

## Monosyllabic *-able* and the pseudo-cycle

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This squib-*cum*-data set was prepared in honor of Doug Pulleyblank, on the occasion of his impending retirement, and as a token of admiration from a former grad school classmate.

### 1. Introduction

I develop an analysis of *-able* derivatives based on the idea that certain accentual Markedness constraints see only one nucleus in the suffix *-able*. This was suggested by Kiparsky (2023) in a Stratal OT analysis where underlying /əbl/ acquires a syllabic [l̥] at a late stage in the derivation, after all stress action is completed<sup>1</sup>. A different hypothesis with partly similar effects can be entertained in parallel OT: violations of constraints on lapse pertain to sequences of stressless syllables with *vocalic* nuclei. Underlying this idea is the conjecture that a syllabic consonant contributes less than a vowel to the perceived distance between stresses or between stress and boundaries, i.e. to the distance penalized by constraints against lapse, \*LAPSE (against 00) and \*EXTENDED LAPSE (against 000). Syllabic consonants can differ from vowels in this way because they are typically shorter and have less acoustic energy than vowels. This idea is implicit in Price's 1980 work on syllabic Cs, though not tested there. If this is true, *-əbl̥* is closer to monosyllabic *-əbl* for accentual purposes than it is to a bi-vocalic VCV sequence, and that holds not just at an intermediate stage, as in Kiparsky's serial analysis, but throughout the derivation.

The focus of the squib is on the formation of *-able* adjectives, a data set that is interesting for independent reasons. Along with other Latinate derivatives, *-able* adjectives provide evidence that bears on the *pseudo-cycle* hypothesis, outlined below. The quality of this evidence rests in part on how we interpret the lapse violations occasioned by *-able*. In this way, the pseudo-cycle connects to ideas about rhythmic differences between syllabic consonants and vowels.

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<sup>1</sup> The ancestor of this proposal is in SPE: Chomsky and Halle 1968:85, 160.

## 2. *The pseudo-cycle*

The pseudo-cycle is a class of stem substitutions found in morphologically complex words. The cyclically expected stem of a derivative D, the exponent of a subconstituent of D, is replaced by a lexically related but distinct word, or by its stem. Below I outline why one might entertain such a scenario in one case, drawing on an earlier analysis<sup>2</sup>.

When suffixed with *-able*, the verb *to rémedy* should yield *rémediable*. We expect initial stress because most productively formed *-able* Ds preserve the stress of their base. However, this *rémediable* variant is absent from dictionaries, and it's volunteered by few speakers: 3/15 speakers on [Youghlish.com](http://Youghlish.com); 1/22 in Steriade's 1998 survey. Most people produce *remédiable*, even when explicitly directed to provide a derivative for *to rémedy*. The stress they produce suggests that speakers derive the *-able* D of *rémedy* by consulting *remédial* or *remédiate*. But *remédial* can't be the base of an *-able* adjective: this suffix requires a verbal base, while *remédial* is a denominal adjective. Dictionary glosses indicate that *remédiable* can't be a derivative of *to remédiate* either: *remédiable* has the telic interpretation corresponding to the verb *rémedy*. The latter is defined by [OED](http://OED) as 'to rectify, to put right' i.e. to *achieve* remediation. 'To relieve', the gloss offered by the Merriam Webster's, is also telic. *Remédiable* is defined by the OED as 'able to be put right', mirroring the telic gloss for *to rémedy*. *To remédiate*, by contrast, is glossed as atelic 'take remedial action,' without mention of achievement.

Even though *remédiate* and *remédial* are not the forms that account for the existence and interpretation of *remédiable*, they *are* the forms that explain its stress. The following distinction helps name this divergence between the Base that explains the semantics and morpho-syntax of a D and the Base that explains its phonology. I will assume that the *cyclic base* of D – or its *Local Base*, B<sub>L</sub> (term in Steriade and Stanton 2020) – is distinct from other cognate forms of D that can influence its shape. I call the latter the *Remote Bases* (B<sub>R</sub>'s) of this D. Reference to the B<sub>L</sub> provides an account of D's lexical semantics and satisfies selectional restrictions for D's outermost suffix. Any B<sub>RS</sub>, by contrast, can affect only D's shape, under conditions I will spell out below. The need to recognize a distinction between B<sub>L</sub> and B<sub>R</sub> is found in the analysis of many other derivatives of English and in a number of other systems<sup>2</sup>.

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<sup>2</sup> Steriade 1998. See also Stanton and Steriade 2020, Breiss 2021 for arguments from English; Steriade 1999, 2008, Steriade and Yanovich 2015, Pertsova 2016, Bonet and Torres-Tamarit 2010, for evidence from other languages.

In the present case, the B<sub>L</sub> of *remédiable* must be *to rémédier*. As seen above, a B<sub>L</sub> like *remédiate* assigns the wrong atelic semantics to *remédiable* (\*‘able to be subjected to remedial action’). It would also predict an additional, non-existent D *remédiable* from telic *rémédier*, one that would coexist with *remédiable* from atelic *remédiate*. While *remédiable* is occasionally heard – to be derived by a slightly different constraint hierarchy from the one that generates *remédiable* – there is no trace of systematic coexistence between two *remédiable* forms, with stress differences correlating with semantic differences. This point extends to the hundreds of English forms that require the same distinction between B<sub>L</sub> and B<sub>R</sub>.

Given the proposal that the stem of *remédi-al*, *remédi-ate* has replaced in *remédiable* the stem provided by B<sub>L</sub> *rémédier*, we should ask now a *why* and a *how* question. *Why* does this stem replacement happen? And *how* does this happen, what is the mechanism for this substitution? In answer to the first question, pseudo-cyclic stem replacements happen when the substitute stem offers a phonotactic improvement over the expected, B<sub>L</sub>-supplied stem. In the present case, the stem *remédi-* improves Markedness in *remédi-able* by shortening the lapsed string, thus reducing the number of violations of \*EXTLAPSE (and \*LAPSE) compared to using B<sub>L</sub> *rémédier* in the stem of *remédi-able*. In answer to the second question, the mechanism of pseudo-cyclic stem substitution is provided in a parallel OT analysis by two assumptions: (i) B<sub>RS</sub> – potentially optimizing or possibly not – are part of the input to the evaluation of any D, alongside the B<sub>L</sub>; and (ii) the penalty for any D whose stem corresponds to a B<sub>R</sub>, instead of the B<sub>L</sub>, is assigned by a *violable* constraint, CORR<sub>B<sub>L</sub></sub>.

1. CORR<sub>B<sub>L</sub></sub> (Steriade and Stanton 2020)

Assign a \* to any D whose stem corresponds to different expression than its B<sub>L</sub>.

If this constraint is outranked by Markedness, stem substitution offers a method of phonotactic optimization. The tableau in (2) presents an analysis of *remédiable* along these lines. Both B<sub>R</sub> *remédi-al* and B<sub>L</sub> *rémédier* are among its inputs. As in a cyclic analysis, these Bases are *derived* inputs: each has been generated by an separate evaluation, not shown here.

## 2. Evaluating D *remédiable* from BL *remedy* and BL *remédial*

Local Base <sub>1</sub> : <i>remedy</i> <sub>1</sub> 100	IDENT STRESS B-D	*EXTLAPSE	CORRB <sub>L</sub>
Remote Base <sub>2</sub> : <i>remédi</i> <sub>2</sub> -al 010-0			
(i) <i>remédi</i> <sub>1</sub> -able 100-00		**!	
(ii) <i>rèmedí</i> <sub>1</sub> -able 301-00	*!		
(iii) <i>remédi</i> <sub>2</sub> -able 010-00		*	*
(iv) <i>rèmedí</i> <sub>2</sub> -able 301-00	*!***		*

Each candidate in (2) identifies a Base it corresponds to; correspondence is marked by identical subscripts. Violations of B-D Faith are assessed only relative to the subscripted Base. Given the  $F \gg M$  ranking, the only way to improve the M score of a D is to violate CORRB<sub>L</sub> and use the stem of a B<sub>R</sub>. Even in that case, Faith B-D governs the relation between the B<sub>R</sub> and its correspondent stem in the candidate D: the stress of the two must be the same. That's what happens in (2): the winning candidate (iii), *remédiable*, borrows the stem of B<sub>R</sub> *remédial*, in violation of CORRB<sub>L</sub>. By doing so, it reduces the number of \*EXTLAPSE violations, while fully satisfying IDENT STRESS B-D. The B<sub>L</sub>-faithful candidate (i), *remédiable*, also satisfies IDENT STRESS B-D but violates \*EXTLAPSE too much. Rhythmically perfect candidates (ii), (iv), each derived from a different base, fatally violate IDENT STRESS B-D.

While the EXTLAPSE  $\gg$  CORRB<sub>L</sub> ranking is the immediate cause of the stem substitution in *remédiable*, the other ranking, IDENT STRESS B-D  $\gg$  \*EXTLAPSE, is also central to the analysis. It explains why \*EXTLAPSE can't be satisfied by shifting stress relative to B<sub>L</sub> *remedy*, and thus why the violation of CORRB<sub>L</sub> is needed. The same ranking also predicts, correctly, that derivatives which lack a related form like *remédial* do not allow substitutions like the one seen in (2). Words like *jéttisonable*, *cábinetable* and, for some, *disciplinable* fall in this class: they lack optimizing B<sub>R</sub>s comparable to *remédial*.

### 3. The problem

Pseudo-cyclic stem replacements occur systematically in English. We can identify which D types permit them, and many of the conditioning factors, though this will not be attempted here. But there is something puzzling about these patterns when they involve *-able* in particular: fewer *-able* Ds than one might expect use the stem of an accentually optimizing B<sub>R</sub>. When compared to

other Latinate Ds, like *-ify*, *-ism*, *-ist*, *-ive*, *-ee*, *-ory*, the proportion of B<sub>RS</sub> actually used in *-able* Ds relative to all Ds that have optimizing B<sub>RS</sub> is small. We discuss the actual numbers below. For now, here is one example of an unused B<sub>R</sub> in an *-able* word, *activable*. We expect, parallel to *remédiable*, a form like *\*activable*, 3100, with stress coming not from the verbal B<sub>L</sub> *activer*, but from the B<sub>R</sub> *activité*, exactly as the stem in *remédiable* is borrowed from that of *remédial*. But the only attested form is *activable* 1000. This is not predicted by the analysis in (2). The evaluation in (3) uses the same analysis as (2), but fails, because (3.i) can't win against (3.ii).

3. Failed analysis: D *\*activable*, from BL *activer* and BR *activité* under the ranking in (3)

Local Base1: áctiv <sub>1</sub> -ate 103	IDENT STRESS B-D	*EXTLAPSE	CORRB <sub>L</sub>
Remote Base2: àctiv <sub>2</sub> -ity 3100			
(i) ☹ áctiv <sub>1</sub> -able 10-00		*!	
(ii) ☺ àctiv <sub>2</sub> -able 31-00			*

It is not unexpected, that an optimizing B<sub>R</sub> is sometimes ignored and that dictionaries record instead only a B<sub>L</sub>-based variant. After all, finding a winner is a complex task in a pseudo-cyclic analysis, more so than in a cyclic one, first because looking for the full set of potential B<sub>RS</sub> looks like a non-deterministic task, and, second, because it may take longer to compare the candidates that all potential bases generate. The task being harder, one expects that an occasional legitimate B<sub>R</sub> will elude a dictionary writer or a speaker.

But this problem is faced equally by all pseudo-cyclic evaluations, yet only *-able* suffers from a severe form of it: too many *-able* Ds similar to predicted *\*activable* are wrongly generated by the present analysis. The sheer size of this class of exceptions remains a puzzle.

Since this is a problem specific to *-able*, the proper solution is to replace the definition of \*EXTLAPSE in (4.a) – or comparable foot-based versions – by (4.b). Other constraints evaluating metrical distances, including \*LAPSE, have comparable modifications. One is discussed in §7.

4. Two versions of English \*EXTLAPSE

- a. \*EXTLAPSE σ: A \* for each distinct sequence of 3 stressless syllables<sup>3</sup>.

<sup>3</sup> This formulation raises the old question of whether grammars can count (cf. McCarthy and Prince 1986). The question is empirical. Recent work (Paster 2019, Stanton 2019, 2021, Steriade 2017) suggests that phonologies can count at least up to three entities (tones, syllables) and can compare durational quantities.

- b. \*EXTLAPSE V: A \* for each distinct sequence of 3 stressless syllables *with vocalic nuclei*.

Any *-able* D violates (4.a), \*EXTLAPSE  $\sigma$ , if the stress of D's stem matches that of a  $B_L$  with pre-final stress: e.g. *tráffic-able* is faithful to  $B_L$  *tráffic* 10, resulting in 10-00 stress. But if \*EXTLAPSE is restated as in (4.b), to count only vocalic nuclei, forms like *tráffic-able* will satisfy it. The redefined \*EXTLAPSE V eliminates its violations in many existing *-able* forms, illustrated by (5.i), but not in all: *rémedi-able* (5.ii) continues to violate \*EXTLAPSE under both definitions in (4), so it is still in need of repair. That explains why *remédiable* (5.iii) is preferred to it.

5. Three *-able* forms evaluated by \*EXTLAPSE  $\sigma$  vs. \*EXTLAPSE V

	*EXTLAPSE $\sigma$	*EXTLAPSE V
(i) <i>tráfficable</i> [tráfəkəb!] 1000	*	
(ii) <i>rémediable</i> [rémədiəb!] 10000	**	*
(iii) <i>remédiable</i> [rəmídiəb!] 01000	*	

(4.b) is not an arbitrary restatement if syllabic Cs are shorter and quieter than Vs, and thus contribute less to the perceived rhythmic distances penalized by \*(EXT)LAPSE constraints.

We will observe that (4.b) solves three problems faced by the pseudo-cyclic analysis. To evaluate different proposals considered, I use a set of forms gathered to test the pseudo-cyclic account proposed in Stanton and Steriade 2020. That set starts with the 396 *-able* Ds that meet three conditions: (i) the online Oxford English Dictionary provides stress information for them, (ii) they have an identifiable free-standing  $B_L$ , whose stress can be observed, and (iii) they are *conflicted*, meaning that they would violate one or more active accentual M constraints if their stems remained faithful to this  $B_L$ . This is the incentive to use the stem of an optimizing  $B_R$ , if one exists. The core of this set, some 40 *able*-forms with optimizing  $B_{RS}$ , can be seen in (6) and (7) below.

### 3. *Too many optimizing $B_{RS}$ are left unused in -able Ds*

The first difficulty faced by a pseudo-cyclic analysis based on \*EXTLAPSE  $\sigma$  is that too many optimizing  $B_{RS}$  are left unused in existing *-able* words<sup>4</sup>. I establish this by comparing two lists:

<sup>4</sup> Kiparsky 2023 makes exactly this point in the course of developing an argument against any pseudo-cyclic analysis. But most of his *-able* data is explained by independent factors discussed later in this section.

one, in (6), contains all *-able* forms whose stress arguably reflects that of a B<sub>R</sub>, like *remédi-able*; the other, in (7), is the complete list of *-able* Ds which *could* improve their stress, given the statement of \*EXTLAPSE  $\sigma$ , by borrowing the stem of a B<sub>R</sub>, and which actually possess such a B<sub>R</sub>, but for some reason don't use it. The list in (7) is more than twice as long as (6). The problem then is that most B<sub>RS</sub> of *-able* adjectives remain unused.

6. All *-able* Ds whose stem matches a B<sub>R</sub>; a  $\checkmark$  indicates that recordings at [Youglish.com](http://Youglish.com) confirm the OED reported stress. Numbers (1, 2) identify multiple variants of one form.

D	Stress	B <sub>L</sub>	B <sub>L</sub> stress	B <sub>R</sub>	B <sub>R</sub> stress
acclimat-able	01000	acclim-àte	103	clímate	10
argument-able	30100	árgument	100	àrgumént-ative	30100
compáni-able	3100	cómpany	100	compánion	100
confisc-able	0100	cónfisc-àte	103	confiscat-òry	01030
disciplín-able ( $\checkmark$ )	30100	dísciplin	100	dìsciplín-àry	30100
exécut-able ( $\checkmark$ )	0100	èxecúte	301, 103	exécut-ive	0100
illústr-able	0100	íllustràte	103	illústrat-ive	0100
justific-able (3)	01000	jústify/jústific-átion	103/30010	justífic-atòry	310030
justific-able (3)	30100	jústify/jústific-átion	103/30010	jústific-ative	3010
medicin-able	01000	médicine	100	medícin-al	0100
modific-able	30100	módify/mòdific-átion	103/30010	mòdific-atòry	301030
multiplíc-able	30100	múltiply/múltiplic-átion	103/30010	múltiplic-ative	30100
remédi-able ( $\checkmark$ )	01000	rémédy	100	remédi-al	100
sublím-able	0100	súblim-àte	103	sublíme	01

Two notes on the information provided in (6). First, two B<sub>L</sub>s are mentioned for some items, if a deverbal form, not the verb, has a stem allomorph that matches the *-able* word, like D *justificable*, B<sub>L</sub> *jústify*, *jústificátion*. I don't discuss the identification of the actual B<sub>L</sub> in such cases: what matters here is that neither of these possible B<sub>L</sub>s matches the stress of the D in (6), only the B<sub>R</sub> does. Second, many forms in (6), and hundreds of others beyond, undergo truncation of *-ate* or another derivational suffix, in the process of becoming *-able* adjectives. This truncation is found with other Latinate suffixes in English and is frequently optional: both

*confisc-able* and *cònfiscát-able* are attested, with different stress patterns. It's the stress of the truncated form that matters here. More on truncation below.

(7) is the list of *-able* Ds that have a potential optimizing B<sub>R</sub> but which, according to OED's data, do not use it to improve their stress: e.g. *áctív-able* 1000, not \**actív-able*, using the *actív-* stem in B<sub>R</sub> *actív-ity*, or *contínu-able* 01000 not \**còntinú-able*, using *còntinúity*. This data was confirmed for US English in the online Merriam Webster's and for UK English in Upton and Kretzchmar's 2017 dictionary; forms verified by [Youghlish.com](http://Youghlish.com) recordings are marked by √.

#### 7. All *-able* Ds whose stem *does not* match an available optimizing B<sub>R</sub>

D	Stress	B <sub>L</sub>	B <sub>L</sub> stress	B <sub>R</sub>	B <sub>R</sub> stress
abólísh-able	01000	abólísh	010	àbolít-ion	3010
áctív-able	1000	áctív-àte	103	àctív-ity	3100
árbitr-able	1000	árbitr-àte	103	arbít-r-al	310
attríbút-able (√)	01000	attríbute	010	àtribút-ion	3010
cadáver-able	01000	cadáver	010	cadavér-ic	3010
cénsur-able (√)	1000	cénsure	10	censór-ious	3100
chrístian-able	1000	chrístian	10	chrístián-ity	30100
contínu-able	01000	continue	010	còntinú-ity	30100
contribút-able (√)	01000	contribute	010	còntribút-ion	3010
demólísh-able (√)	01000	demólísh	010	dèmolít-ion	3010
distribút-able (√ <sup>5x</sup> )	31000	distribute	010	distribút-ion	3010
doméstic-able (√)	31000	doméstic-àte	3103	dòmestic-ity	30100
epíscop-able	01000	episcopátion	03010	èpiscóp-ic	3010
équal-able	1000	équal	10	equál-ity	0100
exhíbít-able (√)	01000	exhíbít	010	èxhibít-ion	3010
expérience-able (√ <sup>2x</sup> )	010000	expérience	0100	expèriént-ial	03010
ínjur-able	1000	ínjure	10	injúr-ious	0100

<sup>5</sup> 2/26 Youghlish.com recordings of *distributable* have the stress contour 30100. On the same site, recordings of *experienceable* have the 430100 stress; 1/7 recordings of *judic(e)able* has the 0100 stress but that registers as a speech error; at least 3/70 recordings of a word transcribed as *revocable* are stressed 0100, corresponding to what the OED would spell *revokeable*.



intérrog-able	01000	intérrog-àte	0103	interróg-ative	30100
intúit-able (√)	01000	intúit	010	intúit-ion	3010
inválid-able	01000	inválid-àte	0103	(in)valíd-ity	(3)0100
júdic-able (√ <sup>2x</sup> )	1000	júdic-àte	103	judíc-ial	010
lítig-able (√)	1000	lítig-àte	103	litíg-ious	010
óblig-able	1000	óblig-àte	103	oblíge	01
perpétu-able	01000	perpétu-àte	0103	pèrpetú-ity	30100
prósper-able	1000	prósper	10	prospér-ity	0100
recíproc-able	01000	recíproc-àte	3103	rèciproc-ity	30100
révoc-able (√ <sup>2x</sup> )	1000	rèvoc-àtion	3010	revóke	01
tríumph-able	1000	tríumph	10	tríumph-ant	310

I have excluded from (7) all forms whose non-use of the B<sub>R</sub> can be given an alternative account. This includes, first, Ds whose lexical semantics seem too remote from those of the potential B<sub>R</sub>: e.g. *vindic-ate, -able* are only distantly related to *vindic-tive* and this should be sufficient to rule out *\*vindic-able*. Many items in Kiparsky's (2023) list fit in this first category.

I have also excluded *-able* Ds whose potential B<sub>R</sub> is *not more frequent* than the D itself. There is reason to think that a Base is unlikely to exert an influence on its D unless the latter is less frequent than the Base itself (cf. Hay 2003 for the initial idea; Steriade 2025 for an application to pseudo-cyclic analyses where frequency is taken as an indirect reflex of speakers' familiarity with a form). Thus a triplet like D *párod-able*, 10000, B<sub>L</sub> *párody*, B<sub>R</sub> *paródi-al* has been ignored: the frequency of the D is equal to that of its potential B<sub>R</sub> and that may be why improved *\*paródi-able* is out<sup>6</sup>. The pair *remédial-remédiable*, by contrast, meets this differential frequency condition, as the OED reports the *-al* adjective to be substantially more frequent than the *-able* form. That is the case with all forms listed in (6), (7).

A different set of forms to consider excluding from (7) were Ds that differ from a potential B<sub>R</sub> in their consonantism or in their spelling, like D *abólish-able* vs. *abolít-ion*, or *révoc-able* (spelled as if related to *rèvoc-ation*) vs. *revóke*. We could try to explain why alternatives to the

<sup>6</sup> Earlier work (Steriade 1998, Kiparsky 2023) used the limited evidence of printed dictionaries to conclude that *parodial* does not exist. The OED reveals that it does, for some speakers, but those same speakers apparently don't use it as a base in generating the stress of *parodi-able*.

attested *-able* forms, like \**àboli*[j]-*able* or \**àboli*[t]-*able*, or *revó cable*, with <c>, are impossible or disfavored, by imposing conditions on the phonological and orthographic correspondence between a B<sub>R</sub> and the D or its B<sub>L</sub> (Steriade 1998). Nonetheless, I did not remove such forms from (7), mostly because the correspondence constraints needed to implement this idea of a correspondence between B<sub>L</sub>-B<sub>R</sub> are less clearly supported outside the class of *-able* Ds. Also, because the proposal in this squib eliminates most such problematic forms anyway. And, finally, because more than a third of the items in (7) can't be explained by such additional constraints.

Taken together, the lists in (6) and (7) contain all *-able* Ds in the OED that possess both identifiable B<sub>L</sub>s and, depending on which version of \*EXTLAPSE one uses, possible optimizing B<sub>RS</sub>. Strikingly, the set of unused B<sub>RS</sub> in (7) is, at 29 items, substantially larger than the set of B<sub>RS</sub> actually put to use, in (6). The redefined \*EXTLAPSE V explains this. All but 2 forms in (6) – *confiscable*, *sublimable* – would violate \*EXTLAPSE V if their stem matched the stress of their B<sub>L</sub>. So the phonotactic reason to use the B<sub>R</sub> remains valid for 11/13 forms that actually do use the B<sub>R</sub>, those in (6)<sup>7</sup>. By contrast, only one item on the list in (7), *expérienceable*, violates \*EXTLAPSE V, so this restatement explains why most *unused* B<sub>RS</sub> are in fact unused. Plus, *experienceable* is recorded once on Youglish.com as *expèrience-able*.

The effect of the revised statement in \*EXTLAPSE V on the analysis of (6) is illustrated below. This is a revision of the earlier failed analysis (3). To highlight the difference made by \*EXTLAPSE V, I bolded the syllabic string examined by the constraint. Only candidates whose status has changed are considered.

8. *activable* w. \*EXTLAPSE V: D *activable*, B<sub>L</sub> *activate* and B<sub>R</sub> *activity*

Local Base: àtív <sub>1</sub> -ate 103	IDENT STRESS B-D	*EXTLAPSE V	CORRB <sub>L</sub>
Remote Base: àtív <sub>2</sub> -ity 3100			
(i) àtív <sub>1</sub> -able <b>10-00</b>			
(ii) àtív <sub>2</sub> -able <b>31-00</b>			*!

<sup>7</sup> For *confiscable*, *sublimable* a reason to advance stress to the peninitial may be to avoid stressing a prefix, even one without a clear semantic contribution, a common effect in English, if an irregular one, as in e.g. *submit*, *admit*, *confer*. Phonotactics can override this, e.g. clash avoidance causes prefixal stress in *-ation* words, e.g. *confiscátion*.

The effect of \*EXTLAPSE V on the items in (6) is illustrated below. This tableau shows that the pseudo-cyclic stem replacement first seen in (2) remains necessary for the forms in (6).

9. *remédiable* analysis using \*EXTLAPSE V: D *remédiable*, BL *rémedy* and BR *remédial*

Local Base <sub>1</sub> : <i>rémedy</i> <sub>1</sub> 100	IDENT STRESS B-D	*EXTLAPSE V	CORRB <sub>L</sub>
Remote Base <sub>2</sub> : <i>remédi</i> <sub>2</sub> -al 010-0			
(i) <i>remédi</i> <sub>1</sub> -able <b>100-00</b>		*!	
(ii) <del>remédi</del> <sub>2</sub> -able <b>010-00</b>			*

4. *Reducing numbers of conflicted Ds*

We look now beyond the pseudo-cycle to use \*EXTLAPSE V as a solution to a second problem. The background is this: among Latinate Ds, there are relatively few occurring words where faithfulness to the B<sub>L</sub> conflicts with Markedness satisfaction. For example, of the 446 verbs in *-ify* listed as ‘in current use’ by the OED, only 35, 8%, display a conflict between \*(EXT)LAPSE and IDENT STRESS B-D (where B = B<sub>L</sub>). The number of such conflicted Ds is small because the suffix *-ify* mostly refrains from attaching to bases with non-final stress<sup>8</sup>. A word with non-final stress would generate, when suffixed by *-ify*, either a lapse (*résin-ify*) or an extended lapse (*spécimen-ify*), or else the base would eliminate the lapse through affixal truncation (*plástie-ify*), prevocalic elision (*úgly-ify*), or pseudo-cyclic stem substitution (*humid-ify*, using the stem of B<sub>R</sub> *humid-ity*). By avoiding attaching *-ify* to B<sub>L</sub>s with non-final stress the system insures that most occurring *-ify* verbs don’t need any stress changes, or B<sub>L</sub>-stem replacement, to satisfy accentual markedness<sup>9</sup>. We find comparably low rates of conflicted Ds in actual use with other Latinate suffixes: *-ive*, *-ory*, *-ician*, *-ist*.

In contrast to the *-ify* Ds and others, the formation of *-able* Ds seems to produce substantial rates of forms suffering from Markedness violations, particularly \*EXTLAPSE violations under the statement in (4.a), \*EXTLAPSE  $\sigma$ . The ratio of *-able* Ds posing a conflict between \*EXTLAPSE  $\sigma$  and faithfulness to the B<sub>L</sub> relative to all *-able* Ds in use is 25%. This figure is an estimate based on searching in the OED for the 1000 most frequent *-able* forms with stems of at least 3 segments. After removing prefixed and other uninformative items from the list, 634 *-able* Ds are

<sup>8</sup> This effect has been noted, though not for *-ify*, by Raffelsiefen 1996, 1998, 2004.

<sup>9</sup> Comparable effects are found with other M constraints in other languages: a quantitative form of \*EXTLAPSE, the Tribach Law of A.Greek, blocks affixation that results in sequences of three light syllables (Steriade 2017).

left, of which 157, or 25%, would violate \*EXTLAPSE  $\sigma$  if they stayed faithful to their B<sub>L</sub>, as indeed most do. That is, 25% *would* violate \*EXTLAPSE under the definition in (4.a). However, all but 4 of these 157 forms are well-formed according to \*EXTLAPSE V (4.b). These 4 forms are *alienable, experienceable, companionable, remediable*<sup>10</sup>. The last two surface in fact without Markedness violations, because they adopt the stem of a B<sub>R</sub>; *alienable* eludes the extended lapse when produced as tetrasyllabic, with [lj]; and *experienceable* can be produced, if rarely, with stress on *-ence*, due to B<sub>R</sub> *expériént-ial*.

This, then, is the second argument for replacing ‘nucleus’ by ‘Vowel’ in \*EXTLAPSE V: it reduces the rates of conflicted Ds among *-able* adjectives from an unprecedented 25% to under 1%, bringing *-able* in line with other English Ds.

### 5. Truncation

Large numbers of *-able* Ds undergo truncation of the verbalizer *-ate*, as in *éducàte, éduçable*. The rate is 126/396 in Stanton and Steriade’s 2018 *-able* set, so close to a third of those forms are based on *-ate* (or *-ation*), and truncated. Most *-able* forms derived from an *-ate* verb *can* be truncated. Most are preferably so, some obligatorily.

Truncation poses a puzzle for any theory in which phonology evaluates the effects of morphological exponence and occasionally alters them, an assumption that is repeatedly confirmed in the study of English morphology and beyond. A direct consequence of *-ate* truncation in most *-able* forms is the loss of a syllable that would have attracted stress and thus avoided a long lapse. Indeed, 122 of the 126 truncated *able*-forms violate \*EXTLAPSE in the  $\sigma$ -based version, (4.a). *None do when the constraint is restated as (4.b)*<sup>11</sup>.

The question for the \*EXTLAPSE  $\sigma$  in (4.a) is what factor could compensate, in a constraint-interaction model of morpho-phonology, for the \*EXTLAPSE violation resulting from truncation. The answer is far from obvious, as affix truncation normally eliminates lapses, not create them. So, a further advantage of \*EXTLAPSE V over \*EXTLAPSE  $\sigma$  is then that it disposes of this question. Truncation does not create any \*EXTLAPSE V violation.

<sup>10</sup> There are more than 4 forms like *remédiable*. Those having a B<sub>R</sub> are listed in (5). They were not included in the sample discussed in this section because they were not among the 1000 most frequent *-able* entries in the OED.

<sup>11</sup> Two truncated forms, *améliorable* and *álienable*, from *améliorate* and *álienate*, appear to violate \*EXTLAPSE even under the (4.b) statement, but both contain prevocalic *li* sequences that are most commonly realized as palatalized [ʎ] or [lj], not a full syllabic [i].

## 6. Left shifts

In a number of *-able* forms, stress is retracted relative to the corresponding verb. An account of these forms uses pseudo-cyclic stem replacements and invokes, in a different context, the difference between vocalic nuclei vs. syllabic consonants that \*EXTLAPSE V appeals to.

### 10. Left shifts of stress in *-able* Ds: all old French loans

D	D stress	B <sub>L</sub>	B <sub>L</sub> stress	Related form	Its stress
ádmirable	1000	admíre	01	àdmirátion	3010
lámentable	1000, 0100	lamént	01	làmentátion	3010
réparable	1000	repáir	01	rèparátion	3010
préparable	1000, 0100	prepáre	01	prèparátion	3010
tránsferable	1000, 3100	transfér <sub>v</sub>	01	tránsfer <sub>N</sub>	10
ínferable	1000 <sup>12</sup>	infér	01	ínference	100
réferable	1000, 0100	refér	01	réference	100
préferable	1000	prefér	01	préference	100
rédiapable	1000, 0100	respíre	01	rèspirátion	3010
órdinable	1000	ordáin	01	òrdinátion	3010
cómparable	1000, 0100	compáre	01	(obs.) cómparàte, còmparátion	103, 3010

All *-able* words in (10) are old French loans, most already present in 15<sup>th</sup> century English. None is introduced later than the 17<sup>th</sup>. Their French origin begins to explain their 1000 accent, if French words like *àdmirable* had a 3010 stress, were borrowed with this 3010 stress, and then had the secondary stress promoted to primary (Danielsson 1949). This French scenario for (10) explains why the stress of parallel *-able* forms *not* borrowed from French matches their B<sub>L</sub>. The list in (11) are *-able* Ds formed within English, according to the OED:

<sup>12</sup> The 1000 stress is recommended by the OED. The OED entry suggests the stress is based on the spelling *inferable* (0100 is reserved for *inferrible*), plus some inexplicit reasoning about analogy. It's unclear if anyone has been observed producing it.

### 11. No left shifts of stress in *-able* Ds formed within English

D	D stress	B <sub>L</sub>	B <sub>L</sub> stress	Related form	Its stress
acquirable	0100	acquière	01	(à)cquisition	3010)
présentable	0100	présent	01	prèsentation	3010
transférable	3100	transfér	31	trànsformátion	3010
transportable	3100	transport	31	trànsportátion	3010
adaptable	0100	adapít	01	àdaptátion	3010
compensable <sup>13</sup>	0100	compénse	01	còmpeñsátion	3010, 3410
conservable	0100	consérve	01	cònservátion	3010
explorable	0100, 3100	explóre	01, 31	èxplorátion	3010
reservable	0100	resérve	01	rèservátion	3010
computable	0100	compúte	01	còmputátion	3010

Knowing that the words in (10) were French in the 15<sup>th</sup> century helps understand their original stress but tells us very little about how this initial stress was kept on the initial by subsequent generations of monolingual English speakers. What requires explanation is not the apparent \*EXTLAPSE violations in (10) – we have seen that these violations are just apparent – but rather the fact that the 1000 stresses differ from those of their B<sub>L</sub>s, yet managed to survive for centuries in a system that favors identity between B<sub>L</sub>s and Ds. So, concretely: why does *admirable* continue to deviate today from *admire*, some 6 centuries after it entered English? And, comparing (10) to (12), why do other old French *-able* loans, like *desirable*, not similarly deviate in stress from their own B<sub>L</sub>s?

### 12. No left shifts in in these old French loans in *-able*, comparable in age to (10)

D	D stress	BL	BL stress	Related form	Its stress
desirable	0100	desíre	01	desíre	01
acceptable	0100	accépt	01	accéptance; àcceptátion	010; 3010
agréable	0100	agrée	01	agrément	010

<sup>13</sup> In the list in (11) OED identifies *compensable* as being of French origin, but without citing relevant evidence. Its frequency in English is close to 0 before 1900, so it can't be an old loan; French *compensable* is marginal too.

debátable	0100	debáte <sub>V</sub>	01	debáte <sub>N</sub>	01
decéivable	0100	decéive	01	decéption	010
percéivable	0100	percéive	01	percéption	010
recéivable	0100	recéive	01	recéption	010

The answer to this last question points to the role of the ‘Related forms’ columns in (10)-(12). These contain nominal cognates to the *-able* words, co-derivatives of their verbal bases. The ‘related forms’ in (10) are *-ation* derivatives which require, for reasons have become internal to English, initial stress: e.g. *ádmir-able* corresponds to *àdmir-átion*. By contrast, the parallel nominals of the *-able* forms in (12) begin with iambic sequences: *desívable* corresponds to *desíre*, not *\*dèsirátion*. Before presenting a solution, here is, first, a summary of the factors conditioning the stress retraction of words like *ádmirable*.

### 13. Conditions of stress retraction in deverbal *-able*

Some deverbal forms in *-able*, like (10), have initial stress, unlike the corresponding verb.

This divergence between the stress of verb and that of the *-able* D occurs iff:

- (i) The *-able* D is an old French borrowing.
- (ii) It coexists with a deverbal co-derivative with initial stress.

We are considering the transmission across generations of the French-inherited *-able* words in (10), with their 1030 stress. Perhaps this stress became indistinguishable early on to these learners from a 1000 stress. What the English learners were seeking to explain, after the connection to the French originals was lost, is why the stress of the verbal B<sub>L</sub> of these words differs from that of its D: why *ádmirable* differs from *admíre*. Suppose they postulate, as an account of the initial stress in (10), a lexically indexed version of a Markedness constraint favoring *non-final, non-penult* stress. This constraint is a version of EXTENDED NONFINALITY, or its foot-based equivalent, which favors pre-penultimate stress over penult or final stress. Note that the latter must treat syllabic consonants as distinct from vowels, to describe monomorphemic *fórmidable, négligible, párticiple*, each possessing a single stress: [ˈfɔ̃rmɪdɔ̃bɫ], [ˈnɛglədʒɔ̃bɫ], [ˈpartəsɔ̃pɫ] (Kenyon and Knott 1943). EXTENDED NONFINALITY is violated by B<sub>L</sub>-faithful forms like *\*admívable, \*repáirable*, etc., if the stressed syllable in such hypothetical forms is followed by [ɔ̃bɫ] and if this constraint is redefined, as in (14), to impose a minimal

distance from the end of the word such that VCC falls short of it. The constraint must be lexically indexed because of words like *tábernàcle* (1030, not 1000) and because no retraction happens in most -able Ds relative to their B<sub>L</sub>, as seen in (11). The subscript <sub>lex</sub> in the name of the constraint below is a reference to the limited list of words it does evaluate.

14. EXTENDED NONFINALITY<sub>lex</sub>

At least two vocalic nuclei must follow the last stress in each word.

We can now examine, in (15), the account that EXTENDED NONFINALITY<sub>lex</sub> allows of the stress difference between B<sub>L</sub>s and Ds in (10), the -able words with leftward shifts, vs. the non-shifting Ds in (12), exemplified below by *desirable*.

15. *ádmirable* analysis: B<sub>L</sub> *admíre*. *Admirable* belongs to the set referenced by <sub>lex</sub> in (14)

B <sub>L1</sub> : [ədmáɪ]₁ 01	IDENT	EXT	*EXT	CORRB <sub>L</sub>
B <sub>R2</sub> : [ædməɪ]₂-átion 3010	STRESS B-D	NONFINALITY <sub>lex</sub>	LAPSE V	
(i) [ədmáɪ]₁-əbɪ 01-00		*!		
(ii) [ædmàɪ]₂-əbɪ 10-00	*!			
(iii) <sup>FR</sup> [ædməɪ]₂-əbɪ 10-00				*

16. *desirable* analysis: B<sub>L</sub> *desíre*, no B<sub>R</sub>. *Desirable* could belong to the set <sub>lex</sub> in (14)

Local Base <sub>1</sub> : desíre <sub>1</sub> 01	IDENT	EXT	*EXT	CORRB <sub>L</sub>
No B <sub>R</sub>	STRESS B-D	NONFINALITY <sub>lex</sub>	LAPSE V	
(i) <sup>FR</sup> desíre <sub>1</sub> -able 01-00		*		
(ii) désire <sub>1</sub> -able 10-00	*!			

The items in (11) – historically non-French in origin – are synchronically non-shifting because they are not listed in the <sub>lex</sub> set of EXTENDED NONFINALITY<sub>lex</sub>:



17. *présentable* analysis: BL *présentation*. *Presentable* does not belong to the set  $lex$  in (14)

Local Base <sub>1</sub> : [présént] <sub>1</sub> 01	IDENT	EXT	*EXT	CORRB <sub>L</sub>
Remote Base: [présént] <sub>2</sub> -átion 3010	STRESS B-D	NONFIN <sub>lex</sub>	LAPSE V	
(i) [présént] <sub>1</sub> -able 01-00				
(ii) [présént] <sub>2</sub> -able 10-00				*!

The analyses in (15-17) provide a synchronic account of all relevant forms. Given the use of lexical indexation, one should ask if the pseudo-cyclic aspect of the analysis, which differentiates (15) from (16) – *ádmirable* vs. *desirable* – is really needed: couldn't we simply claim that *desirable* is not on the list of items examined by EXTNONFIN<sub>LEX</sub>? The answer is no, and the basis for it can be found the general statement in (13.ii): all *-able* Ds that do shift stress leftward relative to their B<sub>L</sub> do so when accompanied by a cognate form with initial stress. This is a universal statement. It would not be characterized if the left shift was an arbitrary property.

The unexpected location of stress in *ádmirable* is similar to, though not exactly the same as, the unexpected location of *main* stress in words discussed by Chomsky and Halle (1968:86ff) and Liberman and Prince (1977:297) as involving underlyingly non-syllabic sonorants: words like *cátaclysm*, *méchanism*, *sálamànder*, *córiànder*, *gérrymànder*, *Náhuàtl* as against expected penult main stresses in \**cátaclys*[m], \**sálamánd*[r], \**Nàhuát*[l] with penultimate main stress. A general analysis that covers all these items eludes me now.

### 8. Summary

This squib set out to explain certain properties of *-able* adjectives that seem surprising when we pursue a pseudo-cyclic account of the Latinate Ds of English. I summarize now the questions asked and the answers offered.

- (i) Why do so few *-able* Ds use their optimizing B<sub>R</sub>s to avoid violations of \*EXTLAPSE? Because properly stated \*EXTLAPSE refers to vocalic nuclei, not syllables, so there are in fact fewer such violations in *-able* words than meet the eye.
- (ii) Why is the proportion of conflicted *-able* Ds – forms posing a conflict between an active M constraint and a B-D Faithfulness constraint – so high, compared to that of

- other Latinate Ds of English? Because the M constraint active with *-able* words is mostly \*EXTLAPSE. The rest of the answer is in (i).
- (iii) Why does truncation of *-ate* happen so often with *-able* Ds given that its result is almost always an \*EXTLAPSE violation? Same answer as in (i).
  - (iv) Why do some *-able* Ds shift stress to the initial relative to their base verb? To satisfy EXTNONFINALITY<sub>LEX</sub>, another constraint that calculates metrical distances by considering only vocalic nuclei, instead of all syllables.

I have not compared the present account of how constraints assess metrical distances to SPE's and Kiparsky's (2023) scenario of a derivational sequence in which stress is calculated on underlying representations that lack syllabic Cs. That, too, is left to future work.

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