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We Just Lag Behind, or Phonetics Is Ahead of Semantics, as Usual

Author's reply to 'The Dynamic Potential of Probabilistic Semantic Maps' by Andrea Sansò (2010)

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I fully agree with Sansò (2010) that diachrony is an important issue for any kind of semantic map, but I do not think this is any fundamental theoretical problem for probabilistic semantic maps. There are considerable practical problems, as Sansò points out. The crucial question is how to obtain the right sets of data. But who would have believed fifty years ago that many answers for fundamental theoretical questions of language change will come not from ancient texts, but from fresh datasets in sociolinguistics?

It is very convenient to represent diachronic changes in a strong data reduction mode. In phonetics, we have the mechanic Neogrammarian sound laws, and in semantics we can rely on the irreversible grammaticalization paths that can be framed in terms of categorial metaphors. As far as phonetics is concerned, it has become clear especially from the work of Labov (1994) that sound change is a stochastic phenomenon and that standard statistical methods such as multivariate analysis, linear regression models, and multidimensional scaling can reveal much stronger regularities in the seemingly irregular exemplar data than any discrete analysis could show. It is easy to model a diachronic development as a vector connecting mean values of different stages of exemplar data (Labov 1994:59). This is standard in sociolinguistics. Determining differences between phonemes based on exemplar data by calculating mean values has long been practiced in phonetics; see, for instance, Disner (1983) and Ladefoged (1984). But change is also visible without data reduction: "The new and vigorous changes that we have located in various cities usually show long, elliptical distributions in the direction of the change, as opposed to the more globular distribution of stable vowels" (Labov 1994:457).

Ladefoged (1984) found that "out of chaos comes order", and Labov (1994:465) finds "regularity within irregularity". But, as Labov (1994:450) points out, "[t]he Neogrammarian viewpoint must of course be modified to accept stochastic regularities in place of absolute rules", and he speculates that "[the Neogrammarians] would not have been as likely to welcome the tools of statistical analysis and probabilistic reasoning, since they were committed to discrete solutions" (1994:470). In the same way, it cannot be expected that contemporary students of grammaticalization will be over-enthusiastic about probabilistic semantic maps. I fully agree with van der Auwera (2008) that the use of classical semantic maps should be continued if not understood as a rejection of additional alternative methods. After having realized that sound laws are stochastic, it is still very convenient to represent them in discrete terms. In many cases, there is no other choice due to a lack of appropriate data. The same holds for semantic maps. The question is not whether implicational or probabilistic maps should be preferred: they show the same kind of phenomena, but with different levels of data reduction. It is not the linguists' choice which method to use. It is the data's choice. The linguist can only choose which kind of data will be considered.

As is often the case in linguistics, semantics lags behind phonetics. What we try to discover here for semantics, facing much resistance from some colleagues for whom all this seems unprecedentedly odd, has in fact been common knowledge in sociolinguistics and phonetics for at least fifteen years.

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