

Trill Type and Articulatory Setting: an EPG study

Jo Verhoeven^{1,2}, Naomi Miller¹, Luc Daems³, Hanne Kloots²,
Carlos Reyes-Aldasoro⁴

¹ *Division of Language and Communication Science, Phonetics Laboratory, City, University of London, UK*

² *Computational Linguistics and Psycholinguistics Research Centre, University of Antwerp, Belgium*

³ *Maxillo-Facial Surgery, ZNA Middelheim Hospital, Antwerp, Belgium*

⁴ *Department of Electrical and Electronic Engineering, City, University of London, UK*
Corresponding authors: jo.verhoeven@city.ac.uk, Naomi-Rachel.Miller@city.ac.uk

A long-standing practice in Flemish drama schools has been to promote a tongue-tip trill realisation of the phoneme /r/. Thus, actors with a natural uvular trill have been required to learn to pronounce an alveolar trill. The rationale behind this, reportedly, is the assumption that the use of an alveolar trill triggers a shift in the articulatory setting towards a more anterior position, hence improving the actor's intelligibility. It is not clear what scientific principle this expectation is based on, but it is commonly mentioned in pronunciation manuals; see, for example, Eldar (1906:159), Oostveen (1936:35), van Amelsvoort & Franssen (1960:65), Linthorst et al. (1968:64), Timmermans (2008:179), and Lacroix (2009:178).

Electropalatography data were collected from a professional speaker of Belgian Dutch who uses a naturally-acquired uvular-r in everyday speech and a learnt tongue-tip trill in her professional work. Sentences in which either the first or last word began with /r/ were firstly read with an alveolar-r, and then all sentences were re-read with a uvular-r. For each realisation, the palatograms associated with /r/ and its five neighbouring phonemes were excluded, to eliminate the effects of coarticulation. A front-back centre-of-gravity (CoG) measure was calculated from the remaining palatograms.

When /r/ occurred in sentence-final position, there was a significant ($p < 0.01$, Mann-Whitney U-test) effect of trill type (median CoG 0.422 and 0.413 for alveolar and uvular, respectively). This suggests that the articulatory setting is slightly more anterior in utterances with alveolar trills. It is unlikely, however, that this small difference has a significant effect on speaker intelligibility. There was no difference in CoG when /r/ occurred in sentence-initial position.

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