable whose onset the **t** is (cf. the secondary stresses in *mílitàry, sánitìze, mónotòne*). She also argued that a cyclic analysis (i.e., one relying on the morphological complexity of these words) is not appropriate since aspiration (instead of lenition) is attested in words like *Méditerránean, Wìnnipesáukee, Nàvratilóva, àbracadábra*, which are morphologically simplex. Therefore, the issue boils down to what I call the problem of the third syllable in a dactyl: the "ideal" English foot is binary, and any syllables stranded outside the trochee undergo stray adjunction to the right, as in the foot-based analyses of Withgott (1982); Jensen (2000), Davis (2003;

[3] For the discussion of tapping in New Zealand English, see section 2.2.

[4] The weak/semi-weak distinction was originally introduced for Dutch vowel reduction asymmetries in successive reduction sites by van Oostendorp (2000, 147–148).

2005), making the onsets of the stray syllables foot-initial and therefore strong. This solution, however, is only applicable to nonfinal dactyls – a theoretical problem we encounter when considering the next set of data, providing evidence of the same effect in final dactyls.

The second example is based on a side issue raised in a survey and GP analysis of **t**-lenition in New York City (NYC) English (tapping) and London English (wide-distribution glottalling),[5] a remark Harris and Kaye (1990, 261) make on the behaviour of words with two successive potential lenition sites, e.g., *compétitive*. Here, two **t**'s are followed by an unstressed vowel each, therefore both are expected to lenite. However, as Harris and Kaye observe, the second **t** can only undergo weakening if the first one does so, too. That is, while pronunciations like *compe*[t]*i*[t]*ive*, *compe*[ʔ]*i*[t]*ive*, and *compe*[ʔ]*i*[ʔ]*ive* are all possible in London English, the fourth logical possibility **compe*[t]*i*[ʔ]*ive* is excluded, and corresponding results are reported for tapping in NYC.

Harris and Kaye are at a loss how to interpret this observation; the best they can say is "[...] it is worth pursuing the idea that, in structures such as (14), a 'chain' of reduction is set in motion along lines of government" (Harris & Kaye 1990, 261). However, as proposed in Balogné Bérces (2011b), the strength difference between the consonant closer to the stressed vowel on the left and the one farther away from it can be reinterpreted as the distinction between weak and semi-weak: there is stronger tendency to lenite in the weak position (*compétitive*), whereas the semi-weak position (*compétitive*) is more resistant to reduction.

A further interesting observation is that the distinction also applies to the "Withgott effect": the third syllable in a dactyl hosts a semi-weak onset. As Steriade (2000, 322–326, endnote 4) remarks, tap suppression does not obtain in syllables that directly follow the tonic, e.g., *statístic–stàtistícian*, where the relevant segment in the second word is unprotected from lenition, i.e., in our terms, it is weak even though it corresponds to a strong consonant in the first word. Consequently, the "Withgott effect" is only ever detected in the semi-weak position and never in the weak one.

We can conclude, then, that while the immediate post-tonic position is weak, the third syllable in a dactyl is semi-weak. Apparently, there is a "minimal domain" for lenition (comprising the foothead and the weak position), where "weak" is defined as a recessive position **within** this domain, whereas "semi-weak" is a recessive position **outside** this domain. The

[5] That is, glottalling (glottal replacement) that does not only occur in syllable-final position but in certain prevocalic environments, too.

implicational relation between them is such that lenition outside that domain implies lenition within. This is most clearly seen in the "*competitive* chain of reduction", where the second consonant can only undergo weakening if the first one also does so. The "Withgott effect", on the other hand, illustrates how the weak/semi-weak distinction manifests itself in the structural description of a parameter: tap suppression as observed by Withgott only applies in the case of certain speakers but not for others; that is, (sub)dialectal variation is produced by the ON/OFF setting of whether lenition is able to affect the semi-weak position.

## 2.2. Length of the preceding vowel: Lenition after short vowels only

Recent research[6] has investigated into phonological patterns of lenition which occur in an intervocalic environment, but only if the preceding vowel is short (Balogné Bérces & Honeybone 2012). On the basis of these data, we will conclude that the "minimal domain" of lenition appears to be even smaller, composed of the two terms/slots/moras of long vowels. The phenomena to be discussed all derive from once-active synchronic lenitions. These lenitions are not all still clearly synchronically active, but at earlier stages of the development of the accents in question they systematically exhibited the split intervocalic patterning we are aiming here to illustrate.

We will examine three data sets from lenition subsystems of English: (i) Northern English T-to-R (a postlexical sonorisation process once active in a number of north-of-England varieties); (ii) the voicing ("lenisisation") of fortis fricatives in hypocoristic formation in Liverpool English; and (iii) dialectal/register variation in the New Zealand English (NZE) system of **t**-tapping. This last set of data will also reveal that the post-long environment can be classified as the same type of semi-weak position as the onset of the third syllable in a dactyl (section 2.1), as exactly the same effect is observed in both environments in NZE.

The first example is Northern English T-to-R (see, e.g., Wells 1982; Broadbent 2008; Buchstaller et al. 2013), which occurs in dialects from the Midlands to the North of England, affects **t**, and derives the typical rhotic of the variety – for most varieties, this is **ɹ**. As a result, relevant words end in a **t** pre-pausally or pre-consonantally, e.g., **ʃʊtdaʊn** *shut*

[6] The discussion in this section is based on joint work with Patrick Honeybone. For more discussion and more examples of the post-short/post-long distinction, including data for spirantisation and from dialects of German, see Balogné Bérces & Honeybone (2012).

*down* or **gɛtdaʊn** *get down*, but are realised with a rhotic prevocalically, as in **ʃʊɹʊp** *shut up* or **gɛɹɒf** *get off*. Although in its current patterning it affects mostly only word-final occurrences of **t** in cross-word situations,[7] and is lexically-specific (it affects certain lexical items but not others, cf. Buchstaller et al. 2013), therefore it is **not** a clear case for a productive regularity, its "parent process" (cf. nineteenth-century descriptions cited in Broadbent 2008) **does** have the environmental patterning in question: it is a productive, non-lexically-specific phonological process which occurs intervocalically, but only if the preceding vowel is short (cf. Balogné Bérces & Honeybone 2012, 33–35). This can be interpreted as T-to-R being confined to the weak phonological position; post-long consonants seem to lie outside the minimal domain and are as a result protected from weakening.

The same post-short/post-long split is observed in a productive truncation process in Liverpool English (Scouse) (see Balogné Bérces & Honeybone 2012, 35–36). The phenomenon, dubbed "Scouse diddification" by Honeybone (2010), produces hypocoristics, i.e., "diddified" prosodic morphemes, which contain part or all of the initial syllable of the base (and possibly the initial part of the base's second syllable) and affix an unstressed *-i*. For example, *lavatory* **lavətɹi** shortens to **lavi**, or *Crosby* **kxɹɒzbi** to **kxɹɒzi**.[8] As apparent in these examples, underlyingly voiced (lenis) fricatives remain lenis after diddification. However, when the base ends in a fortis fricative, lenisisation of the preserved post-vocalic consonant kicks in (thus **s** is rendered as **z**, for example), but only if the preserved fricative follows a short vowel. Therefore, *afternoon* **aftənʉːn** is diddified to **avi**, *best friend* **bɛstfɹɛnd** to **bɛzi**, and *mustard* **mʊstəd** to **mʊzi**, but bases like those of *Leece Street* **liːsstɹiːθ**, *ice cream* **aɪskxɹiːm**, and *loose cigarettes* **luːssɪgəɹɛts**, with a long base vowel, will avoid the lenisisation of the fricative in **liːsi**, **aɪsi**, and **luːsi**, respectively. Again, the post-short consonant is weak and undergoes lenition, whereas post-long fricatives are protected from the process.[9]

Finally, we turn to dialectal/register variation in New Zealand English (NZE) **t**-tapping (cf. Balogné Bérces & Honeybone 2012, 32–33). As Bye and de Lacy (2008, 197) explain, in the NZE Basilect (informal/"broad")

[7] Because of this, the unstressedness of the following vowel is now not a criterion. See Balogné Bérces (2005) for an extensive discussion of internal vs. cross-word "ambisyllabicity", and of how the two fall under the same rubric in spite of the apparent difference in stress sensitivity.

[8] The part of the base that is preserved in diddification is underlined.

[9] Why lenisisation only affects fricatives is a question beyond the scope of the present discussion.

variety tapping is found in its "classical" form (as familiar from US English, for example, cf. section 2.1 above), but in the NZE Acrolect (formal/"cultivated") variety, tapping exhibits a limited, split pattern. Here tapping *does* take place after a short stressed vowel and before a vowel, as in *hatter* **hǽɾə** or *catty* **kǽɾi**, but it is not possible after a stressed long vowel or stressed diphthong, as in *barter* **báːtə**, *metre* **míːtə**, *pouter* **páʊtə**, *writer* **ɹáɪtə**. Therefore, in its lexical instantiation, NZE Acrolect tapping occurs only if the preceding vowel is short. Apparently, the long vowel "pushes" the consonant outside the minimal domain of lenition, where weakening only takes place in the Basilect but not in the Acrolect.

In addition, the data in Bye and de Lacy reveal that lenition in the Acrolect is suppressed in another environment, too, namely, after an unstressed vowel, in words like *hóspital* **hɔ́spətəl** or *Térreton* **tʰɛ́ɹətən**. Notice that this case parallels that of words of the *compétitive* type, that is, it involves dactyls with a strong–weak–semi-weak string with parametric variation of presence/absence of lenition in the semi-weak position. Even more importantly, here it is *the same* lenition system that illustrates post-long semi-weak (e.g., *barter*) and semi-weak in the dactyl (e.g., *Terreton*), which is indicative that the two are related. As de Lacy (p.c.) confirms, on the one hand, the effect described above as the "*competitive* chain of reduction" (section 2.1) is also attested in NZE: both of the successive lenition targets undergo the weakening in the Basilect (**kəm'pɛɾəɾəv**), while in the Acrolect tapping only affects the first ("weak") consonant (**kəm'pɛɾətəv**); on the other hand, the "Withgott effect", i.e., tap suppression in words like *mìlitarístic/Nàvratilóva* (section 2.1), is only found in the Acrolect. In the Basilect, such words display tapping, which indicates that NZE exhibits (sub)dialectal variation similar to what Withgott originally noted for US English.

## 2.3. Summary

The two sections above have used data from various forms of English to claim that there is empirical evidence in stress-sensitive lenition systems of a distinction between two subtypes of foot-internal positions: one which is "weak proper", included within a bimoraic minimal domain (corresponding to the "minimal foot" in prosodic approaches), and a less weak ("semi-weak") position outside that minimal domain. From a purely descriptive point of view, this means that classical lenition taxonomies may need to be amended to include subtypes of the "weak(er)" phonological position in stress-sensitive lenition systems, along at least two dimensions: (i) the tar-

get's distance from the foothead; and (ii) the length of the vowel preceding the target. This is justified by dialectal/register differences in varieties of English: in certain systems *city* but not *vanity*, *latter* but not *later* will lenite.

Both of the subcases have further examples not discussed above. As for (i), it also manifests itself in minor points previous accounts of English tapping, very often just in passing, remark, e.g., the fact that a **t** immediately following the stressed vowel (e.g., *Italy*) *must* be a tap, while a later **t** (e.g., *sanity*) *may* be a tap (cf. Kahn 1976, 165 footnote 17; Hooper 1978; Selkirk 1982, Kreidler 1989, 110–111; Kenstowicz 1994: 69; Vaux 2002, and references therein). At the same time, the vowel in such a position can also be taken to be semi-weak: it is affected by reduction to a lesser extent (cf. the free variation between a reduced and unreduced vowel in the *Tatamagouchi* example in Burzio (1994, 113, footnote 14) – also cited in van Oostendorp (2000), or the absence of pre-stress syncope in words like *militaristic* and *nationalize*). In addition, the effect is evidenced for other languages like Dutch, too (cf. the original proposal for the "weak"/"semi-weak" distinction in van Oostendorp 2000). Also, the post-short/post-long split – (ii) above – is attested in other (Germanic) languages as well (e.g., Wermelskirchen German – Hasenclever 1904; Holsinger 2008, etc., see Balogné Bérces & Honeybone 2012, 37–38).

At first glance, (i) and (ii) seem to be two separate effects. However, we have seen that the two may be present at the same time, as the NZE Acrolect data above show; moreover, all the languages reported to exhibit one or the other (or both) are stress-sensitive lenition systems. It is not entirely clear what the link between the post-short/post-long split and stress sensitivity is, but all this seems to indicate that the effects discussed above are related. It follows, then, that the "minimal domain" of lenition is smaller than the disyllabic foot: it is not coextensive with the binary foot unless the stressed vowel is short (monomoraic); in the case of long-vowelled footheads all recessive syllables get "crowded out" to the outside of the domain and may evade lenition. Thus minimal binarity here refers to moras rather than syllables, making this domain of weakening resemble what prosodic morphology refers to as the bimoraic minimal word.

In what follows, the paper attempts to define what exactly this binarity is, connect the structural positions of the consonants to the relative weakness they exhibit (i.e., formalise the strong/weak/semi-weak three-way distinction), and express the implicational relation identified above, namely, that lenition outside this minimal domain implies lenition within, and no cases of lenition in semi-weak only are on record.

## 3. A representational solution

The theoretical framework within which the analysis is couched is Strict CV (or CVCV) phonology (Lowenstamm 1996, etc.), a subbranch of Government Phonology (GP) introducing a new type of phonological skeletal structure, in which syllabic constituency and timing are merged into a skeletal tier consisting of strictly alternating C and V positions, and parametric variation in syllable structure is expressed with reference to the licensing of empty positions rather than branching. All surface consonant clusters are therefore represented phonologically as CvC sequences, while all vocalic clusters (including both hiatuses and long vowels) are VcV strings (where lower case letters denote empty structural positions); prominence relations are reduced to lateral interactions, with less hierarchical structure, or at least with more linear contextual relations.

One of the immediate advantages of such representations is their ability to express the identity of the two subtypes of the minimal domain introduced above. In standard syllable theory a disyllabic CVCV string like *city* will **not** be structurally equivalent to the CVV sequence of the long-vowelled stressed syllable of words like *later*, i.e., two light syllables have a representation that is different from that of one heavy syllable. In the previous section, the notion of the mora was used as a descriptive term potentially serving as the "unit of measurement"; however, it is highly debatable whether weight units can circumscribe domains of processes and their presence can motivate consonantal lenition. In Strict CV phonology the problem does not even arise as both strings correspond to two successive CV slots, i.e., they share the CVCV skeletal template, also providing the Strict CV phonological definition of the "minimal word" (see, e.g., Balogné Bérces 2005; Szigetvári 1999), cf. (1).

(1)

| C | V | C | V | | C | V | C | V |
|---|---|---|---|---|---|---|---|---|
| \| | \| | \| | \| | | \| | \| | | \| |
| s | ɪ | t | i | | l | e | | ɪ |
| *city* | | | | | *la(ter)* | | | |

Another claim here is that the data fall out naturally if we assume two lateral relations to accompany this CVCV skeleton: government (a destructive force) and licensing (supporting segmental expression of the target) (Ségéral & Scheer 1999; Szigetvári 1999). The relative weakness of the consonants in the data is determined by the constellations these relations set up, in such a way that the model properly derives a ternary distinction between licensed position (phonologically strong), governed position

(within the "bimoraic minimum"), and licensed-governed position (a weak position outside the "minimal foot" domain).[10] Thus the weak/semi-weak distinction observed for consonants is due to the difference between the unlicensed-governed and licensed-governed position: the former is weaker than the latter.

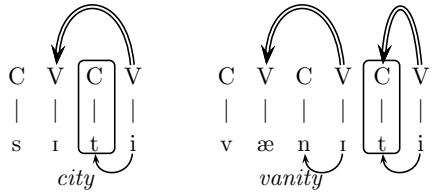
To be able to represent the relevant configurations, we need to make further assumptions, about the "footheads"; namely, that (i) stressed vowels distract the licensing charge of the following vowel (first proposed in Balogné Bérces 2005), and (ii) long nuclei are VcV sequences exhibiting right-to-left V-to-V licensing (proposed for independent reasons in Szigetvári 1999, 72). As a result, the strings in (1) above will not only be identical in the template, but also in involving right-to-left V-to-V licensing, which may be a parametric property of stress-sensitive systems only.

Let us see how this model tackles the two subcases of semi-weak positions.

### 3.1. Distance from the foothead

Consider (2), the representations of surface CVCV strings (e.g., *city*) and dactyls (e.g., *vanity*), where simple arrows indicate government, double arrows denote licensing.

(2)




As can be seen, the stressed vowels in both examples distract the licensing charge of the immediately following vowel; since its licensing is diverted from its C (highlighted in *city*), that post-tonic vowel will only be able to govern it: the consonant is weak and expected to exhibit a strong tendency to undergo lenition. In contrast, later unstressed vowels are not only free to govern their onsets, but also to license their onsets. Therefore, such consonants are both licensed and governed (see the highlighted **t** in *vanity*):

[10] The fourth logical possibility, the unlicensed-ungoverned position, arises when a consonant is followed by an empty vocalic slot, which is irrelevant to the present discussion.

these C's are able to lenite, since they are governed, but they do so in such a way that licensing, supporting their melodic expression, reaches them as well. As a consequence, they will be semi-weak.

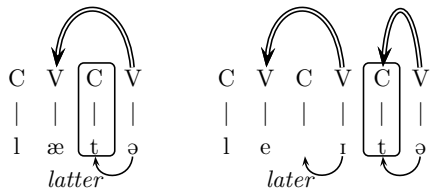
Recall the observation that in certain phonological systems the **t** in *city* will lenite but the one in *vanity* will not, while in other systems both are affected by weakening in the same way. This parametric variation is now expressible in terms of what conditions the lenition: a system in which government is dominant and its effects cannot be overridden will exhibit a wider distribution of lenition, and all governed consonants (= weak and semi-weak positions alike) lenite. As soon as licensing is able to counterbalance the effects of government, however, we face a system in which only governed C's (= the weak position, within the minimal domain) lenite; in licensed-governed C's (= the semi-weak position) lenition is inhibited.[11]

### 3.2. Length of the preceding vowel

Turning to the post-short/post-long split, we find exactly the same structural configurations as in (2) above. Recall the observation that in certain systems the **t** in *la**t**ter* (with short **æ**) will lenite but the one in *la**t**er* (with long **eɪ**) will not, while in other systems both are affected by weakening in the same way. Since CVCV and CVV sequences are not only identical in the template but also in involving right-to-left V-to-V licensing, the consonant following a long vowel (highlighted in *later* in (3) below) is licensed-governed in exactly the same way as the **t** in *vanity* in (2).

[11] This is what characterises American speakers exhibiting the "Withgott effect". It is the semi-weak position (only) in which the morphological structure can be reflected at all, and the difference between words like *militaristic* and words like *capitalistic*, then, is that the latter will undergo (unusual) tapping due to the effect of tapping in their bases, e.g., *capital*. This "paradigm uniformity" effect is therefore just the opposite of what Withgott originally established for these words, and consequently, tap suppression is expected rather than exceptional in the morphologically simplex examples of the "Withgott effect" like *Mediterranean* The reader is invited to check that this model is unable to express a situation in which lenition only occurs outside the minimal domain – licensing is a supportive force and government is always present. Since such a lenition pattern is unattested, the fact that it cannot be generated here leads to the correct prediction and supports the analysis.

(3)




Therefore, we expect exactly the same situation to hold: in a system in which government is dominant lenition will exhibit a wider distribution, with all governed consonants (= weak and semi-weak positions alike) leniting. However, in a system where licensing is able to modify the effects of government, only governed C's (= the weak position, within the minimal domain) lenite; in licensed-governed C's (= the semi-weak position) lenition is inhibited. The reader is invited again to check that this model is unable to derive a system in which lenition only affects consonants outside the minimal domain. The unattested lenition pattern cannot be generated; therefore a prediction is made that is empirically valid.

## 4. Conclusion

The paper argued that in the stress-sensitive phonological systems of English varieties dactylic sequences form a strong – weak – semi-weak pattern with respect to the degree to which they are prone to accommodate lenition. In addition, the same weak/semi-weak distinction is found in foot-internal intervocalic position dictated by the length of the foothead. Although properly evaluating previous accounts of similar observations would require considerable space and thus lies outside the scope of the present paper, we can state that parsing "unfooted" syllables, which are "pushed" outside the strictly binary trochee, has generated a number of solutions, all of which either fail to cover all the relevant data or raise theoretical questions (or both). Moreover, it has been noted (Balogné Bérces 2011a) that the evaluation of the phonological strength of the pretonic unstressed syllable as a whole is ambivalent; both word-initially and medially consonants and vowels need to be considered separately due to the observed asymmetries (e.g., initially the consonant is strong but the vowel is weak, cf. words like *potáto*); in such cases foot-adjunction analyses predict too much strength for either the vowel or the consonant. All this supports the CVCV analysis against foot- and syllable-based accounts.

The present analysis therefore offers a solution which relies more on lateral interactions than on hierarchical structure. It does not only prop-

erly capture the equivalence of two binary domains (the CVCV sequence and the long-vowelled heavy syllable), but it also manages to connect the apparent bimoraicity of the minimal domain to implications in consonant lenition, a benefit moraic theory does not offer. At the same time, it avoids the debatable notion of the syllable and makes no reference to foot structure, which has been the source of many theoretical problems, as briefly mentioned above. Finally, one of the most significant features of the model is that it properly predicts the non-existence of the unattested lenition pattern.

**Acknowledgements**

This paper has considerably benefited from feedback earlier versions of its parts received from the audiences of several conferences including the *20th Manchester Phonology Meeting* and *Nyelvelmélet és dialektológia 2014*, two anonymous reviewers, and my students at PPCU attending my lectures in Spring 2014. All the remaining errors are mine.

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