Conditions on Auxiliary Contraction as Evidence for Variation Outside the Grammar

The question of where in the grammar variation must be situated is long-standing in linguistics, with early treatments (e.g. Labov, 1969; Cedergren and Sankoff, 1974) situating variable rules in the grammar alongside categorical ones. In this paper, we use quantitative data to investigate whether all instances of variation lend themselves to such a treatment. We argue that the answer is no: some variable alternations should in fact be modeled as extra-grammatical, the purview of a system distinct from that which governs categorical alternations.

Our data come from a study of English auxiliary contraction in two corpora. We examine contraction of *is* in a corpus of sociolinguistic interviews conducted in Philadelphia between 1980 and 2006 (Labov and Rosenfelder, 2011). We supplement this with data on the contraction of *is, has,* and *will* from the Switchboard corpus (Godfrey et al., 1992), a corpus of five-minute telephone conversations between strangers.

Auxiliaries were examined after non-pronoun subjects, and each auxiliary's subject was coded for length in words. The data reveal a strong effect of subject length on contraction: the longer the subject, the less likely contraction is to occur, regardless of auxiliary or corpus (Figure 1). In addition to this monotonic trend, the data also display an apparent cut-off effect: after subjects of greater than eight words, no contracted forms of any auxiliary are in evidence (the red lines in Figure 1).

This robust effect of subject length must be incorporated into a model of contraction. Assuming that contraction is a morphosyntactic rule of adjunction (following Kaisse, 1983), this could be accomplished by treating the length effect as a condition on this adjunction rule, in much the same way as preceding segment and following constituent were factors on Labov's (1969) rule of copula contraction. But there is a crucial asymmetry between factors like "preceding segment," on the one hand, and "precise number of words in subject," on the other. Specifically, preceding segment has been found to condition **categorical** as well as variable grammatical operations: see, for instance, Paster's (2006) survey of phonologically-conditioned allomorphy. By contrast, categorical alternations conditioned by precise word count are unheard-of: there is no evidence that stable grammatical processes can "count" up to eight. Localizing the eight-word condition on contraction in the same component that governs categorical alternations would thus predict the existence of processes that are in fact unattested.

For this reason, we propose that this eight-word effect is extra-grammatical: its source is not a probabilistic rule of grammar. Instead, we attribute it to a separate "use" component, where we localize those variable alternations that are conditioned by factors not found to condition categorical alternations. We outline the nature of this use component as it concerns the eight-word effect on contraction, incorporating findings from the literature on sentence planning and production (e.g. Ferreira, 1991) and on other non-rule-based models of variation, such as grammar competition (Kroch, 1989).
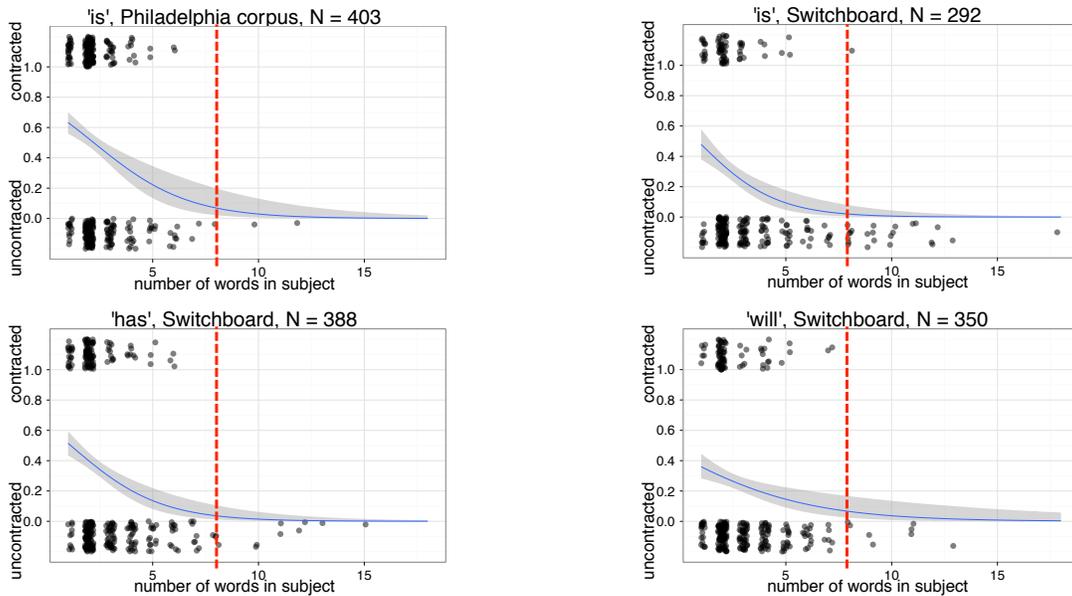

Figure 1: Contraction by subject number of words in two corpora. Each point represents one token. Red lines indicate 8-word cut-off.

References

Cedergren, Henrietta, and David Sankoff. 1974. Variable rules: Performance as a statistical reflection of competence. *Language* 50:333–355.

Ferreira, Fernanda. 1991. Effects of length and syntactic complexity on initiation times for prepared utterances. *Journal of Memory and Language* 30:210–233.

Godfrey, John J., Edward C. Holliman, and Jane McDaniel. 1992. SWITCHBOARD: Telephone speech corpus for research and development. In *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, Volume 1*, 517–520.

Kaisse, Ellen M. 1983. The syntax of auxiliary reduction in English. *Language* 59:93–122.

Kroch, Anthony. 1989. Reflexes of grammar in patterns of language change. *Language Variation and Change* 1:199–244.

Labov, William. 1969. Contraction, deletion, and inherent variability of the English copula. *Language* 45:715–762.

Labov, William, and Ingrid Rosenfelder. 2011. The Philadelphia Neighborhood Corpus.

Paster, Mary. 2006. Phonological Conditions on Affixation. Doctoral Dissertation, University of California, Berkeley.

498 words