# Articulatory settings in English and German during inter-speech pauses

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Inter-speech pauses not only signal prosodic boundaries, but are also used for planning utterances on different levels. Planning on the phonetic level involves the articulatory movements towards the post-pausal segments (e.g., Ramanarayanan et al. 2013). It has been proposed that there are language-specific articulatory settings, which occur during the inter-speech pauses within a speech flow or before speech onset (e.g., Wilson 2006). The results of previous studies on this topic (Gick et al. 2004; Schaeffler et al. 2008) are rather inconsistent: some speakers press their tongue against the palate during the pauses, and others do not move their articulators until the next segment. As for the temporal aspect of articulatory preparation, the articulatory movement to an upcoming segment always starts earlier than the acoustic onset and this delay is roughly 120 -180 ms (Mooshammer et al. 2012; Schaeffer et al. 2015). This difference can crucially affect reaction time measurements, which are typically based on the acoustic measurements.

The present acoustic and articulatory study focuses on the articulatory behavior in English and German during silent pauses between two prosodic phrases (IP) in a reading situation. Eight native German and eight native British speakers were recorded in a sound-proof cabin by means of EMA. Six target words were embedded into two prosodic phrases (IP). The last segments of the first IP were alveolars /t/ and /n/ and bilabial /m/. The post-pausal segment of the second IP was the vowels /a/ and /o/.

The first results for German data confirm previous findings on the temporal aspects of speech preparation using a larger speaker sample and a large temporal precision. The articulatory onset of the upcoming utterance starts on average 123ms earlier than the acoustic onset. Results for individual speakers reveal different strategies for articulatory preparation. There is a tendency for some speakers to hold the articulators in a so-called *speech-ready* posture during the pause, while others show rather smooth transition between last pre-pausal gesture and first post-pausal gesture.

**References**

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