Time on-line: Psycholinguistic studies on the interpretation of tense

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Adjacent sentences in discourse are usually understood as being temporally connected.

(1) Sheila had a party last Friday. Sam got drunk. (Partee, 1984)

The most salient interpretation of (1) is that Sam's getting drunk happened during Sheila's party. Temporal relations between sentences like (1) have attracted much theoretical linguistic and computational linguistic interest, but comparatively little attention in the psycholinguistic literature. In this talk, I review a number of studies looking at how and when these connections are calculated on-line during sentence and text comprehension. Taken together, the results suggest that the language processor engages in both form-based, automatic processing (related to temporal anaphora) and more delayed, content-based inferencing (associated with discourse coherence relations) in calculating temporal relations in real time. This picture maps nicely onto recent compositional semantic approaches to tense, in which two interpretive operations (one for tense and another for viewpoint aspect) are involved in sentence-level temporal interpretation. The results also indicate that discourse-level temporal relations inferred based on tense-aspect information and sentence-internal relations based on explicit connectives like 'before' and 'after' are similarly robust. This connection has important implications for the representation of temporal information in discourse models and episodic memory.