

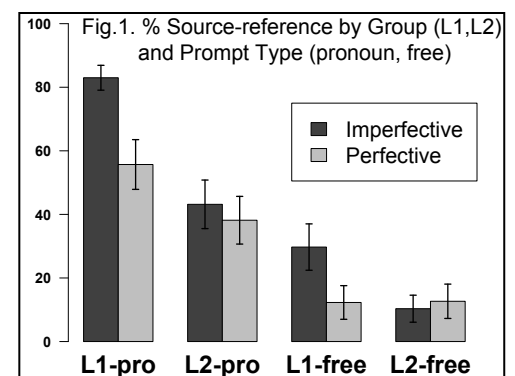
Discourse-driven biases in native- vs non-native speakers' coreference processing

Theres Grüter (U. of Hawai'i), Hannah Rohde (U. of Edinburgh), & Amy Schafer (U. of Hawai'i)
theres@hawaii.edu

Native-language processing involves not only information *integration*, but also *anticipation* (e.g., Altmann&Kamide99). At the discourse level, the ability to anticipate upcoming outcomes has been shown to reflect a variety of local contextual cues. For example, expectations about upcoming patterns of coreference and coherence show sensitivity to semantic properties of the current sentence, such as the event structure conveyed by the verb (KehlerEtAl08). Given that non-native processing is generally subject to greater resource demands (Kilborn92), a question emerges as to whether non-native speakers' coreference processing will show less semantically-driven anticipation. If so, non-native speakers—even those who show mastery of the linguistic cues that mark event structure—may rely more on superficial entity salience, such as a bias for coreference to recently mentioned entities (as L1 children do, see KehlerEtAl11).

A story-continuation task (adapted from RohdeEtAl06) was completed by 20 advanced L2 learners of English (12 Japanese, 8 Korean) and 24 native speakers; they wrote continuations following a context sentence that described a transfer-of-possession event (see (1)). A 2x2 design varied *aspect* in the context sentence (perfective/imperfective) and *prompt type* in the continuation (pronoun/free). Trained judges identified the intended referent of the subject of the continuation, coding for SOURCE (of the context sentence; see (2)), GOAL (3), ambiguous, or other. Previous work shows that native speakers' coreference expectations on this task are modulated by verbal aspect: Transfer-of-possession events yield more Goal-reference when marked by perfective than imperfective aspect. This effect, observed in English (RohdeEtAl06), Japanese (Ueno&Kehler2010) and Korean (Kim2012), has been tied to *end-state salience*: perfectives describe completed events compatible with end-state focus, whereas imperfectives describe ongoing events with no salient end-state. Event structure plays a role in native speakers' coherence expectations, which in turn guide coreference—e.g., Narration coherence relations, which tell what happened next, are expected in contexts with a salient end-state and favor reference to the end-state entity (here, Goal), while Explanation and Elaboration relations, which explain why or how an event occurred, are expected following ongoing events and favor reference to the individual associated with the event onset (here, Source). Pronoun interpretation biases observed in the story-continuation task thus reflect the deployment of a chain of pragmatic biases and expectations. Importantly, an independent task verified our L2 group had native-like knowledge of the ongoing vs. completed function of aspect. Nevertheless, if non-native speakers are less able to engage in predictive discourse-level processing, the L2 group should show a reduced effect of aspect on coreference biases.

Results (see Fig.1) show differential performance by group (L1, L2), with the predicted aspect-by-group interaction ($F_{1(1,42)}=7.34, p<0.01$; $F_{2(1,9)}=8.66, p<0.05$) driven by the influence of aspect on the proportion of Goal/Source reference (for prompts of both types) by native but not non-native speakers. This suggests that L2ers have a reduced ability to use event structure to generate discourse expectations. Moreover, L2ers showed an overall Goal bias, suggesting that recency plays a stronger role in L2 than native processing. Both groups demonstrated similar Goal/Source coreference biases across coherence relations, but in keeping with their Goal bias, L2ers favored Goal-biased relations. This suggests that L2ers may have native-like knowledge of event structure, but instead of using coherence expectations to guide coreference, their recency-related Goal-bias drives a subsequent choice of coherence relation.



- (1) Experimental context sentence: Patrick gave/was giving a towel to Ron. (He) ___
- (2) SOURCE-continuation for (1), i.e., He = Patrick: *He made sure to give him a clean dry one.*
- (3) GOAL-continuation for (1), i.e., He = Ron: *He took it and said "Thank you."*