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**LEARNING TO PREDICT:
FREQUENCY INFORMATION AND PHONETIC REDUCTION
IN L1 AND L2 PERCEPTION OF MULTI-WORD SEQUENCES**

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The cognitive entrenchment of frequently occurring word sequences enhances their accessibility and processing. Entrenchment comes in the form of ‘chunking’ (accessing the sequence as a single unit) and of ‘procedure strengthening’ (predicting the next step in a sequence; cf. Divjak & Caldwell-Harris 2015). Existing research attests to the effects of frequency and entrenchment of multi-word sequences in the native language, which we learn and shape continuously and intuitively (cf. Blumenthal-Dramé 2018; Arnon & Snider 2010; Sosa & Macfarlane 2002). High frequency moreover leads to a propensity for phonetic reduction (Jurafsky et al. 2001).

Most of the existing evidence of chunking and the reducing effect of frequency in the L1 has dealt with language production only, which raises the question of how they might affect speech perception. Among the open questions are: to what extent do chunking and procedure strengthening follow from high surface frequency, or from other frequency measures (such as conditional probabilities)? What are the roles of chunking and procedure strengthening in recognizing phonetically reduced forms?

In contrast with the continuous/intuitive method of native speakers, L2 learners acquisition of linguistic structures is top-down (through language teaching); however, they might also learn through usage (cf. Ellis 2013; Ellis, Römer & O’Donnell 2016; Supasiraprapa 2019). Due to the clear gap on research dealing with the interaction between phonetic reduction and frequency effects in L2 learning, the question is even more fundamental for L2 learners: how do frequency and reduction affect their perception of multiword sequences?

The present talk addresses the issue of receptive processing of multi-word sequences by means of a word-monitoring experiment with native speakers (Lorenz & Tizón-Couto 2019) and advanced learners of English (Tizón-Couto & Lorenz 2024), so the results can be compared directly. Recognition of the element *to* in the construction $V\text{-}to\text{-}V_{inf}$

(e.g. *want to* V_{inf} , *desire to* V_{inf}) was tested for full and reduced renderings ([tʊs] vs [rə]), conditioned by the general frequency of the *V-to* sequence and the transitional probability (TP) of *to* given the verb ($V > to$). This experimental task makes it possible to differentiate a chunking effect (which slows down recognition of the individual element in the chunk) from procedural processing (where recognition only gets faster with increasing entrenchment).

We conclude that L1 listeners draw on frequency information in a predictive manner to cope with reduction. High-frequency structures are not inevitably perceived as chunks, but depend on cues in the phonetic form – reduction leads to perceptual prominence of the whole over the parts and thus promotes a holistic access. Unlike native listeners, advanced learners recognize reduced forms less easily, show weaker entrenchment of holistic representations, and do not draw on the full range of probabilistic cues available to native speakers (cf. Ernestus et al. 2002; Pickering and Garrod 2007). We attribute these findings to learners' lesser experience with spontaneous speech and phonetic reduction.

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