Towards a typology of consonant coarticulation: gauging the space between universal and language-specific patterns of consonant timing

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In the context of growing evidence for linguistic diversity in consonant coarticulation patterns [2-6], increasing our knowledge about the cross-linguistic range of possible coarticulatory patterns is important for understanding the relationship between physiological constraints and linguistic diversity and for understanding the degree to which coarticulation is learned. Segmental composition effects in consonant cluster timing have been attributed to physiological and perceptual factors [1, 3], but at the same time, segmentally identical consonant clusters seem to differ in degree of overlap across languages [2, 6]. Yet the extent to which this is truly the case is far from clear since direct cross-linguistic comparisons are rare. Methodological differences between experiments limit the possibility of meta-studies, especially since articulatory timing measures are highly sensitive to data treatment (e.g. filter settings). In the current study, we address this issue by employing unified data treatment and analysis procedures for articulography data from seven languages (American English, German, French, Romanian, Polish, Russian, Georgian), comparing the degree of consonant overlap across languages and clusters. We hypothesize that the impact of presumed articulatory and perceptual constraints on consonant timing will be greater for highly coarticulating languages like English in contrast to languages like Russian in which consonants coarticulate overall less. This should lead to a greater range of timing differences between clusters in the former type of languages than in the latter. The general degree of consonant coarticulation may thus also be implicated in the phonotactic cluster inventory found in a given language.

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