Revisiting [t,d]-deletion in English: A new take on variation in Optimality Theory

Andries W Coetzee, University of Michigan, Paper or Poster.

English variably deletes word-final [t,d] – *west* is pronounced as [wɛst] or [wɛs]. The factors that influence this process are well-known. I consider one of these factors, the following context. The highest deletion rate is observed pre-consonantally. Dialects differ about pre-vocalic and pre-pausal contexts – some have more deletion pre-vocalically and others pre-pausally. The two kinds of dialects are illustrated in (4) below.

This paper has two goals:

(1) To give a fresh account of the contribution of grammar to [t,d]-deletion.

(2) To propose a new OT account of variation.

Deletion rates in the different contexts can be explained within a *licensing-by-cue* approach (Steriade 1997). The less robust the perceptual cues for a segment, the more likely it is to delete. I discuss experimental evidence showing that the perceptual cues for stops (formant transitions and burst) are least robustly licensed pre-consonantally. This explains why this context shows most deletion. Pre-vocalic and pre-pausal positions differ less. Pre-vocalically burst and transitions are available, but they are realized across word-boundaries. Pre-pausally only the burst is available, but it can be realized without crossing word-boundaries. In dialects that more readily cross word-boundaries, [t,d] is more robustly licensed pre-vocalically so that this context shows less deletion. The opposite holds in dialects that less readily cross word-boundaries.

I formulate three "licensing-by-cue" constraints. The pre-consonantal constraint universally outranks the others, but the ranking between the other constraints is not fixed.

(3)

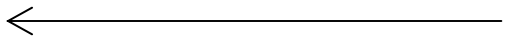
*Ct#C	No word-final [t,d] followed by consonant
*Ct#V	No word-final [t,d] followed by vowel
*Ct##	No word-final [t,d] followed by pause

Ranking: *Ct#C o {*Ct#V, *Ct##}

I then show how the variation patterns of different dialects can be accounted for within an OT model that allows comparison between unrelated input forms. Rather than just comparing output candidates generated for one input, EVAL compares candidates from unrelated inputs, specifically the non-deletion candidates from pre-consonantal, pre-vocalic and pre-pausal inputs. EVAL then imposes a harmonic rank-ordering on these candidates from least to most marked. The more marked the non-deletion candidate, the more can be gained by deletion. The prediction is therefore that more deletion is expected in more marked contexts. The tableaux in (5) below show the two kinds of dialects predicted under this analysis. I compare this account of variation with previous OT accounts – stochastic OT (Boersma and Hayes 2001) and crucially unranked constraints (Anttila 1997). I show that there are aspects of the variation associated with [t,d]-deletion that previous accounts cannot easily explain.

(4) Two kinds of dialects

Increasing deletion rate



Type 1: Pre-C > Pre-V > Pre-Pausal (Chicano English – Santa Ana 1991)
Type 2: Pre-C > Pre-Pausal > Pre-V (Tejano English – Bayley 1995)

(Pre-C = *west side*, Pre-V = *west end*, Pre-Pausal = *west*.)

(5) Dialect types

Type 1: *Ct#C o *Ct#V o *Ct##

	*Ct#C	*Ct#V	*Ct##
west side	*		
west end		*	
west			*

Pre-P *west*
Pre-V *west end*
Pre-C *west side*

Increasing markedness ↓ Increasing deletion

Type 2: *Ct#C o *Ct## o *Ct#V

	*Ct#C	*Ct##	*Ct#V
west side	*		
west end			*
west		*	

Pre-V *west end*
Pre-P *west*
Pre-C *west side*

Increasing markedness ↓ Increasing deletion

References

Anttila, Arto. 1997. Deriving variation from grammar. In *Variation, Change and Phonological Theory*, eds. Frans Hinskens, Roeland van Hout and W. Leo Wetzels, 35-68. Amsterdam: John Benjamins.

Bayley, Robert. 1995. Consonant cluster reduction in Tejano English. *Language Variation and Change* 6:303-326.

Boersma, Paul, and Hayes, Bruce P. 2001. Empirical tests of the Gradual Learning Algorithm. *Linguistic Inquiry* 32:45-86.

Santa Ana, Otto. 1991. *Phonetic Simplification Processes in the English of the Barrio: A Cross-Generational Sociolinguistic Study of the Chicanos of Los Angeles*. Ph.D. dissertation, University of Pennsylvania.

Steriade, Donca. 1997. Phonetics in Phonology: The Case of Laryngeal Neutralization. Ms. UCLA.