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Contrastive intonation in native vs non-native coreference processing

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Goals and Motivation

- Use contrastive intonation to test effects of memory, expectations, salience, and information structure in coreference processing by native speakers of English and Japanese- & Korean-speaking learners of English.

Coreference Processing: Background

Previous research, with written stimuli:
(1) John handed a book to Bob. (He)

• early aspect cue → late prompt cue

(2) a. He took it and read it right away.
   He = Bob ("Goal-continuation")
   b. He really wanted Bob to have it.
   He = John ("Source-continuation")

Expectancy/prediction plays a crucial role in native-language (L1) processing of coreference: Semantic properties of the current sentence drive L1ers’ expectations about ongoing coreference & coherence. (e.g., Arvan, 2009; Rohde & Kehler, 2008).

Event structure is used to predict next mention:
• Completed events (perfective aspect) favor the end-state referent (the Goal).
• Ongoing events (imperfective aspect) favor the start-state referent (the Source).

This has been shown in English (e.g., Kehler et al., 2006), Japanese (Kano & Kehler, 2010), and Korean (Kim et al., CUNY 2013, 2016).

Pronoun/free prompt: Coreference with the preceding subject (here, the Source) increases with an overt pronoun prompt, compared to a free prompt (e.g., John, Rohde & Kehler, 2008; Stevenson et al., 1999).

Non-native speakers may have Reduced ability to Generate Expectations (RAGE) (Grütter et al. 2016)

Japanese/Korean L1ers of English show:
• Similar effect of prompts to L1ers.
• Similar retroactive processing/integration to L1ers.
• No significant effects of event structure manipulation.
• Weaker predictive processing than L1ers.

Participants & Knowledge-of-Aspect Test

Participants
L1: 47 native speakers of English
L2: International/exchange students at U. of Hawaii’ 26 native speakers of Japanese (n=12) or Korean (n=14)
- Versant English M=51.80 [16-80]
- English self-rating M=64/10 (3-8)

Knowledge-of-aspect task
Do L2 participants understand the semantics of grammatical aspect in English? Participants read descriptions of complete vs. incomplete events and gave true/false judgments on statements about them.

Patrick and Ron are at the pool together. (picture of towel) This is the towel that Patrick will give to Ron. At 4:00, Ron is done swimming and ready to shower.

- Complete event: At 4:05, Patrick gives the towel to Ron. Ron is done swimming and ready to shower.
- Incomplete event: At 4:04, Patrick gives the towel to Ron. Later, Patrick says: At 4:05, Patrick was giving the towel to Ron.

- False: Patrick’s statement is FALSE after a complete event, TRUE after an incomplete event.

L2ers’ VS L1ers’ Contrastive Intonation

L1ers and L2ers both use contrastive intonation with the Simple Salience pattern. Evidence against simple memory decay in L2ers.

Replicates the weaker effect of aspect in the L2 group from our written study (Grütter et al. 2014).

Supports the RAGE account; suggests that L1ers predict a coherence relation and coreference but that L2ers initiate a retroactive search at the continuation subject (the prompt) for a referent. Contrastive intonation on an NP can serve as a cue in a retroactive referent search, but aspect cannot (since the verb is not part of the search domain).

The strength of coreference cues may depend on their availability at times when relevant processing decisions are made – times that may not always be the same in native vs. non-native processing.

Conclusions and Work in Progress

Extended the limited previous research on coreference and intonation; provides full prosodic description of stimuli.

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Work in progress:
• Relation between coherence relations and coreference in these data
• Accented vs. unaccented pronoun prompts
• Online measure of anticipatory coreference processing (Visual World)