Experimental pragmatics:
a probability-logical perspective

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Probability logic is about the coherent transmission of the uncertainty of the premises to the conclusion. Contrary to classical logic, probability logic allows for handling uncertainty and defeasibility, which are almost always present in everyday life communication. Paradoxes—like the paradoxes of the material conditional—are avoided. Moreover, by using degrees of belief, a much richer tool is available compared with bivalent truth-functional approaches. Finally, probability-logical approaches have received strong empirical support by recent psychological experiments. These psychological and philosophical advantages, I argue, are highly relevant for experimental pragmatics.

In my talk, I make a strong case for the use of *coherence-based probability logic* as a rationality framework for experimental investigations of pragmatic phenomena under uncertainty. I advocate the *coherence approach* to probability, which was originated by Bruno de Finetti. In the coherence approach, probabilities are conceived as subjective degrees of belief. Conditional probabilities ($p(C|A)$) are primitive. This allows for zero probabilities

of the conditioning event (A). In standard approaches to probability, however, $p(C|A)$ is undefined if $p(A) = 0$, which is a severe disadvantage: I explain why probabilistic approaches need to deal with zero probabilities. I illustrate the proposed approach by selected pragmatic phenomena. Specifically, I present and discuss (i) the rôle of conversational implicatures in the context of conditionals, (ii) cases where alleged pragmatic phenomena can be explained in semantical (i.e., probability-logical) terms, (iii) cases of pragmatic phenomena in the context of "packed" and "unpacked" conditionals, (iv) how nested conditionals can be interpreted in probability logic (without running into Lewis' notorious triviality results), and (v) the psychological plausibility of the interpretation of quantified statements in terms of conditional probabilities.

Throughout my talk, I present not only theoretical results but also experimental data illustrating the normative and descriptive plausibility of the proposed approach to experimental pragmatics under uncertainty. Coherence-based probability logic stimulates new empirical hypotheses, serves to evaluate the rationality of human linguistic behaviour, and offers fruitful intersections with experimental pragmatics.