Probabilistic theories of reasoning need pragmatics too: Modulating relevance in uncertain conditionals.

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Abstract

According to probabilistic theories of reasoning in psychology, people’s degree of belief in an indicative conditional “if $A$, then $B$” is given by the conditional probability, $P(B|A)$. The role of language pragmatics is relatively unexplored in the new probabilistic paradigm. We investigated how consequent relevance affects participants’ degrees of belief in conditionals about a randomly chosen card. The set of events referred to by the consequent was either a strict superset or a strict subset of the set of events referred to by the antecedent. We manipulated whether the superset was expressed using a disjunction or a hypernym. We also manipulated the source of the dependency, whether in long-term memory or in the stimulus. For subset-consequent conditionals, patterns of responses were mostly conditional probability followed by conjunction. For superset-consequent conditionals, conditional probability responses

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were most common for hyponym dependencies and least common for disjunction dependencies, which were replaced with responses indicating inferred consequent irrelevance. Conditional probability responses were also more common for knowledge-based than stimulus-based dependencies. We suggest extensions to probabilistic theories of reasoning to account for the results. 

Keywords
Probability; Conditionals; Interpretation; Relevance; Reasoning

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