

# Strategic Conversation

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Models of conversation that rely on a robust notion of cooperation don't model dialogues where the agents' goals conflict; for instance, negotiation over restricted resources, courtroom cross examination and political debate. We aim to provide a framework in which both cooperative and non-cooperative conversation can be analyzed. We develop a logic that links the public commitments that agents make through their utterances to private attitudes---e.g., belief, desire and intention. This logic incorporates a qualitative model of human action and decision making that approximates principles from game theory: e.g., choose actions that maximize expected utility. However, unlike classical game theory, our model supports reasoning about action even when knowledge of one's own preferences and those of others is incomplete and/or changing as the dialogue proceeds---an essential feature of many conversations. The logic validates decidable inferences from utterances to mental states during interpretation, and from mental states to dialogue actions during language production. In a context where the agents' preferences align we derive axioms of co-operativity that are treated as primitive in BDI logics for analyzing dialogue. Thus models of cooperative conversation are a special case in our framework.

The research presented in this talk is joint work with Nicholas Asher.