## Rhotics in Scottish Standard English

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The rhotic sound in Scottish Englishes has various phonetic realisations, varying from alveolar trills and taps to approximants. In addition, in coda position, <r> is increasingly not realised in some speaker groups (Stuart-Smith et al. 2007, Dickson & Hall-Lew 2017, Stuart-Smith 2003, Lawson et al. 2008, 2011), although Scottish English is still usually described as "generally rhotic" (Wells 1982: 10, Stuart-Smith 2008: 64). Previous studies have shown that the realisation of onset and coda /r/ in Scottish Englishes varies with socio-economic class, age, gender as well as amount of contact with British English speakers (Stuart-Smith et al. 2007, 2014, Dickson & Hall-Lew 2017, Stuart-Smith 2003, Schützler 2013, 2015). Moreover, it varies with language-internal factors such as stress and phonetic environment (Lawson et al. 2008, Schützler 2010, 2013, Dickson & Hall-Lew 2017), with language-internal factors outweighing the social factors (Jauriberry et al. 2015). While previous studies focussed on urban Scottish Englishes spoken in the Central Belt, this study aims to explore the distribution and realisation of rhotics in the nation-wide standard (Scottish Standard English, SSE), which is still largely unexplored in this respect (but see Jauriberry et al. 2015).

In particular, it is investigated whether an underlying rhotic standard exists for SSE speakers from all over Scotland, whether and where rhotics are realised as trills and taps, which are considered "traditionally Scottish" (Johnston 1997, Stuart-Smith 2008), and what factors influence variation in the realisation and distribution of the SSE rhotic sounds. To this end, formal speeches given in the Scottish Parliament by 49 speakers (aged 14-71) from all over Scotland were orthographically and phonemically annotated, and all rhotics were analysed auditorily by at least two coders (n=5536; overall intercoder agreement: 91.01%). We conducted separate analyses (binary mixed effects logistic regression models) for /r/ in syllable onset, non-linking coda, and linking coda positions.

The results show that SSE is variably rhotic with 54% of all non-linking coda /r/ realised (see Fig. 1). Trills and taps are more frequent in onset position, where they account for 37.1 % of all occurrences. In non-linking coda position, only 6.3 % are realised as trill/tap. The realisation of /r/ varies systematically with:

- preceding and following phonetic context (tokens that occur intervocalically favour trill/tap independently of whether they occur in onset (64.2%) or linking coda position (59.0%),
- status as single consonant or cluster (although tokens in clusters generally favour rhoticity, singleton non-linking coda /r/ are more likely to be realized as tap/trill)
- and, in onset /r/, also depending on whether they occur in a content or function word (content words favour trill/tap).

While age as a single factor did not have any significant effect, there was a significant interaction of age and gender: middle-aged females were more likely to be rhotic than middle-aged men; similar effects did not occur in the other age groups. Moreover, female speakers, more so than men, favour trills and taps over approximants in linking coda position.

In sum, our results contradict the idea of SSE being "generally [or almost fully] rhotic" but confirm previous reports of increasing occurrence of non-rhoticity, not just by specific speaker groups, but in a formal context. Variation in the realization of rhotics in SSE is foremost affected by language-internal rather than language-external factors. In contrast to previous findings on (non-standard) urban Scottish Englishes, in SSE, females rather than males show a higher proportion of "traditionally Scottish" pronunciations.



Fig. 1. Overview relative type-token frequencies by context and realisation of /r/ (%).

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