Can patterns of variation shed light on grammar? English contraction's the place to look.

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Language variation can provide striking evidence for abstract linguistic representation and processes (Labov, 1969). In this talk, I demonstrate that the patterns of variation displayed by English auxiliary verbs can be brought to bear on questions concerning the nature of the system that produces linguistic variants. Specifically, I present findings from two case studies of auxiliary realisation, based on data collected from the Switchboard, (Godfrey and Holliman, 1997), Fisher (Cieri, 2004), and Philadelphia Neighborhood (Labov and Rosenfelder, 2011) corpora. Taken together, the findings from these studies support a model under which linguistic variation is the product of two systems: a modular, feed-forward grammar, which generates variants; and a distinct system of language use, which deploys those variants based on psycholinguistic and sociostylistic constraints.

The first case study concerns the phonological realisation of the auxiliaries *had* and *has*, which variably surface in two syllabic forms, one with an audible /h/ (e.g. [hɘd]) and one without (e.g. [ɘd]). For *had*, this variation occurs after personal pronoun subjects; for *has*, after non-pronoun ("NP") subjects (MacKenzie, in press). This variation has been attributed to a fast-speech phonetic rule deleting /h/ in unstressed function words (Kaisse, 1985; MacKenzie, in press).

Under the classical feed-forward approach to language and variation (Chomsky and Halle, 1968), the selection of morphological variants takes place prior to phonetics; phonetics cannot "see" morphology. This predicts a constant rate of /h/-deletion across words. I test this prediction with data on post-pronoun *had*, post-NP *has*, and, as a control, the pronoun *he*. A fitted rate of /h/-deletion for each item, obtained through mixed-effects modeling with speaker and neighbouring words as random effects, confirms that the rate of /h/-deletion across words is indeed constant. Moreover, word frequency and predictability, factors which have been reported to affect lenition (Bybee, 2002; Jurafsky et al., 2001), are found to differ widely across the three lexical items, suggesting that /h/-deletion does not operate in an exemplar-specific manner.

The second case study examines the variable contraction of the auxiliaries *is, has,* and *will* after NP subjects. "Contraction" for *is* and *has* is defined as surfacing in a single-consonant form (e.g. [z]); for *will*, "contraction" is surfacing in a syllabic form (i.e. [ɘl]; MacKenzie, in press). I demonstrate an effect of the length of an auxiliary's NP subject on contraction: the more words in an auxiliary's subject, the less likely that auxiliary is to surface in its contracted form.

The attested subject length effect on contraction raises important questions concerning the nature of the grammatical architecture, as follows. Several authors have observed that variable phenomena tend to be conditioned by the same factors that condition categorical phenomena (Guy 1997, Guy & Boberg 1997, Coetzee & Pater 2011). For example, Guy and Boberg argue that the Obligatory Contour Principle, known to trigger categorical phonological processes, also conditions variable t/d-deletion. They suggest that this necessitates a unified treatment of variable and categorical phenomena within the grammar.

However, the sensitivity to word count displayed by contraction is **not** attested in categorical alternations, which are local in nature (Embick, 2010) and not typically sensitive to values greater than two (e.g. Selkirk, 1986). The subject length effect on contraction is thus inconsistent with an analysis under which all variation originates grammar-internally. Instead, I propose that it should be interpreted as stemming from extra-grammatical, memory-based constraints on the system of language production. These constraints are taken, broadly, to be the purview of a system of language use. Accordingly, I conclude the talk by sketching a model of language that separates derivation, the purview of the modular, feed-forward grammar argued for in the first half of the talk, from language use.

References

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