Two repairs in one grammar?
A unified OT account of obligatory epenthesis & variable t/d deletion in English

Regular past tense forms in English are affected by two processes that simplify marked coda consonant sequences: vowel epenthesis, which obligatorily applies when the past tense morpheme is added to a verb ending in a coronal stop (e.g. /red+d/ → [redəd] *raided*), and t/d deletion, which optionally applies to the past tense forms of verbs not ending in coronal stops (e.g. /bʌz+d/ → [bʌzd] ~ [bʌz] *buzzed*). Guy and Boberg (1997) propose that both of these repairs are motivated by the avoidance of featural OCP violations, observing that the likelihood of repair increases with the number of features shared between the final two coda consonants; when all relevant features are shared, then repair is obligatory. At first glance, this functionally-unified account seems easily translatable into the framework of OT. The relative markedness of different cluster types is formalized in terms of a fixed hierarchy of markedness constraints, and the relative *rates* of repair are derived from the variable ranking of faithfulness relative to constraints in this markedness hierarchy (see Côté 2004 for an analysis of the deletion facts along these lines). *Which* repair is used, however, depends on how the faithfulness constraints are ranked with respect to each other: in a grammar where MAX-C >> DEP-V, epenthesis is the chosen process (good for *raided,* bad for *buzzed* *[bʌzəd] – see Tab. 1), and in a grammar where DEP-V >> MAX-C, deletion occurs (good for *buzzed* [bʌz], bad for *raided* *[red] – see Tab. 2). Because the grammar must "choose" one ranking of DEP-V and MAX-C, it seems that we can accommodate epenthesis *or* deletion, but not both repairs, in the same ranking. Moreover, this paradox cannot be dealt with by variably ranking the two faithfulness constraints, because a given coda sequence never varies in the repair it allows: final coronal stop sequences only allow epenthesis, while other clusters only allow optional deletion.

To deal with this issue, I propose a modification of the Licensing-by-Cue theory adopted by Steriade (2001), Côté (2004) and others. In Licensing-by-Cue, both markedness and faithfulness constraints reflect the relative perceptibility of potential output forms. Markedness constraints are inherently ranked such that less perceivable structures are ruled out by higher ranked constraints, while faithfulness constraints are arranged in such a way that repairs are disfavored in contexts where repair would be highly perceivable. While I maintain the Licensing-by-Cue vision of markedness and the MAX faithfulness constraint hierarchy, I depart from this theory by arguing (contrary to Côté 2000 and Fleischhacker 2001) for a reverse ranking of DEP constraints, in which epenthesis is *more* favored in contexts where it makes the most perceptual difference. The reverse ranking is motivated theoretically by the differences between deletion and epenthesis as repairs (the latter being a cue-enhancing repair) and is able to account for both the English coda repair facts and similar data pertaining to coda s-deletion in Liberian Settler English in a way that classic Licensing-by-Cue is not. More broadly, the proposed theory of DEP is extended to apply to L2 repair variation that is due to stylistic factors (Lin 2001), and is used to generate quantitative predictions about the relative rates of each type of repair in different phonological contexts.

Tableau 1. DEP-V >> MAX-C:
Epenthesis is correctly ruled out in *buzzed*, but incorrectly ruled out in *raided*. *dd and *zd stand in for whatever markedness constraints rule out each of these sequences. *zd and MAX-C are variably ranked in all tableaux, reflecting the variable nature of final stop deletion.

/bʌz+d/	*dd	DEP-V	*zd	MAX-C
👍 bʌzd			*!	
👍 bʌz -				*!
bʌzəd		*!		

/red+d/	*dd	DEP-V	*zd	MAX-C
redd	*!		(*)	
☜ red-				*
(☞) redəd		*!		

Tableau 2. MAX-C >> DEP-V:
Deletion correctly ruled out in *raided,* but epenthesis wrongly predicted for *buzzed*.

/bʌz+d/	*dd	*zd	MAX-C	DEP-V
(👍)bʌzd		*!		
(👍)bʌz			*!	
☜ bʌzəd				*

/red+d/	*dd	*zd	MAX-C	DEP-V
redd	*!	(*!)		
red-			*!	
☞ redəd				*

References

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