Goals and Motivation

Is coreference processing in a non-native language driven by anticipation?

- Anticipation, or prediction, plays a critical role in native language (L1) processing (e.g., Abrahams & Karni, 1993; Federmeier, 2005), including the processing of coreference (e.g., Arnold, 2005). Yet little is known about anticipatory effects in co-reference processing in a non-native language (L2).
- Non-native processing is generally subject to greater resource demands (e.g., Kiborn, 1994).

The RAGE hypothesis

Non-native speakers have reduced ability to generate expectations during language processing.

Our goal here:

Test the RAGE hypothesis by comparing native (L1) and non-native (L2) speakers’ co-reference and coherence choices in a story continuation task manipulating verbal aspect.

Background: Native-Language Processing

- Semantic properties of the current sentence drive comprehenders’ expectations about upcoming co-reference & coherence.
- Comprehenders update their expectations as they incrementally process available cues—both from event structure (e.g., grammatical aspect) and information structure (e.g., referential form).

Event Structure in Story Continuations:

- With transfer events, one sentence’s event structure guides the next sentence’s co-references.
- Events described as completed (perfective aspect) favor the referent associated with the start state.
- Events described as ongoing (imperfective aspect) favor the referent associated with the start state.

This has been shown in English (e.g., Kehler et al., 2008), Japanese (Irie & Kehler, 2010) and Korean (Kim et al., CUNY poster yesterday).

Pronoun prompt/Free prompt: Co-reference with the preceding subject increases with an overt pronoun (e.g., Arnold, 2001; Rohde & Kehler, 2008; Stevenson et al., 1994).

Knowledgable-Aspect Task

Participants read descriptions of complete vs. incomplete events, and then gave truth-value judgments on sentences like (3) (adapted from Gabriel, 2009).

(1) John(3ory) handed(3) a book to Bob.

He took it in the room. He has received the towel.

(2) Sample story continuations

a. He took it and read it right away. He gave it to Bob (‘goal-continuation’).

b. He really wanted Bob to have it. He gave it to John (‘source-continuation’).

Coherence: Completed events (perfective) favor continuations telling what happened next (Occasion/Result), whereas incomplete events (imperfective) favor continuations telling how or why (Elaboration/Explanation) (Kehler et al., 2008).

Results:

- Learners understand perfective vs. imperfective aspect in English.
- Critically, they know that, in English, (transfer-of-possession) verbs with progressive marking: (i) indicate an incomplete event, and (ii) cannot have a resumptive meaning.

Written Story Continuations

Patrick gave/has given a towel to Ron. He (pronoun prompt) / (free prompt)

2 (aspect) x 2 (prompt type) Latin square design; 5 items/condition + 2 fillers

(2 x 10 verbs: bring, feed, give, mail, pass, push, pool, serve, take, throw)

- Annotation: co-reference and coherence (by two trained coders)


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Summary and Conclusions

- The effect of aspect on the proportion of source/goal continuations was weaker in the L2 group, consistent with the RAGE hypothesis.
- The L2ers showed an overall goal bias, suggesting recency may play a stronger role in non-native processing (see Kehler et al., 2011, for similar findings from native-speaking children).

Future work:

- Relation between coherence relations and co-reference in both groups
- Role of proficiency and L1 background
- Aural story continuations
- Online measure of anticipatory co-reference processing (Visual World)

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