Coherence-Driven Expectations in Discourse and Dialog
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Abstract

Problem: Different models have been proposed to capture the relationships that underlie a coherent discourse, with some models applied to monologue (Hobbs 1979, Kehler 2002) and some to dialog (Roberts 1996). This work considers whether the coherence relations that have been posited to implicitly structure a monologue can be linked to the questions-under-discussion (QUDs) that have been posited to explicitly structure a dialog.

Proposal: Using story and dialog continuations, we test whether people write story continuations that answer the questions that they are likely to pose for similar contexts in dialog continuations.

Results: We find that biases toward particular questions in dialog continuations are reliably correlated with biases for particular coherence relations in story continuations. The results suggest that parsees can be drawn between different types of discourse models and between the continuations in a single-speaker passage and the discourse moves in a dialog.

1. Goals

• To draw a parallel between coherence-driven and question-under-discussion (QUD) models of discourse
• To test whether people’s expectations about upcoming story continuations match their expectations about upcoming questions.

2. Two Related Models: Coherence & QUD

Coherence Model: adjacent sentences or discourse segments are related by coherence relations (Hobbs 1979, Kehler 2002)

QUD Model: discourses are structured with answers to overt or inferrable questions (Roberts 1996, Buring 2003)

Coherence: (1) Floyd took a train to North Carolina.
He wanted to get away from some of his colleagues.

QUD: (1) Floyd took a train to North Carolina.
He wanted to get away from some of his colleagues.

(2) Story Continuation
Friend: John scolded Mary.
You: ____________________ ?

Coherence: (3) Story Continuation
Friend: John scolded Mary.
You: ____________________ ?

QUD: (3) Story Continuation
Friend: John scolded Mary.
You: ____________________ ?

(4) Dialog Continuation
Friend: John scolded Mary.
You: ____________________ ?

As predicted, % ‘Why?’ questions were significantly correlated with % Explanations [F(1,94)=43.6, p<0.001], Occasions [F(1,94)=4.352, p<0.04], and Elaborations [F(1,94)=11.31, p<0.002], respectively.

5. Study 1: Explanation ~ Why

Implicit causality (IC) manipulation: verb class (IC / Non-IC) (Garvey et al. 1974, inter alia)

Hypothesis: more Explanation coherence relations and more Why? questions following IC verbs than Non-IC verbs

(3) Story Continuation
Friend: John scolded saw Mary.
You: ____________________ ?

(5) Story Continuation
Friend: John scolded saw Mary.
You: ____________________ ?

(6) Dialog Continuation
Friend: John scolded saw Mary.
You: ____________________ ?

Verbal aspect manipulation: transfer verbs (perfective / imperfective) (Rohde et al. 2006)

Hypothesis: different coherence/question distributions with perf / imp

6. Study 2: Explanation ~ Why

Verbal aspect manipulation: transfer verbs (perfective / imperfective) (Rohde et al. 2000)

Hypothesis: different coherence/question distributions with perf / imp

(4) Dialog Continuation
Friend: John handed was handing a book to Bob. ____________________ .

As predicted, % ‘Why?’ questions were significantly correlated with % Explanations [F(1,94)=43.6, p<0.001], Occasions [F(1,94)=4.352, p<0.04], and Elaborations [F(1,94)=11.31, p<0.002], respectively.

7. Conclusions

We find that people write story continuations that answer the questions that they are likely to pose for similar contexts in dialog continuations. The results suggest that parsees can be drawn between different types of discourse models and between continuations in a single-speaker passage and discourse moves in a dialog.

References


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