Abstract

Problem: As comprehenders combine words to form a sentence, they must also combine clauses and sentences to form a coherent discourse. Is the resolution of local syntactic ambiguity sensitive to the process of inferring a coherent discourse?

Proposal: Bring together 3 observations about the pragmatic functions of relative clauses (RCs) and the biases associated with implicit causality (IC) verbs, and test whether these types of factors influence the resolution of local structural ambiguity in relative clause attachment:

(i) John detests/babysits the children of the musician who…
(ii) The boss fired the employee who always showed up late.
(iii) John detests the children of the musician who…

Results: An off-line sentence-completion study and an on-line self-paced reading study examined comprehenders' expectations for high/low RC attachments following IC and non-IC verbs. In both studies, IC verbs shifted readers' attachment preferences from low to high. In the completion study, most high-attaching RCs following IC verbs encoded explanations of the matrix-verbs. In both studies, IC verbs shifted readers' attachment preferences from low to high. In the completion study, most high-attaching RCs following IC verbs encoded explanations of the matrix-verbs.

In the examinated comprehenders' expectations for high/low RC attachments following IC and non-IC (i) John detests/babysits the children of the musician who…

and the biases associated with implicit causality (IC) verbs, and test whether these types of sensitive to the process of inferring a coherent discourse?

3. Constructing Examples to Test Discourse Biases

• Observation #1: RCs can also provide an explanation

(4) The boss fired the employee who always showed up late.

Observation #2: Bias towards explanations following IC verbs

In story continuations, IC verbs yield more explanations than non-IC verbs (Kehler, Kendt, Rohde, & Elman 2005)

(5) IC: John detests Mary because she is arrogant and rude.

(6) Non-IC: John babysits Mary because Mary's mother is grateful.

Observation #3: w/explanation, IC verbs have next-mention bias

in sentence completions, IC verbs like detest yield more object next mentions (Caramazza, Grober, Gainey, Yates 1974; Brown & Fish 1983; Au 1986; McKoon, Greene, Ratcliff 1993; inter alia)

(7) IC: John detests Mary because she is arrogant.

(8) Non-IC: John babysits Mary because Mary's mother is grateful.

4. Predictions for IC Biases in RC Attachment

• Discourse Hypothesis: IC verbs will increase comprehenders' expectations for a high-attaching RC

Null Hypothesis: Verb type will have no effect on attachment

(9) Non-IC: John babysits the children of the musician who…

(high)

(easier) (a) is a singer at the club downtown.

(b) are students at a private school.

(10) IC: John detests the children of the musician who…

(low)

(harder) (a) is a singer at the club downtown.

(b) are arrogant and rude.

6. Off-line Sentence Completion Results

More high-attaching RCs following IC verbs than NonIC

More explanation-providing RCs following IC than Non-IC

IC: John detests the children of the musician who …

NonIC: John babysits the children of the musician who …

7. On-line Self-Paced Reading Results

• Online results match off-line results: bias to high attachments following IC verbs

As predicted, high-attaching RCs were read faster than low-attaching RCs in IC condition, while reverse was true in NonIC condition: Crossover interaction

• Effects persist in comprehension-question accuracy: Crossover interaction (by subj) low-attaching RC in IC condition yielded worst accuracy

8. Conclusions

• Do people use discourse-level expectations and biases as they resolve local syntactic ambiguity?

- YES, in RC processing

- Where else might comprehenders be using discourse-level expectations?

• Processing models need to incorporate these types of discourse-level biases

References


Au (1986) A verb is worth a thousand words: The causes and consequences of interpersonal events implicit in language. JML, 25, 104-122.

Cuetos & Mitchell (1988) Primarily analyzed in terms of syntactically-driven biases

Some previous work on discourse-driven biases

previous work on discourse-driven biases

Discourse context is referential context

RC pragmatic function is to modify or restrict identity of referent

RC attaches to host with more than one referent (Desmet et al., 2002; Zagar et al., 1997; Papadopoulous & Chafe 2006)

(2) There was a servant who was working for two actresses.

Someone shot the servant of the actress who was on the balcony.

(3) There were two servants working for a famous actress.

Someone shot the servant of the actress who was on the balcony.

1. Questions

• Do comprehenders bring expectations from the discourse level to bear on the resolution of syntactic ambiguity?

• Do these expectations impact online processing?

2. Phenomenon

Relative Clause Attachment Ambiguity

Previous work suggests low attachment in English is preferred (Guillot & Mitchell 1998; Traxler & Clifton 1994; Caramazza & Clifton 1999; Fernandez, 2003; but see also Traxler, Pickering, & Clifton, 1998)

(1) Someone shot the servant of the actress who was on the balcony.

(2) There was a servant who was working for the boss.

(3) There were two servants working for a famous actress.

(4) The boss fired the employee who always showed up late.

(5) IC: John detests Mary. She is arrogant and rude.

(6) Non-IC: John babysits Mary. Mary's mother is grateful.

(7) IC: John detests Mary because she is arrogant.

(8) Non-IC: John babysits Mary because Mary's mother is grateful.

(9) Non-IC: John babysits the children of the musician who…

(high)

(easier) (a) is a singer at the club downtown.

(b) are students at a private school.

(10) IC: John detests the children of the musician who…

(low)

(harder) (a) is a singer at the club downtown.

(b) are arrogant and rude. 