

Identification, imitation and use of complex prosodic features: the role of language-specific and cognitive differences

Mariapaola D'Imperio, Aix-en-Provence

Many prosodic accounts within the Autosegmental-Metrical framework are couched entirely (or almost entirely) in terms of discrete and symbolic labels, which in most cases (e.g., Jun 2005) refer to units (or categories) such as pitch accents, boundary tones, or prosodic phrases. These units are taken to be the phonological forms that bridge between the intrinsic variability of the speech signal (substance) and other levels of grammar, such as syntax, information structure and pragmatic meaning. But this mapping from phonetic substance to phonological form is complex, hence it needs to be parsed (Beckman, 1996).

In this talk I will review three sets of studies carried out with my collaborators and students at the LPL revealing:

1. language-specificity in signaling morphosyntactic structure through local and global prosodic boundary cues (D'Imperio and Michelas 2014, Michelas and D'Imperio, 2015);
2. rapid adaptation and imitation of structural and phonetic detail of L2/D2 tonal alignment and scaling as a function of language exposure (German and D'Imperio 2015, D'Imperio and German 2016);
3. variability in the perception of intonation cues to contrastive focus as a function of individual cognitive empathy skills (Estève-Gibert et al. 2016, submitted).

The first set of results, while strengthening the idea that syntax-prosody interface cannot rest on universally specified prosodic categories, show that cue clustering is specific to the boundary level being projected. The results from the imitation study challenge the notion that plasticity in prosodic category learning is limited to child grammars, by showing fast remapping of both phonological and phonetic structure for intonation targets. Finally, the third study supports the claim that mapping dynamic intonation cues to other levels of the grammar, such as pragmatic meaning, cannot be separated from domain-general cognitive skills.

Together, these results argue for a reconceptualization of prosody as a robust dynamical system interacting with different grammatical representations in production and perception, requiring a combined approach complementing abstract symbolic representations with the quantification of continuous parameters (see also Grice et al. 2017). This is in line with hybrid, neo-generative models of segmental phonology (Pierrehumbert 2003, 2016) and of segmental mastery in phonological acquisition (Munson, Beckman & Edwards 2011).