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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. The results suggest that paratexts can be drawn between two different types of discourse models and between the continuations in a single-speaker passage and the discourse moves in a dialog.

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 paratexts can be drawn between two different types of discourse models and between the continuations in a single-speaker passage and the discourse moves in a dialog.

Problem: • 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) is explained by Why? (20%) and When? (80%)

As predicted, % 'Why'/When/How type 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.

3. Previous Work: Effects of Discourse on Pronouns

The likelihood of upcoming coherence relations has been shown to influence patterns of pronoun interpretation (Rohde, Keher, & Elman 2007)

Story continuation results:

Story Continuation: John handed a book to Bob. He _______________________ .

Dialog Continuation: John handed a book to Bob. You: _______________________ ?

IC verbs: more Explanations and more Why questions
Non-IC verbs: fewer Explanations and fewer Why questions

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. _______________________ .

(4) Dialog Continuation

Friend: John scolded/saw Mary. You: _______________________ ?

As predicted, % 'Why'-type questions (e.g., 'Why?', 'How come?', and 'What for?') were significantly correlated with %Explanations across both verb types [F(1,78)=27.25, p<0.001].

6. Study 2: Explanation ~ Why

Verbal aspect manipulation: transfer verbs (perfective / imperfective)

Hypothesis: different coherence/question distributions with perf / imp

(5) Story Continuation

Friend: John handed/ was handing a book to Bob. _______________________ .

(6) Dialog Continuation

Friend: John handed/ was handing a book to Bob. You: _______________________ ?

As predicted, % 'Why'/When/How type 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 paratexts can be drawn between two different types of discourse models and between continuations in a single-speaker passage and discourse moves in a dialog.

References


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