

## Modeling linguistic change

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This paper provides a variationist perspective on the transition period (Weinreich et al. 1968) in linguistic change. We exemplify with the evolution of the future temporal reference system in Brazilian Portuguese, a complex situation in which multiple variants advance and retreat over the course of centuries. Though most accounts identify four variant expressions (a synthetic future, the *haver*-periphrasis, the futurate present and the *ir*-periphrasis), in spontaneous speech only the latter is used productively (Malvar 2003).

In an effort to reconcile these contradictory accounts, we undertook a large-scale study of the variable expression of future time from the 16<sup>th</sup> century through the present. We operationalize competing hypotheses about variant selection as factors in a multivariate analysis, and determine which are significant when all are considered simultaneously. The detailed picture provided by independent analyses of the distribution and conditioning of variants in successive centuries reveals how they divide the labor of expressing future temporal reference at each stage in the development of the sector. The diagnostic is the *constraint hierarchy*, construed as the grammar giving rise to variant selection.

Results show that the system was overwhelmingly dominated by synthetic future and the *haver*-periphrasis until the 19<sup>th</sup> century, at which time the emergent *ir*-periphrasis began infiltrating the system. A century later, *ir* had expanded into all of the contexts formerly associated with the older and far more robust variants, effectively ousting them from the sector. We show how this change was driven by the gradual expropriation of the preferred contexts of the receding variants by their incoming counterparts, culminating in the contemporary situation in which the *ir*-periphrasis has become the default.

Our focus on the variability inherent in the system shows that the transition period is not abrupt. Rather, change proceeds as a series of adjustments, while incoming and outgoing variants jockey for position in the system. As an older variant recedes, it loses its associated constraints or transfers them to an incoming variant. The result of this process is that the structure of the temporal reference domain remains the same, though its distinctions are redistributed amongst different exponents.

### References

Malvar, Elisabete. 2003. *Future temporal reference in Portuguese: past and present*. Ph.D dissertation. University of Ottawa

Weinreich, Uriel, William Labov & Marvin Herzog. 1968. Empirical foundations for a theory of language change. In Lehmann, W. & Y. Malkiel (eds) . *Directions for historical linguistics: a symposium*. Austin: University of Texas Press.