Dialect-specific articulatory settings

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Articulatory settings were defined by Honikman (1964: 1) as "the overall arrangement and manoeuvring of the speech organs necessary for the facile accomplishment of natural utterance" and she qualitatively identified characteristic articulatory setting differences between English and French. Laver (1978: 11) notes that "no articulatory setting normally applies to every single segment a speaker utters". Consequently, various researchers have focused on investigating the existence of language-specific resting positions during pauses in speech utterances (dubbed the "pre-speech posture" by Perkell, 1969) in order to characterize articulatory settings.

Quantitative articulatory evidence has since then favored the existence of articulatory setting differences between various languages (e.g., Gick et al., 2004). At the dialect level, there seems to be some indication of the existence of articulatory setting differences, but these studies have generally been qualitative (e.g., Knowles, 1973; Recasens, 2010), or relied on transcribing voice quality (Stuart Smith, 1999).

In this study, we investigate the presence of articulatory settings at the dialect level by focusing on the pauses during dialectal and standard speech. We focus on Dutch dialects, for which we obtained articulatory data from over thirty high school students at two Dutch schools located on opposite sides of a strong Dutch dialect border (separating Low Saxon from Central Dutch dialects).

The results of our study show a clear articulatory setting difference between the two groups, with a more posterior pre-speech tongue posture for speakers from the Low Saxon dialect area than those from the Central Dutch dialect area. This pattern emerged both during the pauses in dialectal speech as well as during the pauses in standard Dutch speech. As this pattern lines up with aggregate differences observed during speech (Wieling et al., 2016), this suggests that articulatory setting differences can also be observed in speech (as opposed to pause data).