QUD-Driven Expectations in Discourse Interpretation

Under the COHERENCE RELATION approach to discourse coherence (Hobbs, 1979), (1) is analyzed as an EXPLANATION relation: (1b) describes the reason for the event expressed in (1a).

(1) a. Mary scolded John.
    b. He was late again.

In a passage completion experiment, Kehler et al. (2008) demonstrate that different discourse contexts give rise to different distributions over coherence relations; for instance, whereas 60% of all passages in *implicit causality* (IC) contexts (Garvey et al. 1974) were continued with Explanation relations (ex. 2 with *scolded*), only 24% of non-IC contexts were (ex. 2 with *saw*).

(2) Friend: Mary scolded$_{IC}$/saw$_{nonIC}$ John. _____

An alternative account is the QUESTION-UNDER-DISCUSSION (QUD) model (Roberts, 1998), according to which discourses are structured with questions: Roughly speaking, an utterance is coherent insofar as it provides an answer to a question relevant to the proceeding discourse. The analysis applies not only to implicit QUDs in monologues like (1) – for which a hearer accommodates the question *Why?* as intervening between (1a-b) – but to explicit questions in dialogs as well.

Roberts notes a correspondence between the two theories: "[Coherence] relations can often...be characterized in terms of questions and answers, e.g. the use of a *why*-question and its answer to characterize explanations". This association predicts that the differing distributions over coherence relations that Kehler et al. found for monologue continuations will be highly correlated with the types of explicit questions that interlocutors ask in dialogs with the same contexts.

Two experiments were conducted to test this prediction; the first focused specifically on Explanation relations in IC and non-IC contexts. Participants were instructed to imagine a conversation with a friend and write natural continuations that either represented what the friend was likely to say next (story condition, ex. 2) or the question that they would be likely to pose to their friend (dialog continuation, ex. 3).

(3) a. Friend: Mary scolded$_{IC}$/saw$_{nonIC}$ John.
    b. You: _____

Judges annotated the story and dialog continuations for coherence relations and QUD types respectively. As predicted, the verb type manipulation elicited more Explanations in the IC condition than in the non-IC condition, and the percentage of 'Why?' type questions (e.g., 'Why?', 'How come?') was significantly correlated with the percentage of Explanations across both verb types.

To verify that the results generalize to other relations and contexts, Experiment 2 used contexts with transfer-of-possession verbs that were varied between perfective and imperfective aspect (ex. 4), a factor shown by Rohde et al. (2006) to yield different distributions of coherence relations.

(4) John handed$_{PERF}$/was handing$_{IMP}$ a book to Bill. He _____

The results confirmed that, for both aspectual classes, the percentage of questions falling into 'Why?', 'What next?', and 'Where/when/how?' categories in the dialog condition was significantly correlated with the percentage of Explanation, Occasion, and Elaboration relations in the story condition, respectively.

These results therefore demonstrate that comprehenders' contextually-driven probabilistic biases about what coherence relation will ensue extend to the explicit questions evoked in dialogs, as captured by the QUD analysis.