Latin *–ālis/–āris* and segmental blocking in dissimilation

Juliet Stanton, MIT

In Latin, the realization of the adjectival suffix *–ālis* depends on the segmental content of the stem it attaches to. If the stem does not contain an *l*, then *–ālis* is realized as *–ālis* (1a). If the stem does contain an *l*, then *–ālis* can be realized as *–āris* (1b). This alternation between *–ālis* and *–āris* is referred to here as *L-dissimilation*.

(1) Latin L-dissimilation[1]

a. *nāv+ālis* → *nāvālis* 'of ships, ship–, nautical, naval'

b. *famul+ālis* → *famulāris* 'of servants, belonging to slaves'

The focus of this squib is on how the identity of the material intervening between the stem (*trigger*) *l* and the suffixal (*target*) *l* affects the application of L-dissimilation. It has been consistently claimed that if an *r* intervenes between the trigger and target *l*s, L-dissimilation is blocked (*plūr̲ālis*, not *plūr̲āris*; Watkins 1970, Dressler 1971, Jensen & Strong-Jensen 1979; Steriade 1987; Cser 2010; Bennett 2013, 2015; *a.o.*). In addition, it has recently been claimed that an intervening non-coronal also blocks L-dissimilation (*lēg̲ālis*, not **lēg̲āris*; Cser 2010; Bennett 2013, 2015), but that the combination of an intervening coronal and non-coronal is transparent (*līm̲in̲āris*, not **līm̲in̲ālis*; Bennett 2013, 2015). All cited authors treat coronal consonants and vowels as transparent.

In Sections 1 and 2, I evaluate the empirical basis for these claims. I show that, while there is good reason to believe that an intervening *r* consistently blocks L-dissimilation, the claim that non-coronal consonants block L-dissimilation is not supported by the data (also Zymet 2014): a full statistical analysis reveals that the apparent blocking behavior of non-coronals is confounded with other factors known to be relevant to dissimilatory processes elsewhere. Given these results, in Section 3 I show that it is possible to view L-dissimilation as a process that is not sensitive to the identity of the material intervening between the trigger and target segments, as the blocking effect exhibited by *r* can be attributed to an independent restriction on the occurrence of multiple *r*s within a word (e.g. Kenstowicz 1994, Steriade 1995; also Bennett 2013, 2015). Finally, as noted in Section 4, Latin is one of the few cases in which it appears that the application of dissimilation is sensitive to the identity of the intervening material. Thus the reanalysis of Latin presented in this squib raises the much broader question, not addressed here, of whether or not all known cases of segmental blocking in dissimilation can be reanalyzed in a similar way.

[1]All of the Latin data in this paper, their glosses, and the generalizations based on them come from searches through the Perseus Digital Library, available online at http://www.perseus.tufts.edu/hopper/.

1 DATA. To investigate the role that different kinds of consonantal interveners play in Latin L-dissimilation, I created a list of all forms from the Perseus Digital Library ending in the suffix *–ālis/–āris*. The forms analyzed in this squib are limited to those 232 forms in which the stem contains an *l*; in other words, we will only discuss the forms in which L-dissimilation is expected to apply. Whether or not dissimilation applies was determined by looking at the suffix: if it is *–āris*, then dissimilation has applied.[2]

Each form was assigned values for several different predictors, depending on the type of consonantal intervener(s) present between the trigger *l* (defined as the rightmost *l* within the stem) and the target (suffixal) *l*. Interveners were divided into four categories: Rhotic, (non-liquid) Coronal, (non-liquid) Coronal Soronant, and Non-Coronal. For each of these four factors, a form received a "yes" if an intervener of that type was present, and a "no" if it was not. *plūrālis*, for example, received a "yes" for Rhotic, but a "no" for Coronal, Coronal Sonorant, and Non-Coronal; *lactāris* received a "yes" for Coronal and Non-Coronal, but a "no" for Rhotic and Coronal Sonorant. Including these categories in the analysis allows us to evaluate claims in the literature regarding the effects of different kinds of interveners. For example, if the claims that rhotics and non-coronals block L-dissimilation are correct, then the presence of a rhotic or a non-coronal intervener should significantly decrease the likelihood of L-dissimilation. In addition, if it is true that (combinations of) coronals (and non-coronals) do not block L-dissimilation, then the presence of a coronal (and non-coronal) intervener should not significantly decrease the likelihood of L-dissimilation.[3]

As the application of L-dissimilation has also been shown to depend on the distance between the trigger and target *l*, each form was annotated with the number of intervening syllables (on the role of distance in Latin L-dissimilation and more generally, see Hurch 1991, Pierrehumbert 1992, Suzuki 1998, Cser 2010, Zymet 2014, McMullin & Hansson 2016, *a.o.*; for a defense of the syllable as a distance metric, see Martin 2005, Zymet 2014). In *plūrālis*, for example, one syllable (*rā*) intervenes between trigger and target; in *lātrōcinālis*, three (*trō*, *ci*, *nā*) intervene. Each form was also annotated as to whether the trigger *l* was onset-initial (*līneālis*), onset non-initial (*clūnālis*), or in coda position (*solstitiālis*), as the syllabic role of the trigger has been shown to affect the likelihood of

[2]Generally speaking, *–āris* appears only if there is an *l* in the stem: this generalization holds for 174/178 (or 98%) of the *–āris* derivatives available in Perseus. The four apparently exceptional forms are *ēxtaris* 'of or belonging to the entrails', *pecūniāris* 'of or belonging to money, pecuniary', *pegmāris* 'of or belonging to the pegma or theatrical machine', and *sescēnāris* 'of one and a half years, eighteen months old'.

[3]While it has not been claimed that coronal sonorants affect the application of dissimilation in Latin, the Coronal Sonorant factor was included at the suggestion of an anonymous reviewer.

dissimilation (on the relevance of the syllabic role in Latin, see Zymet 2014; also Cohn 1992, Bennett 2013, 2015 on Sundanese). These predictors are summarized in Table 1.

Table 1: Factors investigated for Latin L-dissimilation

Factor	Value	Examples
Rhotic	Yes	*plūrālis, fulgurālis*
	No	*consulāris, intellectuālis*
Coronal	Yes	*lactāris, pulvīnāris*
	No	*colluviāris, sepulcrālis*
Coronal Sonorant	Yes	*pulvīnāris, pollināris*
	No	*lactāris, mīlitāris*
Non-Coronal	Yes	*fulgurālis, plūmālis*
	No	*clāvulāris, lustrālis*
Distance	0σ	*duplāris*
	1σ	*flā(brā)$_\sigma$lis*
	2σ	*hōrolo(gi)$_\sigma$(ā)$_\sigma$ris*
	3σ	*sol(sti)$_\sigma$(ti)$_\sigma$(ā)$_\sigma$lis*
	4σ	*lar(gī)$_\sigma$(ti)$_\sigma$(ō)$_\sigma$(nā)$_\sigma$lis*
(Trigger) Syllabic Role	Onset-Initial	*scrūpulāris, lupānāris*
	Onset-Non-Initial	*flūminālis, plūrālis*
	Coda	*fulgurālis, vulgāris*

If we concentrate only on the consonantal interveners, their identity appears to affect the likelihood that L-dissimilation will apply. For example, L-dissimilation is more likely to apply in forms with only a coronal intervener (17/24 cases, or 71%) than it is in forms with only a non-coronal intervener (in 13/29 cases, or 45%). This apparent difference between the coronal and non-coronal classes is, however, confounded with other factors. While the average distance between trigger and target for coronal-intervener forms is fairly small (17/24 have a single syllable intervening between the trigger and the target, 5/24 have two, and 2/24 have three), the distance between trigger and target for non-coronal-intervener forms is, on average, greater (14/29 forms have a single syllable intervening, while 15/29 have two). Another difference between the two classes has to do with the syllabic position of the trigger: while it is onset-initial for a majority of the coronal-intervening forms (18/24), it is onset-initial for a smaller number of the non-coronal-intervening forms

(15/29). Given that distance and syllabic role have been shown to independently affect the rate of L-dissimilation (Zymet 2014), these factors must be taken into account.

2 STATISTICAL ANALYSIS. To evaluate the significance of the predictors discussed above, I fit a logistic regression model to the data in Table 1, using the glm function of R's lme4 package (Bates & Maechler 2011). A logistic regression model is appropriate here because the goal of the analysis is to determine which combination of factors (those in Table 1) can best predict a binary outcome (occurrence or non-occurrence of L-dissimilation). Distance was treated as a continuous predictor; all others were treated as factors, and sum-coded. Syllabic Role (SR) was coded to test for effects of Onset-Non-Initial and Coda, following Zymet 2014. Whether or not dissimilation applied was the dependent variable; independent variables included all factors listed in Table 1, as well as an interaction between Coronal and Non-Coronal. The results are presented in Table 2, and discussed below. In Table 2, note that a factor with a negative coefficient means that dissimilation is less likely; a factor with a positive coefficient means that dissimilation is more likely. The absolute value indicates the strength of the effect. I follow standard convention and consider an effect significant if $p \leq .05$ (roughly, if the Z-Statistic $\geq |2|$), as assessed by the Wald test.

Distance. As is evident from Table 2, the distance between the target and trigger *l*s plays a significant role in determining whether or not L-dissimilation occurs: the more syllables that intervene between the target and trigger *l*s, the less likely dissimilation is to occur. The effect is roughly linear: 100% (0/115) of forms with zero syllables, 64.6% (42/65) of forms with one syllable, 34.8% (16/46) of forms with two syllables, and 0% (0/6) of forms with three or more syllables intervening undergo L-dissimilation.[4]

Rhotic intervener. The likelihood of dissimilation depends on whether or not a rhotic intervenes between the trigger and target *l*. If a stem contains an *r* following the trigger *l* (e.g. *plūr–*), it is significantly more likely to appear with the *–ālis* (non-dissimilated) allomorph than a stem that does not have an *r* following the trigger *l* (e.g. *lūn–*).[5]

[4] An anonymous reviewer asks if distance is still a significant predictor if the number of intervening consonants is factored out. To address this, I fit a model including the number of consonantal interveners in addition to the predictors in Table 1. Likelihood ratio tests revealed this model does significantly better than a model including number of interveners alone, but not better than a model that includes distance alone. (In other words, distance explains variance that is not explained by the number of interveners, but not vice versa).

[5] Bennett (2013, 2015) claims that only root-final rhotics block L-dissimilation. To evaluate this claim, I fit a model that included "Root-Final R" in addition to the predictors in Table 1. Likelihood ratio tests revealed that a model including "Rhotic" and "Root-Final Rhotic" does significantly better than a model including only "Root-Final Rhotic", but not significantly better than a model that includes "Rhotic" alone. (In other words, "Rhotic" explains variance that is not explained by "Root-Final Rhotic", but not vice versa.)

Table 2: Results of statistical analysis

Factor	Coeff.	Z-Stat.	Significant?	Interpretation
(Intercept)	2.93	3.30	—	—
Distance	-2.24	-4.27	Yes ($p < .001$)	As the distance between trigger and target increases, the probability of dissimilation decreases.
Rhotic	-1.50	-3.33	Yes ($p < .001$)	The presence of an intervening rhotic makes dissimilation significantly less likely to occur.
SR: Onset-Non-Initial	-1.89	-3.43	Yes ($p < .001$)	If the trigger is in onset-non-initial position, dissimilation is significantly less likely to occur.
Coronal Sonorant	0.86	1.97	Yes ($p = .05$)	The presence of an intervening coronal sonorant makes dissimilation significantly more likely.
SR: Coda	0.33	0.78	No ($p > .1$)	A trigger in coda position has no significant effect on dissimilation.
Non-Coronal	0.14	0.68	No ($p > .1$)	The presence of an intervening non-coronal consonant has no significant effect on dissimilation.
Coronal	0.03	0.06	No ($p > .1$)	The presence of an intervening coronal consonant has no significant effect on dissimilation.
Coronal*Non-Coronal	0.514	1.91	No ($p = .06$)	The presence of an intervening coronal and non-coronal has no significant effect on dissimilation.

Onset-non-initial trigger. The likelihood of dissimilation is to some extent dependent on the syllabic position of the trigger. If the trigger *l* is in syllable-non-initial position (e.g. *cl**l**ūn–*), that stem is significantly more likely to appear with the *–ālis* (non-dissimilated) allomorph than is a stem with the trigger *l* in syllable-initial position (e.g. ***l**upān–*).

Coronal sonorant. The model found that the presence of a coronal sonorant intervener makes dissimilation significantly more likely to apply. Put differently, a stem like *polli**n**–*

is more likely to appear with the *–āris* (dissimilated) allomorph than a stem that does not have a coronal sonorant intervener, like *lapid–*. This effect of coronal sonorants has not been noticed previously, and no extant theory of Latin L-dissimilation predicts it.[6]

Note however that the only non-liquid coronal sonorant in Latin is *n*. Given this, one possible explanation is that the effect of coronal sonorants reveals an additional, weak dispreference for *n*. . . *l*. While I am not aware of any independent evidence that Latin dispprefers non-local *n*. . . *l* sequences, it is interesting to note that in two of the four forms where dissimilation applies spuriously (fn. 2), the stem contains an /n/ (*pecū**n**iāris*, *sescē**n**āris*). Perhaps these cases could also be explained by a dispreference for *n*. . . *l* (though this explanation does not extend to the other two relevant forms – *pegmāris* and *extāris* – nor does it explain why other *n*-containing stems do not exhibit spurious dissimilation, as in *admissiō**n**ālis*). There is however evidence that a local version of this dispreference is active in Latin, as *nl* or *ln* sequences became *ll* in a number of forms (e.g. **pu**l**n**os* > *pu**ll**us*, **asi**n**-l**us* > *ase**ll**us*, Kühner & Holzweissig 1966:204–205; also Leumann 1977:212–213).

Non-significant factors. The rest of the factors examined in the analysis were not statistically significant. While forms with onset-non-initial triggers were significantly less likely to exhibit dissimilation that forms with onset-initial triggers, the likelihood of dissimilation for forms with coda triggers (e.g. *pu**l**ment–*) did not differ significantly from the likelihood for forms with onset-initial triggers. The likelihood of dissimilation for stems with coronal and non-coronal interveners (*la**t**er–*, *collē**g**i–*) was not significantly different from the likelihood of stems without. And finally, the interaction between the coronal and non-coronal interveners was not significant, although there is a trend for non-coronals (or coronals) to facilitate dissimilation when they co-occur with coronals (or non-coronals).[7]

Summary. The results of the statistical analysis support the following description of Latin L-dissimilation. As has been previously demonstrated by Zymet (2014), structural factors play a role in the application of L-dissimilation. As the distance between the trigger and target *l*s increases, the likelihood of dissimilation significantly decreases; if the trigger *l* is onset-non-initial, the likelihood that dissimilation will apply is also significantly lowered.

[6] An anonymous reviewer suggests that similarity-driven, surface correspondence approaches to dissimilation (e.g. Bennett 2013, 2015) predict that coronal sonorants should be more consistent blockers. It is not clear to me why this is the expected state of affairs, however, and in any case, the data suggest the opposite.

[7] Previous models of the data included several other predictors: syllabic role of the intervening consonant(s) (onset-initial, onset-non-initial, or coda), lexical frequency ("Max. Freq." from Perseus), and whether or not each intervening syllable was occupied by a non-coronal (see Bennett 2015: 299-300). Likelihood ratio tests revealed that none of these factors were significant, nor did including them in the model result in a better fit to the data, so they were not included in the model that I have presented above.

More pertinent to the topic of this squib are the results regarding the role of consonantal interveners. The results of the analysis indicate that rhotic interveners consistently block L-dissimilation (see also Zymet 2014). While non-coronal interveners have also been claimed to consistently block L-dissimilation (Cser 2010; Bennett 2013, 2015), this claim is not supported by the data (also Zymet 2014). The model indicates that, when dissimilation fails to apply across a non-coronal intervener (e.g. in ***l**oc̲ā**l**is*), this failure is better-explained as the result of other factors: namely, the effect of an intervening rhotic (some forms contain both a non-coronal and rhotic intervener, e.g. ***l**ar̲v̲ā**l**is*), distance between the trigger and target, and syllabic position of the trigger. An additional finding, novel to this study, is that a coronal sonorant intervener makes L-dissimilation significantly more likely to apply.

Abstracting away from the gradient effects of distance, trigger position, and coronal sonorants, we will focus on the following generalization for the remainder of the squib: when motivated, L-dissimilation will apply unless the intervening material contains an *r* (as assumed by Watkins 1970, Dressler 1971, Jensen & Strong-Jensen 1979, Steriade 1987). In this way, the *–ālis/–āris* allomorphy resembles that of a related nominal suffix, *–al/–ar*, which also exhibits L-dissimilation (cf. Cser 2010:37; Bennett 2013, 2015:284). Of the 20 *–al/–ar* forms in Perseus where L-dissimilation is expected to apply, the only form in which it fails to apply is the only form in which an *r* intervenes between the target and trigger *l*s (***L**upe**r**ca**l***, literally 'of Lupercus', name of a grotto sacred to the god Lupercus).

3 FORMAL ANALYSIS. This section focuses on explaining why an intervening *r* blocks L-dissimilation. I follow several authors (Kenstowicz 1994; Steriade 1995; Bennett 2013, 2015) who argue that the failure of L-dissimilation to apply across an intervening *r* is evidence for a restriction on the occurrence of multiple *r*s within a word. In other words, the reason why *plū**l**r̲+ā**l**is* surfaces as *plū**l**r̲ā**l**is*, and not *plū**l**r̲ā**r**is*, is not because the intervening *r* removes the motivation for L-dissimilation. Rather, it surfaces as *plū**l**r̲ā**l**is* because the drive to avoid multiple *r*s in the same word takes priority over the drive to avoid multiple *l*s (cf. Walsh-Dickey 1997).[8] This analysis can be formalized in Suzuki's (1998) Generalized OCP framework (on the OCP in Optimality Theory, see also Holton 1995, Itô & Mester

[8] An anonymous reviewer proposes an alternative analysis, similar to Steriade 1987's: (i) laterals are [+lateral], rhotics are [-lateral], and all other consonants are unspecified for [lateral]; (ii) adjacent specifications of [lateral] are forbidden. Thus underlying *famu**l**+ā**l**is* must surface as *famu**l**+ā**r**is*, to avoid two adjacent [+lateral] specifications; in forms like plūrālis, the two underlying [+lateral] consonants are separated by [-lateral] *r*, and are therefore permitted to surface. Other consonants are incapable of blocking L-dissimilation because they are never specified for [lateral]. This analysis, while sufficient to account for the Latin facts, does not extend to the Yidiny facts discussed later (see also Steriade 1995: 153–4). The analysis endorsed above does.

1996, Myers 1997, Alderete 1997, *a.o.*), where a constraint penalizing multiple *r*s (*R…R, or *[-lateral]…[-lateral]) dominates a constraint penalizing multiple *l*s (*L…L, or *[+lateral]…[+lateral]).[9] If *R…R ≫ *L…L, *plūrālis* is more harmonic than **plūrāris*.

Is there independent evidence that *R…R is active in Latin? Cser (2010:42ff) argues that, in non-final position, *r*s that co-occur within a word must be separated by at least two segments or one long vowel (so ✓*r*CV*r* or ✓*r*VC*r* or ✓*r*VV*r*/*r*V̄*r*, but **r*V*r*). The claim is essentially that while forms like *rārus* 'rare' and *prūrio* 'to stick out' are attested, there are no forms like *rarus* or *prurio* (though the argument is in many ways more complex: see Cser 2010 for a full disucssion, and especially pp. 45–50 for discussion of exceptions). In addition to stem-internal phonotactics, Cser claims that evidence for this **r*V*r* restriction comes from restrictions on derivational and inflectional morphology, as well as reduplication phenomena. (A further claim that such a dispreference for multiple *r*s restricted *s*-rhotacism has been debated; see Gorman 2012: 281 for discussion.) Thus while it is unclear that there is independent evidence for an unbounded restriction on multiple *r*s, there is at least evidence that multiple *r*s are dispreferred in local contexts.

The basic idea, then, is that in Latin *R…R ≫ *L…L (also Kenstowicz 1994, Steriade 1995): L-dissimilation is blocked when it would result in a violation of *R…R. But note that in forms like *r̲ēgulāris* and *hōr̲ologiāris*, where an *r* precedes the target and trigger *l*s, dissimilation applies normally, resulting in the apparent satisfaction of *L…L at the expense of *R…R. Intuitively, what these forms show us is that avoiding a pair of *l*s that is closer together takes priority over avoiding a pair of *r*s that is further apart (2a–b). The form *plūr̲ālis*, where L-dissimilation is blocked, shows us the mirror image effect: avoiding a pair of closer *r*s takes priority over avoiding a pair of more distant *l*s (2c).

(2) Application of L-dissimilation depends on locality of *R…R and *L…L violations

a. Attested: ***r**ēgulā**r**is* (*R…R violated, 2 syllables intervening)
   Unattested: **r**ēgu**l**ā**l**is* (*L…L violated, 0 syllables intervening)

b. Attested: *hō**r**ologiā**r**is* (*R…R violated, 3 syllables intervening)
   Unattested: *hōro**l**ogiā**l**is* (*L…L violated, 2 syllables intervening)

c. Attested: *plū**r**ā**l**is* (*L…L violated, 1 syllable intervening)
   Unattested: *plū**r**ā**r**is* (*R…R violated, 0 syllables intervening)

[9] Suzuki's (1998:101ff) analysis of Latin differs from the present analysis. Note that I do not formulate an analysis in Bennett's (2013, 2015) Surface Correspondence Theory of Dissimilation because it cannot in its present form derive the generalization that only intervening *r* blocks dissimilation (Bennett 2015:301ff).

One way to formalize the above intuition is to assume that *R…R and *L…L stand for families of constraints that ban the co-occurrence of *l*s and *r*s at different distances, with the constraints that ban the more local violations universally dominating the constraints that ban the less local violations.[10] Because the metric of distance argued to be relevant for Latin L-dissimilation is the number of intervening syllables (Zymet 2014), I will assume that *R…R is shorthand for *Rσ_0R $\gg$ *Rσ_1R $\gg$ *Rσ_2R $\gg$ (*etc.*), and *L…L is short for *Lσ_0L $\gg$ *Lσ_1L $\gg$ *Lσ_2L $\gg$ (*etc.*) (This proposal is identical in spirit to Suzuki 1998's Proximity Hierarchy; encoding distance in syllables is a notational variant of his proposal.) The Latin data in (2) show us that less-local violations of *R…R or *L…L are always preferred to more local violations, so it must be the case that *Rσ_0R, *Lσ_0L $\gg$ *Rσ_1R, *Lσ_1L $\gg$ *Rσ_2R, *Lσ_2L $\gg$ (*etc.*). To demonstrate, tableaux for ***r**ēgulā**r**is* and *plūrā**l**is* are provided in (3); I omit a tableau for *hō**r**ologiā**r**is* for space reasons.

(3)

rēgul+ālis	*Rσ_0R	*Lσ_0L	*Rσ_1R	*Lσ_1L	*Rσ_2R	*Lσ_2L
☞ a. ***r**ēgulā**r**is*					*	
b. *rēgu**l**ā**l**is*		*!				
plūr+ālis						
a. *plū**r**ā**r**is*	*!					
☞ b. *p**l**ūrā**l**is*				*		

Given that there is no evidence for a ranking between equally-local *Rσ_xR and *Lσ_xL, one might wonder if it is more economical to collapse the two constraint families into one, *[αlateral]…[αlateral]. While this is a possibility for Latin, evidence that both constraint families are necessary comes from Yidiny (Dixon 1977:98–99, also Crowhurst & Hewitt 1995:79, Steriade 1995:154, Bennett 2015:269ff), where *l*…*l* sequences across morpheme boundaries surface as *r*…*l* (*magi+**l**i+ŋa**l*** → *magi**r**iŋa**l***, **magi**l**iŋa**l***; 'went climbing up with', Dixon p. 99). If the two dissimilating *l*s are preceded by an *r*, however, dissimilation does not occur (*bu**r**wa**l**iŋa**l*** → *bu**r**wa**l**iŋa**l*** 'went jumping with', not **bu**r**wa**r**iŋa**l*** or **bu**r**wa**l**iŋa**r***; Dixon p. 100). One way to interpret the failure to dissimilate in the *r*…*l*…*l* context, to either *r*…*r*…*l* or *r*…*l*…*r*, is to claim that there is an asymmetry: having multiple *r*s within a single word in Yidiny, however far apart, is worse than having multiple

[10] For a probabilistic model that incorporates gradient effects of distance, see Zymet (2014). Note also that Odden (1994) proposes a parametric theory that recognizes four types of locality relations (directly adjacent, in adjacent syllables, tier-adjacent, and unrestricted). This theory is ill-suited to capture the Latin facts, as it would face problems in accounting for *hō**r**ologiā**r**is*, for example, where the relevant distance comparison is two vs. three syllables (2b). Neither of these are locality relations included in Odden's theory.

*l*s (*Rσ_xR $\gg$ *Lσ_yL, where *x* and *y* can stand for any number).

Another complication that appears to pose a challenge for the dual-restriction analysis of R-blocking in Latin comes from the observation that if an *r* follows both target and trigger *l*s, L-dissimilation applies normally (Suzuki 1998:106, following Walsh-Dickey 1997).

(4) Post-target *r*s do not block L-dissimilation

a. *sa**l**ūt+ā**l**+ite**r*** → *sa**l**ūtā**r**ite**r*** 'profitably, beneficially, advantageously'

b. *singu**l**+ā**l**+ite**r*** → *singu**l**ā**r**ite**r*** 'particularly, exceedingly'

These data are unproblematic if we assume that what motivates the appearance of the intermediate *r* in (4) is cyclic preservation of an *–āris* allomorph, present in the forms' morphological bases.[11] Both *salūtāriter* and *singulāriter* have *–āris* bases: *salūtāris* ('of well-being, healthful, health-giving, wholesome, salutary') and *singulāris* ('one by one, one at a time, alone, single…'). If we assume that *salūtāriter* and *singulāriter* are formed by suffixing *–iter* to the stems *salūtāri–* and *singulāri–*, the appearance of the intermediate *r* in (4a–b) can be attributed to a drive for identity between derivatives and their morphological bases (e.g. Benua 1997). In other words, it is more important for *salūtāriter* and *singūlāriter* to resemble their *–āris* bases than it is to avoid having multiple *r*s.[12]

While the account proposed in this section is sufficient to capture the effects of *r* on L-dissimilation, the analysis is not complete: it does not take into account (i) the syllabic position of the trigger or (ii) the facilitatory effect of coronal sonorants (see Section 2). Space prevents me from developing a full analysis here, but I assume that (i) could be incorporated into the analysis by making the family of markedness constraints that trigger dissimilation (*L…L) sensitive to the trigger's syllabic position, and that (ii) could be incorporated into the analysis as an additional markedness constraint that disprefers *n…l* sequences. The point of interest here is that, under the present analysis, there is no need to state conditions on the identity of the material that can intervene between the trigger and the target in order for L-dissimilation to apply. In other words, if we assume that L-

[11] An anonymous reviewer asks if the facts in (4) can be accounted for by the distance-based account proposed for ***r**ēgulā**r**is* and *hō**r**ologiā**r**is* above. They can't: notice that in the attested *salūtā**r**ite**r*** (4b), the two *r*s are separated by 0 syllables. Had dissimilation failed to apply (yielding *sa**l**ūtā**l**iter*), the two *l*s would be separated by 1 syllable. Given the analysis proposed above, we would incorrectly expect *sa**l**ūtā**l**iter* to be the attested form. The fact that it isn't suggests that cyclic preservation is a necessary addition to the analysis.

[12] An additional necessary assumption here is that *–iter* is invariant: unlike *–ālis*, its form cannot change (to *–itel*) to satisfy a co-occurrence constraint (here *R…R). This difference between *–ālis* and *–iter* could be analyzed by assuming that *–ālis* has a listed allomorph *–āris* but *-iter* has no listed allomorph *–itel*, or that *-iter* is subject to faithfulness constraints that *–ālis* is not. No forms ending in *–itel* are attested in Perseus.

dissimilation is motivated by *L…L and R-blocking by *R…R, it is not necessary to state conditions on the featural identity of what intervenes between the target and trigger *l*s.

4 SUMMARY. In sum, this squib has proposed a recharacterization and reanalysis of Latin L-dissimilation. Contrary to recent claims (Cser 2010; Bennett 2013, 2015), the results in Section 2 suggest that the only segment that consistently blocks L-dissimilation is an intervening *r* (as assumed by e.g. Watkins 1970, Dressler 1971, Jensen & Strong-Jensen 1979, Steriade 1987). In Section 3, I showed that this generalization can be captured as an interaction between two distance-sensitive families of segmental co-occurrence constraints, *L…L (or *[+lateral]…[+lateral]) and *R…R (or [-lateral]…[-lateral]).

One reason this reanalysis is potentially significant is that Latin L-dissimilation is one of only a few known cases in which a dissimilatory process appears to be sensitive to the identity of the intervening material. The other two clear cases of segmental blocking in dissimilation discussed by Bennett (2015) are L-dissimilation in Yidiny (discussed briefly above) and R-dissimilation (blocked by an intervening *l*) in Georgian. Less-clear cases discussed in Bennett's (2015) online appendix involve labial dissimilation in Akkadian, nasal cluster dissimilation in Gurindji, backness dissimilation in Tzutujil, and Dahl's Law in various Bantu languages.[13] Further investigation is necessary to determine whether an analysis like that presented here for Latin – where segmental blocking is due to the activity of competing co-occurrence constraints – is appropriate in these cases as well.

The broader theoretical point here is that Latin provides no motivation for a theory of dissimilation that allows us to refer to the quality of intervening material (e.g. Agreement by Correpondence, Rose & Walker 2004, Hansson 2010, but esp. Hansson 2007, Bennett 2015), as the more restrictive analysis proposed here suffices.[14] If further investigation reveals that the same can be said for all other known cases, then this conclusion generalizes.

[13] See Bennett (2015) for references. By "less-clear", I mean that Bennett (2015) expresses either significant reservations regarding the classification of these phenomena as dissimilatory in nature (see also Stanton 2016a,b on Gurindji), or doubts about the appropriateness of the available evidence.

[14] Put differently, Latin does not provide support for a theory in which dissimilatory processes exhibit constraints on interveners. Space prevents me from doing justice to the extensive literature on this topic, but see Jensen (1974), McConvell (1988), and Odden (1994), among others, for discussion.

References

Alderete, John. 1997. Dissimilation as local conjunction. In Kiyomi Kusumoto (ed.), *Proceedings of the North East Linguistics Society*, vol. 27, 17–32. GLSA.

Bates, Douglas & Martin Maechler. 2011. Package 'lme4'. R.

Bennett, William G. 2013. *Dissimilation, Consonant Harmony, and Surface Correspondence*: Rutgers, The State University of New Jersey dissertation.

Bennett, Wm. G. 2015. *The Phonology of Consonants: Harmony, Dissimilation, and Correspondence*. Cambridge: Cambridge University Press.

Cohn, Abigail C. 1992. The Consequences of Dissimilation in Sundanese. *Phonology* 9. 199–220.

Crowhurst, Megan & Mark Hewitt. 1995. Prosodic Overlay and Headless Feet in Yidiny. *Phonology* 12. 39–84.

Cser, András. 2010. The-alis/aris-allomorphy revisited. In Franz Rainer, Wolfgang U. Dressler, Dieter Kastovsky & Hans C. Luschützky (eds.), *Variation and change in morphology: selected papers from the 13th international morphology meeting*, 33–51. Amsterdam/Philadelphia: John Benjamins.

Dixon, Robert M. W. 1977. *A Grammar of Yidin*. Cambridge: Cambridge University Press.

Dressler, Wolfgang. 1971. An Alleged Case of Non-chronological Rule Insertion. *Linguistic Inquiry* 2. 597–599.

Gorman, Kyle. 2012. Exceptions to rhotacism. In *Proceedings of the 48th annual meeting of the Chicago Linguistic Society*, 279–293. Chicago Linguistic Society.

Hansson, Gunnar Ólafur. 2007. Blocking Effects in Agreement by Correspondence. *Linguistic Inquiry* 38. 395–409.

Hansson, Gunnar Ólafur. 2010. *Consonant Harmony: Long-Distance Interaction in Phonology*. Berkeley, CA: University of California Press.

Holton, David. 1995. Assimilation and Dissimilation of Sundanese Liquids. In Jill Beckman, Laura Walsh-Dickey & Suzanne Urbanczyk (eds.), *Papers in Optimality Theory*, vol. 18 University of Massachusetts Occasional Papers, University of Massachusetts Graduate Student Association.

Hurch, Bernard. 1991. On Adjacency and Related Concepts. In Pier Marco Bertinetto, Michael Kenstowicz & Michele Loporcaro (eds.), *Certamen phonologicum ii*, 43–63. Torino: Rosenberg and Sellier.

Itô, Junko & Armin Mester. 1996. Rendaku I: Constraint conjunction and the OCP. ROA-144.

Jensen, John T. 1974. A Constraint on Variables in Phonology. *Language* 50. 675–686.

Jensen, John T. & Margaret Strong-Jensen. 1979. The Relevancy Condition and variables in phonology. *Linguistic Analysis* 5. 125–160.

Kenstowicz, Michael. 1994. *Phonology in Generative Grammar*. Oxford: Blackwell.

Kühner, Raphael & Friedrich Holzweissig. 1966. *Ausfürliche Grammatik der Lateinischen Sprache*. Hannover: Verlag Hahnsche Buchhandlung.

Leumann, Manu. 1977. *Lateinische laut- und formenlehre*. München: C.H.Beck'sche Verlagsbuchhandlung.

Martin, Andrew Thomas. 2005. *The Effects of Distance on Lexical Bias: Sibilant Harmony in Navajo Compounds*. Los Angeles: University of California MA thesis.

McConvell, Patrick. 1988. Nasal cluster dissimilation and constraints on phonological variables in Gurundji and related languages. *Aboriginal linguistics* 1. 135–165.

McMullin, Kevin & Gunnar Ólafur Hansson. 2016. Long-Distance Phonotactics as Tier-Based Strictly 2-Local Languages. In Adam Albright & Michelle A. Fullwood (eds.), *Proceedings of the 2014 Meeting on Phonology*, Washington, DC: Linguistic Society of America.

Myers, Scott. 1997. OCP Effects in Optimality Theory. *Natural Language and Linguistic Theory* 15. 847–892.

Odden, David. 1994. Adjacency Parameters in Phonology. *Language* 70. 289–330.

Pierrehumbert, Janet. 1992. Dissimilarity in the Arabic Verbal Roots. In *Proceedings of the 23rd Meeting of the Northeastern Linguistic Society*, Amherst, MA: GLSA.

Rose, Sharon & Rachel Walker. 2004. A Typology of Consonant Agreement as Correspondence. *Language* 80. 475–531.

Stanton, Juliet. 2016a. Effects of allophonic nasalization on NC clusters: a contrast-based account. In *To appear in NELS 46 Proceedings*, .

Stanton, Juliet. 2016b. Trigger Deletion in Gurindji. Ms., MIT. Draft available online at `http://web.mit.edu/juliets/www/gurindji.pdf`.

Steriade, Donca. 1987. Redundant values. In A. Bosch, B. Need & E. Schiller (eds.), *Papers from the parasession on metrical and autosegmental phonology*, 339–362. Chicago: Chicago Linguistic Society.

Steriade, Donca. 1995. Underspecification and Markedness. In John Goldsmith (ed.), *The Handbook of Phonological Theory*, 114–174. Cambridge, MA: Blackwell.

Suzuki, Keiichiro. 1998. *A typological investigation of dissimilation*. Tucson: The University of Arizona dissertation.

Walsh-Dickey, Laura. 1997. *The Phonology of Liquids*. Amherst, MA: UMass Amherst dissertation.

Watkins, Calvert. 1970. A case of non-chronological rule insertion. *Linguistic Inquiry* 1. 525–527.

Zymet, Jesse. 2014. *Distance-based decay in long-distance phonological processes: a probabilistic model for Malagasy, Latin, English, and Hungarian*. Los Angeles: University of California MA thesis.