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Irrational Speaker or Wonky World: Modeling Prior Revision and Prior Update

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Abstract

Pragmatic accommodation is a key factor in maintaining smooth real-life communication, yet it is largely overlooked in pragmatic reasoning models such as the Rational Speech Act (RSA) model. The current study explores ways of extending the basic RSA model: revising the listener's belief of common ground, adjusting the listener's belief of speaker rationality, and doing both simultaneously. We evaluated model predictions for utterances varying in utility levels (i.e., how useful an utterance is for state updating) and sentence polarities. We find that (i) contra prior findings, low utility does not always trigger the expected extra inferences, but high utility does, (ii) higher utility is associated with higher speaker rationality, and (iii) our combined model predicts that lower speaker rationality and lower wonkiness co-occur. Theoretical implications of these findings are discussed.