

## Contextual Modulation and Semantic Composition in a Bayesian Framework: Effects on the Telic and Agentive Components in the Lexicon of Concrete Nouns

Erica Cosentino (Ruhr University Bochum)

Matthias Unterhuber (Ruhr University Bochum)

Markus Werning (Ruhr University Bochum)

The paper investigates how discourse contexts modulate the contribution of lexical meaning in sentence meaning composition. We aim at a qualitative as well as a quantitative account of how contextual modulations are influenced by semantic similarities and pragmatic discourse aspects and try to evaluate the strength of their respective effects (Recanati, 2010). We thereby focus on the effects on the lexicon of concrete nouns regarding the telic and agentive components, i.e. actions describing the purpose/function or, respectively, the way of bringing about the denoted object (Pustejovsky, 1995).

Both the similarity and the discourse factor are analyzed in terms of Bayesian Pragmatics (Frank & Goodman, 2012). The resulting model is experimentally tested by the Predictive Completion Task (Werning & Cosentino, 2017; Cosentino, Baggio, Kontinen, & Werning, 2017), in which the hearer at every moment in a communicative situation has to generate a probabilistic prediction about how a sentence/discourse being uttered by the speaker will be continued. In a series of behavioral and EEG experiments we compare the two factors. In the behavioral case the hearer's predictive probability is measured in a Cloze test, whereas in the EEG design, it is assumed that the predictive probability is negatively correlated with the amplitude of the N400 component of an event related potential.

### References

- Cosentino, E., Baggio, G., Kontinen, J., & Werning, M. (2017). The Time-Course of Sentence Meaning Composition. N400 Effects of the Interaction between Context-Induced and Lexically Stored Affordances. *Frontiers in Psychology*, 8, 1338.
- Frank, M. C., & Goodman, N. D. (2012). Predicting Pragmatic Reasoning in Language Games. *Science*, 336, 998–998.
- Pustejovsky, J. J. (1995). *The Generative Lexicon*. Cambridge, Mass.: MIT Press.
- Recanati, F. (2010). *Truth-Conditional Pragmatics*. Oxford: Oxford University Press.
- Werning, M., & Cosentino, E. (2017). The Interaction of Bayesian Pragmatics and Lexical Semantics in Linguistic Interpretation: Using Event-related Potentials to Investigate Hearers' Probabilistic Predictions. In G. Gunzelmann et al. (Eds.), (pp. 3504–3509). *Proceedings of the 39th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.