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# **ALAPSZAKOS SZAKDOLGOZAT**

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# ALAPSZAKOS SZAKDOLGOZAT

*Sötét L előtti törés az angolban*

*Pre-L Breaking in English: Dark-L  
influence on the preceding vowel*

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## **Abstract**

This study focuses on pre-L breaking in English, a phenomenon whereby a schwa (or a schwa-like sound) appears before a dark-L in words such as *feel* and *file*. My aim is to examine and compare different approaches to a series of problems and dubious questions in connection with it (e.g. the exact environment in which it applies, phonetic analysis and syllabification of the resulting sequence, etc.), as well as to give an overview of its current status. I also examine pre-L breaking and related phonetic phenomena in the context of various accents of English. A substantial part of this study is dedicated to the analysis of how pre-L breaking is represented in the latest edition of the Longman Pronunciation Dictionary. Finally, I collect the possible implications of this development with regard to future changes in the system of English phonemes.

## Introduction

This study focuses on pre-L breaking in English, a phenomenon whereby a schwa appears before a dark-L in words such as *feel* and *file*. The problem is particularly important as the phoneme system of English has undergone significant changes in the past century, but standard phonology books and “classical” phonological analyses do not always follow these changes. The aim of my paper is to examine and compare different approaches to a series of problems and questions in connection with pre-L breaking, and to give an overview of its current status. The first section describes the physiological (or articulatory) background of the process, and introduces the concept of pre-L breaking. The topic of Section 2 is the exact environment in which the additional schwa can appear. As a first step, the formulation of the L-Darkening rule is considered: this mechanism feeds pre-L breaking, but the exact environment of the dark-L is not always clear. I also look into the question of which vowels are affected most commonly by the influence of the dark-L. In Section 3, I compare different phonological analyses of the additional schwa(-like) element appearing in V+liquid sequences. Some authors consider it to be a canonical schwa, others speak about a schwa-like sound; some treat it as a case of epenthesis, and others argue that it is a more complex process. Section 4 deals with occurrences of pre-L breaking and related phonetic phenomena in various accents of English. In the next section, I investigate the question of how pre-L breaking is represented in the latest edition of the Longman Pronunciation Dictionary, which is the only dictionary (yet) that transcribes its entries accordingly. Section 6 is dedicated to the question of whether there are any differences between pairs such as *real* and *reel* in terms of their phonological analysis. Since the schwa can be considered syllabic or non-syllabic (glide), the problem of syllabification of V+liquid sequences is addressed in Section 7. Lastly, based on the similarity between the development of pre-R breaking about 500 years ago (described in Section 8), and that of pre-L breaking today, in Section 9, I attempt to

summarize the possible implications of this phenomenon, whose prevalence and significance are growing each day. Based on the data collected, I argue that the widespread appearance of the pre-L schwa is an indication for a possible rearrangement in the system of English phonemes.

## 1. Background

It has long been observed that a dark-L has a significant effect on the quality of the preceding vowel. A dark-L is articulated in the following way: the soft palate is raised, the tip of the tongue touches the alveolar ridge, and the back of the tongue is raised towards the velum. Hence, the articulation of [ɫ] is very similar to that of a round back vowel, and the only feature that distinguishes the two is the tongue-tip contact with the alveolar ridge. It logically follows that, due to its coarticulatory influence, the vowel before [ɫ] also becomes somewhat lower and more back. If the only distinctive feature (tongue-tip contact) is lost, then [ɫ] will be realized as an [ɒ] or [o]-like sound through a process known as L-vocalization. Therefore *fill* can be pronounced: /fɪʊ/ or /fɪo/, *table* as /teɪbʊ/ or /teɪbo/, *help* as /heʊp/ or /heop/. The realization of [ɫ] as [ɒ] is listed by Cruttenden (2008) as one of the “innovations on the verge of RP”, which is “standard in London regional RP (‘Estuary English’), but must be considered as on the verge of being acceptable as part of General RP.” (p. 82.)

In certain cases, however, especially after long high vowels and high-ending diphthongs, the vowel quality changes in a different way: a schwa can be perceived the V+[ɫ] sequence, therefore *feel* becomes /'fi:əl/ and *file* becomes /'faɪəl/. Wells (2008) uses the term “pre-L breaking” in his pronouncing dictionary to describe this phenomenon.

## 2. Environment

It is important to note that although pre-L breaking is becoming more and more common in RP, it may be entirely absent from some speakers' speech. But even when it is present, defining when and where exactly the mechanism applies is by no means an easy task.

**2.1.** To understand the complexity of the matter, let us first consider L-darkening, which feeds (i.e. creates environments for) our rule. Generally, /l/ is clear before vowels or /j/, and dark in all other environments. A more exact way to define the distribution of [ɫ] and [l] is by saying that an /l/ in the onset of a syllable is clear, whereas in the rhyme (i.e. in the nucleus or the coda) it is dark. The problem is that while the first definition suggests a post-lexical rule, the second one points toward dependence on non-segmental factors. Kreidler (1989) merges the two and writes: “the variation [between clear and dark L] depends mostly on what position /l/ has in a syllable and only partly on what kind of phonemes follow” (p. 101). Gimson (1970) also points out that the distributional difference is not always clear-cut and implies that rhythmic, syntactic, and semantic features should be considered as well:

The use of the clearer or darker quality [l] may be related to the rhythmic and sense structure of the utterance, e.g. *feel it* may have a clear [l] as in *feeling*, but the [l] of *feel* in *feel ill*, which is possible to treat as two rhythmic groups may be of a darker kind (p. 204).

This shows that there is uncertainty regarding the exact rules that determine the quality of /l/ in some cases.

On the other hand, Wells (2008:103) defines the phenomenon in phonemic terms and does not even specify that the /l/ must be dark in order to trigger breaking. Of course, that is not to say that the vowel in monomorphemic words with an intervocalic /l/ (e.g. *velum*) can undergo breaking, but there are some cases when the velarized quality of the /l/ is, to say the



least questionable, nonetheless the preceding vowel is represented in the dictionary as a potentially broken diphthong (e.g. *feeling* /'fi:ʰɪŋ/ and *dealer* /'di:ʰlə/). However, in words like *feeler* /'fi:lə/ or *boiler* /'bɔɪlə/, regardless of their structural similarity to *dealer*, the possibility of breaking is not shown. (For further examples, see section 4.)

**2.2.** Another question is which vowels can be broken before [ɨ]. Cruttenden (2008) observes that “in the case of /i:/ + [ɨ], a central glide between the vowel and [ɨ] is often noticeable, and the [ɪ] element of /eɪ, aɪ, ɔɪ/ tends to be obscured” (p. 216). The obscured (or suppressed) [ɪ] he writes about most probably results from the smoothing of a triphthong, whose presence, albeit only implied, is due to pre-L breaking. Wells (2008) lists the same four vowels (/i:, eɪ, aɪ, ɔɪ/) as the ones after which schwa epenthesis is possible, but he notes that “some speakers of GenAm have pre-L breaking after /u:/, /oʊ/, /aʊ/, thus *rule* /ru:ʰl/” (p. 103). McCarthy also (1991) provides data about the Eastern Massachusetts treatment of final /l/ after a diphthongal nucleus, and his examples include forms such as /fu:əl/ (*fool*), /foʊəl/ (*foal*) and /faʊəl/ (*foul*). Pre-L breaking after back (or back-ending) vowels can also happen in some accents of the British Isles, e.g. in varieties of Scottish English (see 3.5.), but it is much rarer and considered dialectal.

It seems logical to suppose that the pre-L schwa can appear even after short vowels, and that words such as *will*, *tell*, and even *bull* can also be pronounced /wɪəl/, /teəl/, and /bʊəl/. The acoustic measurements of Riera and Romero (2007) demonstrate that the F1 and F2 values of the schwa-like element in *pill* and *hell* are, in fact, close to those of a canonical schwa (as in *alive*), but this sound is less obvious and less often perceived than the schwa after long high vowels.

**2.3.** As the data so far presented implies, pre-L breaking is an optional process, and the environment in which the mechanism applies may change from speaker to speaker. On the other hand, since the phonetic difference between the /i:/ of *read* and the /i:/ of *reel*, or, for

that matter, the /ɪ/ of *will* and that of *with* is obvious, and since neither type of /i:/ or /ɪ/ can appear in the environment of the other, an obligatory mechanism works at least on the level of allophones. The question is whether we can regard the schwa-like element as a separate segment or we should analyze the preceding vowel as a schwa-coloured allophone. In any case, it is safe to say, that the schwa is most commonly perceived after /i:/, eɪ, aɪ, oɪ/, since passing to [ɨ] from these high or high-ending long vowels requires the biggest movement of the tongue. Hence, in the case of these vowels, I shall accept the analysis of this phenomenon as phonological epenthesis. (See Section 3. for other approaches.) Based on this, a simplified rule may be formulated as follows:

**2.3.1.**

$$\emptyset \rightarrow \text{ə} \quad / \quad \left[ \begin{array}{l} \text{V} \\ +\text{high (ending)} \\ +\text{front (ending)} \\ +\text{long} \end{array} \right] \text{—}[\text{ɨ}]$$

**Pre-L schwa insertion rule**

### 3. Analyses

The problem of this intervening schwa in the V+[ɨ] sequence is the same as that of any V+liquid sequence, therefore it is closely connected to what is commonly called pre-R breaking. It can be analyzed in several different ways, thus, a number of studies have dealt with the issue:

**3.1.** The analysis put forward by McCarthy (1991) is that the schwa is derived by a simple rule of epenthesis. In other words, he argues that the schwa is not underlying. McCarthy supports this by claiming that “a glide+liquid sequence presents too small a sonority cline”, therefore the [ɨ] “cannot be syllabified with the preceding diphthong and

schwa epenthesis applies instead.” (p. 198) The problem with this argument is pointed out by Gick and Wilson (2006):

This account predicts that other forms with equally small sonority clines should elicit epenthesis. However, words such as *barn* and *bust* do not surface as /'bærən/ and /'bʌsət/, nor does epenthesis occur even in codas with no sonority cline (e.g. *act*) or a negative cline (e.g. *adze*). This apparent epenthesis thus appears to result from qualities more specific to the liquids and tense vowels (p. 637).

**3.2.** Other approaches, such as that of Riera and Romero (2007), do not consider the phenomenon to be a case of schwa-epenthesis. They analysed the acoustic parameters of what they call “the schwa-like elements in coda V+/l/ sequences” (including all full vowels), and found that they differ greatly depending on the vowel. They concluded,

we are certainly not dealing with a simple process of schwa insertion, but rather a complex pattern of articulatory transitions from the steady-state vowel to the syllable-final lateral. This view is more in accordance with the continuous and overlapping nature of speech production than would be suggested by a simple, categorical process of vowel epenthesis (p. 136).

Their study, as they themselves admit it, is preliminary and confined to General American. Furthermore, the method they chose (making and analysing acoustic measurements) to approach the question was bound to yield results that would point toward the “continuous and overlapping nature of speech”. Their conclusion is phonetically acceptable, but it is not completely unfounded to hypothesize that if they had examined the acoustic parameters of what they call a “canonical schwa” (e.g. in words such as *away*, *patrol*, *Ian*, etc.), they would have found that the vowels in these non pre-L environments are equally different in terms of

their articulatory features. Hence, phonologically speaking, their findings do not prove that the phenomenon cannot be analysed as epenthesis, and their conclusion, which excludes this possibility, misses the idealization, which is the basis for linguistic abstraction, and ignores the obvious difference between the *parole* and the *langue*, i.e. between phonetics and phonology.

**3.3.** Contrary to the findings of Riera & Romero, the measurements of Gick & Wilson (2001), who used ultrasound equipment for more exact results, provide evidence that the tongue moves through the “canonical-schwa space”, hence the perception of [ə]. I shall also regard the excrescent schwa of pre-L broken words as canonical (same in quality as the schwa of e.g. *around*.)

**3.4.** Lavoie and Cohn (1999) resolve the problem of the schwa in V+liquid sequences by claiming that trimoraic syllables (or sesquisyllables) are possible in English. For further discussion of the syllabification of these sequences, see Section 7.

#### **4. Pre-L breaking and regressive dark-L influence in other accents of English**

**4.1.** Pre-L breaking and related phenomena (dark-L influence on the preceding vowel) are widespread in regional varieties of RP. For instance, Wells (1982:298) notes that speakers of Near-RP fail to retain the three-way opposition of /i:/, /ɪ/, and /ɪə/ before a final /l/. Thus, Near-RP speakers pronounce *reel*, *rill* and *real* as homophones. The fact that in this accent even the short (lax) /ɪ/ is subject to the influence of a dark-L is a significant difference compared to other varieties of RP, since in those, the schwa only appears after tense vowels. Of course, as noted in Section 1, short vowels can also be affected by the dark-L, but that most commonly happens in another way: the transitional schwa-like sound is usually perceived as shorter and often different in quality compared to the sound after long vowels.

However, it is also possible that the original tense vowel becomes laxed before [ɫ]. This process is sometimes referred to as pre-schwa laxing. (see Utah English below – Section 4.6.)

Another example of dark-L influence is mentioned by Cruttenden (2008:217). He notes that speakers of London Regional RP realize the dark-L without tongue-tip contact on the alveolar ridge. In other words, the [ɫ] becomes vocalized. L-vocalization is a common phenomenon in many accents of English; however, just like in the case of pre-L breaking, there are certain positions in which it happens more commonly. For instance, the vocoid realization of a syllabic /l/ is very common even amongst RP-speakers, but if a speaker tends to pronounce *ripple* as /'ri:pə/, he would not necessarily tend to vocalize the /l/ in *rail* as /'reio/.<sup>1</sup> The fact that the /l/ in certain positions is more likely to be vocalized than in others may have several reasons and regularities that belong to different areas of linguistics (e.g. phonology, syntax, semantics, etc.). Suffice it to say that London Regional RP regularly vocalizes the /l/ in some of the less typical positions, in words like *rail* and *dole*. However, in order to produce a “more natural” transition to the vocalized /l/, the preceding vowels are lowered and laxed, therefore *rail* becomes /'ræo/, and *dole* becomes /'dɒə/ (cf. the GOAT-GOAL split in 4.3.).

4.2. Scottish English has no alternation between clear and dark-L. Some speakers, especially in the Gaelic and post-Gaelic areas use clear-L in all environments, others, in the Glasgow area, use pharyngealized /l/-s, but the most widespread variety is a velarised, /ɒ/-coloured sound. Since this is heavily stigmatized, elocutionists recommend the usage of a neutral /ə/-coloured /l/. Pre-L breaking appears in several urban varieties of Scottish English. E.g. *school* is pronounced /skuɒl/, and *coal* is pronounced /koɒl/ (Wells, 1982:412).

**4.3.** Speakers of many British accents (e.g. London, Yorkshire dialects, Southeastern dialects, etc.) pronounce *goat* and *goal* with two different vowels. Wells (1982) calls this the

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<sup>1</sup> The same is true for L-vocalization in Hungarian: *máskálsz* is often realized as /'ma:ska:s/, but *kinyílt* is seldom (if ever) pronounced as /'kɒpi:t/.

“GOAT-GOAL split”, but in fact, it is only an allophonic variation as long as the final /l/ is pronounced. While *goat* is pronounced /gəʊt/, *goal* becomes /gɔʊl/ due to the dark-L influence. Interestingly, in this case, it is not the second element of the diphthong that is affected by the final /l/, but the first one, which does not immediately precede /l/. Thirty years ago, Wells wrote about the GOAT-GOAL split: “RP characteristically lacks the pre-/l/ allophone [ɔʊ] of many other accents.” (Wells, 1982:237) However, in a 2011 entry of his phonetic blog<sup>2</sup>, Wells reports that since then, the phenomenon has appeared in RP as well. He supports this claim with a video clip of Prince William making his wedding vow, in which the archbishop of Canterbury pronounces *hold* as /həʊld/, but when the young royal repeats the vow, /hɔʊld/ is heard. In these words, LPD (3rd ed.) includes the alternative pronunciation, thus the main pronunciation of *cold* is shown as /kəʊld/, but /kɔʊld/ is also listed.

**4.4.** As mentioned in Section 2, pre-L breaking is characteristic of General American, too. In American English, all /l/-s tend to have a darker quality, therefore there are even more environments for pre-L breaking in this accent. Wells (1982:487) writes that before a final /l/, the vowels /i:, eɪ, aʊ, u:, ɔʊ, ɔɪ/ “develop a centring off-glide in much mid-western speech. This is particularly noticeable with /i/ and /u/.” He adds that with the “auditory impression of an intrusive semivowel”, words may become disyllabic. (e.g. *feel* /'fi:əɪl/, *rule* /'ru:əɪl/). See Section 7 for further discussion of the question of syllabicity in connection with pre-L breaking.

**4.5.** In New York speech, the respective differences of /i/ - /ɪə/ and /eɪ/ - /ɛə/ are usually neutralized before /l/, and the schwa-ful quality is used in both cases. “Thus not only may *reel* and *real* fall together, but also pairs such as *Bailey* and *barely*; /ɛ: ~ ɛə / is very commonly heard in words such as *bail*, *sailor*, *failure*” (Wells, 1982:505). Interestingly enough, the oppositions of /ɪ/ - /ɪə/ and /ɛ/ - /ɛə/ are retained most of the time.

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<sup>2</sup> Wells, J. C. *The evidence of the vowels*. Retrieved Nov. 21, 2012, from <http://phonetic-blog.blogspot.hu/2011/05/evidence-of-vows.html>

**4.6.** In certain American accents, tense vowels undergo laxing before a dark-L. Walsh Dickey (1997) notes this as a characteristic of Pittsburgh English, and Di Paolo & Faber (1991) describe the phenomenon as part of the accent spoken in Utah and New Mexico. The latter authors conducted research about the apparent mergers of tense-lax pairs /i:/ - /ɪ/, /u:/ - /ʊ/, and /eɪ/ - /ɛ/ before tautosyllabic [ɫ] in Utah English, and compared the acoustic features of word pairs such as *heed-hid*, *fool-full*, and *sale-sell*. Based on these measurements, they concluded that the F1 and F2 values of the vowels in these pairs are practically the same, i.e. the tense vowels are indeed laxed due to dark-L influence. However, self-categorization tasks and perception data suggested that speakers and perceivers are able to distinguish between tense and lax vowels with the help of other features (e.g. contrast in laryngeal configuration). As they put it:

Our results suggest that these vowel contrasts are maintained along a dimension other than F1/F2, a dimension that speakers can tap into in ordinary language comprehension processes, even though they cannot necessarily access it in introspection about their language. Regardless of the ultimate validity of our suggestions about the contribution of laryngeal differences to the implementation of vowel contrasts, this point stands: there is more to vowels than their formant frequencies (p. 201).

It is interesting that their study does not mention the possibility of an intervening schwa (or any sort of off-glide) in these words, since many authors, including Wells (1982:216) attribute the laxing effect in this position to the schwa, thus the process is called pre-schwa laxing.

## 5. Representations

The phenomenon of pre-L breaking is hardly ever represented in pronouncing dictionaries, or in any other type of dictionary. Of course, it is not surprising, if we consider two facts. Firstly, the traditional, Gimsonian transcribing system found in most dictionaries does not follow the changes of the phoneme system of English. Consequently, it does not represent accurately the vowels of RP anymore. For instance, although words like *tea* and *you* are pronounced with diphthongs in today's RP, transcriptions most commonly represent these sounds with /i:/ and /u:/, indicating long monophthongs. The fact that pre-L breaking is not represented is just another inaccuracy of this transcription system. Generally speaking, the IPA symbols of vowel sounds used in the Gimsonian tradition have become outdated, and they are getting more and more inappropriate in reflecting the current vowel system of RP. Secondly, as mentioned in Section 2.3., the [ɨ]-influenced vowels can be treated as allophonic variations of the vowel phoneme, and as such, they do not need to be represented in the broad (phonemic) transcription. While it is true that the distribution of the schwa-coloured pre-L vowels is predictable, accepting that the vowels in these cases end in a schwa-like element means that the “once a phoneme, always a phoneme” principle can be applied. Therefore, just like in the case of pre-R breaking, phonemic transcriptions should include the schwa in V+[ɨ] sequences too.

**5.1.** However, as the table below (5.1.1.) shows, Wells's LPD is the only dictionary examined in this study that considers pre-L breaking significant enough to transcribe the entries accordingly, and all the other dictionaries investigated in this study disregard it completely.<sup>3</sup> Then again, it can be assumed that as the phenomenon becomes more and more

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<sup>3</sup>Dictionaries used: COB = Sinclair, J. (1995). *Collins cobuild English dictionary* (2nd ed.). London: Collins. EPD = Jones, D., Roach, P., Hartman, J., & Setter, J. (2003). *Cambridge English pronouncing dictionary* (16<sup>th</sup> ed.). Cambridge: Cambridge University Press. LDCE = Summers, D. (1987). *Longman dictionary of contemporary English* (2nd ed.). Harlow: Longman. LPD = Wells, J. C. (2008). *Longman pronunciation dictionary* (3rd ed.). Harlow: Longman. OED = Simpson, J. A., & Weiner, E. S. (1989). *The Oxford English dictionary* (2nd ed.). Oxford: Clarendon Press.



prevalent, transcription systems (and consequently new dictionaries) will appear in which pre-L breaking is represented.

### 5.1.1

vowel	word	LDCE	OED	COB	EPD	LPD
/i:/	<i>feel</i>	fi:l	fi:l	fi:l	fi:l	fi: <sup>ə</sup> l
/eɪ/	<i>hail</i>	heɪl	heɪl	heɪl	heɪl	heɪ: <sup>ə</sup> l
/aɪ/	<i>mile</i>	maɪl	maɪl	maɪl	maɪl	maɪ: <sup>ə</sup> l
/ɔɪ/	<i>oil</i>	ɔɪl	ɔɪl	ɔɪl	ɔɪl	ɔɪ: <sup>ə</sup> l

Representation of pre-L breaking in different dictionaries

LPD uses the superscript (or raised letter) schwa in its transcriptions, which indicates that the sound is optional, and that the primary pronunciation is without it.

5.2. LPD shows the inconsistencies regarding breaking before l#V, i.e., in strong-boundary suffixed derivatives of words with a final /l/. For instance, the dictionary shows that if the *-ing* suffix is added to a word which ends in /i:<sup>ə</sup>l/, /eɪ:<sup>ə</sup>l/ or /aɪ:<sup>ə</sup>l/, the word can still be pronounced with breaking, however, if the stem ends in /ɔɪ:<sup>ə</sup>l/, the ING form is represented sometimes with the optional schwa, and sometimes without it.

#### 5.2.1.

vowel	schwa epenthesis possible	schwa epenthesis not possible
/i:/	<i>feeling, reeling</i>	
/eɪ/	<i>ailing, mailing</i>	
/aɪ/	<i>filing, piling</i>	
/ɔɪ/	<i>foiling, toiling</i>	<i>coiling, boiling</i>

Possibility of schwa insertion in *-ing* suffixed words according to LPD

Even more anomalies are seen in the group of words with an agentive *-er* suffix:

### 5.2.2.

vowel	schwa epenthesis possible	schwa epenthesis not possible
/i:/	<i>dealer</i>	<i>feeler</i>
/eɪ/	<i>trailer</i>	<i>hailer, jailer</i>
/aɪ/	<i>(miler)</i>	<i>miler</i>
/ɔɪ/	<i>toiler</i>	<i>boiler</i>

Possibility of schwa insertion in *-er* suffixed words

Surprisingly, *miler* ('an athlete or horse specialized in one mile races') is transcribed in both ways: without breaking, and with the alternative pronunciation of the stem: /maɪ<sup>3</sup>l-/. The same is true for *stylish*, *stylist*, and *stylize*. The motive behind this is particularly obscure, given that the schwa is optional anyway.

**5.3.** Tables 5.2.1. and 5.2.2. show that LPD's transcriptions are somewhat inconsistent in the representation of pre-L breaking. Then again, they are based on actual speaker data, and therefore "the inconsistencies and anomalies reflect, (...) inconsistencies or variability in usage."<sup>4</sup> These anomalies prove two things: firstly, there is uncertainty about the clear or dark quality of /l/ in these words (cf. Section 2). Secondly, language change is gradual, and not always consistent. Wells (1982) gives another example of such an inconsistent sound development:

Sound changes do not always apply to all lexical items which apparently meet their structural description. For example, the change from short /a/ to long /a:/ (later /æ/, /ɑ:/) in the history of RP applied, among other environments, before /nt#/, as in *slant*,

<sup>4</sup> excerpt from an e-mail from J.C. Wells in reply to my inquiry – received on 14 Nov, 2012.

*grant, plant, shan't, can't* etc. For reasons that are not clear, it never extended to the words *pant, cant, and rant* (p. 100).

In this case, the sound change was arrested before the gradual lexical diffusion reached the items *pant, cant* and *rant*. If we believe the speaker data collected by Wells in LPD, then we can observe that pre-L schwa development spreads in the same gradual way: *feeling, ailing, filing, foiling, dealer, trailer, toiler*, etc. have undergone the change, while *coiling, boiling, feeler, jailer, miler, boiler*, etc. have not yet been affected for most of the speakers.

**5.4.** It must be noted that in General American, words both in 5.2.1. and 5.2.2. would behave more homogeneously, since in this variety of English all /l/-s tend to have a velarized quality. That is to say, the development of pre-L breaking in GA is presumably less anomalous than in accents with clear L/dark L alternation.

## **6. Words traditionally pronounced with a [Vəʔ] segment**

In the case of certain words, such as *real, ideal, dual, cruel, fuel, dial, phial, portrayal, Noel*, etc. the schwa-ful realization of the basic [Vəʔ] segment is considered more traditional. The schwa in these words is not the result of pre-L breaking; however, the schwa-ful pronunciation is supported by the regressive influence of [ʔ] in the case of these words, too. They might have also contributed to the appearance of the schwa elsewhere.

**6.1.** McCarthy (1991) considers such words to have an underlying schwa as opposed to the pre-L broken words in which, according to his analysis, the schwa is epenthetic. This theory is supported by the fact that a careful RP speaker would probably pronounce *real* with a diphthong or a hiatus, while for this same speaker, the pronunciation of *reel* would be equally acceptable with a long monophthong. Wells (2008) contains pronunciation preference polls about such pairs, and they show that older people tend to prefer the diphthongal pronunciation in the case of these words. (e.g. about 70% of older speakers would pronounce

*real* as /rɪəl/. The poll also shows that an overall 55% of the participants prefer the monophthongal (or tense) pronunciation /riːəl/, thus, it has already become the prevalent form.)

**6.2.** The reason why words like *real*, *ideal*, *dual*, etc. are traditionally pronounced with a diphthong is that the *-al* suffix (which is not always obvious anymore) contains a schwa. However, there are also some monomorphemic words in which the schwa is traditionally pronounced in pre-L position. (e.g. *duel*, *fuel*, *gruel*, *cruel*, *jewel*, etc.). The diphthong in these words has been present for centuries, as opposed to the group of words which are subject to the relatively new pre-L breaking mechanism.

**6.3.** It must be noted that in both of the above cases smoothing can apply, i.e., the complex vowel may be simplified. That is why *file* and *phial* can both be pronounced /faəl/ or even /fa:l/. Since recent pronunciation trends point towards the neutralization of these minimal pairs, the distinction between the above-described groups of words does not necessarily have to be retained. What is more, I believe that it is outright useless for finding an appropriate phonological analysis. Nevertheless, I will treat these words as members of different categories in 7. merely for the sake of demonstrating regularities and irregularities of the LPD transcriptions.

## 7. Syllabification

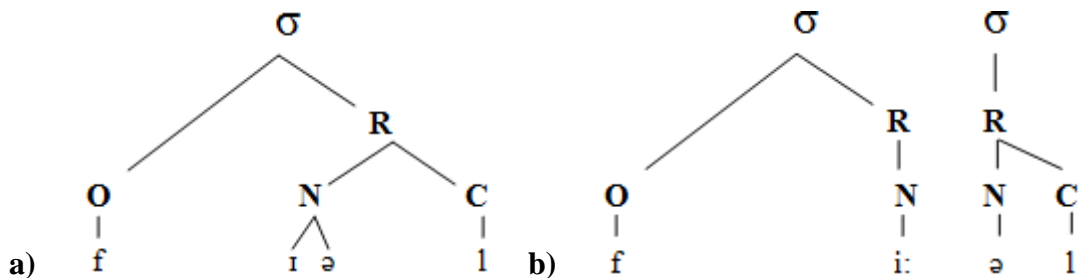
In terms of syllabification, the epenthetic schwa that results from breaking (pre-L or pre-R) can be analysed in two ways. It can be considered either an off-glide (non-syllabic) or an independent, non-glide (syllabic) sound.

**7.1.** In the first case, the schwa can create a centring diphthong, if the tense /i:/ turns into a /ɪə/ through pre-schwa laxing. (e.g. *feel* - /fiəl/). Wells (1982:215) treats the schwa of pre-R broken words as historically non-syllabic, since /i:/ - /i:ə/, etc. were merely allophones

that later rose to phonemic status with the appearance of R-dropping, thus *beer*, *chair*, *more*, and *sure* are monosyllabic (see 6.3.a).

**7.2.** However, if we consider the schwa to be the nucleus of the next syllable, then we are dealing with a hiatus, i.e. two separate phonemes, rather than just one complex phoneme. This is the approach that McCarthy (1991) adopts. In this case *feel* is syllabified as /'fi:.əl/ and *file* as /'faɪ.əl/ (see 6.3.b). This is in accordance with the \* $\mu\mu\mu$  constraint (English syllables contain no more than two moras).

**7.3.**



The representation of monosyllabic and disyllabic *feel*

**7.4.** With occasional exceptions, the LPD transcriptions of words in section 5.1 (*dual*-type *-al* suffixed words and *fuel*-type monomorphemic words with a historical diphthong) show the primary pronunciation as having a syllabic schwa (indicated by the space between the two vowels), with the optional compression of the two syllables. The “true” pre-L broken words, i.e. where the schwa develops as a result of the regressive influence of the dark-L (e.g. *deal*, *oil*), are transcribed as having one syllable, since there is no stress mark, neither is there space between the vowels.

## 7.4.1.

	<b>word</b>	<b>vowel</b>	<b>transcription</b>
<b>-al suffixed</b>	<i>real, ideal,</i> <i>serial, venereal</i>	/i:/	/rɪəl/, /aɪ'diəl/ (exceptions) /'sɪər i_əl/, /və 'niər i_əl/
	<i>portrayal</i>	/eɪ/	/pɔ:'treɪ_əl/
	<i>denial</i>	/aɪ/	/di'naɪ_əl/
	<i>royal</i>	/ɔɪ/	/'rɔɪ_əl/
	<i>dual</i>	/u:/	/'dju:_əl/
<b>monomorphemic with historical diphthong</b>	<i>duel</i>	/u:/	/'dju:_əl/
	<i>phial</i>	/aɪ/	/'faɪ_əl/
<b>pre-L broken</b>	<i>deal</i>	/i:/	/di:°l/
	<i>bail</i>	/eɪ/	/beɪ°l/
	<i>bile</i>	/aɪ/	/baɪ°l/
	<i>boil</i>	/ɔɪ/	/bɔɪ°l/

Monosyllabic and disyllabic LPD transcriptions of the [Vəɪ] segment in different type of words

The LPD transcriptions suggest that Wells considers the epenthetic schwa non-syllabic, i.e. belonging to the same syllable as the preceding vowel, therefore forming a diphthong or a triphthong, just as in the case of pre-R breaking.

**7.5.** Lavoie & Cohn (1999) also collected speaker data of words containing a certain V+liquid segment in the rhyme (see 7.5.1.). In their experiment, about half of the participants perceived these words as disyllabic, the other half as monosyllabic. Therefore, Lavoie & Cohn named these segments sesquisyllables (L. ‘one and a half syllable’). They describe them

as an “inherently unstable structure, resulting in the perceived or real variation in pronunciation as one or two syllables.” (p. 110) They suggest that these are trimoraic words, i.e. one syllable consists of three moras. This view, of course, violates the constraint which says that each syllable consists of either one or two moras.

Their study is based on the phoneme inventory of AmE, therefore they regard words such as *pearl* /pɜ:l/ as sesquisyllabic. The RP pronunciation of this word, /pɜ:l/ would be clearly monosyllabic.

### 7.5.1.

vowel	followed by /r/	followed by /l/
/i:/	-	<i>peel</i>
/eɪ/	-	<i>pale</i>
/ɜ:/	-	<i>pearl</i>
/u:/	-	<i>pool</i>
/aɪ/	<i>pyre</i>	<i>pile</i>
/aʊ/	<i>hour</i>	<i>owl</i>
/ɔɪ/	<i>foyer</i>	<i>foil</i>

Sesquisyllabic words – Lavoie & Cohn (1999)

7.6. Gick & Wilson (2001) carried out experiments in order to test the hypothesis of Lavoie & Cohn. They argue that if there is indeed a third mora in these words, then the additional timing unit must be measurable in the duration of the syllable. They concluded: “The results support our prediction that the presence of the excrescent schwa does not contribute to the duration of the syllable. Further, the results also support the more general model of coda timing, wherein coda timing is not systematically affected by the number of intervening vocalic gestures” (p. 637).

**7.7.** This section showed that the syllabification of pre-R and pre-L broken words causes difficulty, since the number of timing slots occupied by the vowel(s) in such words is disputed. This problem is on the interface of phonetics and phonology, therefore a good approach to the question requires the reconciliation of the acoustic measurement data and the theory of syllable structure.

## **8. Comparison to the development of Pre-R breaking**

The development of pre-R breaking shows an obvious resemblance to that of pre-L breaking; therefore, based on the history of the former, certain predictions can be made about the latter.

**8.1.** Dobson (1968) writes the following about the appearance of pre-R breaking:

Either during the fifteenth century or at the beginning of the sixteenth century, there develops between certain vowels and diphthongs and a following /r/ a glide /ə/. This glide is in effect given off by the /r/, for the reason that the ModE /r/ is closely allied to the vowel /ə/ (p. 760).

His findings provide ample evidence for the schwa off-glide after the following ME vowels: /i:/ as in *fier* ‘fire’, /y:/ as in *pure*, /ai/ as in *aier* ‘air’, and less evidence for breaking of the vowel in *flour*, ( /ʌu/ ) or *door* ( /u:/ ), although he claims that the paucity of evidence in this case is accidental (p. 761). It is easy to notice that all of these sounds are high, just like the sounds after which pre-L schwa insertion is possible (/i:, eɪ, aɪ, ɔɪ/). Dobson notes: “This situation is what we should expect; to pass from these vowels and diphthongs to /r/ the tongue has to make a large adjustment which gives full opportunity for the development of a glide-sound” (p. 762).



**8.2.** The phenomenon of pre-L breaking is caused by the same articulatory reason: the transition from one sound to another, whose articulation is radically different from the preceding one, fosters the development of a glide. As Wells (1982) puts it: “This is a very natural kind of phonetic development. To pass from a ‘tense’ close or half-close vowel to the post-alveolar or retroflex posture requires considerable movement of the tongue. If this is somewhat slowed, an epenthetic glide readily develops as the tongue passes via the /ə/ area.” (p. 214) Interestingly enough, it seems that such change in the position of the tongue is not the only criterion for breaking, but vowel length also matters. Dobson writes: “After the ME short vowels there is no eModE evidence of a glide /ə/, and PresE does not show it (e.g. in *carry*, *berry*, *mirror*, *borrow*, and *hurry*)” (p. 762). The same is true for pre-L breaking and present day short vowels: speaker data (of LPD for example) shows that while *wheel* is frequently pronounced as /'wi:əl/, very few speakers (if any) would pronounce *will* as /wɪəl/. Then again, acoustic measurements (such as that of Riera and Romero 2007) prove that a transitional schwa-like element is pronounced after short vowels as well, but it is hardly noticeable, since, just like the /ɪ/, it is very short, and the duration of the element is not enough for it to be perceived as a canonical schwa.

## **9. Implications**

It is reasonable to assume that the development of pre-L schwa insertion will take place in a way that is similar to the process during which pre-R breaking developed and became widespread some 400 or 500 years ago. This prediction implies two things: on the one hand, the mechanism will be obligatory (i.e. the schwa-ful pronunciation will prevail), on the other, there is a chance that even later in the future, the dark-L will be vocalized either as a schwa or as a round back vowel. (The recent practice of L-vocalization also points towards this possibility.) Of course, language change is unpredictable and cannot necessarily be

explained by any logical or physiological reason. However, there are certain patterns that repeatedly appear in many languages, and these patterns can serve as a reliable basis for predicting future changes. The developments triggered by co-articulation (such as diphthongization of certain sounds in a given environment) are fine examples of such patterns. It is easy to see that the influence of /l/ has similar and predictable effects in many languages, if one considers L-vocalization, which is undoubtedly happening again and again. (e.g. OF. *bel* has become F. *beau*, H. preconsonantal /l/ is frequently dropped, thus *zöld* is most often pronounced as *zöd*, there is no /l/ in E. *walk*, *talk*, *folk*, and *yolk* anymore, etc.) Wells (1982) makes a similar prediction:

L-vocalization has potentially massive implications for the reorganization of the vowel system, comparable in its magnitude to the effects of R-dropping. Just as it was R-dropping which assured the phonemic status for the diphthongs /ɪə, εə, əə, ʊə/, so L-vocalization offers the prospect of eventual phonemic status for new diphthongs such as /ɪʊ/ (*milk*), /εʊ/ (*shelf*), etc. (...) It seems likely that it will become entirely standard in English over the course of the next century (p. 259).

If, however, the dark-L in these words will be vocalized as a [ə], then minimal pairs like *field* /'fiəd/ and *feed* /'fi:d/ will appear. The possibility of this development suggests that pre-L breaking should be analyzed in a similar way to pre-R breaking; i.e. the process triggered by the dark-L should not be considered a mere allophonic variation.

## 10. Conclusion

This paper has shown some of the problems connected to the pre-L schwa(-like) element from several points of view. By comparing the accounts of different authors, I have demonstrated that uncertainties arise when trying to define the exact environment in which the

mechanism applies, as well as when analyzing the schwa of V+liquid sequences. The growing significance and prevalence of the phenomenon requires more research on these issues. The findings of this study have also shown that dictionaries seldom represent pre-L breaking, hence, a more ample comparison or further investigation of the mechanism is needed, which would probably result from collecting and analyzing speaker data, rather than studying dictionaries. Lastly, I argued that pre-L breaking and related dark-L phenomena have significant implications with regard to future changes in the system of English phonemes.

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