

Elaborating extragrammatical effects on variation

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Overview

This paper seeks to address the question of how variable phenomena — cases where individual speakers have more than one way of saying ‘the same thing’ (Labov 1972) — are represented in the linguistic system. We propose that variable phenomena should be classified according to two pairs of distinctions: a distinction between **early and late loci** of variation, and a distinction between **internal and extragrammatical factors affecting the outcome** of variation. Using this classification system, we sketch a model of the grammatical architecture, and we outline several hypothesized constraints on the relationship between variable locus and variable conditioning.

Early vs. late loci of variation

Our first distinction identifies two points in a grammatical derivation at which variation may be attested. **Early** loci of variation are ones involving the competition between discrete linguistic objects for inclusion in a grammatical derivation (e.g. Embick 2008). Variation at this stage of a derivation is thus variation in the selection of linguistic units. **Late** loci of variation, on the other hand, involve changes to the surface output of a linguistic object after the grammatical derivation but before, or while, the utterance leaves a speaker’s mouth. Variation at this stage of a derivation is thus manipulation of the linguistic unit that was selected at an earlier stage.

What differentiates these two loci of variation is their connection to abstract storage in the lexicon. Given a theoretical framework such as Distributed Morphology (Halle & Marantz 1993) in which linguistic items may be stored abstractly, we propose that early loci of variation may implicate those abstract objects, whereas late loci of variation manipulate only their surface outputs. Early variable loci may thus reflect competition between functional heads, as in the case of periphrastic *do* in Early Modern English (T+ head vs. T- head; Kroch 1989), or between their stored phonological forms, as in the cases of variable allomorphy in auxiliary contraction (MacKenzie 2012) and verbal (ING) (Labov 2001). Late variable loci, in turn, represent a range of manipulations that may be discrete, as in coronal stop deletion (Guy 1980), /h/-deletion (MacKenzie & Yang 2012), and schwa epenthesis (MacKenzie 2012), or gradient, as in the target for vowel quality (Fruehwald 2013), but in all cases operate on the output of an earlier selection process.

Internal vs. extragrammatical factors affecting the outcome of variation

Our second distinction makes reference to earlier work differentiating internal conditioning of variation from extragrammatical conditioning of variation (MacKenzie & Tamminga 2013). **Internal** conditioning of variation is understood as conditioning which is attested in categorical (invariant) alternations. By contrast, **extragrammatical** conditioning could not trigger a categorical alternation.

In MacKenzie & Tamminga 2013 we suggested that extragrammatical conditioning is not monolithic. Among the extragrammatical effects we have identified, discussed in greater detail in the following section, are style, production planning, memory activation, and speaking rate.

Putting it all together

We suggest that the internal/extragrammatical distinction cuts across the early/late loci distinction, so that early and late variation may both be conditioned both internally and extragrammatically. We thus take the position that grammars may be variable at different levels, but that not all variation observed in linguistic production should be attributed to grammatical variability. However, we hypothesize that not every extragrammatical factor acts on both types of variation. An important motivation for positing distinction between early and late loci of variation is the predictions implied for the role of extragrammatical conditioning in producing surface patterns of variation. Below, we explore the interactions we predict between early/late loci and internal/extragrammatical conditioning.

- **Style.** Style is the dynamic sensitivity of speakers to their social context, including topic, setting, interlocuter, etc. Both early and late variation may be subject to stylistic conditioning because stylistic aims are in place prior to the beginning of the derivation (the social context is already established).
- **Production planning.** Constraints on production planning restrict speakers to performing linguistic operations on only a restricted span of speech at any given time (Levelt 1989). Both early and late loci of variation are susceptible to constraints on production planning because planning units are determined early in a derivation, mapping to maximal projections (Selkirk 1986).
- **Priming.** Priming is the tendency towards repetition of recently-processed linguistic objects, which may be attributed to neural activation or implicit learning. Early variation should be sensitive to earlier instances of the variable because there is an object stored in memory to be activated or learned. Late variation, on the other hand, does not involve stored objects so there is no host for abstract activation or learning.
- **Speech rate.** Early variables should not be susceptible to different speech rates (except as mediated by other extragrammatical factors: the possible effect of speech rate on the size of production planning chunks; the effect of stylistic context on speech rate). Late variables may be sensitive to speech rate as they are hypothesized to originate closer to the emergence of an utterance, when gestures are being planned and executed.

We offer this preliminary framework in the spirit of provoking further inquiry into different loci of variation, different types of variable conditioning, and different sources of extragrammatical variable conditioning. There is ample scope for testing the predictions we have laid out against many well-studied variables, as well as for identifying further predictions of the framework. We are optimistic that research seeking multiple sources of observed variation will produce new insights into the nature of the grammatical architecture and its interfaces with processing mechanisms and sociostylistic context.

References

- Embick, David. 2008. Variation and morphosyntactic theory: Competition fractionated. *Language and Linguistics Compass* 2:59–78.
- Fruehwald, J. 2013. Phonological involvement in phonetic change. Ph.D. Dissertation, University of Pennsylvania.
- Guy, Gregory R. 1980. Variation in the group and the individual: The case of final stop deletion. In Labov (ed), *Locating Language in Space and Time*, 1–36.
- Halle, Morris, and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Hale & Keyser (eds.), *The View from Building 20*, 111–176. Cambridge, MA: The MIT Press.
- Kroch, Anthony. 1989. Reflexes of grammar in patterns of language change. *Language Variation and Change* 1:199–244.
- Labov, William. 1972. *Language in the Inner City: Studies in the Black English Vernacular*. Philadelphia: University of Pennsylvania Press.
- Labov, William. 2001. *Principles of Linguistic Change: Social Factors*. Malden, MA: Blackwell.
- Levelt, W. 1989. *Speaking: From Intention to Articulation*. Cambridge, MA: The MIT Press.
- MacKenzie, L. 2012. Locating variation above the phonology. Ph.D. Dissertation, University of Pennsylvania.
- MacKenzie, L. & M. Tamminga. 2013. Two case studies on the non-local conditioning of variation. Paper presented at the Linguistics Society of America annual meeting, Boston, MA, Jan. 3.
- MacKenzie, L. & C. Yang. 2013. English auxiliary realization and the independence of morphology and phonetics. *Penn Working Papers in Linguistics* 19.2: 121-129.
- Selkirk, Elisabeth O. 1986. On derived domains in sentence phonology. *Phonology Yearbook* 3:371–405.