

Priming mechanisms in phonological and morphological persistence

Meredith Tamminga (*University of Pennsylvania*)

Persistence, the tendency to repeat a recently-used variant in speech, has been observed for a range of sociolinguistic variables (Poplack 1980, Weiner & Labov 1983, Scherre & Naro 1991, Cameron & Flores-Ferran 2004). In this paper I suggest that persistence observed in sociolinguistic variation originates from two cognitive mechanisms: episodic memory for whole words, and repetition priming of affixes stored abstractly in the lexicon. This suggestion accounts for the observation that phonological and morphological variables have different persistence profiles.

The data come from 122 interviews with speakers in the Philadelphia Neighborhood Corpus (Labov & Rosenfelder 2011). All reported effects come from linear mixed effects models with variant-by-speaker random slopes. The case studies are (ING) (*workin'* ~ *working*, N=6,613) and (TD) (*ol'* ~ *old*, N=6,188). I show that within both variables, words where the variable is plausibly suffixal (*working*, *kicked*) behave differently from words where the variable is monomorphemic (*ceiling*, *old*). Within each variable, the polymorphemic words do not trigger re-use of the same variant in subsequent monomorphemic words, and vice versa; token pairs where the prime and target are both either polymorphemic or monomorphemic, however, do show persistence. On this basis I argue that variation in the polymorphemic cases is morphological, while the variation in the monomorphemic cases represents distinct phonological variables.

I then show that persistence within the putative morphological variables has two characteristics that sets it apart from persistence within the phonological variables: the effect generalizes across different lexical items (use of *-in'* in *working* promotes subsequent use of *-in'* in *talking*) and decays significantly over about a minute. The phonological variables show persistence only when the same word is repeated, but this lexically-specific effect is much longer-lasting. I argue that this distinction is attributable to the cognitive origins of persistence for morphological and phonological variables. When the variable is a suffix, the allomorphs (e.g. *-in'* and *-ing*) are stored abstractly in the lexicon and are subject to repetition priming like non-variable lexical items; this is consistent with demonstrations that suffixes undergo repetition priming in experimental reaction times (Marslen-Wilson et al. 1996, Van Wagenen 2005). Phonological variation, however, is retained only as part of episodic memories of the details of specific instances of whole words. The operation of the relevant phonological processes across the contexts for morphological variation then gives rise to the observed lexical boost, where *workin' → workin'* is stronger than *workin' → talkin'*.

This study demonstrates that persistence can serve as a window on both the structural underpinnings of sociolinguistic variables and the cognitive mechanisms involved in the production of variation. The multifactorial account of conversational persistence is consistent with experimental results showing distinct roles for episodic and abstract memory in repetition and morphological priming (Forster & Davis 1984, Kouider & Dupoux 2009). Pursuing such an account promises to advance our understanding of how variation differs at different grammatical levels and how these differences interact with memory and speech processing in the production of sociolinguistic variation.

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