

# The Logical Foundations of Discourse Interpretation

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A central but still unsettled question in formal theories about discourse interpretation is: What are the key theoretical structures on which discourse interpretation should depend? If we take our cue from theories that analyze the meanings of individual sentences, the meaning of the discourse's parts should determine the meaning of the whole; some sort of principle of compositionality of meaning must hold at the level of discourse interpretation. So a theory of discourse interpretation must develop from an account of discourse structure.

Unlike the syntactic structure of a sentence, the discourse structure of a text is not a structure studied by syntacticians or governed principally by syntactic concerns. It has to be inferred from a variety of knowledge sources. Recent work on discourse structure in AI, philosophy and linguistics has shown that discourse structure depends on numerous information sources—compositional semantic principles, lexical semantics, pragmatic principles, and information about the speaker's and interpreter's mental states. So a theory of discourse interpretation must in fact also be a theory of semantics and pragmatics and their interaction—a theory of the pragmatics-semantics interface.

Such a theory linking together pragmatics and semantics brings up a foundational question about frameworks. Pragmatics, though not often formalized, has often made appeal to different types of logical principles than semantics. While semantic theories have typically used a classical, monotonic, logical framework, pragmatic theories appear to best couched within nonmonotonic logic. How should we model the interaction of these multiple knowledge sources needed to construct discourse structure, or the interaction between defeasible pragmatic principles and nondefeasible semantic principles?

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