THE INFLUENCE OF NON-NATIVE ACCENT ON PRONOUN RESOLUTION IN CHINESE: EVIDENCE FROM EYE-TRACKING

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Nativeness of speech influences language comprehension in various aspects. The processing of speech with a non-native accent is often delayed in semantic integration (Grey & van Hell, 2017) and impaired in lexical priming (Braun et al., 2011). Mixed evidence has been reported on how non-native speech affects the way native listeners use and integrate different types of cues. Native listeners, when exposed to non-native speech, tend to rely more on contextual cues than lexical cues (Lev-Ari, 2015), while counterevidence has been reported by Contemori & Tortajada (2020), demonstrating that non-native accents lead to an increased reliance on linguistic cues and reduced attention to non-linguistic cues.

This study aims to explore whether non-native speech alters the usage pattern of semantic cues (i.e., implicit causality information) and phonetic cues (i.e., contrastive focus) in comparison to native speech. Implicit causality information encoded in the verb facilitates the pronoun resolution in the forthcoming clause (Caramazza et al., 1977). Contrastive focus, according to Itzhak and Baum (2015), regulates the effect of semantic information in the online processing of native speech. As to non-native speech, how comprehenders make use of these two types of information remains unclear.

In this visual world paradigm eye-tracking study, we investigated the influence of non-native accents on pronoun resolution guided by implicit causality information and contrastive focus. We recruited 61 native Chinese participants (female: 42; average age: 22). They listened to spoken Chinese sentences presented in either a native or non-native accent while simultaneously viewing a visual display consisting of two characters. Both types of sentences contained IC verbs biased towards NP1 or NP2, and varied in the contrastive focus patterns on these two NPs (the focus is on NP1 or NP2).

The data reveal that a non-native accent regulates listeners' use of various information sources. Participants consistently resolved pronouns in accordance with the IC-verb bias across different accent conditions, demonstrating robust influence of semantic cues in processing. However, in the causal connective and pronoun phases, they exhibited different patterns of using structural prominence information and contrastive focus in the two accent conditions. Specifically, non-native accents significantly increased gazes towards the NP1 referent (subject) (cf. Figure 1). This preference may be attributed to an increased emphasis on structural cues when processing the non-native accent (Contemori & Tortajada, 2020).

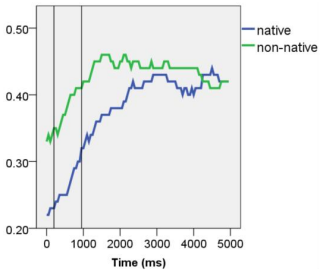

Figure 1. Proportion of looks to the interest area of the NP1 character time-locked to the onset of the connective (t=0 ms), under the native accent (blue) and non-native accent (green) conditions. Vertical lines represent the onset of the causal connective and pronoun (0.2 s added).

A marginally significant interaction between accent and contrastive focus emerged during the pronoun phase. In particular, under the non-native accent condition, the presence of contrastive focus on NP2 directed more gazes to the referent of NP2 (cf. Figure 2); and such an effect was absent in the native accent condition. The finding that contrastive focus can more significantly guide listeners' attention under non-native accent suggests that during non-native accented language processing, contrastive focus plays a more pronounced role than it does in native language. A non-native accent prompts listeners to place greater emphasis on contrastive focus cues in the process of pronoun resolution.

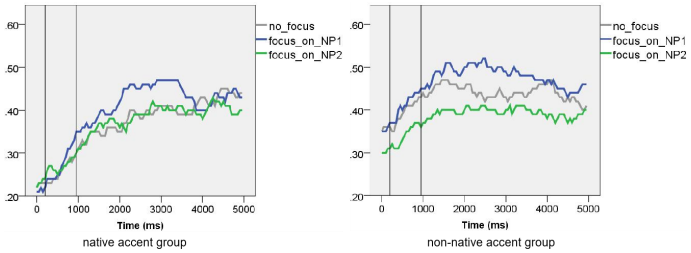

Figure 2. Proportion of looks to the interest area of the NP1 character time-locked to the onset of the connective (t=0 ms), under no focus (grey), focus on NP1 (blue) and focus on NP2 (green) conditions. Vertical lines represent the onset of the causal connective and pronoun (0.2 s added).

The preliminary results show that accents influence the type of information listeners tend to rely on in real-time sentence processing. For future studies, incorporating speakers that vary in accent strength and language backgrounds will contribute to the understanding of how different accents impact online processing.