

Lenition in English: discussed threadbare?*

Katalin Balogné Bérces
 PPCU, Piliscsaba, Hungary
 bbkati@yahoo.com

0. Intro

Aims:

- to argue that it is still possible to find facts about the phonology of (the accents) of English that previous accounts are unable to tackle / (buried in footnotes and) ignored / missed because the data hadn't been collected (and not only because new phenomena arise!)
- the case at hand: consonant lenition
- a survey of data: emphasis – these are data I think ought to be considered in theoretical frameworks
- theoretical considerations:
 - consider/evaluate some previous analyses of these and related phenomena, esp. foot-based (adjunction) analyses are problematic
 - claim 1: lenition taxonomies need to be amended (subtypes of “weak(er)” along two dimensions (distance from foothead; length of preceding vowel) – eventually turning out to be related)
 - claim 2: the phonological strength of consonants and vowels should be evaluated separately
 - claim 3: there seems to exist a “minimal domain” for lenition in stress-sensitive systems like English: lenition outside that domain implies lenition inside

Throughout the talk, I'll (try to) be as neutral as possible wrt choice of theoretical framework.

1. Background: phonological strength

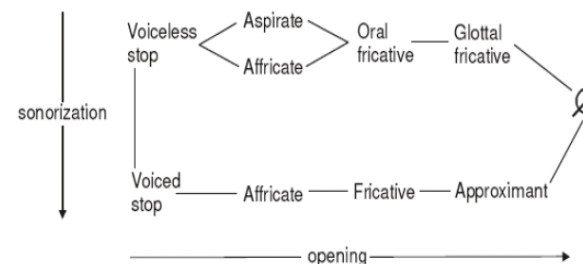
2 aspects of lenition (phonological synchronic/diachronic weakening):

- the set of phonological processes involved
- the set of environments in which lenition can/can't occur
- some work tries to link the two, to provide a fully explanatory model (cf., e.g., Lass & Anderson 1975, Lass 1984, Harris 1994, 1997, Kirchner 1998, Ségéral & Scheer 1999, 2008, etc.)

the processes:

- classical definition (Vennemann, recorded in Hyman 1975: 165): “a segment X is said to be weaker than a segment Y if Y goes through an X stage on its way to zero”, e.g.:

- (1) A lenition continuum (“hierarchy of phonological strength”, “lenition trajectory”) (Lass 1984: 178)



... which allows us to group together processes of different types as cases of lenition, e.g.:¹

- spirantisation (a segment becoming a fricative, e.g., /p/ becoming /f/)
- sonorisation (i.e., the loss of obstruency, e.g., tapping/flapping in accents of English)
- delaryngealisation (i.e., the loss of [voice] in so-called voice languages, traditionally called devoicing, as in a number of Slavic languages)²
- ‘voicing’ (i.e., lenitisation in so-called aspiration languages like English)

the environments:

- weak = frequent site for lenition (weakening, incl. all types of reduction and deletion)
- strong = more resistant to lenition (stability, or less weakening than in weak position)
- implicational hierarchy: certain positions (e.g., stressed vowels, word-initial or post-coda consonants) are stronger than others (e.g., unstressed vowels, word-final or coda consonants) both synchronically and diachronically; if lenition occurs in a strong(er) position, it must also occur in a weak(er) position
- universal tendencies + parameters (e.g., pre-consonantal vs. final codas, word-initial C, stress-sensitivity, quality of C₁ for post-coda C₂, etc., see Ségéral and Scheer 2008)

the ‘stress parameter’:

- (lexically) lenition only occurs if the vowel following the segment is not stressed (cf. esp. Harris 1994, 1997 for English)

Ideally, models of lenition need to not overgenerate and be able to account for only those environments in which lenition is possible. But they must not undergenerate, either.

* Parts of this talk were presented to the audiences of mfm19 and SinFonJA4, Budapest (the latter being joint work with Patrick Honeybone). As I said, discussed threadbare ☺

¹ It is debatable whether it is possible to render a unified phonetic definition to lenition as such -- cf., e.g., Bauer (2008).

² For a discussion of (final) devoicing as lenition in both voice and aspiration languages, see Harris (2009).

lenition in English³: typical symptoms:

- strong: stressed/full vowel, aspiration, /h/
- weak V: reduced (typically: schwa), syncope
- weak₁ C: (pre)glottalization, unreleased plosive, no /h/
- weak₂ C: tapping/flapping, no /h/⁴

lenition sites: a typical representative of the Germanic pattern

- word-initial C is strong
- stress-sensitive system in its consonants: pre-stress vs. post-stress behaviour
- consonants are strong before full vowels (*atomic*, *vehicular*) but weak after them (cf. *atom* and *vehicle*)
- zero-stressed syllables contain schwas (or syllabic consonants – irrelevant here)
- only schwas are subject to deletion (syncope – *battery* vs. *batt'ry*)

2. The “Withgott effect”

Tapping/flapping:

- the ‘classical’ pattern: roughly, in intervocalic position whenever the second vowel is unstressed
- but: Withgott (1982): tap suppression in certain positions (for certain speakers):

(2)	flapped $\underset{t}{\text{t}}$	aspirated $\underset{t}{\text{t}}$
	<i>capitalistic</i>	<i>militaristic</i>
		<i>sanitisation</i>
		<i>monotonicity</i>

- cf. *capital* vs. *military*, *sanitize*, *monotone*: untapped $\underset{t}{\text{t}}$ in the derivative where there is untapped $\underset{t}{\text{t}}$ in the base due to stress on the syllable whose onset the $\underset{t}{\text{t}}$ is
- also found in morphologically simple *Mediterranean*, *Winnepesaukee*, *Navraġilóva*, *abracadabra*, etc.: aspiration (instead of lenition)
- => the problem of the third syllable in a dactyl: foot-based solution: cyclic analysis: (capita)(listic) but (mili)(ta)(ristic)) + adjunction of the stray syllable to the right: (abra)(ca)(dabra) etc. (Withgott 1982, Jensen 2000, Davis 2003, 2005⁵)
- N.B. only applicable to nonfinal dactyls (see below)

³ By “English”, I mean the major tendencies constituting a common core of the phonologies of the varieties of English.

⁴ For the *Two directions for lenition*, see Szigetvári (1999, 2008).

⁵ Expletive infixation data seem to support these footings, cf. *Winne-frickin-pesaukee* and *Winnepe-frickin-saukee*; *mili-fuckin'-taristic* and *milita-fuckin'-ristic*, but *capita-frickin-listic* and **capi-frickin-talistic* (Davis 2003)

[Steriade (2000: 322-326)⁶:

- paradigm uniformity (PU) conditions: promote invariance of some sound property within a given paradigm:

(3) Paradigm Uniformity

All surface realizations of μ , where μ is the morpheme shared by the members of paradigm x, must have identical values for property P. (Steriade 2000: 313)

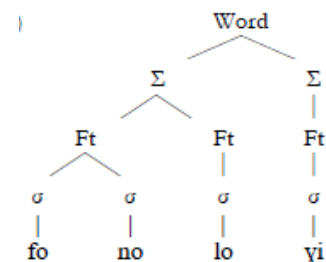
- tap suppression in *militaristic* is a PU effect
- some processes applying in the “phonetic implementation component” are qualitatively the same as the ones classified as phonological
- Bermúdez-Otero (2010): morphological structure affects flapping not directly, but indirectly via prosody]

3. Strong – weak – semiweak: *competitive*, *abracadabra* & co.

- terminology introduced for Dutch by van Oostendorp (2000: 147-148)
- full vowel ~ schwa alternation in stressless position (basically free variation, style registers): 2 types of unstressed position: ‘weak’ (immediate post-tonic) and ‘semiweak’ (third in the dactyl), e.g.:

- (4) Dutch *fonologie* ‘phonology’
 very formal: [fɒnɒlɔ'ɣi]
 less formal: [fɒnəlɔ'ɣi]
 even less formal: [fɒnələ'ɣi]
 but: * [fɒnələ'ɣi]

(5) van Oostendorp’s left-adjointed representation (ibid: 148, Figure 17)



- OT analysis: two constraints: no reduction if head of foot >> no reduction if head of branching foot (+ no unreduced vowel in non-foothead position)

⁶ Davis (2005) offers a slightly different version of the Withgott effect seen as resulting from PU.

- N.B. adjunction of the third syllable in the dactyl to the left (left-headed superfeet) – the opposite of Withgott & co.’s solution (in *Section 2* above), but
- is also applicable to final dactyls

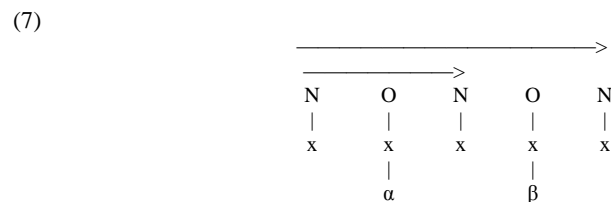
Is there evidence for the weak-semiweak distinction in final dactyls?

evidence from English:

- Harris and Kaye (1990: 261): t-lenition in New York English (tapping) and London (glottalling): two successive potential lenition sites, e.g.

(6) *competitive*:
 compe[t]i[t]ive
 compe[ʔ]i[t]ive
 compe[ʔ]i[ʔ]ive
 *compe[t]i[ʔ]ive

- the second can only reduce if the first reduces, too
- (parallel results obtained for tapping in NYC)
- [Harris and Kaye: "a 'chain' of reduction [...] along lines of government" – see (7) – analysis not explicitly given; data ignored in later discussions]



The data can be reinterpreted as weak vs. semiweak: stronger tendency to lenite in weak position (*compétitive*), semiweak (*compétitive*) is more resistant to reduction.

general difference between immediate post-tonic and later positions:

- native intuition: t immediately following the stressed vowel (e.g. *Italy*) must be a flap, later t (e.g. *sanity*) may be a flap – for these speakers, this is a difference between weak and semiweak positions: later t is in semiweak position, more resistant to reduction
- e.g., Hooper (1978): only post-tonic consonants are ambisyllabic, reflected by the fact that only such t’s are flapped (as in *kitty*) as opposed to intervocalic consonants not preceded by the stressed vowel (as in *serenity*, which contains an aspirated /t/ for Hooper)
- Zue and Laferriere (1979): the “flapped” environment e.g., *flatter* vs. the “unstressed” environment e.g., *complicity*: different acoustic realizations + probability of occurrence of flap .99 vs. .33

- others: in words like *capacity* or *editor* aspiration is more acceptable than in *atom* or *glitter* (e.g. Kahn 1976/1980: 165 fn.17, Selkirk 1982, Kreidler 1989: 110-111, Kenstowicz 1994: 69, Vaux 2002 and references therein)
- the “Withgott effect” revisited: Steriade (2000: 322-326, endnote 4): tap suppression does not obtain in syllables that directly follow the tonic: *statistic – statistician*; generally, very few instances of non-tapped t’s in the post-tonic position: [...] constraints that induce tapping are more stringent (i.e. more highly ranked) in the immediate post-stress position than elsewhere. PU effects surface only when the tapping constraint is weaker.
- That is, examples of tap suppression (whether or not they are manifestations of PU effects) are only found in the semiweak position, irrespective of morphological structure.
- semiweak = third syllable in a dactyl => adjoined to the left, with foot status (~ Dutch *fonologie* (5))

Weak and semiweak positions in vowel reduction and schwa syncope in English?

- Burzio (1994: 113, footnote 14 – also cited in van Oostendorp 2000): in English, foot-medial open syllables: affected by reduction to a greater extent than foot-final syllables⁷: *Tatamagouchi* (tætəma)gouchi preferable to (tætəmə)gouchi; cf. Dutch in (4) above, i.e., in semiweak position vowels are more resistant to reduction
- Burzio (ibid.): analogously: (*panama*) => no difference between final and nonfinal
- Burzio (ibid.): syncope: *memorization*: (mem’ri)zation, not *(memor’)zation
- but: *memorization* is not a good example since:
 - the segmental context (r_z) doesn’t support the deletion of the second schwa,
 - word-internal pre-tonic syncope is unacceptable (at least in certain registers/speech rates), cf. *séparàte* (v) vs. *séparate/sép’rate* (adj)⁸
- instead: RP/BrE *confectionery, functionary*: -fɲəri better than -fənri
- => analogous to Dutch vowel reduction data

Interim conclusions:

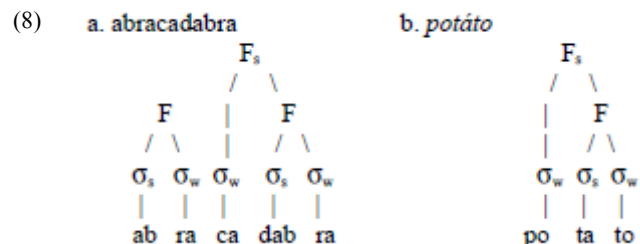
- the immediate post-tonic position is weak, the third syllable in a dactyl is semiweak in both consonant lenition and vowel reduction/syncope
- there is a “minimal domain” for lenition (comprising the foothead and the weak position): lenition outside that domain implies lenition within
- weak = recessive position within this domain; semiweak = recessive position outside this domain

⁷ Notice that Burzio allows for ternary feet.

⁸ Stress clash avoidance is insufficient explanation: general tendency of stressed vowels to refuse to support weakening, cf. *nationalize* nash’nalize but *nation’lize (option of syllabic consonant formation is ignored).

Foot-based adjunction analyses: problems with "unfooted" syllables

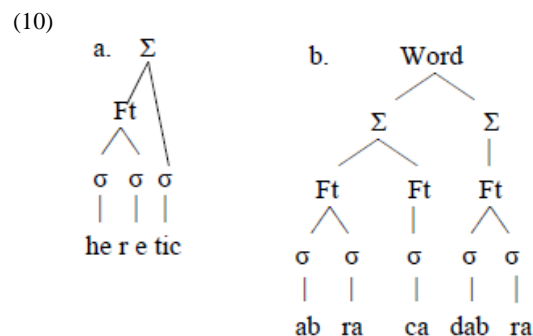
- Davis (2005) (~ Withgott 1982, Jensen 2000): adjunction of stray syllable to the right (8a): analogy with word-initial unstressed syllables (8b):



- but: aspiration is stronger + no lenition is possible word-initially in, e.g., *potato/tomorrow* vs. possibility of tapping in, e.g., *Navraťilova* (i.e., initial/medial asymmetry – see below)
- only applicable to nonfinal dactyls (*competitive* ⊗)
- the other option: left-adjunction (~ Dutch *fonologie* (5))
- for a final syllable, e.g., Anderson and Ewen (1987: 83): ambisyllabicity vs. absolute onsethood: *heretic*:

(9) ${}_2[{}_1[[\text{he}[\text{r}]\text{e}]]_1[\text{tic}]]_2$

- arboreally: cf. (10a): “weak” consonant is ambisyllabic, “semiweak” is onset (cf. Bye and de Lacy’s solution in *Section 4* below) – theoretical problems: (i) ambisyllabicity; (ii) strict layering
- alternatively: complete analogy with Dutch *fonologie* (5): (10b)



- but: if *ca* is a foothead, how is it able to reduce its vowel to a schwa? Headless/unstressed foot?? (cf. Krämer 2009)
- the problem persists: what shall we do with “unfooted” syllables? Degenerate (unary/subminimal) feet? Headless feet? Remain unfooted (immediately dominated by higher projection)? – all of these raise theoretical questions
- there is no uniform direction for adjunction (*potato* vs. *competitive*)
- plus: further asymmetries in pretonic unstressed position:
initially:
C is strong: *potáto* (strong aspiration)
V is weak: *políce*, *suppóse*: pre-tonic syncope is possible; may even lexicalize:
pram (from *perámbulator*), *s'pose*, *praps*
medially:
C is semiweak: *militáristic*, *Návraťilóva*, *abraçadabra*, etc. (recall the "Withgott-effect")
V is semiweak: affected by reduction to a lesser extent: recall *Tatamagouchi* (Burzio 1994) + pre-stress syncope is blocked/restricted: *milit'ristic?* *nation'lize?* (lexicalized examples?)

(11) Comparison of pretonic unstressed syllables in English

	initial	medial
consonant	stronger: <i>potáto</i> , <i>políce</i>	weaker: <i>capítalistic/militaristic</i> (cf. <i>better</i>)
vowel	weaker: <i>potáto</i> , <i>políce</i> (+ <i>pram</i> , <i>s'pose</i> , <i>praps</i>)	stronger: <i>?milit'ristic/nation'lize</i> , <i>Tatamagouchi</i>

- the evaluation of the strength of the pretonic unstressed syllable as a whole is ambivalent
- the phonological strength of consonants and vowels should be evaluated separately
- foot-adjunction analyses predict too much strength for either the vowel or the consonant, or raise theoretical problems
- alternatively: prominence relations should be reduced to lateral interactions, with less hierarchical structure (as in, e.g., CVCV phonology – Lowenstamm 1996, Scheer 2004)⁹ or at least with more linear contextual relations/constraints

4. Splitting ‘intervocalic’ into post-short and post-long¹⁰

phonological patterns which:

- involve segmental changes which are clearly of the ‘lenition’ type, and
- occur in an intervocalic environment, but only if the preceding vowel is short
- the ultimate finding: the “minimal domain” of lenition is even smaller

⁹ As proposed for this specific case in Balogné Bérces (2011).

¹⁰ For more discussion and more examples of the post-short/post-long distinction, incl. data for spirantization and from dialects of German, see Balogné Bérces – Honeybone (to appear). For dialects of German, cf. Holsinger (2008).

[previous analyses of related phenomena:

- the post-short vs. post-long distinction is connected to phonotactics (distribution of tense/long and lax/short vowels) and not to lenition (e.g., Wiese 1996: 36-37 on German, also discussed in Jensen 2000), and
- frequently analysed with reference to ambisyllabicity / resyllabification (incl. coda capture) or covert / virtual gemination (e.g., Hammond 1997, Bye & de Lacy 2008; cf. Rubach 1996: 219 and Jensen 2000 on ambisyllabicity) – all debatable theoretical tools
- some predict lenition after short vowels only (e.g., Balogné Bérces 2008, and, incidentally, Hermans 2010)
- others predict that post-long C's are weaker than post-short C's (e.g., Coda Mirror – Ségéral & Scheer 1999, modified in Coda Mirror v2 (Scheer & Ziková 2010) to rule out the distinction altogether)]

The phenomena all derive from once-active synchronic lenitions. These lenitions are not all still clearly synchronically active, but, if not, the diachrony is clear and the split intervocalic patterning is indubitable.

Example 1: Northern English T-to-R

(see, for example, Wells 1982, Carr 1991, Broadbent 2008, Clark & Watson to appear, Buchstaller et al. forthcoming, Honeybone forthcoming)

- occurs in dialects from the Midlands to the North of England
- affects only words with /t/, deriving the typical rhotic of the variety
- affects mostly only word-final occurrences of /t/
- is lexically-specific: it affects *not*, but not *knot*

(12) T-to-R

- *shut down* [ʃʊtɔːn] *shut up* [ʃʊrʊp]
- *get down* [getɔːn] *get off* [geɪɔf]

- Wells (1982: 370): t → r / [short V] __# V i.e. only after short vowels
- it is *very* lexically restricted: most common in only *it, not, what, but, let, get/got, at, that*; it is possible but less common in *fit, cut, hit* (and a handful of others)
- work on speaker intuitions (Buchstaller et al. forthcoming) has shown that it is possible with some words with long/complex vowels: *about, eat, caught*

However, its parent process (cf. nineteenth-century descriptions (Ellis 1889 and Wright 1892) in Broadbent 2008): a productive, non-lexically-specific phonological process which:

- occurs intervocalically
- but only if the preceding vowel is short: long/complex nuclei block it

(The current state is a reanalysis of that process; it has since been cut loose from the environment (so some words with long vowels have been drawn in to the pattern); this is

perfectly expected, as the phenomenon is lexically idiosyncratic and each speaker needs to acquire their lexical representations anew, so may analogise the pattern to new words.)

Example 2: Lenisation in Scouse diddification

- “voicing” of fricatives, but
- the derived segments are not always actively specified for voice (Iverson & Salmons 1995, 2007, Honeybone 2005), hence the term ‘lenisation’

Scouse diddification (Honeybone 2010)¹¹:

- found in the dialect of English spoken in Liverpool (aka ‘Scouse’)
- templatic truncation which produces hypocoristics
- productive
- only the first consonant of the base is preserved in the diddified form; if it is a fricative, lenisation can kick in: e.g., /s/ → [z]

(13) Scouse lenisation in diddified forms

base form	base SR	SD SR
lavatory	la.vetɹi	lavi
Crosby	kɹɔz.bi	krozi
afternoon	af.tenu:n	avi
Sefton Park	seft.ɪn	sevi
duffle coat	du.fl	duvi
Gossamer	gɔs.səmə	gozi
chestnut	tʃe.snʊt	tʃezi
hospital	(h)ɔ.spɪtɪ	(h)ɔzi
best friend/clothes	best	bezi
mustard	mu.stəd	muzi
restaurant	re.stɹɒnt	rezi

¹¹ Cf. Hypocoristics in Australian English: similar template (cf. well-known *Ozzie*) but somewhat less systematic, see e.g., Simpson (2001).

(14) In forms with a long/complex nucleus in the base, the fricative does not become lenis:

base written form	base SR	SD SR
Leece street	<u>li:s</u>	li:si
ice cream	<u>ars</u>	arsi
loose cigarettes	<u>lus</u>	lusi

The crucial distinction for us is that between:

- **best** → **bɛzi**
- **lus** → **lusi**

Lenisation:

- occurs intervocalically
- but only if the preceding vowel is short: long/complex nuclei block it

Example 3: New Zealand English tapping/flapping (Bye & de Lacy 2008):

- NZE Basilect (informal/“broad”) tapping follows the ‘classical’ pattern
- NZE Acrolect (formal/“cultivated”) tapping shows a different environmental patterning:

(15) NZE Acrolect flapping (Bye & de Lacy 2008: 98)

- Flapping after a short stressed vowel and before a vowel

[hæ̀rə]	‘hatter’	[kæ̀ri]	‘catty’
[ɹæ̀gæ̀rə]	‘regatta’	[tʰæ̀rəmæ̀gú:tʃi]	‘Tatamagouchee’
- No flapping after a stressed long vowel or stressed diphthong

[bá:tə]	‘barter’	[mí:tə]	‘metre’
[kæ̀mpjú:tə]	‘computer’	[ɹá:tə]	‘writer’
[pá:utə]	‘pouter’		
- No flapping after unstressed vowels

[hɔ̀spətəl]	‘hospital’	[tʰɛ̀ɹætən]	‘Terreton’
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The crucial distinction for us is that between:

- *hatter* [hæ̀rə]
- *barter* [bɑ:tə]

In its lexical instantiation, NZE Acrolect tapping occurs:

- only foot-internally
- and only if the preceding vowel is short: long/complex nuclei block it

But note (15c): the “semiweak” position

- the 2 cases are related: can the post-long position also be considered semiweak?
- the minimal domain for lenition is a bimoraic string (*hatter* = *me(tre)*), independently motivated: minimal word, phonotactic restriction on stressed final syllables)
- Bye & de Lacy for NZE-A: *hatter* is [(hæ̀r.ə)], not *[(hæ̀.ɹə)]; Coda-incorporation does not occur in [(mí:).tə] *metre* because the heavy syllable forms its own foot, the other syllable *remains unfooted* (emphasis added); lenition is blocked (by positional faithfulness) in onsets (vs. NZE-B: lenition is blocked in footheads)

5. Conclusions

puzzles from the phonology of (accents of) English

- some are old observations (mostly) ignored or not considered from this aspect
- in fact, more are expected to be found in the future, since they may have been missed in previous observations because the pattern was not one that we have been looking for – as they have never been collected before, we have not expected to be able to find them
- some are new data, emerging from e.g., recent corpus studies

argued, based on data from consonant lenition

- lenition taxonomies need to be amended (subtypes of “weak(er)”) along two dimensions: two additional parameters for stress-sensitive lenition systems:
 - distance from foothead (lenition only in weak position or also in semiweak position)
 - length of preceding vowel (lenition after all stressed vowels or only after short vowels)
- seem to be related => collapsible: lenition confined to the bimoraic minimal string or not
- implicational relation: lenition outside that 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 strict positional faithfulness / lenition inhibition (~ van Oostendorp, Bye & de Lacy)
- foot-based (adjunction) analyses are problematic
- moreover, the evaluation of the strength of the pretonic unstressed syllable as a whole is ambivalent
- the phonological strength of consonants and vowels should be evaluated separately
- alternative solution: prominence relations reduced to lateral interactions, with less hierarchical structure, or at least with more linear contextual relations/constraints

I hope to have shown that, although it is (one of) the most well-documented and widely discussed language(s), English is not in the least devoid of unsettled issues and undiscovered regularities, even if we only look at the most discussed slice of its phonology. The answer to the question in the title is NO.

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