

Apparent Time Study of Semantic Changes

Since Labov's (1963, 1966) pioneer work, Variationist Sociolinguistics (VS) has allowed a breakthrough in our understanding of language evolution, showing that diachronic change is reflected, and indeed rooted in, synchronic variation. Under the apparent time hypothesis, which holds that most features of language are acquired during childhood, observing variations between different generations of speakers is observing a language change in progress. While the prism of apparent time has been successfully used to the study phonological changes (e.g. Labov, 1963, 1966) or morpho-syntactic changes (e.g. Parrott, 2002), semantic changes seem to have remained neglected by VS. This paper presents an experiment that shows that ongoing semantic changes are observable in apparent time and thus aims at reconciling study of semantic changes and VS.

The methodology we have used was initially designed to study the inter-cultural variations in the representation of a given semantic field. Instead of comparing the representation culture, we compared the representation that different generations have of the semantic field around the French noun *maison* (*house*). Two groups of subjects were thus involved in this experiment. The 47 subjects (36 women) of the first group were 21 years old (± 2.1) and the 16 subjects (11 women) of the second one 56 years old (± 3.6). All subjects were native French speakers, and the groups were matched for the number of pages written in French read per day. The semantic field we analyzed was build with the word *maison* itself and its 20 synonyms (obtained from online synonyms dictionary dico.isc.cnrs.fr) with highest frequency variation between the first and the second halves of the 20th century : *case* (*hut*), *chalet* (*chalet*), *château* (*castel*), *chaumière* (*thatched cottage*), *clinique* (*private clinic*), *construction* (*construction*), *établissement* (*establishment*), *entreprise* (*entreprise*), *firme* (*firm*), *habitation* (*dwelling*), *hôpital* (*hospital*), *immeuble* (*building*), *intérieur* (*interior*), *logement* (*accomodation*), *logis* (*home*), *manoir* (*manor*), *masure* (*hovel*), *propriété* (*property*), *résidence* (*residence*), *réduit* (*cubbyhole*). All the 210 possible pairs of words were presented to the subjects who had to rate their semantic similarity by placing a mark on a 10cm long ungraded axis (at the left end for unrelated words, and at the right end for perfect synonyms). Those measures of similarity were then used to perform a Principal Component Analysis which provide us with a semantic space for each subject in which each of 21 words has coordinates. Statistical analysis (Hotelling T² test) performed on the coordinates of the words showed statistical difference between the 2 groups for the position of 4 of the words : *château* ($p < 0.0005$), *clinique* ($p < 0.05$), *entreprise* ($p < 0.05$) and *immeuble* ($p < 0.05$). We also performed an Hotteling test on the overall structure which reveal again a statistical difference between the two groups ($p < 0.005$). No other repartitions of the subjects (according to sex or number of pages read per day) led to statistical difference in the semantic representations.

Our results show that there is generational variation in the representation of the semantic field around the word *maison*. According to apparent time hypothesis, this variation is the synchronic counterpart of change in progress. The opposite hypothesis, namely age grading, which holds that speaker change their language as they get older, cannot be completely ruled out, but reasons for such a change, in the same direction for every speakers, are far from clear. Moreover, the change in frequency of the words we selected is another clue for the ongoing change hypothesis. The conclusion of this work is that it is possible to observe variation in the semantic structures of speakers, and that those variations mirrors semantic changes. This work opens the way to other studies which would take into account more sociocultural factors, allowing then to import methods and concepts from VS into the study of semantic changes with promising deep insights.

- Labov, W. (1963). The social motivation of a sound change. *Word*, 19, 273-309.
- Labov, W. (1966). *The social stratification of English in New York City*. Washington: Center for Applied Linguistics.
- Parrott, J. (2002) Dialect death and morpho-syntactic change: Smith Island weak expletive 'it'. In Johnson, D.E. and T. Sanchez (Eds.), *Papers from NWAV 30*, Philadelphia: University of Pennsylvania Working Papers in Linguistics.
- Romney, A. K., Moore, C. C., Batchelder, W. H., & Hsia, T. L. (2000). Statistical methods for characterizing similarities and differences between semantic structures. *Proceedings of the National Academy of Sciences*, 97(1), 518–523.