

The role of perception in phonotactic constraints: evidence from Trinidad English.

by

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ABSTRACT

This thesis demonstrates that perception plays a role in computing grammatical well-formedness. This is shown specifically for grammatical constraints on word-final consonant cluster inventories (VC1C2#), with focus on coda cluster simplification in Trinidad English. The first claim of this thesis is that C2 deletion is triggered when VC1C2# is not sufficiently distinguished perceptually from VC1#, by at least one relevant perceptual dimension. The relevant properties that sufficiently distinguish VC1C2# from VC1# are the release burst spectrum, values of F2 transitions to C1 or C2, transitions from C1 into C1, nucleus (Vowel + Sonorant) duration, and high amplitude frication noise. This hypothesis was tested with a perception experiment that measured Standard English speakers' ability to discriminate between attested VC1C2#'s of Standard English and VC1#, with unreleased C2. The result is that those C2's that are significantly less likely to be perceived in the absence of release are the same C2's that are deleted in Trinidad English ($p < .01$). The relevant perceptual dimensions are the ones proposed here: release burst, values of F2 transitions to C1 or C2, transitions from C1 into C2, nucleus duration, and high amplitude frication noise.

The second claim of this thesis is that speakers encode this perceptually based difference between simplified and preserved clusters in their grammars. Namely, speakers neutralize VC1C2# and VC1# to VC1# where there is subminimal perceptual contrast between VC1C2# and VC1#. In order to test this second hypothesis, the perceptual discriminability of VC1C2# and VC1#, for unattested clusters of English, was established in a perception experiment. Some unattested VC1C2#'s were significantly more perceptually distinct from VC1 than others ($p < .01$). This was predictable based on

the relevant properties: release burst spectrum, values of F2 transitions to C1 or C2, transitions from C1 into C2, nucleus duration, and high amplitude frication noise. In an affix stripping experiment, it was then discovered that TE speakers do not simplify unattested clusters (like mg# or mk#) across the board, but rather they simplify all clusters as a function of the perceptual difficulty involved in discriminating VC1C2# from VC1#.