

Hidden *and* in Plain Sight? Implicit and Explicit Relations Cooperate in the Construction of Meaning in Discourse

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In semantics, psycholinguistics, and computational linguistics, the study of *discourse coherence* investigates how language weaves individual propositions together into a meaningful text. *Discourse connectives*—conjunctions like *but* and *so*, and adverbials like *instead* in (1–2)—serve as explicit cues.

(1) I planned to make lasagna. But instead I made hamburgers.

(2) I don't know how to make lasagna. So instead I made hamburgers.

Discourse connectives are taken to signal, sometimes ambiguously, *discourse relations* like cause, contrast, elaboration, and consequence. But it is well known that such relations may be left implicit, as in (3):

(3) Dinosaurs couldn't read. Now they are extinct.

The joke in (3) arises because together, these two factual statements are interpreted as asserting a strange causal relationship.

Prior work on the construction of meaning in discourse assumes that *discourse relations* are either signaled explicitly or left implicit. But our work shows that both mechanisms can be operative simultaneously, as can be seen with the non-interchangeable conjunctions before *instead* in (1–2), both of which can be omitted yet understood from context.

To establish whether *concurrent discourse relations* are routinely present in the construction of coherence, we conducted a *conjunction completion* survey task. 28 participants were shown short passages, with one of 50 adverbials but no conjunction, and asked to infer which conjunction would be most appropriate: e.g., *I don't know how to make lasagna // _____ instead I made hamburgers.*

The data (~70K judgments) showed that readers *do* infer conjunctions, which often implicate different discourse relations than are made explicit by the adverbial. Adverbials varied considerably as to which conjunctions were inferred. For some passages, subjects were consistent, while on others, they appeared to be constructing coherence in slightly different ways for the same passage. These results show how both redundancy and inference contribute to constructing discourse meaning.