

Logic in Grammar: An experimental investigation

Emmanuel Chemla (Ecole Normale Supérieure)

This talk is based on joint work with Vincent Homer and Daniel Rothschild. We will look at linguistic generalizations of the form:

"Sentence S is acceptable only if S satisfies property P",

in which an acceptability judgment is related with a logical property P. We will present three sets of results pertaining to how such generalizations are cognitively deployed.

R1: We will show that the acceptability of an NPI *for a given speaker* best correlates with the ability of this particular speaker to recognize that the environment in which the NPI occurs is downward-entailing and not upward-entailing (Chemla, Homer, Rothschild, 2011).

R2: We will show that the presence of a polarity item (positive or negative polarity item) influences inferences comprehenders are willing to draw. Roughly, polarity items may create illusions of some monotonicity for environments of the opposite monotonicity or for non-monotonic environments (for simple environments, however, we replicate the absence of effect found in Szabolcsi, Bott, McElree, 2008).

R3: We will show how the project that consists in looking at individual data and correlations between "linguistic" and "logical" judgments may be extended to another generalization. There exist several characterizations of the set of determiners Q that are felicitous in there-constructions: "There are Q students in the park". Following the format for a generalization given at the outset, that amounts to say that several properties P1, P2, etc. have been proposed to characterize the set of determiners Q that yield a felicitous sentence of this form. For instance, Higginbotham (1987) proposed that the appropriate set of determiners are the symmetrical determiners, while others have proposed that acceptability is to be linked to presuppositional aspects of the quantifiers. We will show that one can look at individual data and correlate speakers' felicity judgments with their corresponding logical judgments about P1=symmetry, P2=presuppositional aspect, etc., to evaluate the corresponding proposals from a new empirical perspective.

Each result will come with its own set of theoretical consequences, either for polarity items (R1 and R2) or for the definiteness effect (R3). We will conclude with a discussion about the possible role of such results more generally to assess linguistic generalizations per se or to inform us about the links between linguistic and other abilities.