

Making the Right Commitments in Dialogue

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In this paper, we propose that dialogue is all about commitment. The logical form of dialogue tracks the public commitments of each dialogue agent, including commitments to illocutionary effects borne from speech acts such as *Narration*. We in particular analyse public commitments to questions, drawing on Groenendijk's [2003] semantics. Agreement is defined to be the shared commitments of the dialogue agents. We define a dynamic logic for constructing logical form by extending a logic of public announcement to include defaults—commonsense reasoning determines which speech acts an agent is committed to. We also link public commitments to private attitudes—such as belief, desire and intention—within a separate but related logic of cognitive modelling. This is also an extension of a dynamic logic of public announcement, and is designed for computing calculable implicatures and an agent's next dialogue move in a decidable manner. The cognitive logic synthesises different approaches to modelling agents, particularly those from the BDI literature and game theory. We show how game-theoretic principles can be used to derive axioms of cooperativity that are typically treated as primitive in BDI logics.