Processing L2 intonation contours and exhaustivity: A mouse-tracking study

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In English [1] and German [2], sentences with L+H* and H* intonation contours have been shown to differ in their exhaustivity interpretation: L+H* contours show a preference for an exhaustive interpretation as compared to the more underspecified H* contours. Studies on L2 acquisition have shown that the processing of intonation even in two very similar intonation systems is not fully parallel [4]. We therefore ask (i) whether German listeners of L2 English are sensitive to the small phonological or phonetic differences in the English intonation contours and (ii) whether these non-native listeners would consider lexically unmentioned alternatives in the non-exhaustive interpretations similar to native listeners. Our mouse tracking study partially follows the experimental design of [2], manipulating the factors proficiency (native vs. non-native), intonation (L+H* vs. H*), and exhaustivity (control vs. critical). Mouse movements were recorded as an indicator of which visual alternatives listeners consider and process while hearing a sentence like “Mary has a CANDLE on the table/shelf” (cf. Figure 1). Whereas the control conditions (cf. left panel in Figure 1) are exhaustive when comparing lexical (auditory) and visual stimuli, the critical conditions (cf. right panel in Figure 1) are not, which has been shown to lead to a gardenpath effect in English native listeners, which is stronger for L+H* contours [2]. The standardized LexTale [3] was used to quantify L2 proficiency. Word-picture agreement scores served as an additional item-related measure. Data acquisition from 40 German L2 speakers of English and 40 native speakers of American English is currently under way. We expect to find main effects of L2 proficiency, exhaustivity, and intonation contour. While we expect non-natives to correctly perceive and react to the visual and auditory stimuli, their mouse trajectories are expected to show differences in the strength of gardenpath effects compared to native listeners.
Mary has a Candle\(^{[H^*/L+H^*]}\) on the shelf.

**Figure 1:** Example visual stimuli presented together with the example auditory stimulus “Mary has a CANDle on the shelf”. Left panel: Control conditions, in which auditory stimulus and visual target are compatible in terms of exhaustivity for both intonation contours. Right panel: Critical gardenpath conditions, in which the auditory target with L+H* favors an exhaustive interpretation which is not compatible with the visual target.

**References:**


