Variable rule analysis: are there any competitors?

Roeland van Hout (Radboud University Nijmegen)

Variable rule analysis (VARBRUL, GOLDVARB) has acquired a default position in analysing language variation, supported by its own introductions (Paolillo 2002, Tagliamonte 2006). From a statistical point of view the statistical analysis implied (the logit analysis, although constrained) is appropriate for nominal predictors with a binomial outcome. In addition, the way the outcomes are being reported does not fully match the way of presenting outcomes in current statistical packages (e.g. R and SPSS). Another relevant point is that current statistical packages offer more tools and analytic possibilities (including logistic regression and especially mixed modelling, with more random variables). Such applications can be found in corpus linguistics (e.g. Bresnan et al. 2008) and, quite recently, in psycholinguistics (see the special volume of the Journal of Memory and Language in 2008). On a more general statistical level, the handbook of Agresti (2002) need mentioning, including the use of different response functions.

I will overview the different statistical analyses and their merits, from a statistical point of view, but also from a database point of view and a variationist point of view. In the latter point of view it is essential to consider how potential interactions between predictor variables are being dealt with, including the interactions between internal and external factors. Another fairly crucial aspect is including speakers as a random variable in the statistical analysis. The examples to be presented come from existing databases and specific conclusions will be illuminated by computer simulations.

The overall conclusion will be that variable rule analysis had its merits, but that the environment has changed. The study of language variation needs to shift to current statistical packages with their better standardized and updated analytical tools, in order to give the data collected the appropriate treatment and to keep up with overall scientific developments.