

## Limited Rationality and Communicative Success in Question-Answer-Sequences

### Abstract:

In successful communication, the literal meaning of linguistic utterances is often enriched by pragmatic inferences. Part of the pragmatic reasoning underlying such inferences has been successfully modelled as Bayesian goal recognition in the recently developed Rational Speech Act (RSA) framework (Frank and Goodman 2012). In such a framework, the remarkable reliability of linguistic communication arguably boils down to the underlying rationality of speaker and addressee in the probabilistic inferencing process. This begs the question whether complexity of computational tasks will impact communicative success.

In this paper we model the interpretation of question-answer sequences with narrow focus in the answer in the RSA framework, thereby exploring the effect of computational complexity on interpretation. We present experimental data that suggest that interlocutors indeed act according to the predictions of the RSA model in particularly simple scenarios. However, for larger domains, they only do so in special experimental settings in which each alternative is explicitly brought to their attention. In more realistic scenarios, the RSA reasoning appears to be applied imperfectly by interlocutors, but still leading to communicative success.