

## Appendix: A Note on Boston *r* and the Elsewhere Condition

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### 1. Introduction

The dialect of English spoken in and around Boston has a famous process deleting *r* in preconsonantal and prepausal position: *park youʔ carʔ*. It also has a less famous process inserting *r* prevocally: *draw[r]* and *quarterʔ*. Halle and Idsardi (1997) have argued that the interaction between these two processes is governed by a modified version of the Elsewhere Condition (EC) of Kiparsky (1973) and others.

This appendix points out certain inadequacies in Halle and Idsardi's analysis, and these inadequacies ultimately impeach their proposals about the EC.

### 2. Overview of the Facts

This summary of the data closely follows McCarthy (1991, 1993), which should be consulted for additional references, fuller exemplification, and more comprehensive discussion.

I will begin by introducing the traditional terminology along with the examples. Words with *r* alternations are traditionally classified according to whether they originally had *r* or not. Preservation of etymological *r* is called *r*-linking, to be distinguished from *r*-intrusion, which is the appearance of an unetymological *r*:

#### (1) *r*-Deletion, Intrusion, and Linking<sup>1</sup>

##### a. Etymological *r*

*r* Linking

The spar is broken.

He put the tuner away.

You're a little late.

*r* Deletion

The sparʔ seems to be broken.

He broke the sparʔ.

He put the tunerʔ down.

He bought a new tunerʔ.

You're somewhat late.

##### b. Unetymological *r*

*r* Intrusion

[ɑ] The spar is broken.

[ə] He put the tunar away.

[ɔ] The boat'll yawr a little.

[ʌ] Yeahr, it is.

No *r* Intrusion

The spa seems to be broken.

The put the tuna down.

The boat tends to yaw some.

Yeah, sure.

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<sup>1</sup>Throughout, I use IPA transcription, except that for convenience I write English *r* as [r] rather than [ɹ].

c. Additional Examples of *r* Intrusion

All Monicar, all the time. (Spurious motto of MS-NBC.)

(with)drawring, withdrawral

The baahring of sheep

Ken Starr is subpoenaring Mrs. Clinton again.

These examples show that *r* is deleted before a consonant or pause and preserved before a vowel. They also show that *r* intrusion occurs after word-final [ə], [ʌ], [ɑ], and [ɔ], if a vowel follows. The “word-final” requirement on intrusion also includes the position before a level 2 suffix like *-ing*. This is fully consistent with other aspects of level 2 phonology.

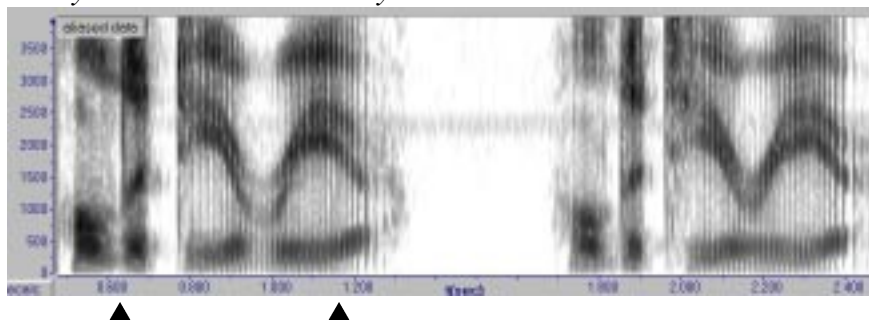
The vowels that trigger *r* intrusion — [ə], [ʌ], [ɑ], and [ɔ] — are just exactly the word-final monophthongs that are permitted in this dialect. All other final vowels are actually diphthongs: [ij], [ej], [uw], and [ow]. So the generalization about *r* intrusion could be restated as “after a word-final vowel” with no loss of accuracy.

Though the terminology in (1) is etymologically oriented, there is often little basis for maintaining the etymological distinction between linking *r* and intrusive *r*. Certainly language learners receive no evidence from which they could infer different underlying representations for *tuna* and *tuner*. Alternations like *Homer*/*Homeric* vs. *Volta*/*Voltaic* offer marginal support for the etymological distinction, but that’s about it (except for function words — see below). More importantly, the facts about the **distribution** of *r* are robust and productive, whatever the status of the underlying representations in individual cases. So, speakers of this dialect regularly delete and insert *rs* in the expected places when confronted with neologisms, loan words, and the like.

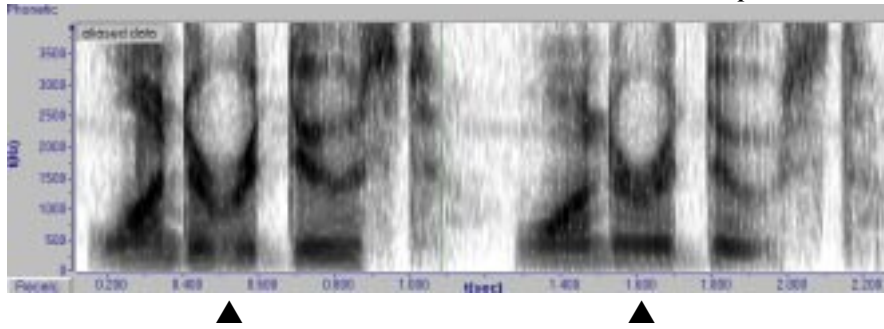
Intrusive and linking *r* are phonetically identical, but they are phonetically distinct from an ordinary *r* onset. The following spectrograms show the contrast:

(2) Phonetics of *r*

a. *Hold it to your rear* vs. *Hold it to your ear*



b. *Wanda reduced the sauce vs. Wandar adduced a crucial example*



Both of the utterances in (2a) would be transcribed broadly as [howldətəjərijə].<sup>2</sup> The arrow marks the *r* in each. In *Hold it to yourr rear*, which has an ordinary *r* onset, the *r* is relatively constricted — it is more consonantal than the linking *r* in *Hold it to your ear*. In other words, the linking *r* of *your ear* is lenited relative to the unambiguous onset *r*. The second pair of utterances, in (2b), shows that intrusive *r* is just like linking *r* in this respect.

Lenition of linking and intrusive *r* is consistent with the phonology of English word-final consonants in prevocalic position. Flapping of *t* and other weakening processes occur under the same conditions (*I ha[r]e Ed*). In the view of Kahn (1976), this VC#V position is a locus of ambisyllabicity, and lenition is a consequence of that. In the view of Kiparsky (1979) and Selkirk (1982), lenition is a consequence of being a prevocalic coda. Either way, the phonetic properties of linking and intrusive *r* illustrated in (2) are what we would expect from a word-final consonant in prevocalic position.

The word-final position of intrusive *r* has consequences that will be the focus of most of our attention later. “Word” must be understood in a specific sense, because only some kinds of words — those that are proper phonological words (PWd) — will host intrusive *r*. The evidence for this comes from looking at how function words respond in contexts that should lead to *r* intrusion.

Generally, *r* cannot be inserted after a function word (Kahn 1976), even though the other phonological conditions (a preceding [ə], [ʌ], [ɑ], or [ɔ] and a following vowel) are met. Compare *I wannar eat soon* with *The iguanarr eats soon* and *Wandarr eats soon*, or examine the following examples:

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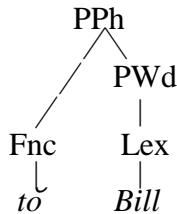
<sup>2</sup>Alan Prince notes that *Hold it to yourr rear* might seem to present a confound: geminate *r* in *your rear*. This is spurious, though, since the first *r* is regularly deleted. In any case, exactly the same phonetic properties can be observed with *the rear*, where there is no question of a geminate.

(3) No Intrusive *r* in Function Words

To add to his troubles	[tə(* <u>r</u> ) æd tə(* <u>r</u> ) ɪz trəbəlz]
When ya apply that rule	[wɛn jə(* <u>r</u> ) əplɑj ðæt ruwəl]
Why do Albert and you	[wɑj də(* <u>r</u> ) ælbət ən juw]
It was quarter of eight	[ɪt wəz kwɔtər ə(* <u>r</u> ) ejt]
a lotta apples	[ə lɔtə(* <u>r</u> ) æpəlz]
the apples	[ðə(* <u>r</u> ) æpəlz] ~ [ði æpəlz]
He shoulda eaten.	[ʃʊrə(* <u>r</u> ) ijʔən]
Did you answer him?	[dɪdʒə(* <u>r</u> ) ænsər ɪm]

The explanation is that English is basically a proclitic language, so a function word is cliticized to a following lexical word (Selkirk 1984: 366, 1995, 1996). Here is one possible structure for proclisis:

(4) A Proclitic Structure (after Selkirk 1995, 1996):



In this structure, the right edge of the function word does not coincide with the right edge of a PWd. So, if *r* intrusion is permitted **only** in PWd-final position, we have an immediate explanation for the facts in (3): the putative intrusive *rs* are not PWd-final. On the other hand, the right edge of a lexical word does reliably coincide with the right edge of a PWd. And that's exactly where intrusive *r* is found.

Two alternative accounts of this observation can be quickly dismissed. One idea would be to invoke some kind of general invisibility or immunity of function words to the *r* insertion rule, perhaps by using the tools of Lexical Phonology (cf. Kiparsky 1982). Another idea would be to order the *r* insertion rule before the reduction rules that produce word-final *ə*. For instance, *lot of* → [lɔrə] involves a process deleting *v*, and perhaps that could be ordered after *r* insertion. Neither analysis works, however, because function words, including those that are vowel-initial by virtue of reduction rules, will **condition** intrusive *r* by providing the following vowel context:

(5) *r* Intrusion before Function Words

Cuba has been in the news lately.	[kjuwbə <u>r</u> əz]
I saw them.	[sɔ <u>r</u> ɛm]

Of course, the data in (5) do nothing to impeach the claim that intrusive *r* is permitted only PWd-finally. In [kjuwbər] and [sɔr], the intrusive *r* is PWd-final, since it occurs at the right edge of a lexical word.

Additional evidence provides strong confirmation for the PWd-finality of intrusive *r*. There are several circumstances in English where the right edge of function word does coincide with the right edge of a PWd, and in precisely those circumstances intrusive *r* does occur:

(6) Intrusive *r* in Function Words

a. Focused Function Word

I WANNAR<sub>r</sub> eat!

b. Phrase-Final Function Word

I said I was gonnar<sub>r</sub> and I did.

Did your<sub>r</sub> or didn't you? [dɪdʒə<sub>r</sub> ə dɪdən jə]

We oughtar<sub>r</sub> if we're asked.

We shouldar<sub>r</sub>, I guess, gotten more charcoal.

Say "wannar<sub>r</sub>" again.

c. Object Pronouns

I saw yar<sub>r</sub> on TV. I'll give yar<sub>r</sub> a call.

He'll go right around yar<sub>r</sub> on this I'll send it to yar<sub>r</sub> on Tuesday.

Proclisis is blocked by focus and by phrase boundaries; when proclisis is blocked, the function word is promoted to PWD-hood (Selkirk 1995, 1996). Then the function word is PWD-final (*I WANNAR<sub>r</sub> eat!*, etc.), and so intrusive *r* is expected—and observed. As for object pronouns, they are enclitic, as shown by the fact they can reduce sentence-finally (*I saw yā* vs. *Who did you give the book tó?*). If enclitics have a recursive PWD structure like level 2 suffixes (McCarthy and Prince 1993), then intrusive *r* is expected: *I saw<sub>r</sub> yar<sub>r</sub> on TV* (cf. *I saw<sub>r</sub> im<sub>r</sub>*).

So, we've seen that *r* is inserted only in PWD-final position, with various consequences of the behavior of function words. A final fact that will be significant below is that linking *r*, unlike intrusive *r*, *does* occur finally in function words:

(7) Linking *r* in Function Words

...for any reason...

...either apples or oranges...

They're eating.

Tom and I were eating.

Our answer was...

Their answer was...

A function word like *for* is procliticized but nonetheless retains its underlying *r*. Hold this thought.

### 3. Summary of Halle and Idsardi's Analysis

Halle and Idsardi (1997) (hereafter H&I) propose the following two rules to account for the *r*/∅ alternations in the Boston dialect:<sup>3</sup>

(8) *r*-Deletion

$r \rightarrow \emptyset / V \_\_\_ ]_\sigma$

(9) *r*-Insertion

$\emptyset \rightarrow r / V \_\_\_ ]_\sigma V$   
[-high]

The rule of *r*-Deletion is simple: drop *r* from the coda of any syllable. The rule of *r*-Insertion is more complex: insert *r* into the coda after a [-high] vowel if another vowel follows. (The feature [-high] defines the class [ə], [ʌ], [ɑ], and [ɔ].) Both rules presuppose that there is no re- or ambisyllabifica-

<sup>3</sup>I've translated H&I's rules into linear form, but otherwise I've been faithful to the originals.

tion across word boundaries, so a word-final *r* is a coda (and therefore potentially vulnerable to Deletion) even before a vowel.

H&I are primarily concerned with understanding how these two rules interact. They observe that Deletion and Insertion, if applied conjunctively in that order, would produce an A→B→A Duke-of-York derivation in Pullum’s (1976) sense, because underlying word-final *r* in prevocalic position would first delete and then be reinserted:

(10) Expected Duke of York Derivation<sup>4</sup>

	a. Linking <i>r</i>	cf.	b. Intrusive <i>r</i>
Underlying Form	Homer ate		Volta ate
Syllabification	Homer] <sub>σ</sub> ate		Volta] <sub>σ</sub> ate
Rule (8) — <i>r</i> -Deletion	Homerf] <sub>σ</sub> ate		—
Rule (9) — <i>r</i> -Insertion	Homer] <sub>σ</sub> ate		Volta] <sub>σ</sub> ate

Linking *r* cases like *Homer ate* undergo an /r/→∅→r Duke-of-York derivation. H&I regard this derivation as problematic, writing as follows:<sup>5</sup>

“This type of rule interaction has been termed by Pullum ‘the Duke of York gambit’ and objections to it have been raised on the grounds that the gambit subverts the essential difference between rules, which reflect idiosyncratic facts of a language, and repairs, which are consequences of general structural principles obeyed by the language.” (Halle and Idsardi 1997: 344)

To avoid this Duke-of-York derivation, H&I instead propose to invoke a modified version of the Elsewhere Condition (EC). The intention is to get the following derivation, where *r*-Insertion applies disjunctively with respect to *r*-Deletion:

(11) Derivation (10) Revisited Under EC

	a. Linking <i>r</i>	b. Intrusive <i>r</i>
Underlying Form	Homer ate	Volta ate
Syllabification	Homer] <sub>σ</sub> ate	Volta] <sub>σ</sub> ate
Rule (9) — <i>r</i> -Insertion	—	Volta] <sub>σ</sub> ate
Rule (8) — <i>r</i> -Deletion	<i>Blocked by EC</i>	<i>Blocked by EC</i>

In this revised derivation, there is no /r/→∅→r Duke-of-York path. Instead, *r*-Insertion applies first, and both linking and intrusive *r* are prevented from undergoing *r*-Deletion by the EC.

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<sup>4</sup>The underlying forms in (10) are justified on the basis of alternations like *Homer/Homeric* vs. *Volta/Voltaic* (Halle and Idsardi 1997: 332).

<sup>5</sup>Since H&I’s phonological architecture appears to be based exclusively on rules, it is difficult to make sense of this argument in relation to their overall assumptions. Certainly they do not explain how the “essential difference” between rules and repairs is expressed in their theory.

For analysis and general discussion of Duke-of-York derivations from an OT perspective, see McCarthy {, to appear #2335;, to appear #2430}.

That's the general idea, but some problems arise when we attempt to apply the EC to this situation. We'll begin, like H&I, with the classic formulation of the EC in Kiparsky (1973):<sup>6</sup>

(12) Elsewhere Condition (Kiparsky 1973, 94)

Two adjacent rules of the form

$$\begin{array}{l} A \rightarrow B / P \_\_\_ Q \\ C \rightarrow D / R \_\_\_ S \end{array}$$

are disjunctively ordered if and only if:

- (a) the set of strings that fit  $PAQ$  is a subset of the set of strings that fit  $RCS$ , and
- (b) the structural changes of the two rules are either identical or incompatible.

The point of Kiparsky's proposal was to generalize the notion of disjunctive ordering, which had been introduced in Chomsky and Halle (1968). Two rules are in a disjunctive relationship if applying one (even vacuously) to a string precludes applying the other to the same string. Though originally limited to rules that can be abbreviated by the parenthesis notation, disjunctive ordering under the EC is applicable to any pair of adjacent rules whose domains of applicability are in a subset relation (also see Anderson 1974).<sup>7</sup>

Now, one problem is that, under this definition, the EC is simply irrelevant to  $r$ -Deletion and  $r$ -Insertion because they don't meet clause (a) — their domains are not in a subset relationship. The domain of  $r$ -Deletion is all strings of the form  $\dots r]_{\sigma} \dots$ , while the domain of  $r$ -Insertion is all strings of the form  $\dots V ]_{\sigma} V \dots$ . So the domain of Insertion is disjoint from, rather than a subset of, the domain of Deletion.

This problem can be solved by adopting a modification of the EC that Kiparsky suggests later in his paper:

“Another possibility [for generalizing the Elsewhere Condition] is that a subset relationship in the external context — namely,  $P \_\_\_ Q, R \_\_\_ S$  in [(12)] — might suffice to establish disjunctivity.”  
(Kiparsky 1973: 94)

The external contexts of  $r$ -Insertion and  $r$ -Deletion are in the required subset relationship. If this is enough to trigger disjunctive ordering, as H&I must (tacitly) assume, then we're half-way toward using the EC to get these rules to apply as in (11).

The other problem involves disjunctive rule application itself. The classic EC blocks the more general rule from applying to the **output** of the more specific rule. This means that  $r$ -Deletion can't apply to the output of  $r$ -Insertion in *Volta~~r~~ ate* (11b). But the classic EC won't block  $r$ -Deletion from applying to linking  $r$  cases like *Homer ate* (11a): because the  $r$  is underlyingly present in *Homer*, the rule of  $r$ -Insertion doesn't apply at all — even vacuously — to this expression.<sup>8</sup> Then there would be no disjunctive ordering, and \**Homer~~r~~ ate* would wrongly result.

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<sup>6</sup>See Janda and Sandoval (1984) for a review of different versions of the EC and Baković (1998, 1999) and Prince (1996, 1997) for recent discussion.

<sup>7</sup>The two rules must also conflict, in some sense. That's the point of the “identical or incompatible” clause.

<sup>8</sup>H&I credit François Dell with noticing this.

H&I propose to solve this problem by further generalizing the EC:

“Any two rules meeting the Elsewhere Condition prerequisites are subject to the following constraint: the less complex rule may not apply to a string that has the form of the output of the more complex rule. That is, the less complex rule is blocked if the current representation is compatible with the structural change of the more complex rule.”(Halle and Idsardi 1997: 345-6)

An expression matches “the form of the output” of a rule if it satisfies the structural description of that rule as modified by the transformation that the rule effects (i.e., it is “compatible with the structural change”, as H&I put it). The form of the output of *r*-Insertion is the expression ... V *r*]<sub>σ</sub> V ..., and any string matching this will be blocked from undergoing *r*-Deletion. For easy cases like *Voltar*]<sub>σ</sub> *ate* (11a), this gives the same result as the classic EC. For hard cases like *Homer*]<sub>σ</sub> *ate* (11a), this gives a different result than the classic EC: *Homer*]<sub>σ</sub> *ate* has the form of the output of *r*-Insertion. It is not the literal output of *r*-Insertion, even vacuously, because it does not meet the structural description of *r*-Insertion. But it does **resemble** the output of *r*-Insertion, and under the revised EC that’s sufficient to block *r*-Deletion from applying.

This is the cusp of H&I’s argument. The classic EC will not control the interaction of Insertion and Deletion in the intended way; it would block deletion of intrusive *r* but not of linking *r*. Modified by the “form of the output” clause, though, the EC does block deletion of *rs* from both sources.

#### 4. Critique

Thusfar, we have not seen how H&I deal with the fact that intrusive *r* is limited to PWD-final position. Here is all that they have to say about the matter:

“McCarthy devotes considerable attention to *r*-insertion after function words (prepositions, pronominal clitics, auxiliary verbs). He shows that *r*-insertion does not occur if the function word is part of the same constituent as the following word; e.g. no insertion occurs in *I’m gonna eat* or in *Didja eat*. By contrast, when the function word is not part of the same constituent as the next word, *r*-insertion occurs; e.g. *I said I was gonna[r]* and *I did* or *we oughta[r]* if we’re asked (McCarthy 1993: 176). This difference is explained if we assume that in *I’m gonna eat* and *Didja eat*? the cliticized function word is morphologically (and phonologically) part of the following word. The space separating the words in the conventional orthography is thus misleading. Since *r*-insertion [(9)] takes place after [-high] vowels only if they come at the end of a constituent that is a lexical category or phrase, cliticization of the function word to the following word prevents *r*-insertion. In cases such as *We oughta[r]* if we’re asked, the function word cannot cliticize across the clause boundary, and consequently cliticizes to the preceding word. Then, because the function word is at the end of a constituent, *r*-insertion [(9)] will apply.” (Halle and Idsardi 1997: 344fn.)

The *r*-Insertion rule (9) is restricted “to derived environments ... and to Level II and subsequent (noncyclic) levels of the phonology. (See Kiparsky, 1993 for the separation of the derived environments condition from the lexical/cyclic conditions.)” (Halle and Idsardi 1997: 344)

The first quotation presupposes that *r*-Insertion can only apply “at the end of a constituent”. Since this limitation is not expressed overtly in the formal statement of the rule in (9), it must be deemed to follow from the restrictions on *r*-Insertion that are imposed in the second quotation: *r*-Insertion is limited to environments that are derived at Level II or later.



It is difficult to see how this proposal is going to work out. Why is *gonna eat* an underived environment at Level II or later, while *gonna and* is a derived environment? By the usual assumptions about how Lexical Phonology works, the only environments that are underived at Level II or later are tautomorphemic sequences or combinations of a root and a Level I affix. More broadly, this analysis raises a serious issue about sensitivity of rules to derived environments. Though Kiparsky (1993) does indeed argue that non-cyclic rules can exhibit derived environment effects, he also argues for a new criterion about which rules will be limited to derived environments — a criterion that does not seem to be applicable to *r*-Insertion.

Without considerable further development, then, it appears that that the restriction of *r*-Insertion to PWD-final position needs to be incorporated into the statement of the rule itself:

(13) *r*-Insertion (Revised)

$$\emptyset \rightarrow r / \underset{[-\text{high}]}{\text{V}} \text{ \_\_\_\_ } ]_{\sigma} ]_{\text{PWD}} \text{V}$$

Once the rule is corrected in this way, it will consistently apply to lexical words but will not apply to function words, unless they are also PWD-final for independent reasons.

As a check, we need to confront the revised rule of *r*-Insertion in (13) with the “form of the output” clause of the revised EC. The form of the output of (13) is matched by any expression that contains the sequence ... V  $r]_{\sigma} ]_{\text{PWD}}$  V ... For example, the expressions *Homer]\_{\sigma} ]\_{\text{PWD}} ate* and *Voltar]*\_{\sigma} ]\_{\text{PWD}} ate match this output form, and so *r*-Deletion is correctly blocked from applying to them.

Difficulties arise, however, when the revised *r*-Insertion rule and the revised EC are brought to bear on linking *r* in function words. The expression *for]\_{\sigma} Ed* does not match the form of the output of *r*-Insertion because the *r* is not PWD-final. Instead, it has the proclitic structure in (4). We know that it must have this structure because of the various arguments for proclisis in the literature and specifically because *r*-Insertion fails in the same context (*to Ed* [tə ɛd], \*[təɹ ɛd]). This means that the revised EC is not triggered in the derivation of *for]\_{\sigma} Ed*. It will not block *r*-Deletion from applying to linking *r* after a function word, and so *\*for]\_{\sigma} Ed* *\*[fə ɛd* will wrongly result.

One might attempt to save the analysis by finding another explanation for the preservation of *r* in *for Ed*. In general, H&I assume and the derivations above presuppose that there is no resyllabification in VC#V sequences, at least at the stage when *r*-Insertion and *r*-Deletion apply. But it is not implausible to suggest that resyllabification **does** occur in clitic groups like *for Ed* even if it does not occur across right PWD edges in phrases like *Homer ate*. The idea, then, is that *for Ed* is syllabified *fo]\_{\sigma} ]\_{\text{PWD}} rEd*, but *Homer ate* is still *Homer]\_{\sigma} ]\_{\text{PWD}} ate*, at the step in the derivation when *r*-Deletion applies. Then *r*-Deletion would correctly not affect the *r* of *for Ed* — not because of the EC, but simply because its structural description is not met.

This alternative, however reasonable it might seem, will not work. The problem has to do with the phonology of word-final consonants in English. As I noted earlier, word-final prevocalic consonants in English are subject to various phonetic shortening and lenition processes, of which flapping is the most familiar (e.g., *hi[r] Ed*). Lenition has been analyzed as an effect of the special syllabificational status of these consonants: either they are ambisyllabic (Kahn), or they are prevocalic codas (Kiparsky, Selkirk, H&I). The important thing for present purposes is that the final

consonants in proclitics lenite just like the final consonants in lexical words. So *a[r] Ed's* has a flap just like *hi[r] Ed* does. This fact shows that there is no difference in syllabification between proclitics and lexical words. Confirmation comes from cases with *r*. The minimal pair *I painted the loofa* <sub>o</sub> *red* differs phonetically from *I painted the loo for* <sub>o</sub> *Ed* in exactly the same way as the minimal pair in (2) does — the *r* of *red* is more constricted (hence stronger or less lenited) than the *r* of *for*.<sup>9</sup> I conclude, then, that the alternative account of *for Ed* does not work because it requires syllabification that is inconsistent with the facts of lenition in clitic groups.

## 5. Summary and Implications

The Elsewhere Condition triggers disjunctive application of rules that are in a specific/general relationship. Halle and Idsardi (1997) argue that the Elsewhere Condition should be revised so that the general rule cannot apply to any form that resembles the output of the specific rule, even in derivations where the specific rule has not actually applied. Their argument is based on an analysis of Boston *r*. The goal of their proposal is the elimination of Duke-of-York derivations in favor of disjunctive ordering.

In this appendix, I have argued that their analysis of Boston *r* does not work, once the full range of data is considered. The problem is that the revised EC wrongly predicts that linking *r* should be impossible with function words — essentially because intrusive *r* is impossible with function words.

The proposed revision in the EC is not supported by this evidence. Since, for other reasons, the EC does not appear to advance the general goal of eliminating Duke-of-York derivations (McCarthy to appear), there is perhaps some reason to doubt that further explorations along these lines will prove any more successful.

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<sup>9</sup>A loofa is a type of gourd which, when dried, is used as a sponge. A loo is a toilet in the UK. Constructing minimal pairs sometimes requires ingenuity.

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