The Intricate Interplay of Segments and Prosody in Foreign Accent Perception

This study examines the relative contribution of prosody and segments in the perception of foreign accented speech. Although both prosody and segments have previously been shown to contribute to the degree of foreign accentedness, results for their relative contribution have proven inconclusive and little is known about their interaction. We recorded read speech of five German learners of English – with and without previous exposure to the Belfast English accent – and one native speaker of Belfast English. Through acoustic manipulations that allow separation of prosodic and segmental information in the speech signal, we created combinations of native segments with non-native prosody and vice versa. The resulting stimuli were then presented to sixty native English listeners who rated their foreign accentedness, in order to establish whether the impact of prosody depends on the degree of foreign accent at the segmental level and/or the other way round. Group analyses of the obtained foreign accent ratings are presented, supplemented by phonetic analyses of the manipulated stimuli and individual L2 speakers. Results confirm that whilst both segments and prosody contributed to foreign accent perception, listeners were more influenced by segments than prosody. In addition, it was found that the impact of prosody on perceived foreign accentedness varied depending on the origin of the segments: listeners’s sensitivity to small prosodic differences from the native norm was compromised when mixed with non-native segments, whereas sensitivity to small prosodic differences from the non-native norm was compromised when mixed with native segments. In light of this, we propose that there needs to be a degree of correspondence between segments and prosody for small deviances in prosody to be perceived. The study thus contributes to research on foreign accent perception and suggests that the interplay between segments and prosody in such perceptions is more intricate than previously thought.